

Draft Remedial Investigation Report

Volume II (Appendices)

BOEING KENT SPACE CENTER FACILITY
South 208th Street
KENT, WASHINGTON

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Prepared for:

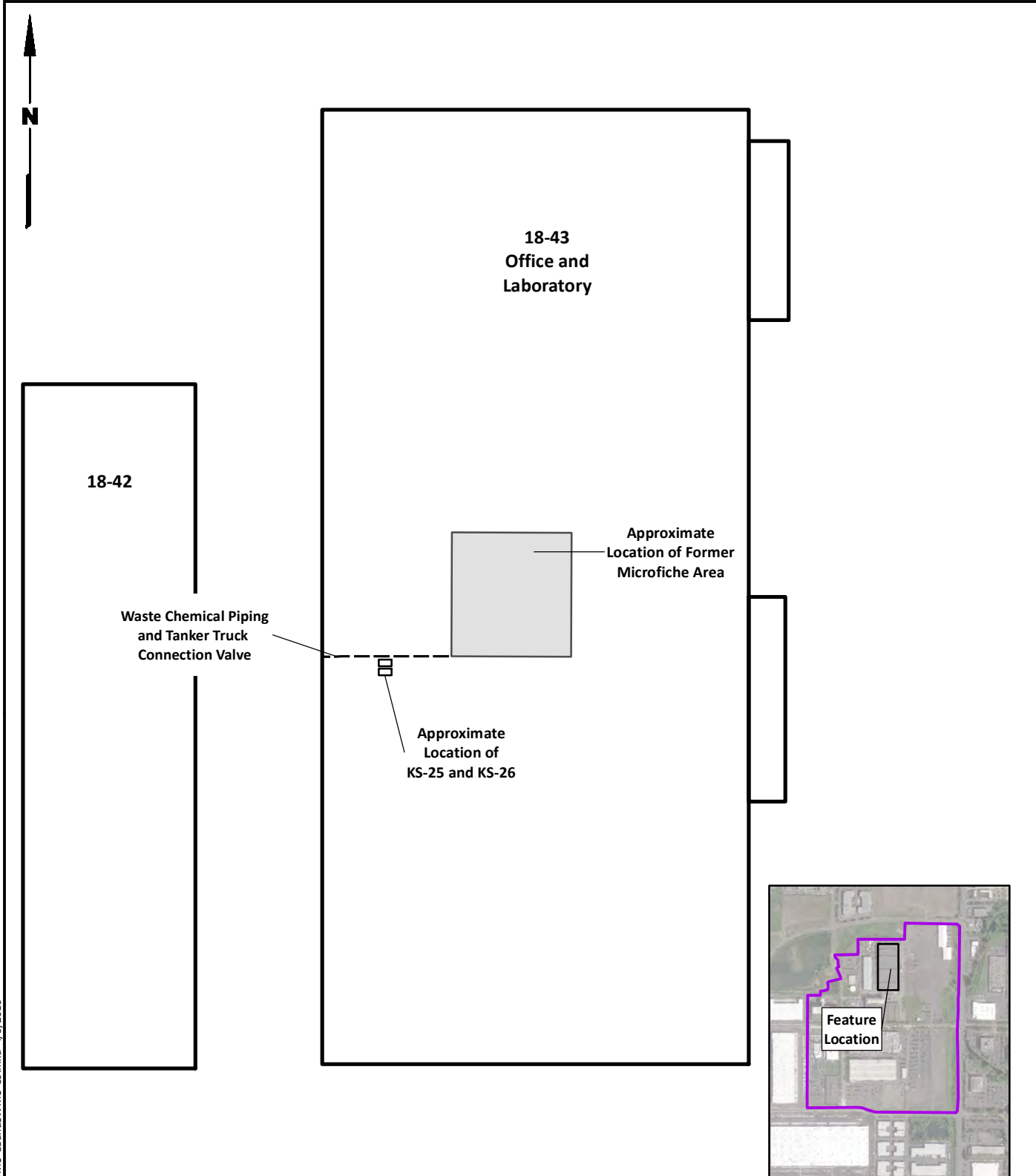
THE BOEING COMPANY
Seattle, Washington




Appendix A

SWMU and AOC Area Maps (from RI Work Plan)

G:\Projects\025\216\010\011\F03 SWMU-88 and SWMU-89.mxd 4/5/2016



Legend

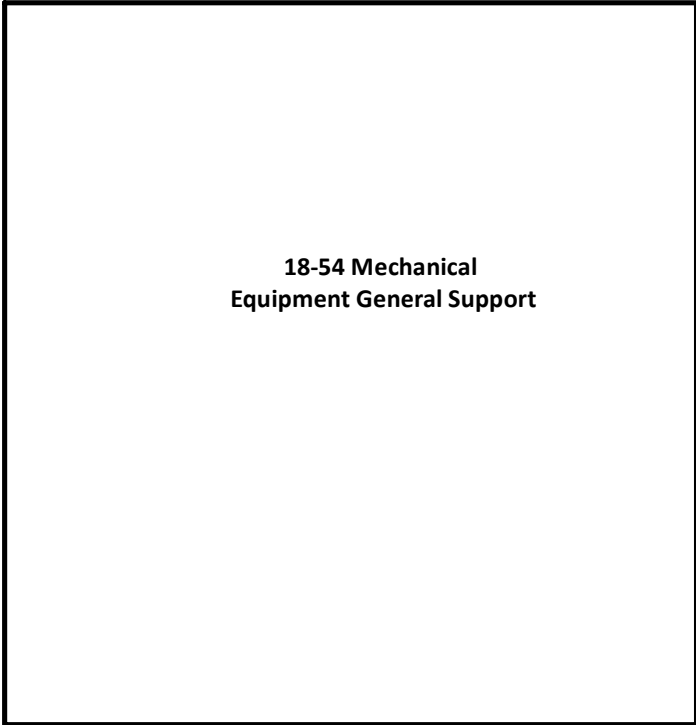
 Current Boeing Kent Space Center Boundary



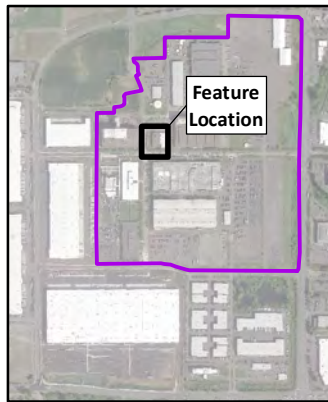
Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: King County GIS; Google Earth Pro.



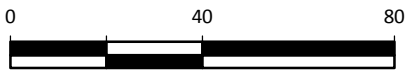
18-54 Mechanical
Equipment General Support



Feature
Location

Legend

-  Former UST
-  Current Boeing Kent Space Center Boundary



Scale in Feet

Note

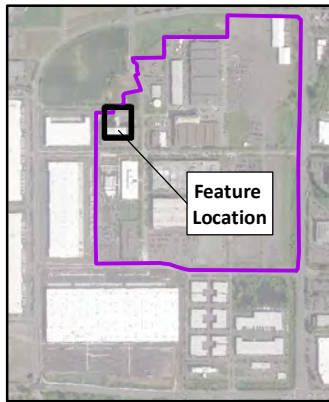
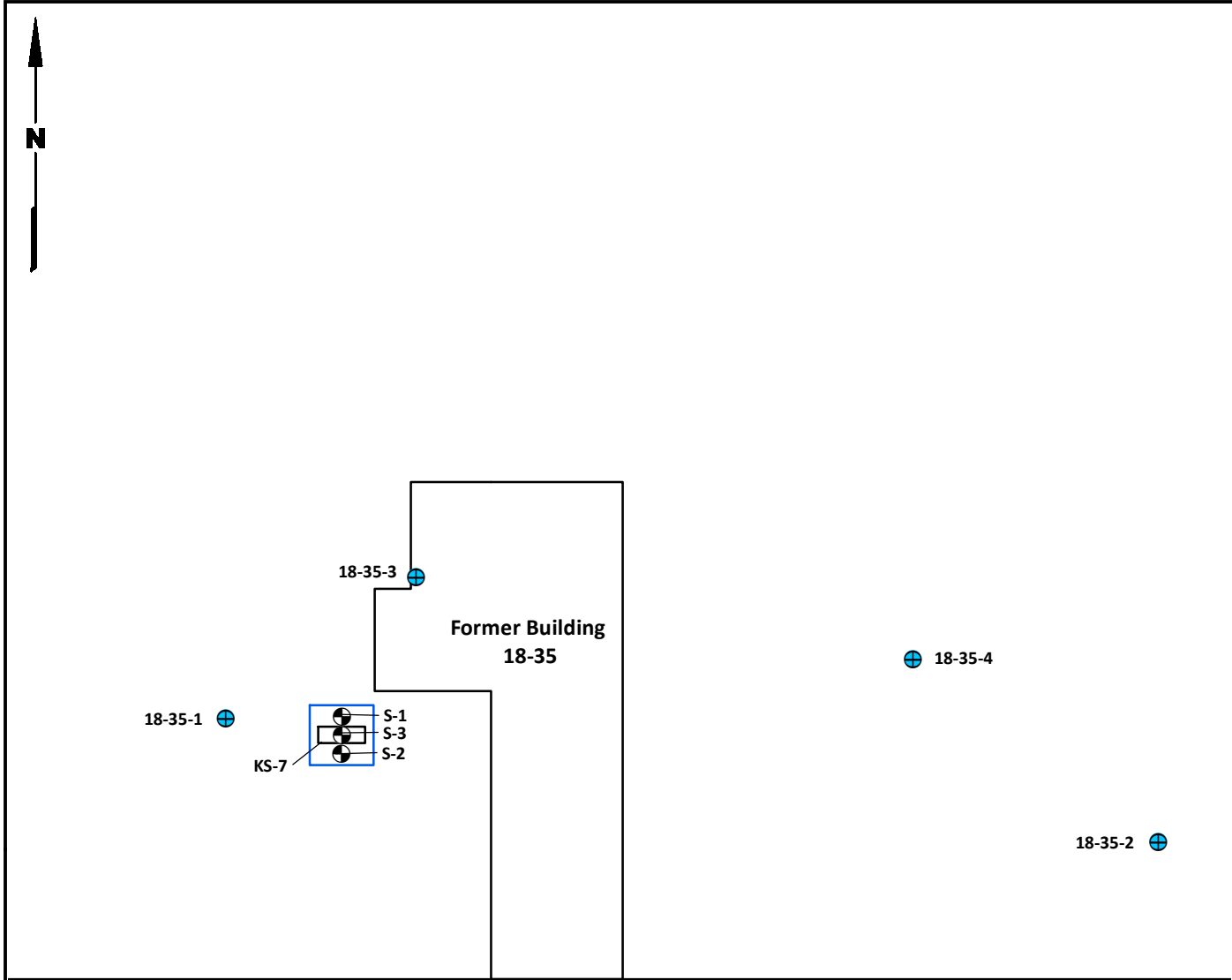
1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: King County GIS; Google Earth Pro.

G:\Projects\0251216\010\011\F04.AOC_1andAOC-3.mxd 4/5/2016



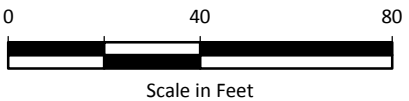
Boeing Kent Space Center Kent, Washington	AOC-1 and AOC-3 - Former USTs KS-5 and KS-6	Figure 4
----------------------------------------------	--------------------------------------------------------	--------------------



Former Building
18-24

Legend

- Groundwater Sample (Clearwater 2002-2003)
- Soil Sample Location (2015)
- Former UST
- Excavation Footprint
- Current Boeing Kent Space Center Boundary

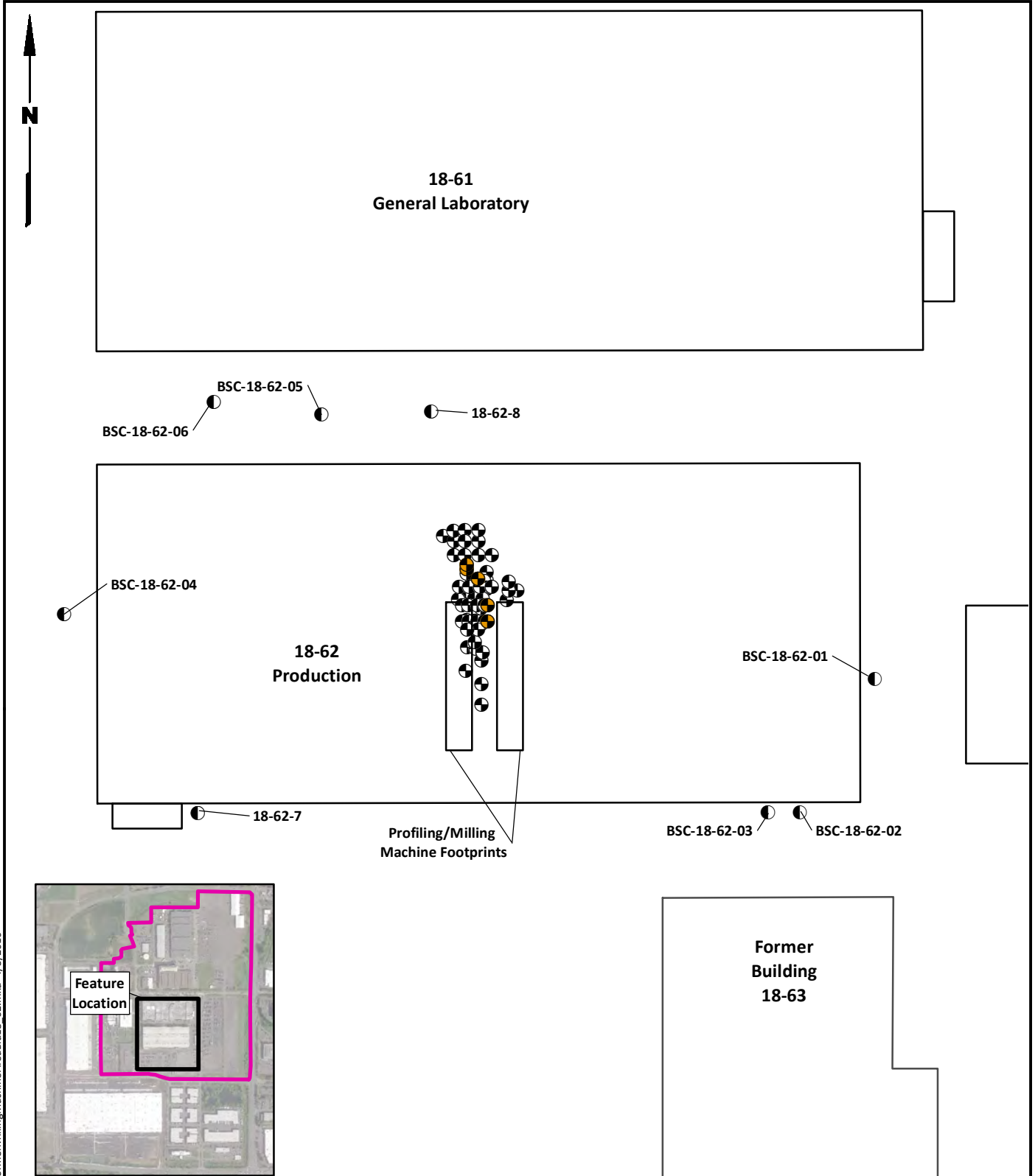


Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: King County GIS; Google Earth Pro.

G:\Projects\0251216\010\011\05 AOC - 2 - Former UST - KS-7.mxd 4/5/2016



Legend

- Historical Soil Sample Location (1995-2002)
- Historical Groundwater Sample Location (2001-2003)
- Historical Soil Confirmation Sample from Excavation (2002)
- Current Boeing Kent Space Center Boundary

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: King County GIS; Google Earth Pro.

G:\Projects\025\216\010\011\F06 FormerMillingMachineAreaBld18_62.mxd 4/5/2016

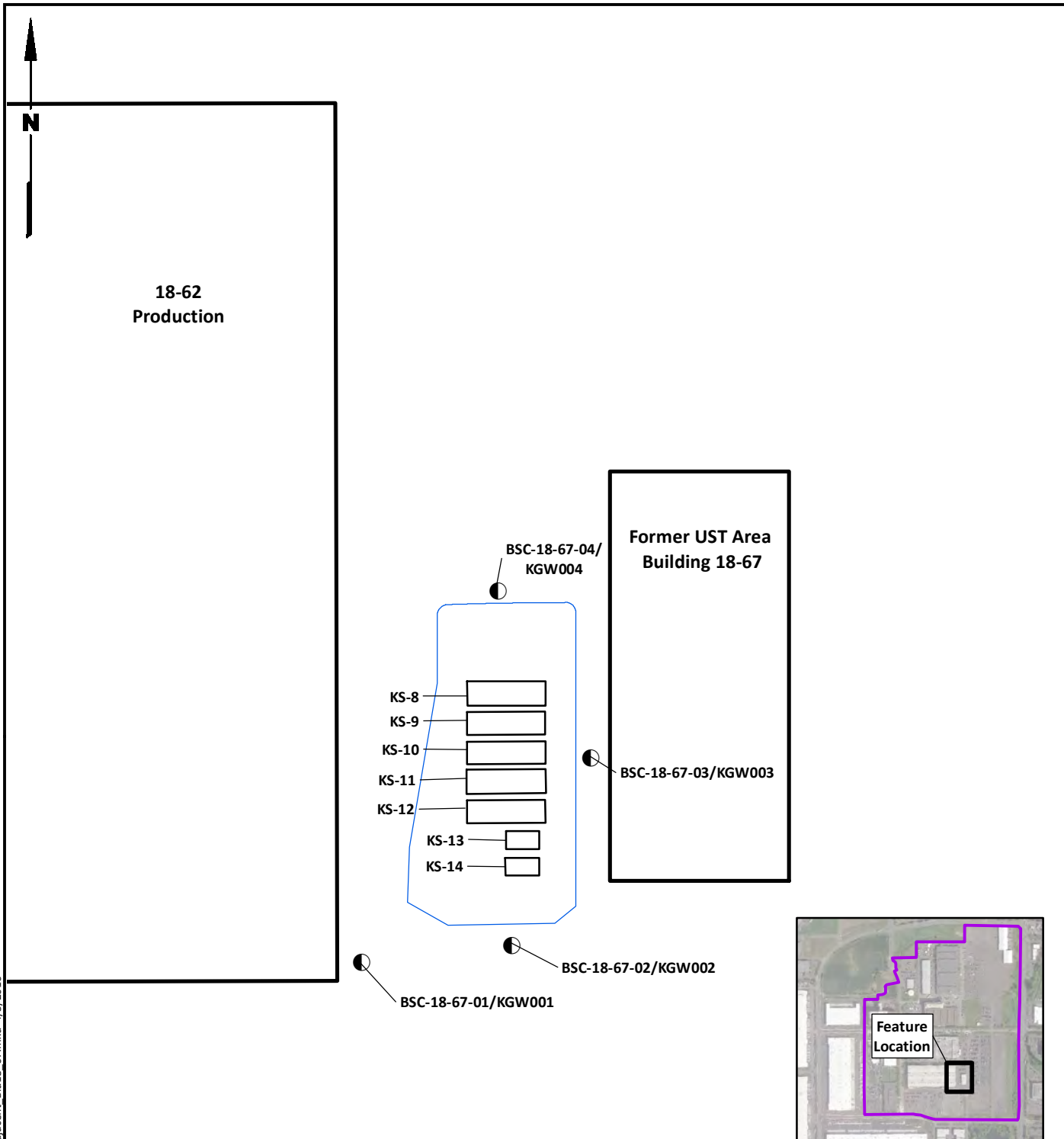


Boeing Kent Space Center
Kent, Washington





**Building 18-62 -
Former Milling Machine Area**

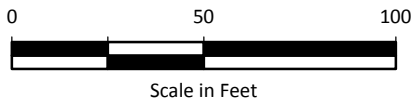
Figure
6

G:\Projects\0251216\010\011\F07 FormerUSTAreaAdjacent_Bld18_67.mxd 4/5/2016



Legend

-  Historical Soil and Groundwater Sample Location (1997-1999 and 2001)
-  Former UST's
-  Excavation Footprint
-  Current Boeing Kent Space Center Boundary



Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: King County GIS; Google Earth Pro.



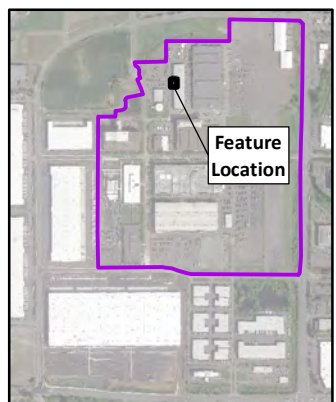
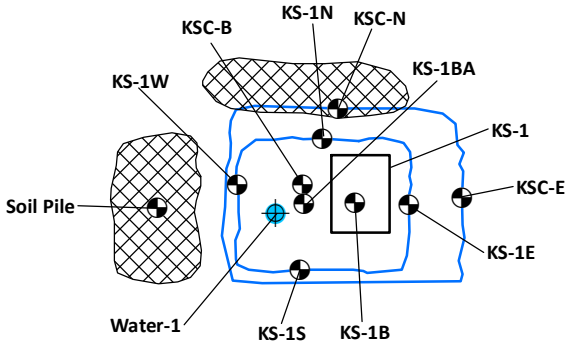
Boeing Kent Space Center
Kent, Washington

Building 18-67 - Former UST Area

Figure
7

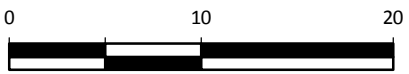


**18-42
Facilities
and
Plant
Services**



Legend

- Historical Soil Sample Location (1993)
- Historical Water Grab Sample Location (1993)
- Former UST
- Excavation Footprint
- Temporary Soil Stockpile
- Current Boeing Kent Space Center Boundary



Scale in Feet

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
2. Stock piles were removed after completion of excavation activities.

Data Sources: King County GIS; Google Earth Pro.

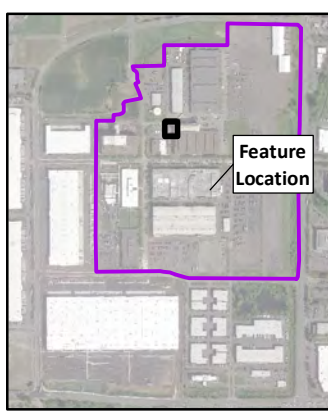
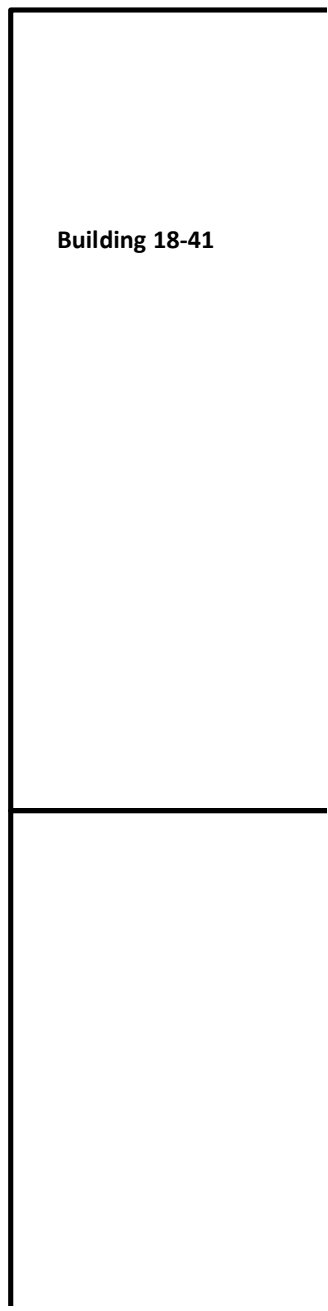
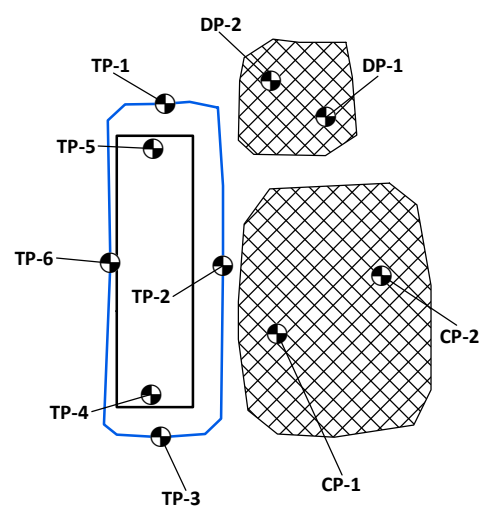
G:\Projects\0251216\010\011\F08 FormerUST_KS1.mxd 4/5/2016



Boeing Kent Space Center
Kent, Washington

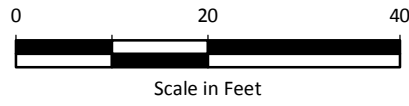
Building 18-42 - Former UST KS-1

Figure
8



Legend

- Historical Soil Sample Location (1992)
- Current Boeing Kent Space Center Boundary
- Former UST
- Excavation Footprint
- Temporary Soil Stockpile



Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
2. Stock piles were removed after completion of excavation activities.

Data Sources: King County GIS; Google Earth Pro.

G:\Projects\0251216\010\011\F09 FormerUST_KS3atBld18_41.mxd 4/5/2016



Boeing Kent Space Center
Kent, Washington

Building 18-41 - Former UST KS-3

Figure
9

Appendix B

Boring Logs

B-1

2017 RI Boring Logs

PROJECT: Boeing KSC RI	COORDINATES: 157007N 1288686E (NAD83)	
LOCATION: Kent, WA - Bldg. 18-43 (indoor)	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/24/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by hand auger from 0-4.5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					8-inch concrete slab (Indoor)	
2				0.3		
3						
4				0.2	POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), moist, 20% gravel, 75% sand, 5% silt	
5		X				
6				0.0		
7						
8				0.0	-becoming wet, but not saturated	
9						
10				0.1	SILT (ML): gray (7.5YR-5/1), wet, 100% silt	
11		X				
12	SB1	X		0.1		
13						
14				0.0	POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
15					Bottom of Boring 15.0 feet	
16					Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB1-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 157004N 1288641E (NAD83)	
LOCATION: Kent, WA - Bldg. 18-43 (indoor)	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/24/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by hand auger from 0-4.5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					8-inch concrete slab (Indoor)	
2				0.0		
3						
4				0.1	POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), moist, 20% gravel, 75% sand, 5% silt	
5						
6						
7						
8				0.0		
9						
10				0.0	SILT (ML): gray (7.5YR-5/1), wet, 98% silt, 2% organics	
11						
12	SB2			0.0		
13						
14				0.0	POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
15						
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB2-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156331N 1288174E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-54	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/27/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					Grass Sod	
2				0.0		
3						
4					POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 20% gravel, 70% sand, 10% silt	
5				0.0		
6						
7				0.1		
8						
9	SB3				SILT (ML): gray (7.5YR-5/1), wet, 100% silt, trace organics	
10				0.0	POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
11						
12				0.0	SILT (ML): gray (7.4YR-5/1), wet, 100% silt	
13						
14					POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB3-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156309N 1288149E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-54	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/27/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					Grass Sod	
2				0.0	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 20% gravel, 70% sand, 10% silt	
3						
4						
5				0.0		
6						
7				0.1		
8					SILTY SAND (SM): gray (7.5YR-5/1), saturated, 80% sand, 17% silt, 3% gravel	
9	SB4			0.0		
10						
11						
12				0.2	SILT (ML): gray (7.4YR-5/1), wet, 100% silt	
13						
14				>Organics		
15				0.0	POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB4-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156265N 1288178E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-54	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/27/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					Ivy Planter	
2				0.0		
3						
4						
5				0.1	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown-gray (7.5YR-5/3-5/1), moist, 20% gravel, 70% sand, 10% silt	
6						
7				0.2		
8						
9						
10				0.0		
11						
12	SB5			0.1		
13					POORLY GRADED SAND WITH GRAVEL (SP): dark gray (7.5YR-4/1), saturated, 10% gravel, 90% sand	
14					SILT (ML): gray (7.4YR-5/1), wet, 100% silt	
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB5-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156554N 1287774E (NAD83)	
LOCATION: Kent, WA - Former Bldg. 18-35	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/24/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1						
2				0.0		
3						
4				0.1		
5					POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), wet, 20% gravel, 75% sand, 3-5% silt	
6						
7						
8				0.0		
9						
10				0.1	-gray, saturated, fine sand in sampling shoe	
11						
12					No Recovery after three attempts Driving large gravel ahead of sampler	
13						
14						
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

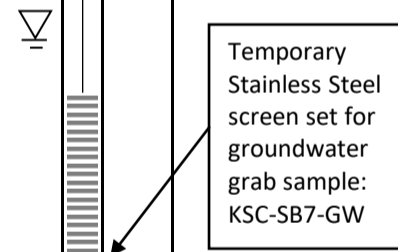
Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB6-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156522N 1287761E (NAD83)	
LOCATION: Kent, WA - Former Bldg. 18-35	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/24/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

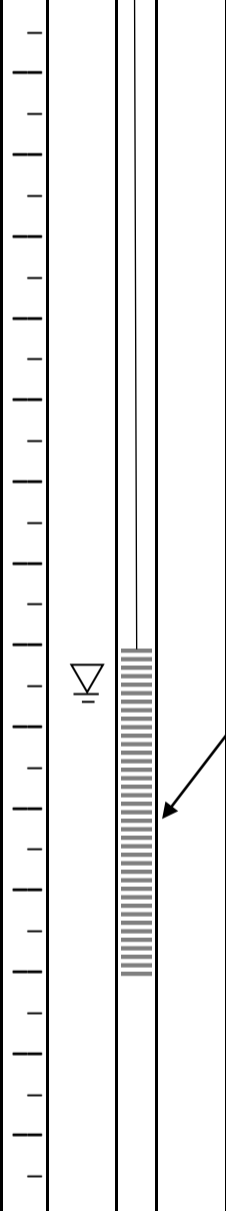
DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1						
2				0.0		
3						
4				0.0		
5					POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), wet, 20% gravel, 75% sand, 5% silt	
6					Poor recovery after three attempts. Driving gravel ahead of sampler	
7						
8						
9					-poor recovery, as above	
10				0.0		
11					Poor recovery after three attempts. Driving gravel ahead of sampler	
12						
13						
14					-poor recovery, gravel in shoe	
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						



Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156511N 1287803E (NAD83)	
LOCATION: Kent, WA - Former Bldg. 18-35	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/24/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					<p>POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), wet, 20-30% gravel, 65-75% sand, 5% silt</p>	
2				0.3		
3						
4				0.4		
5						
6					0.2	 <p>Temporary Stainless Steel screen set for groundwater grab sample: KSC-SB8-GW</p>
7						
8				0.1		
9						
10				0.0		
11					<p>SILT (ML): gray (7.5YR-5/1), wet, 100% silt</p>	
12						
13						
14				0.0		
15						
16					<p>POORLY GRADED SAND (SP): gray (7.5YR-5/1), wet, 95% sand, 5% silt</p>	
17						
18						
19						
20				0.0		
					<p>SILTY SAND (SM): gray (7.5YR-5/1), saturated, 70% sand, 30% silt</p>	
					<p>Bottom of Boring 15.0 feet Backfilled with bentonite chip.</p>	

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155675N 1288514E (NAD83)	
LOCATION: Kent, WA - Bldg. 18-62 (indoor)	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/25/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by hand-auger from 0-3'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					8-inch concrete slab	
2					6 inches of pea gravel/washed rock bedding	
3				0.0	POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), wet, 20% gravel, 75% sand, 5% silt	
4						
5				0.0		
6						
7				0.1	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): gray (7.5YR-5/1), wet, 20% gravel, 70% sand, 10% silt	
8						
9				0.0		
10					SILT (ML): brown to gray (7.5YR-5/3-5/1), wet, 100% silt	
11				0.2		
12						
13					POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
14				0.0		
15					Bottom of Boring 15.0 feet	
16					Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB9-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155607N 1288487E (NAD83)	
LOCATION: Kent, WA - Bldg. 18-62 (indoor)	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/25/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by hand-auger from 0-3'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					24-inch concrete slab	
2				0.0		
3						
4				0.0	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): gray (7.5YR-5/1), wet, 20% gravel, 70-75% sand, 5-10% silt	
5				0.0		
6						
7				0.0		
8						
9				0.0	-no perched water	
10				0.0		
11					SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
12				0.0		
13						
14				0.0	-reddish oxidation	
15				0.0	SILTY SAND (SM): dark gray (7.5YR-4/1), saturated, 70% fine sand, 30% silt	
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB10-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155612N 1288572E (NAD83)	
LOCATION: Kent, WA - Bldg. 18-62 (indoor)	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/25/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by hand-auger from 0-3'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					10-inch concrete slab	
2					6 inches of washed rock bedding	
3				0.0		
4				0.2	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): gray (7.5YR-5/1), moist to wet, 20% gravel, 70% sand, 10% silt	
5				0.0		
6				0.0		
7				0.0		
8				0.0		
9				0.0	-no perched water	
10				0.0		
11				0.3	SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
12				0.3		
13				0.2	SILTY SAND (SM): dark gray (7.5YR-4/1), saturated, 70% fine sand, 30% silt	
14				0.2		
15				0.2	Bottom of Boring 15.0 feet	
16					Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB11-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155489N 1288528E (NAD83)	
LOCATION: Kent, WA - Bldg. 18-62 (indoor)	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/25/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by hand-auger from 0-3'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					10-inch concrete slab	
2					6-inches of washed rock bedding	
3				0.0		
4				0.0	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): gray (7.5YR-5/1), moist to wet, 20% gravel, 70-75% sand, 5-10% silt	
5				0.0		
6				0.0		
7				0.2		
8						
9					-no perched water	
10				1.2		
11					SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
12				0.1		
13						
14				0.0	-organic silt interbed	
15					SILTY SAND (SM): dark gray (7.5YR-4/1), saturated, 70% fine sand, 30% silt	
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB12-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155513N 1288898E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-67	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/26/17	
DRILLING EQUIPMENT: Geoprobe 6600	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					4-inch asphalt concrete	
2				0.0		
3						
4					POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 22% gravel, 70% sand, 8% silt	
5		X		0.0		
6		X				
7				0.2		
8						
9						
10				0.0	POORLY GRADED SAND (SP): gray (7.5YR-5/1), saturated, 100% medium to coarse sand	
11						
12				0.1	SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
13						
14					SILTY SAND (SM): dark gray (7.5YR-4/1), saturated, 70% fine sand, 30% silt	
15				0.0	Trace thin roots	
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB13-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156944N 1288394E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-42	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/26/17	
DRILLING EQUIPMENT: Geoprobe 6600	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					3-inch asphalt concrete	
2				0.0		
3						
4					POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 30% gravel, 60% sand, 10% silt	
5		X		0.1		
6		X				
7				0.0		
8						
9					-no perched water	
10				0.1		
11					SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
12				0.0		
13						
14					POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
15				0.2		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB14-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156919N 1288373E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-42	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/26/17	
DRILLING EQUIPMENT: Geoprobe 6600	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					3-inch asphalt concrete	
2				0.1	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 30% gravel, 60% sand, 10% silt	
3						
4				0.0		
5						
6				0.1		
7					-organics, grass, roots	
8				0.1		
9				0.0		
10					SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
11				0.1		
12					-reddish oxidation POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand with trace organics	
13				0.1		
14						
15					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
16						
17						
18						
19						
20						



Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB15-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156895N 1288390E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-42	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/26/17	
DRILLING EQUIPMENT: Geoprobe 6600	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					3-inch asphalt concrete	
2				0.1		
3						
4					POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), moist, 30% gravel, 65% sand, 5% silt	
5		X		0.1		
6		X				
7				0.0		
8						
9					-silty sand grading to silt	
10		X		0.0		
11		X			SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
12		X		0.0		
13					-reddish oxidation	
14					POORLY GRADED SAND (SP): dark gray (7.5YR-4/1), saturated, 100% fine sand	
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

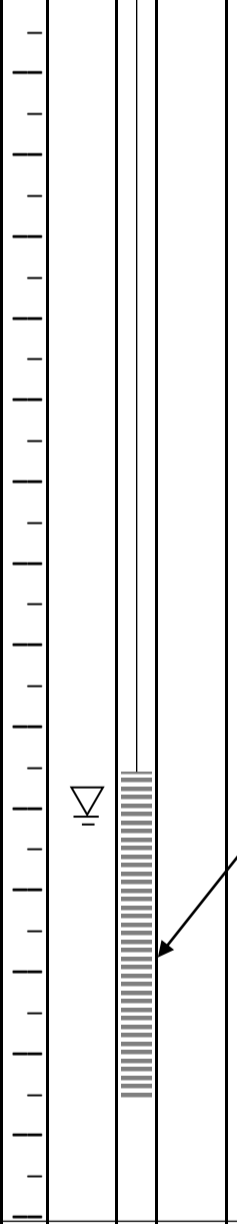


Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB16-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156599N 1288393E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-41	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/26/17	
DRILLING EQUIPMENT: Geoprobe 6600	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					8-inch concrete	
2				0.1	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 30% gravel, 60% sand, 10% silt	
3						
4				0.0		
5						
6				0.1		
7					SILT (ML): gray (7.5YR-5/1), wet, 100% silt, plastic	
8				0.0		
9						
10				0.0	POORLY GRADED SAND (SP): brown (7.5YR-5/3), saturated, 100% fine to medium sand	
11				0.2		
12					SILT WITH ORGANICS (ML-OL): gray-brown (7.5YR-5/1-5/4), wet, 90% silt, 10% organics with trace organics	
13				0.0		
14					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
15						
16						
17						
18						
19						
20						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156551N 1288362E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-41	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/27/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					Washed gravel surfacing	
2				0.1		
3						
4					POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 20% gravel, 65% sand, 15% silt	
5		X				
6		X				
7				0.1		
8						
9					-no perched water	
10		X		0.0		
11					SILT (ML): gray (7.5YR-5/1), wet, 100% silt	
12				0.2		
13						
14					SILT WITH SAND (ML): gray-brown (7.5YR-5/1-5/4), wet, 55% silt, 40% sand, 5% organics	
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						



Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB18-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156561N 1288422E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-41	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/25/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					3-inch asphalt concrete	
2				0.1		
3						
4					POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), moist, 20% gravel, 75% sand, 5% silt	
5				0.0		
6						
7				0.1		
8				0.0		
9						
10						
11						
12					POORLY GRADED SAND WITH SILT (SP-SM): gray-brown (7.5YR-5/1-3), saturated, 30% silt, 65% sand, 5% gravel	
13						
14					POORLY GRADED SAND WITH SILT (SP-SM): dark gray (7.5YR-4/1), saturated, 90% fine sand, 10% silt	
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB19-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156522N 1288388E (NAD83)	
LOCATION: Kent, WA - West of Bldg. 18-41	SURFACE ELEVATION:	
DRILLING CONTRACTOR: Cascade	DATE: 1/27/17	
DRILLING EQUIPMENT: Geoprobe 7730DT	TOTAL DEPTH OF BORING: 15.0'	
DRILLING METHOD: Direct-Push	LOGGED BY: D. Cooper	
SAMPLING METHOD: 2" dia. X 5' Macro w/acrylic liner	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by vac-truck from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blows/Foot	PID (ppm)		
1					Washed gravel surfacing	
2				0.1		
3						
4					POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM): brown (7.5YR-5/3), moist, 20% gravel, 65% sand, 15% silt	
5		X		0.1		
6		X				
7				0.1		
8						
9					-no perched water	
10				0.2		
11					SILT (ML): gray (7.5YR-5/1), wet, 100% silt	
12				0.0		
13					POORLY GRADED SAND WITH SILT (SP-SM) gray (7.5YR-5/1), saturated, 30% silt, 70% sand	
14					POORLY GRADED SAND (SP) dark gray (7.5YR-4/1), saturated, 100% fine sand	
15				0.0		
16					Bottom of Boring 15.0 feet Backfilled with bentonite chip.	
17						
18						
19						
20						

Temporary
Stainless Steel
screen set for
groundwater
grab sample:
KSC-SB20-GW

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 157218.0N 1288399.3E (NAD83)	
LOCATION: Kent, WA	SURFACE ELEVATION: 29.9 (NAVD88)	
DRILLING CONTRACTOR: Cascade	DATE: 4/13/17	
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 17.0'	ECOLOGY ID: BKA-087
DRILLING METHOD: 4" ID Hollow-Stem Auger	LOGGED BY: D. Cooper	
SAMPLING METHOD: 3" dia. Split-Spoon w/ 300# Hammer	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by Air-Knife from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					2-inches Asphalt Concrete Paving	
2	MWI-2.5				POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), moist to wet, 20% gravel, 60% sand, 20% silt	8" Morris Flush-Mount Well Box
3						2-inch Diameter SCH 40 PVC Casing TOC 29.59 (NAVD88)
4						Concrete
5				0.1		
6			3/4/5			
7			3/4/8		-becoming wet, but not saturated	Cetco Medium Bentonite Chip
8				0.0		
9			4/3/5			
10			3/3/4		SILT (ML): gray (7.5YR-6/1), wet, 100% silt	#20-40 Colorado Silica Sand
11				0.1		
12			5/9/2			
13			5/9/3			
14					POORLY GRADED SAND (SP): gray (7.5YR-5/1), saturated, 90% fine sand, 10% silt with silty interbeds	2-inch Diameter SCH 40 PVC Screen 0.010" slot 11.0-16.0' 0.3' end cap
15			3/3/3			
16			2/2/2			
17					SILT (ML)	
17					Bottom of Boring 17.0 feet	
18						
19						
20						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156911.0N 1289528.0E (NAD83)	
LOCATION: Kent, WA	SURFACE ELEVATION: 29.0 (NAVD88)	
DRILLING CONTRACTOR: Cascade	DATE: 4/14/17	
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 14.0'	ECOLOGY ID: BKA-089
DRILLING METHOD: 4" ID Hollow-Stem Auger	LOGGED BY: D. Cooper	
SAMPLING METHOD: 3" dia. Split-Spoon w/ 300# Hammer	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by Air-Knife from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS	
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)			
1					2-inches Asphalt Concrete Paving		
2	MW2-2.5				POORLY GRADED SAND WITH GRAVEL (SP): gray (7.5YR-5/1), moist to wet, 20% gravel, 65% sand, 15% silt	8" Morris Flush-Mount Well Box	
3						2-inch Diameter SCH 40 PVC Casing TOC 28.58 (NAVD88)	
4						Concrete	
5				0.1		Cetco Medium Bentonite Chip	
6			6/4/4		POORLY GRADED SAND (SP): gray (7.5YR-5/1), saturated, 95% fine sand, 5% silt		
7			4/6/5				
8			5/5/5	0.0			#20-40 Colorado Silica Sand
9			5/5/5				2-inch Diameter SCH 40 PVC Screen 0.010" slot 6.9-11.9' 0.3' end cap
10			5/4/5				
11			2/2/3	0.0			
12			2/2/3				
13			5/7/8		SILT (ML): gray (7.5YR-6/1), wet, 100% silt with trace fine sand and organics		
14					Bottom of Boring 14.0 feet		
15							
16							
17							
18							
19							
20							

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155979.9N 1289581.4E (NAD83)	
LOCATION: Kent, WA	SURFACE ELEVATION: 28.8 (NAVD88)	
DRILLING CONTRACTOR: Cascade	DATE: 4/14/17	
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 14.0'	ECOLOGY ID: BKA-090
DRILLING METHOD: 4" ID Hollow-Stem Auger	LOGGED BY: D. Cooper	
SAMPLING METHOD: 3" dia. Split-Spoon w/ 300# Hammer	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by Air-Knife from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					2-inches Asphalt Concrete Paving	
2	MW3-2.5				POORLY GRADED SAND WITH GRAVEL (SP): gray (7.5YR-5/1), moist to wet, 20% gravel, 60% sand, 20% silt	8" Morris Flush-Mount Well Box
3						2-inch Diameter SCH 40 PVC Casing TOC 28.47 (NAVD88)
4						Concrete
5				0.0		Cetco Medium Bentonite Chip
6			2/2/2			
7					SILT (ML): gray (7.5YR-6/1), wet, 100% silt, trace organics	
8			2/2/3			
9			1/1/1	0.0		#20-40 Colorado Silica Sand
10			3/3/4			2-inch Diameter SCH 40 PVC Screen 0.010" slot 7.7-12.7' 0.3' end cap
11				0.0	POORLY GRADED SAND (SP): gray (7.5YR-5/1), saturated, 95% fine sand, 5% silt with silt clasts and silt interbeds	
12			7/8/8			
13			7/10/2			
14					Bottom of Boring 14.0 feet	
15						
16						
17						
18						
19						
20						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155134.9N 1289093.6E (NAD83)	
LOCATION: Kent, WA	SURFACE ELEVATION: 29.2 (NAVD88)	
DRILLING CONTRACTOR: Cascade	DATE: 4/14/17	
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 14.0'	ECOLOGY ID: BKA-091
DRILLING METHOD: 4" ID Hollow-Stem Auger	LOGGED BY: D. Cooper	
SAMPLING METHOD: 3" dia. Split-Spoon w/ 300# Hammer	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by Air-Knife from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					2-inches Asphalt Concrete Paving	
2	MW4-2.5				POORLY GRADED SAND WITH GRAVEL (SP): gray (7.5YR-5/1), moist to wet, 20% gravel, 60% sand, 20% silt	8" Morris Flush-Mount Well Box
3						2-inch Diameter SCH 40 PVC Casing TOC 28.86 (NAVD88)
4						Concrete
5				0.0		Cetco Medium Bentonite Chip
6			2/2/1		SILT (ML): gray (7.5YR-6/1), wet, 100% silt, soft	
7			2/2/3		POORLY GRADED SAND WITH SILT (SP-SM): gray (7.5YR-5/1), moist to saturated, 70% sand, 30% silt	
8			2/4/4	0.1		#20-40 Colorado Silica Sand
9			2/4/4			2-inch Diameter SCH 40 PVC Screen 0.010" slot 7.7-12.7' 0.3' end cap
10			4/4/4		POORLY GRADED SAND (SP): gray (7.5YR-5/1), saturated, 100% fine sand with silt interbeds	
11			4/4/4	0.1		
12			3/4/4			
13			6/7/7			
14					Bottom of Boring 14.0 feet	
15						
16						
17						
18						
19						
20						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 155231.7N 1288197.2E (NAD83)	
LOCATION: Kent, WA	SURFACE ELEVATION: 30.3 (NAVD88)	
DRILLING CONTRACTOR: Cascade	DATE: 4/14/17	
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 15.5'	ECOLOGY ID: BKA-092
DRILLING METHOD: 4" ID Hollow-Stem Auger	LOGGED BY: D. Cooper	
SAMPLING METHOD: 3" dia. Split-Spoon w/ 300# Hammer	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by Air-Knife from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					2-inches Asphalt Concrete Paving	
2	MW5-2.5					
3						
4						
5				0.1	POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), moist to wet, 20% gravel, 60% sand, 20% silt poor recovery to 9.5', grading silty	
6			3/3/4			
7			6/6/4			
8			5/5/5	0.0		
9			3/4/5			
10			3/4/5			
11			3/4/4	0.2	SILT (ML): gray (7.5YR-6/1), wet, 100% silt soft, organic silt interbeds, gravel clasts	
12			3/4/4			
13			8/15/15			
14			7/14/15		POORLY GRADED SAND (SP): gray (7.5YR-5/1), saturated, 100% fine sand with silt clasts	
15						
16					Bottom of Boring 15.5 feet	
17						
18						
19						
20						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156258.2N 1288065.8E (NAD83)	
LOCATION: Kent, WA	SURFACE ELEVATION: 29.5 (NAVD88)	
DRILLING CONTRACTOR: Cascade	DATE: 4/13/17	
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 14.0'	ECOLOGY ID: BKA-088
DRILLING METHOD: 4" ID Hollow-Stem Auger	LOGGED BY: D. Cooper	
SAMPLING METHOD: 3" dia. Split-Spoon w/ 300# Hammer	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Boring cleared by Air-Knife from 0-5'

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					2-inches Asphalt Concrete Paving	
2	MW6-2.5				POORLY GRADED SAND WITH GRAVEL (SP): brown (7.5YR-5/3), moist to wet, 20% gravel, 60% sand, 20% silt	
3						
4						
5				0.0		
6			3/3/4		SILT (ML): gray (7.5YR-6/1), wet, 100% silt with fine sandy interbeds below 6.5'	
7			2/2/4			
8			2/3/4	0.0		
9			2/3/4			
10			6/4/5		POORLY GRADED SAND and SILT (SP-SM): gray (7.5YR-5/1), saturated, 95% fine sand, 5% silt interbedded with 30% fine sand, 70% silt	
11			3/4/3	0.2		
12			3/4/3			
13			6/5/5			
14					Bottom of Boring 14.0 feet	
15						
16						
17						
18						
19						
20						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: Boeing KSC RI	COORDINATES: 156575.9N 1287632.9E (NAD83)	
LOCATION: Kent, WA	SURFACE ELEVATION: 28.3 (NAVD88)	
DRILLING CONTRACTOR: Cascade	DATE: 4/13/17	
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 14.0'	ECOLOGY ID: BKA-086
DRILLING METHOD: 4" ID Hollow-Stem Auger	LOGGED BY: D. Cooper	
SAMPLING METHOD: 3" dia. Split-Spoon w/ 300# Hammer	RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

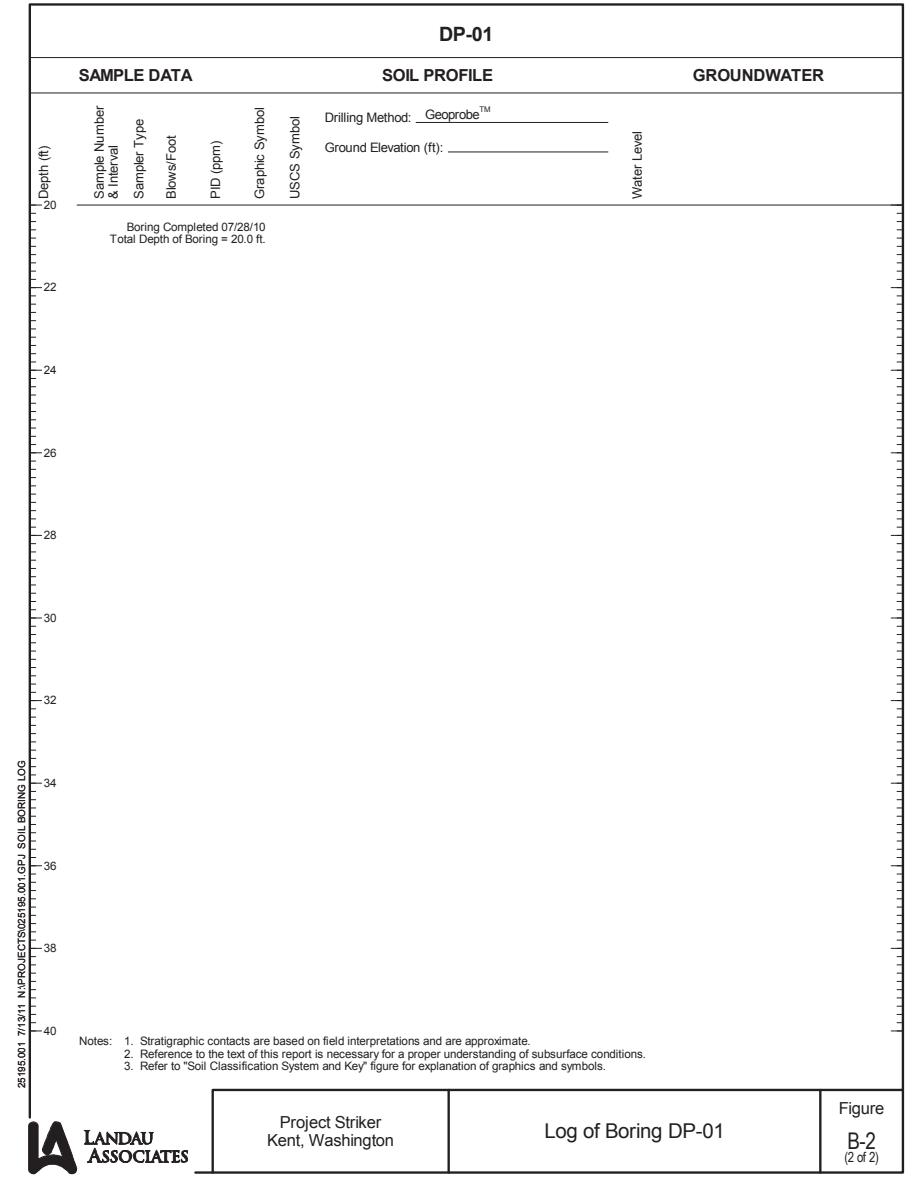
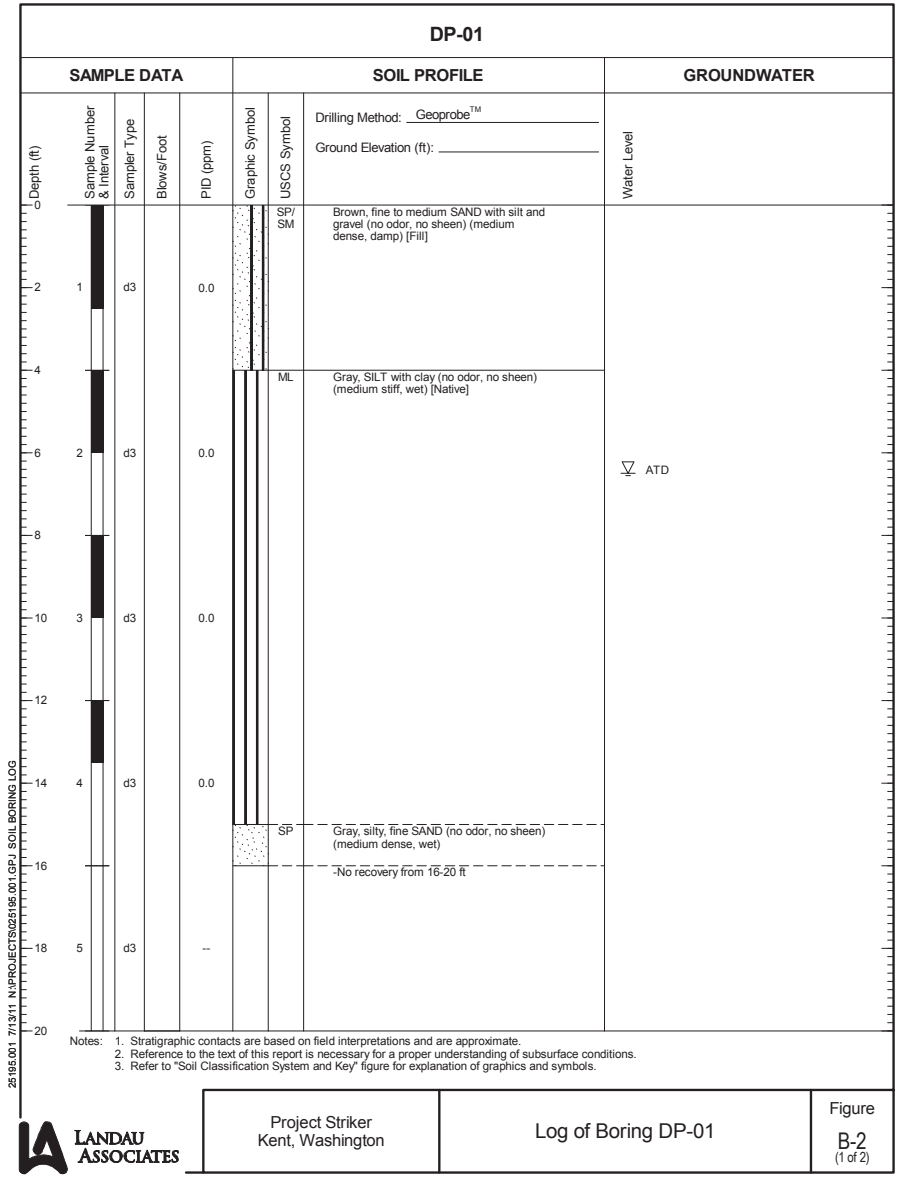
NOTES: Boring cleared by Air-Knife from 0-5'

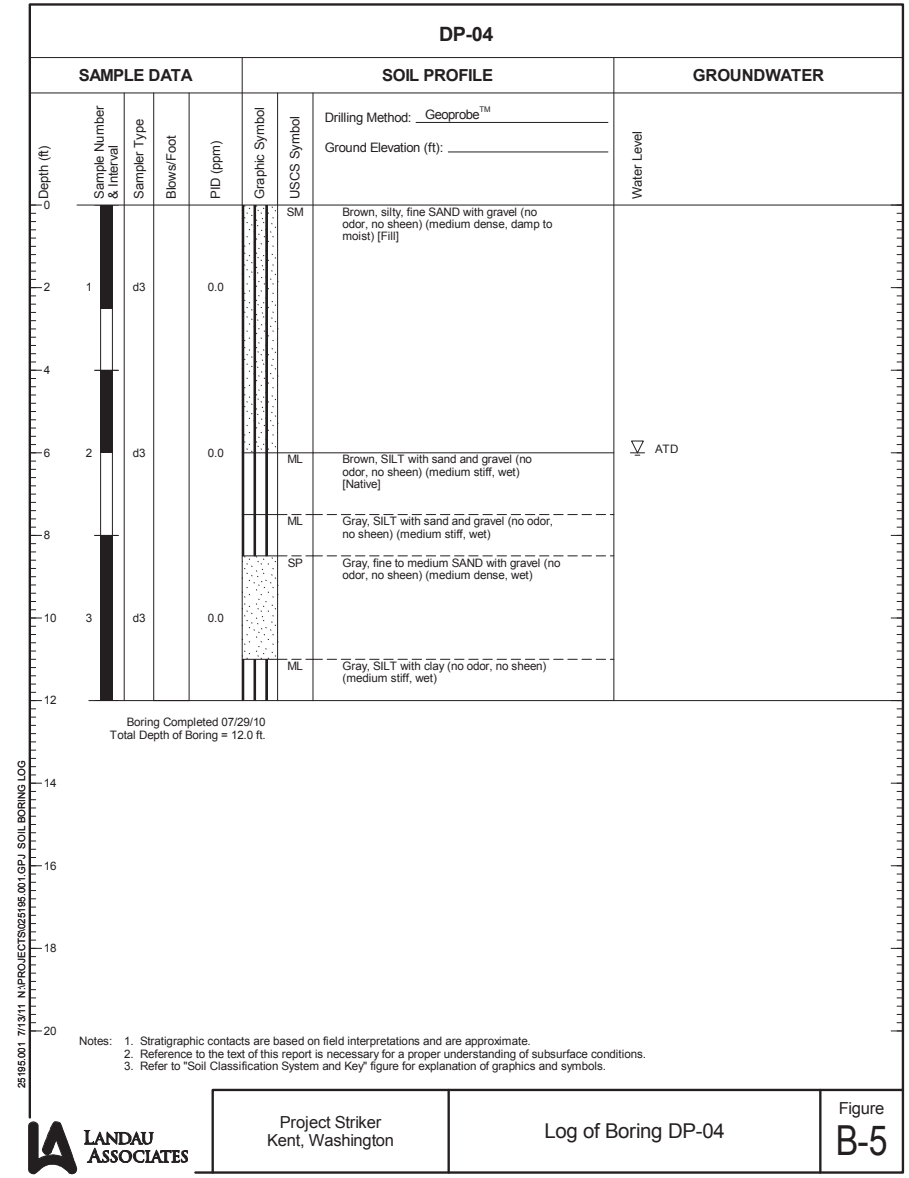
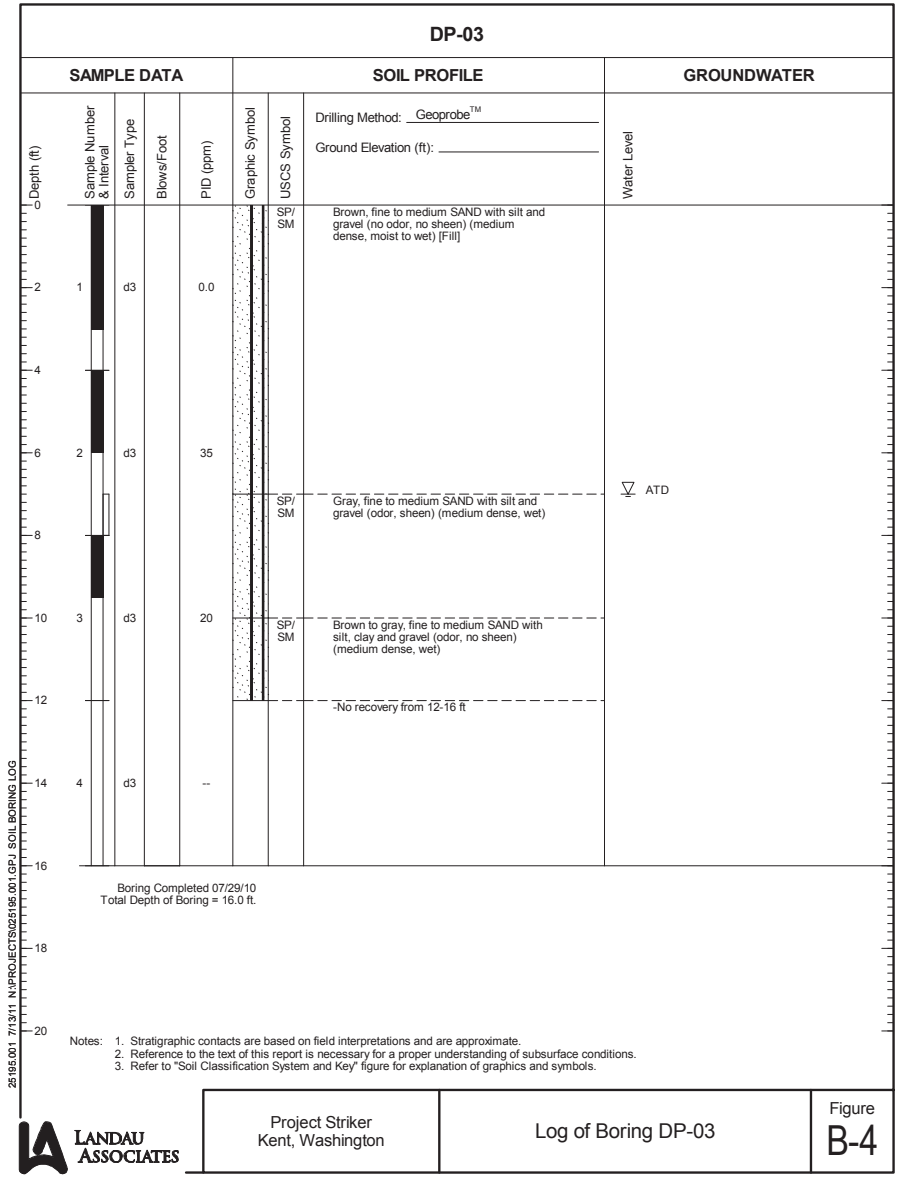
DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					2-inches Asphalt Concrete Paving	
2	MW7-2.5				POORLY GRADED SAND WITH SILT and GRAVEL (SP-SM): brown to gray (7.5YR-5/3-5/1), moist to wet, 20% gravel, 60% sand, 20% silt	8" Morris Flush-Mount Well Box
3						2-inch Diameter SCH 40 PVC Casing TOC 27.92 (NAVD88)
4						Concrete
5				0.0		Cetco Medium Bentonite Chip
6			2/2/2		SILT (ML): gray (7.5YR-6/1), wet, 100% silt, plastic	
7			2/3/4	0.1		
8			3/4/5	0.0		#20-40 Colorado Silica Sand
9			4/6/5	0.0		
10			7/8/7	0.0	POORLY GRADED SAND (SP): gray (7.5YR-5/1), saturated, 95% fine sand, 5% silt	2-inch Diameter SCH 40 PVC Screen 0.010" slot 8.8-13.8' 0.3' end cap
11			7/7/8	0.0		
12						
13						
14					Bottom of Boring 14.0 feet	
15						
16						
17						
18						
19						
20						

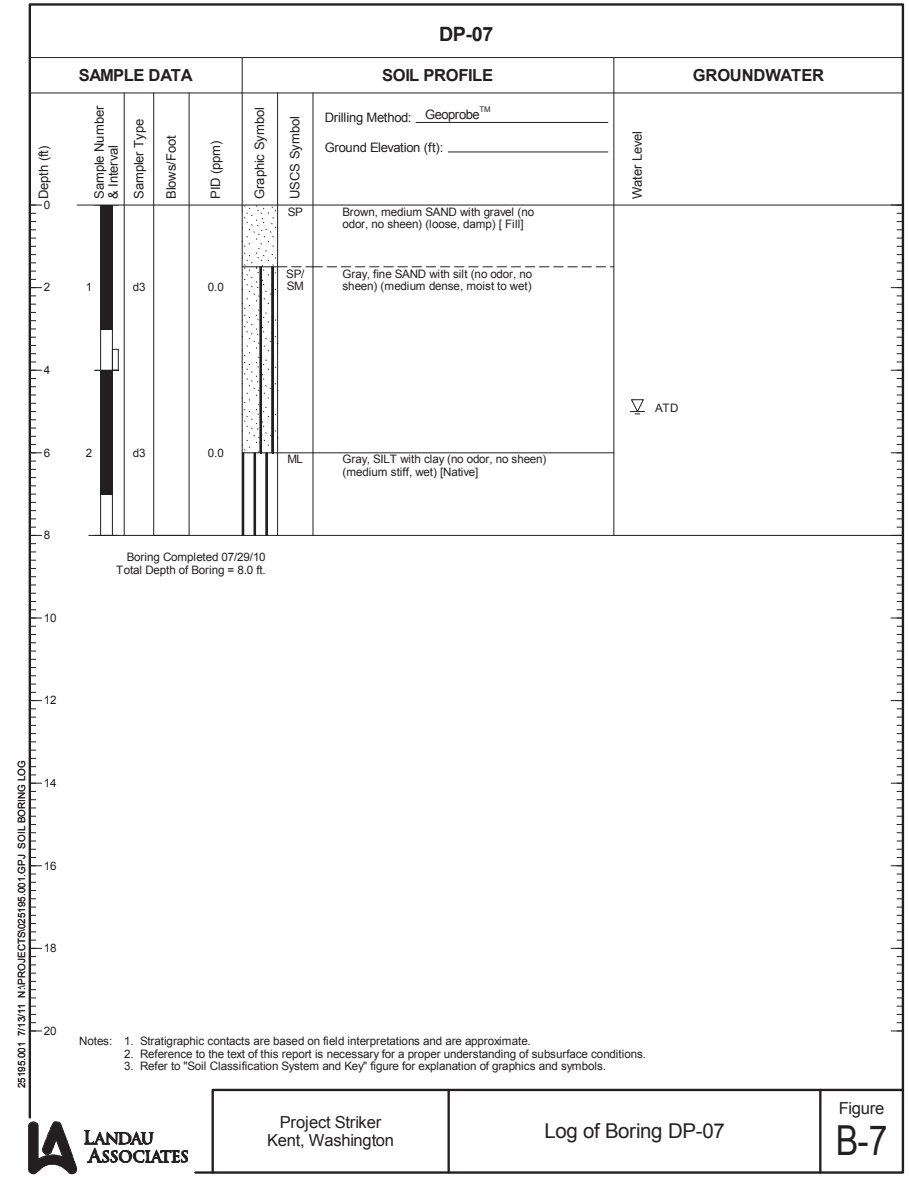
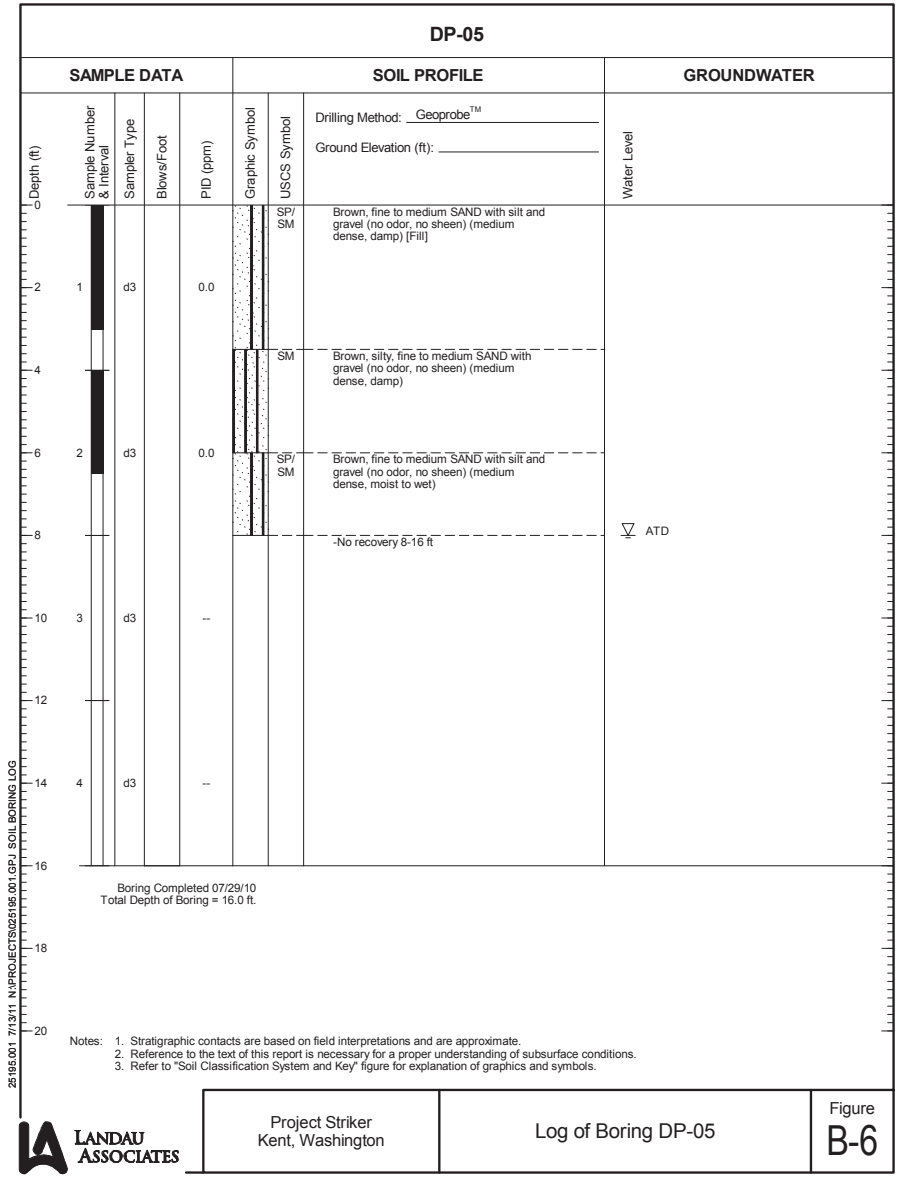
Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

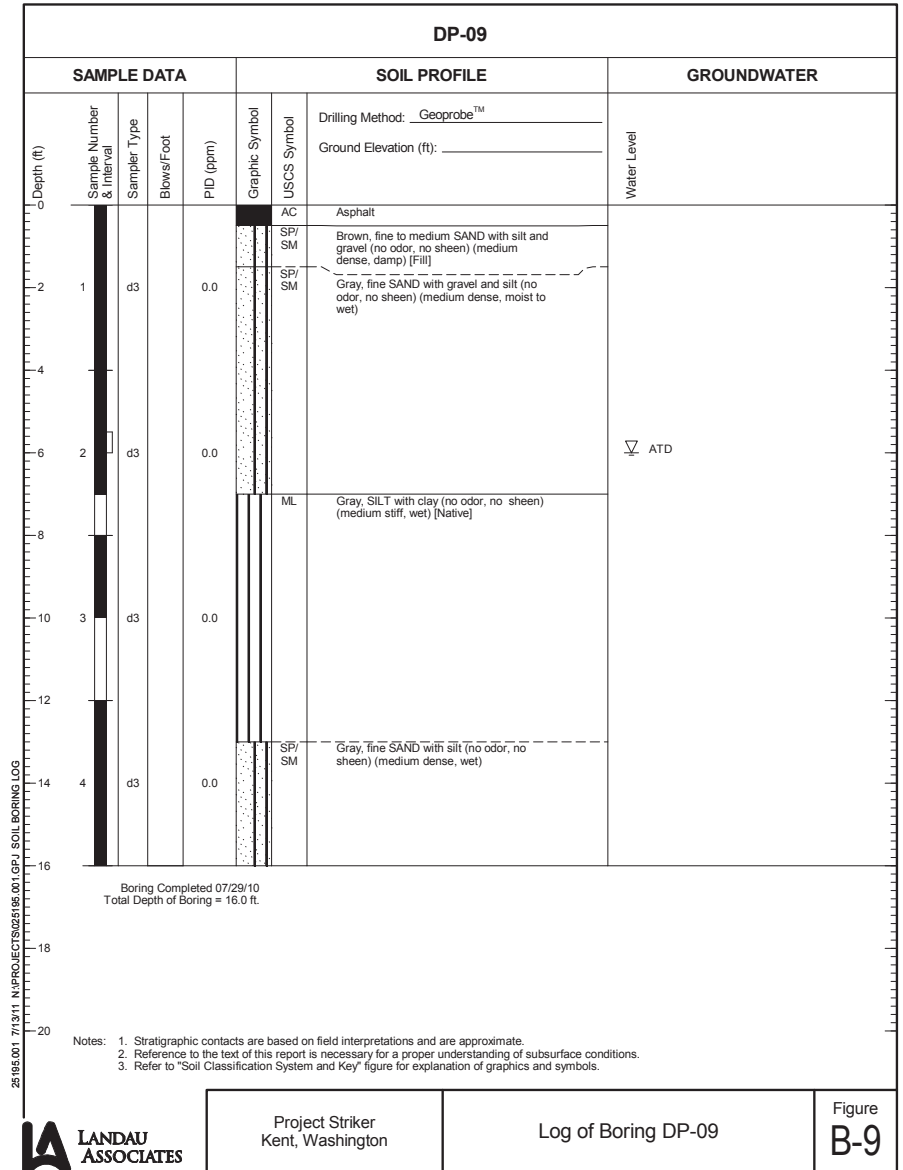
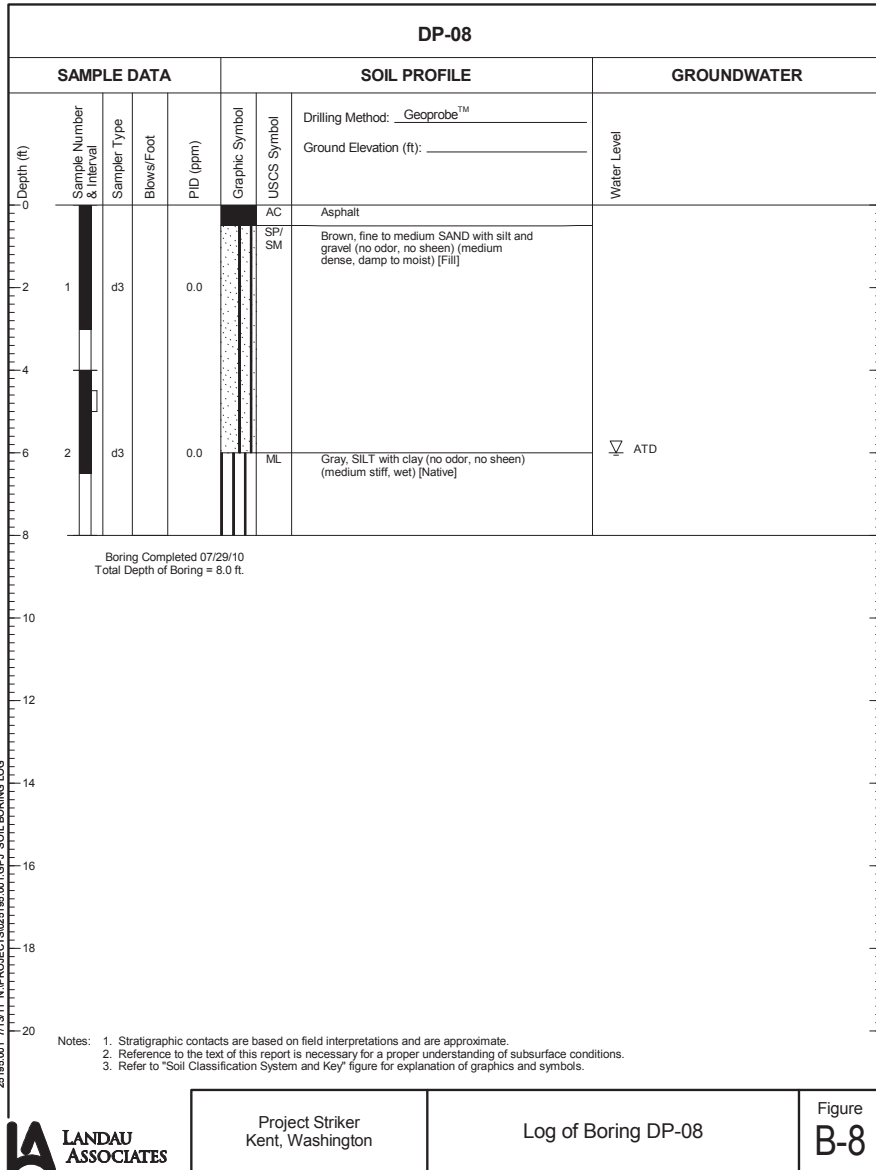
B-2

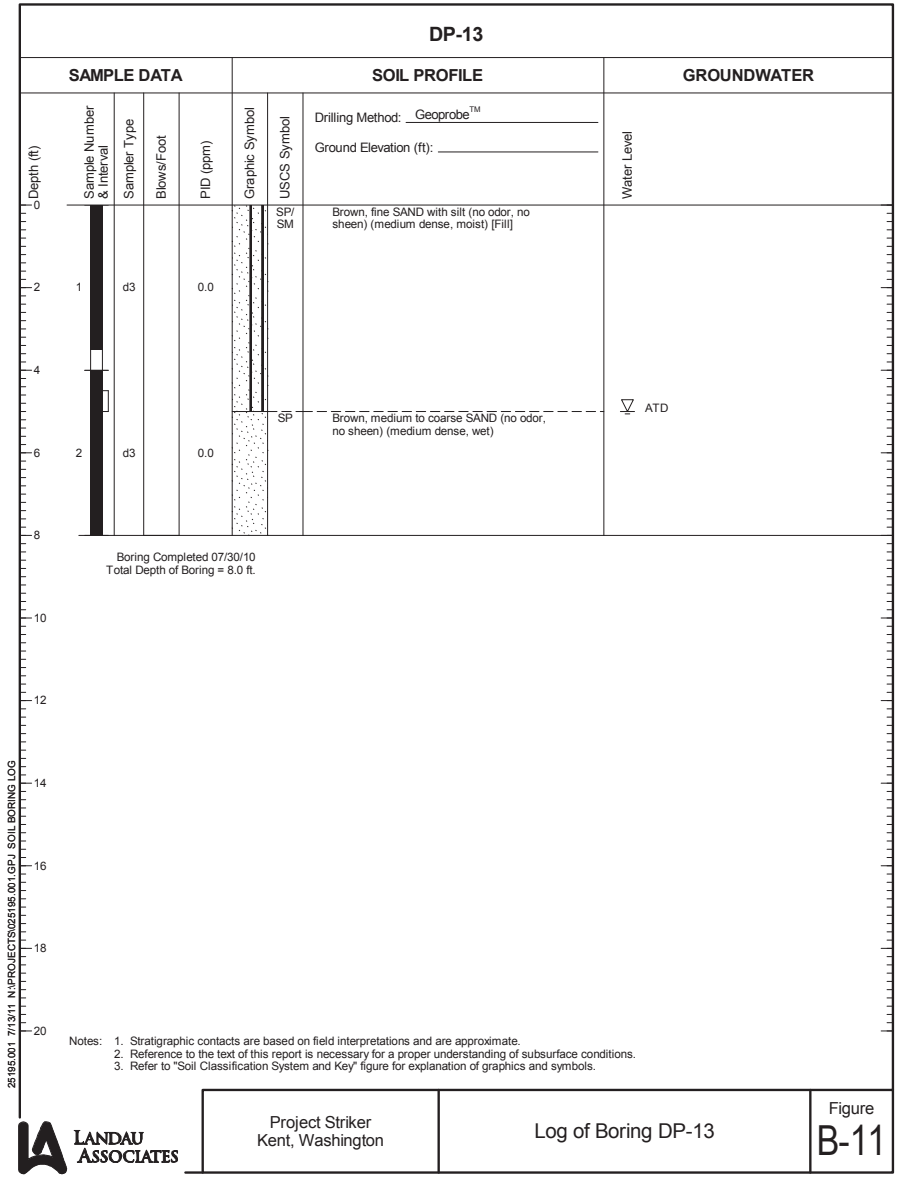
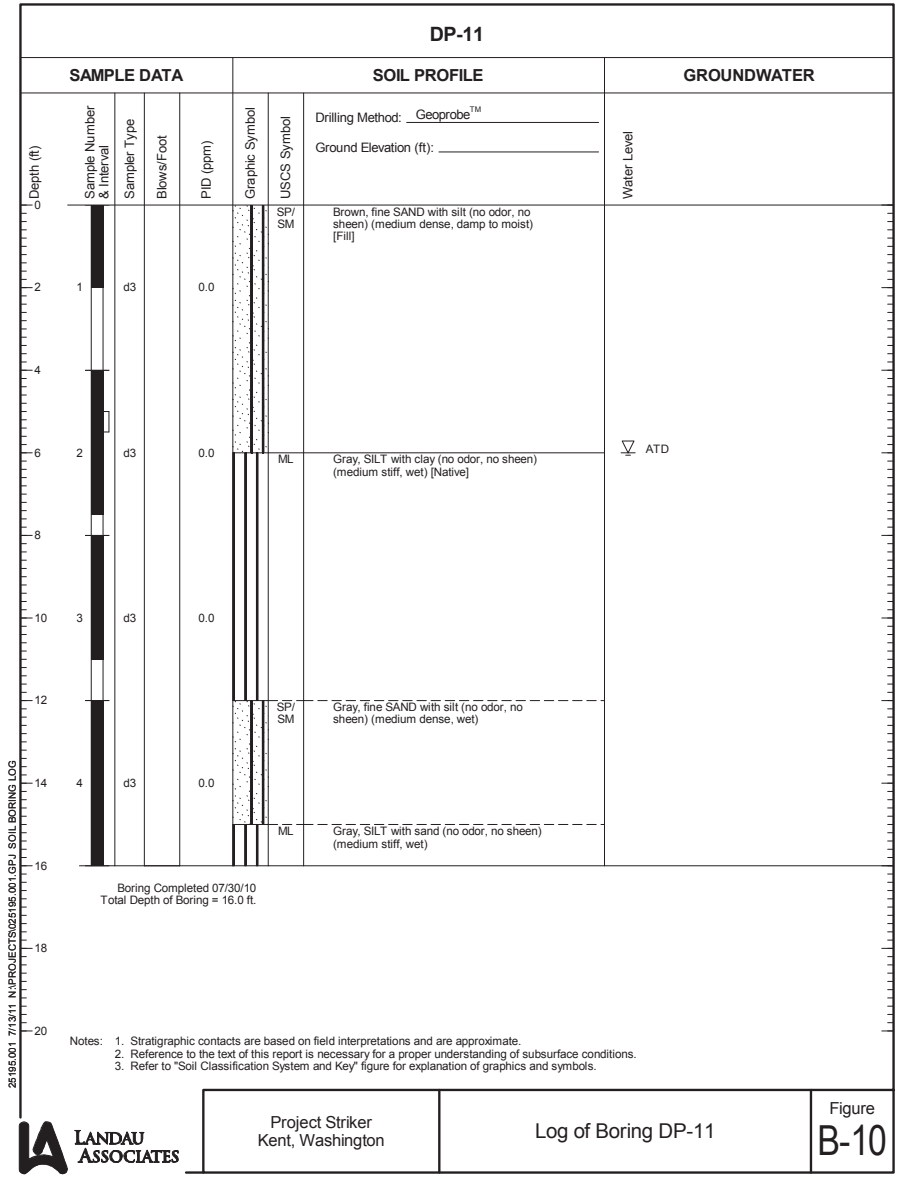
Regional Boring Logs

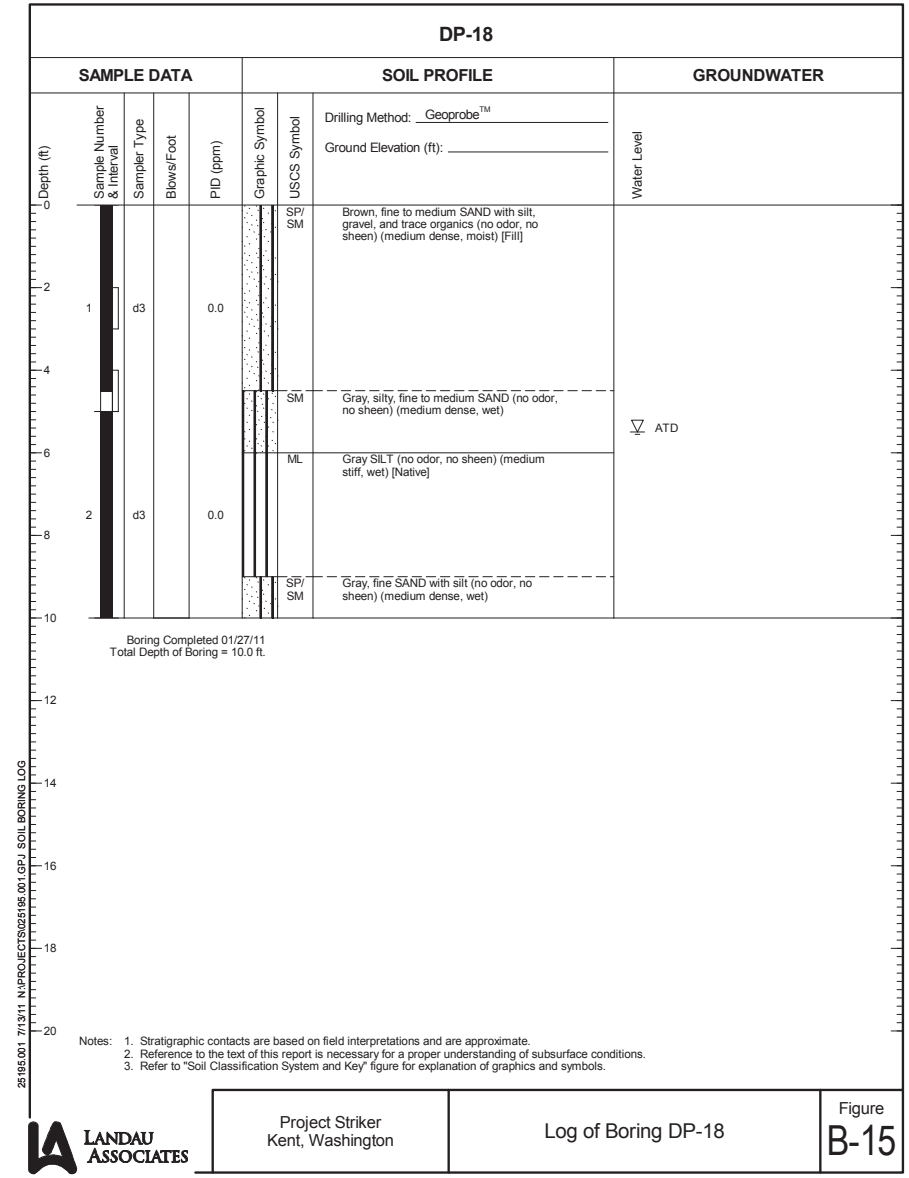
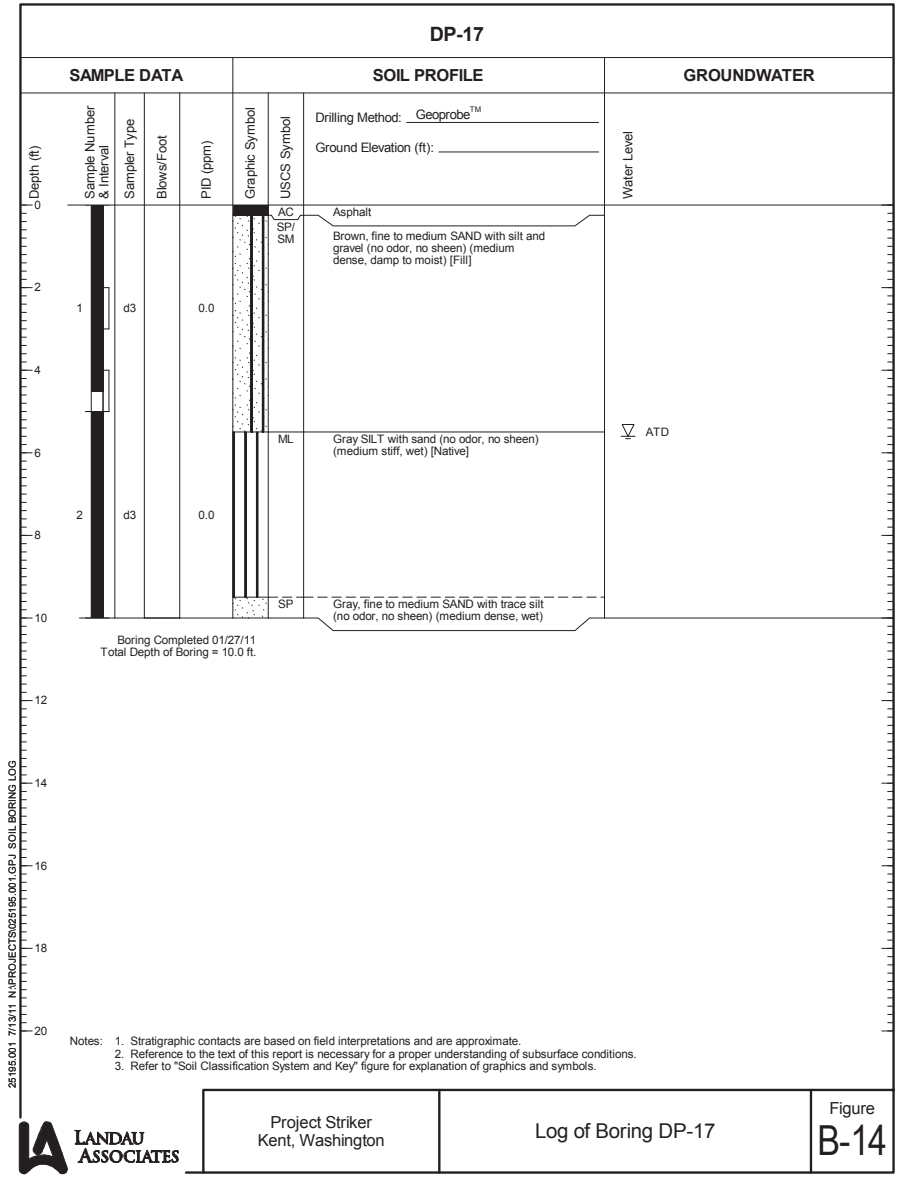


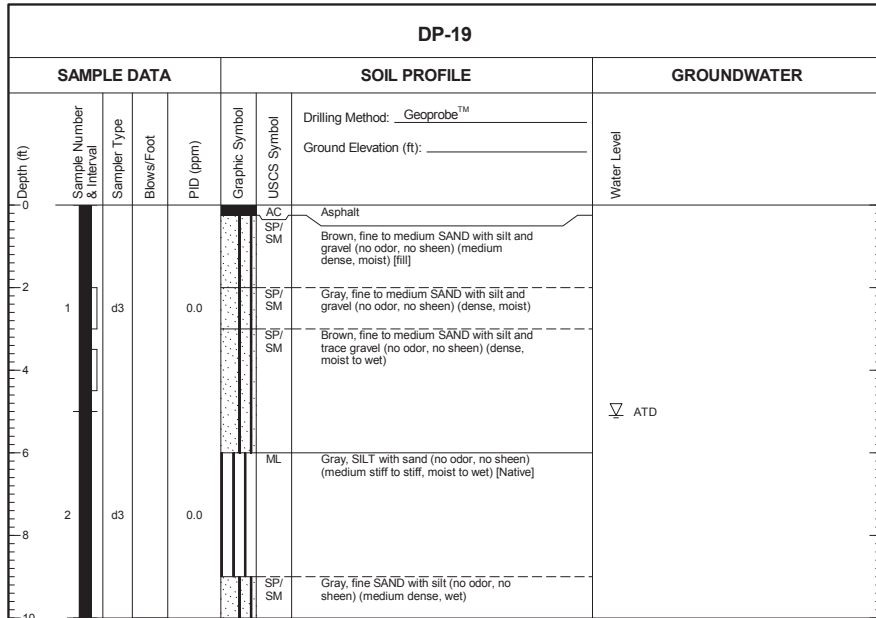












Boring Completed 01/27/11
Total Depth of Boring = 10.0 ft.

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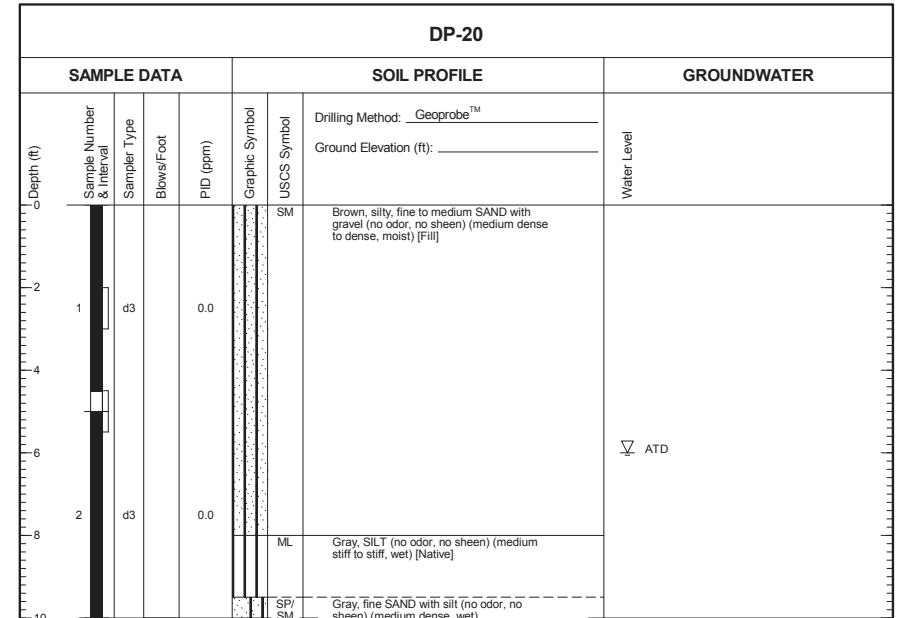
- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.



Project Striker
Kent, Washington

Log of Boring DP-19

Figure
B-16



Boring Completed 01/27/11
Total Depth of Boring = 10.0 ft.

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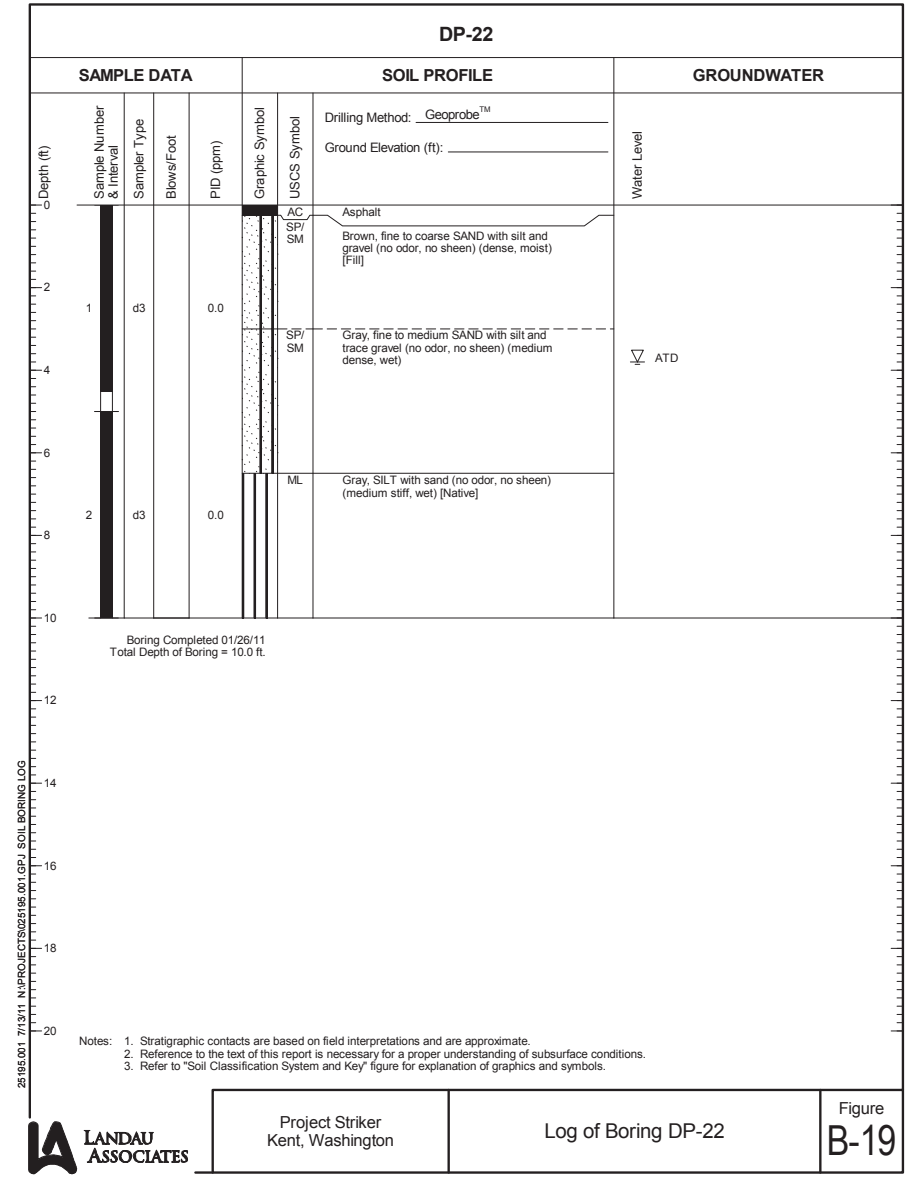
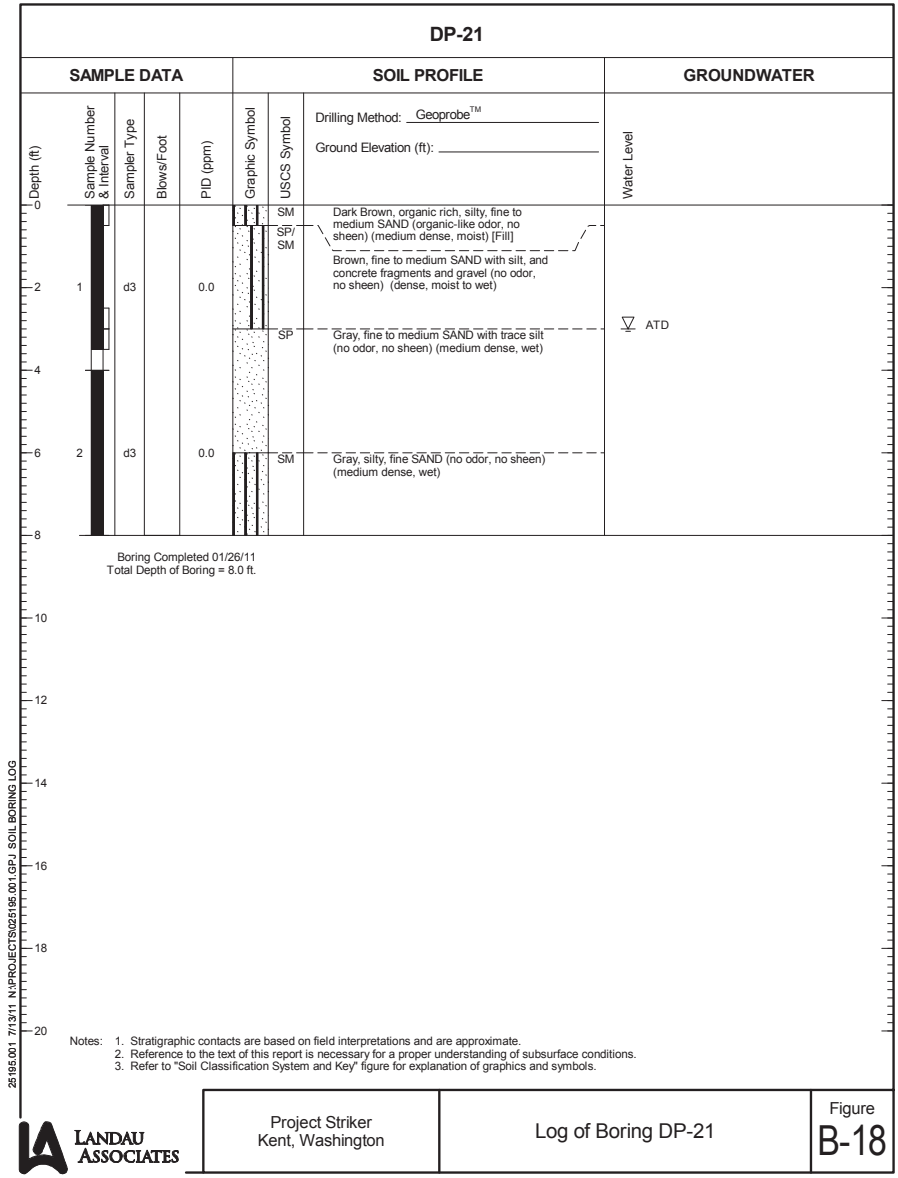
- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.



Project Striker
Kent, Washington

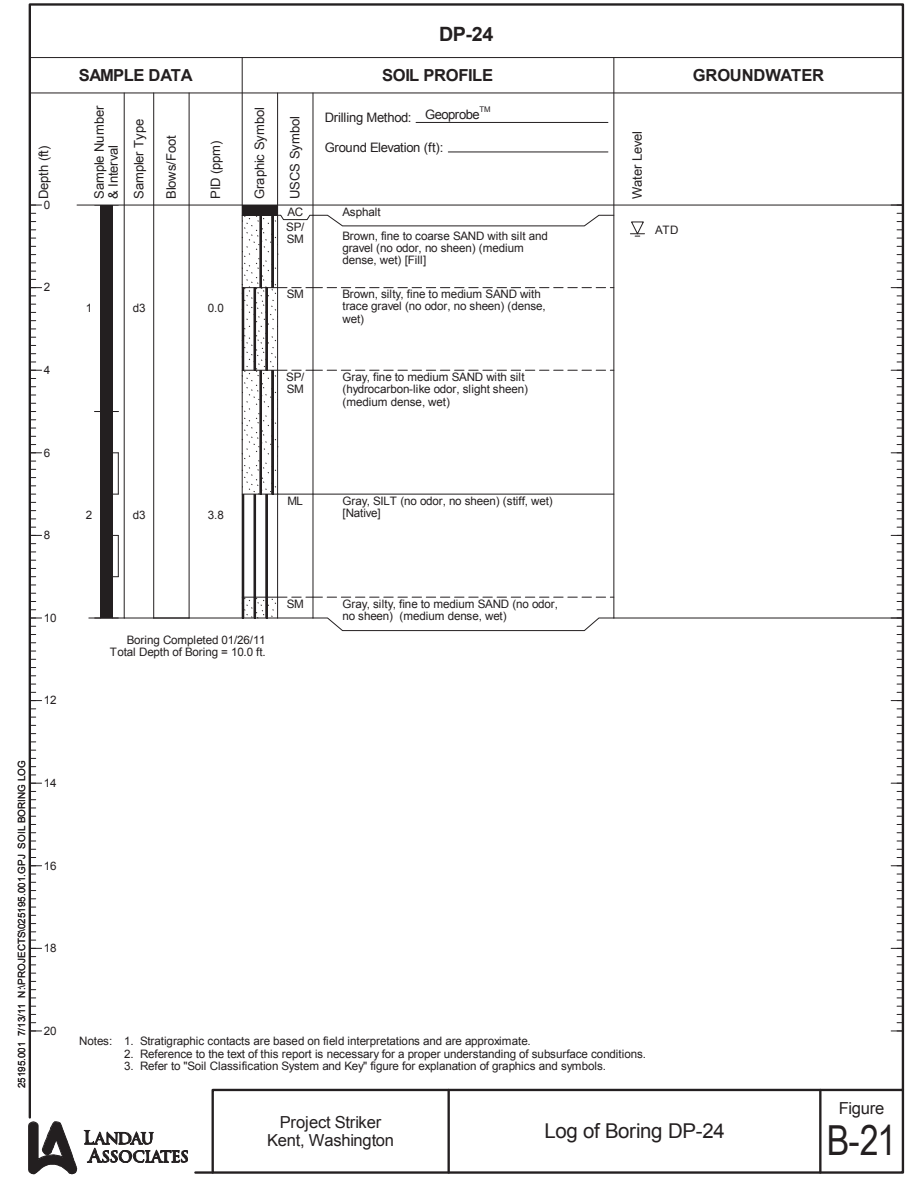
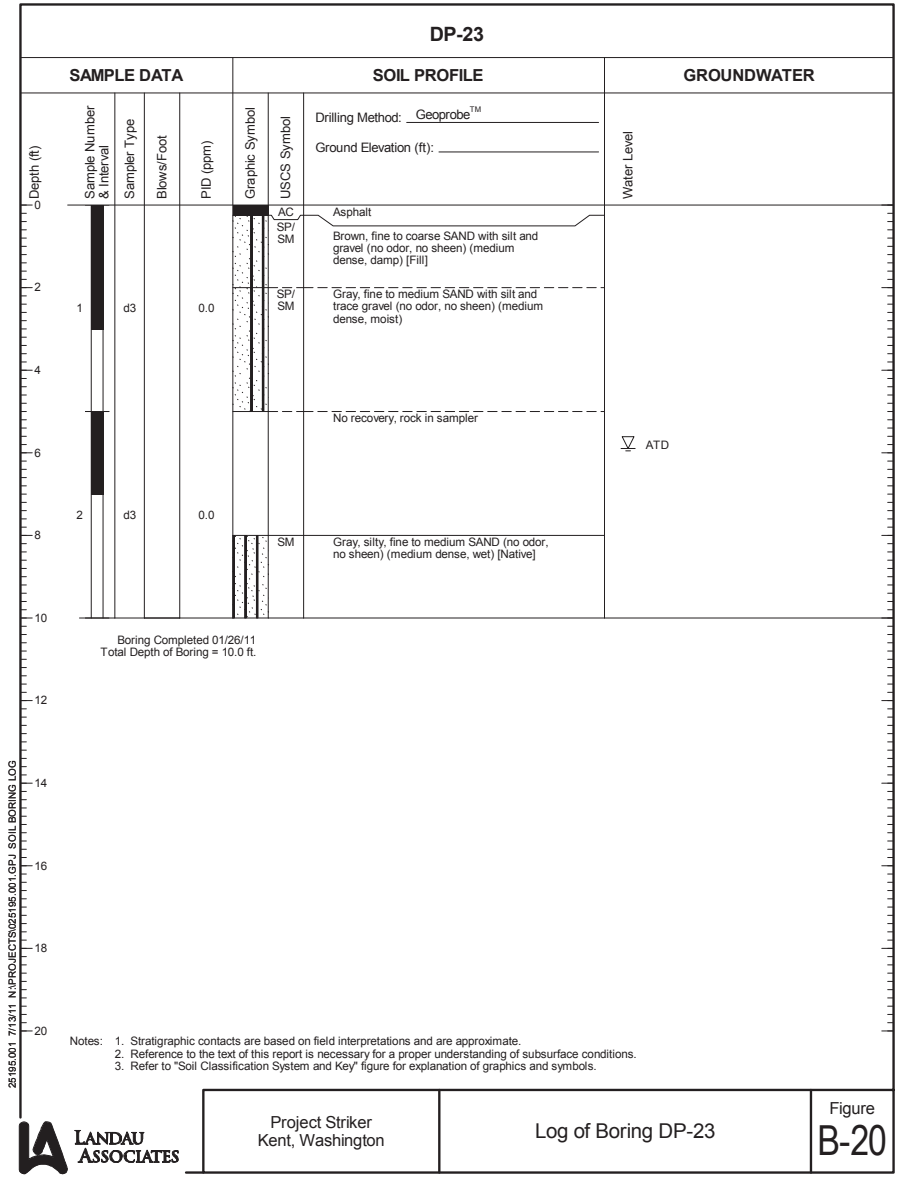
Log of Boring DP-20

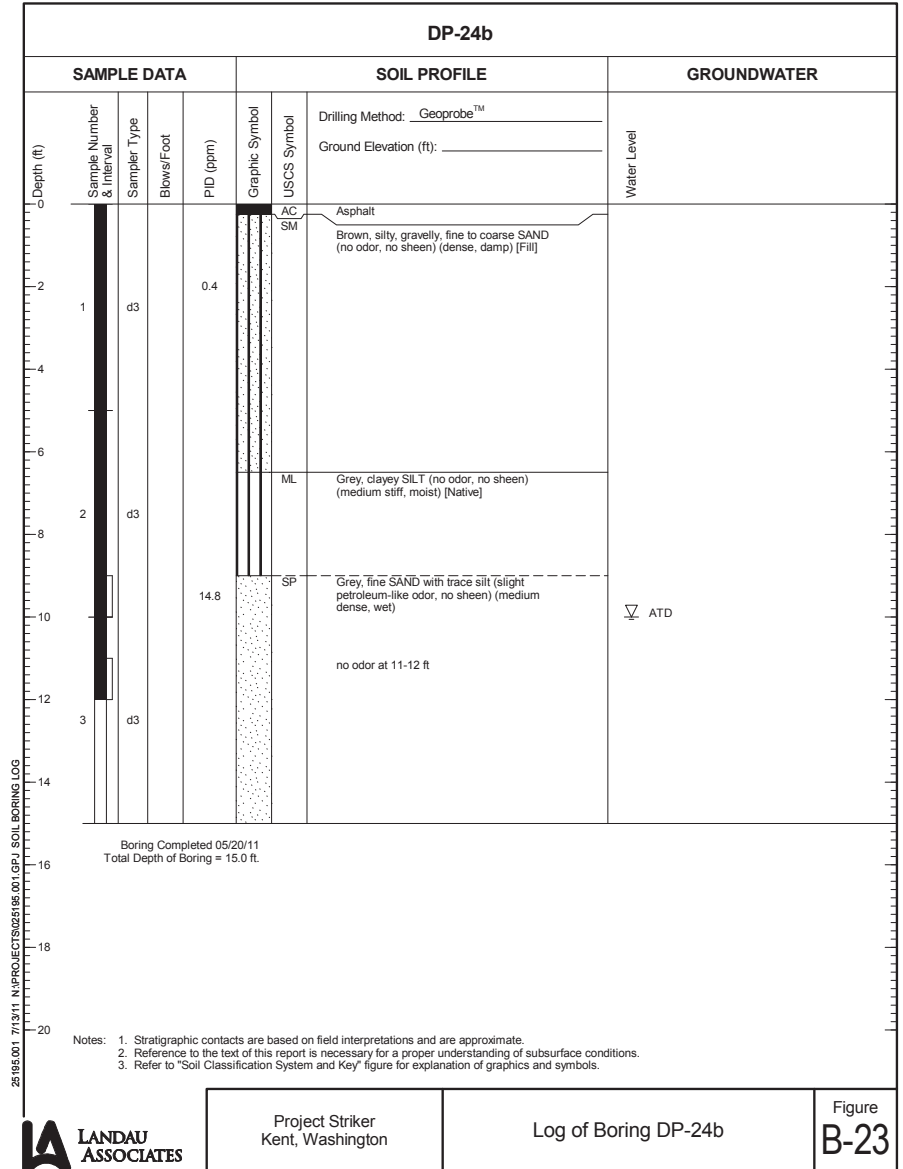
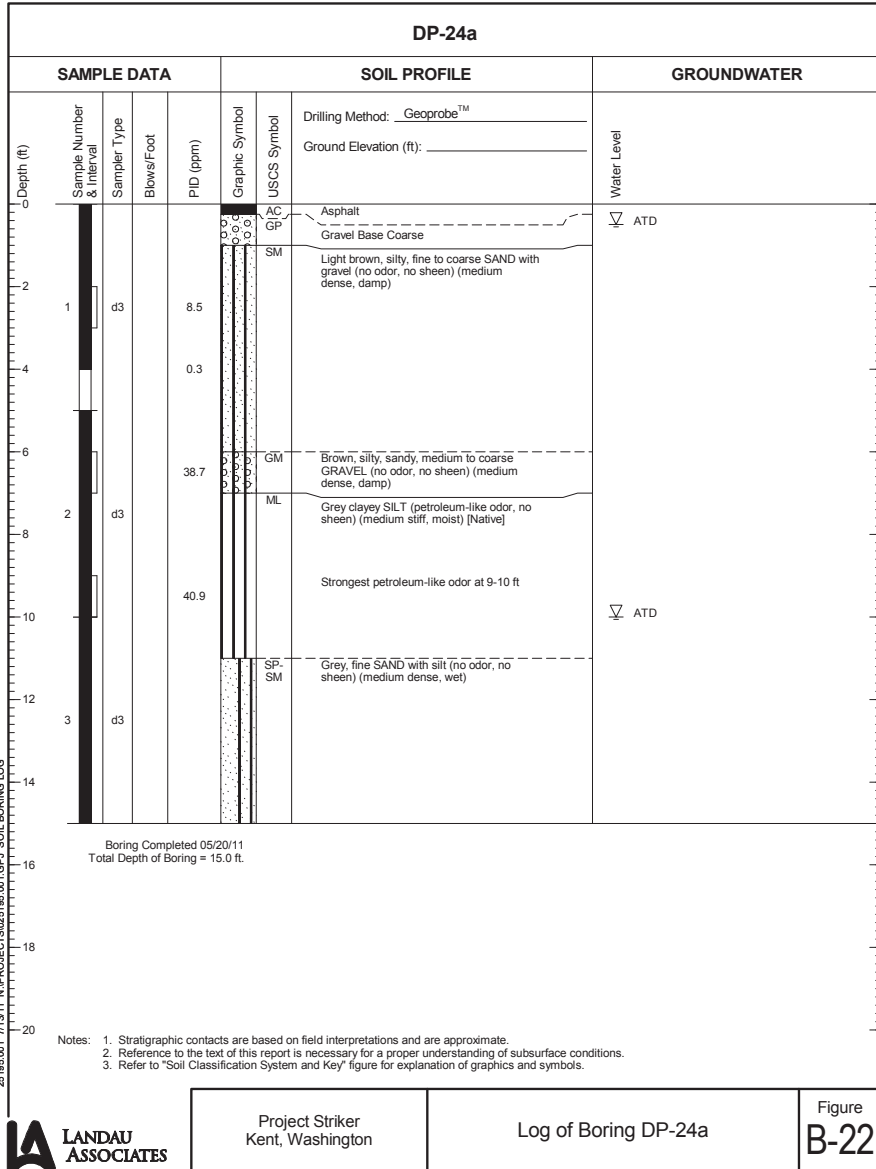
Figure
B-17

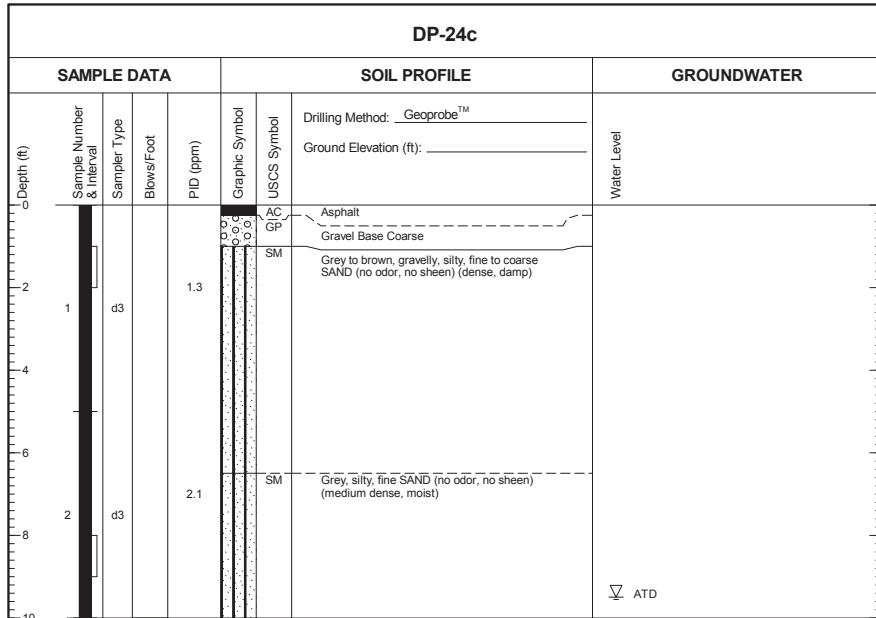


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25:955.001_7/13/11_N:\PROJECTS\02515155.001.GPJ_SOIL BORING LOG







Boring Completed 05/20/11
Total Depth of Boring = 10.0 ft.

25 955.001 7/13/11 N:\PROJECTS\025156.001.GPJ SOIL BORING LOG

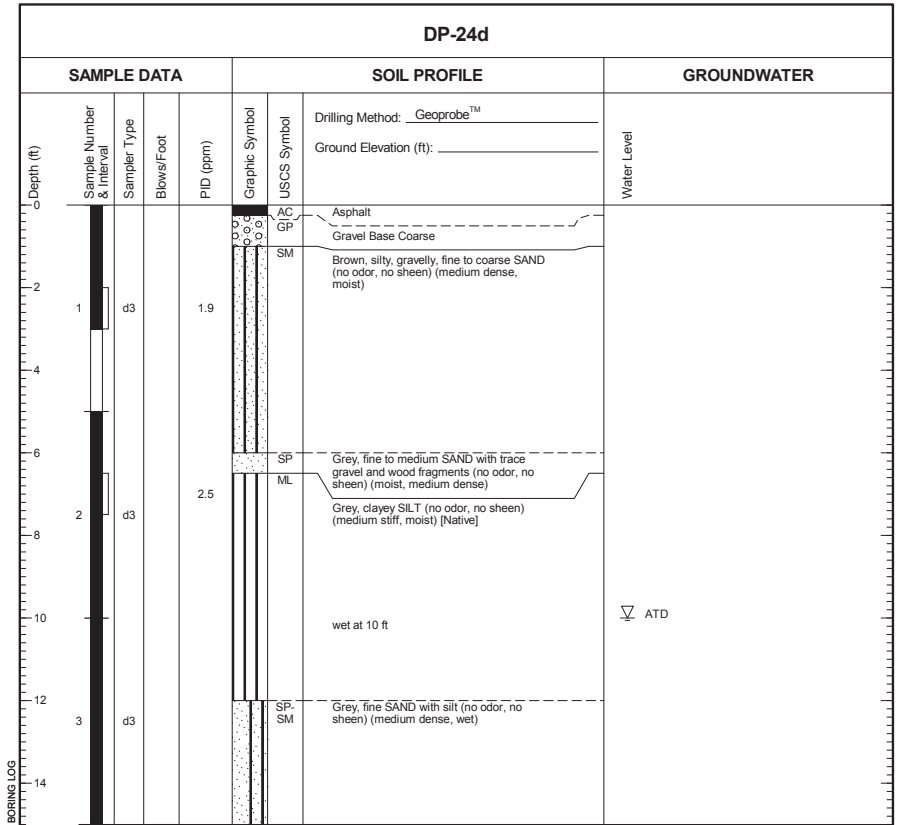
- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.



Project Striker
Kent, Washington

Log of Boring DP-24c

Figure
B-24



Boring Completed 05/20/11
Total Depth of Boring = 15.0 ft.

25 955.001 7/13/11 N:\PROJECTS\025156.001.GPJ SOIL BORING LOG

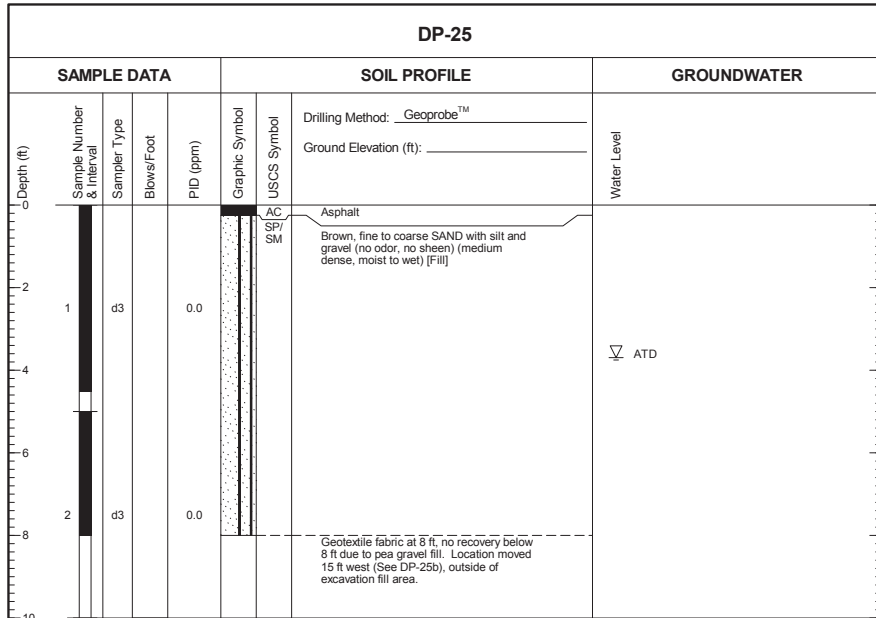
- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.



Project Striker
Kent, Washington

Log of Boring DP-24d

Figure
B-25



Boring Completed 01/26/11
Total Depth of Boring = 10.0 ft.

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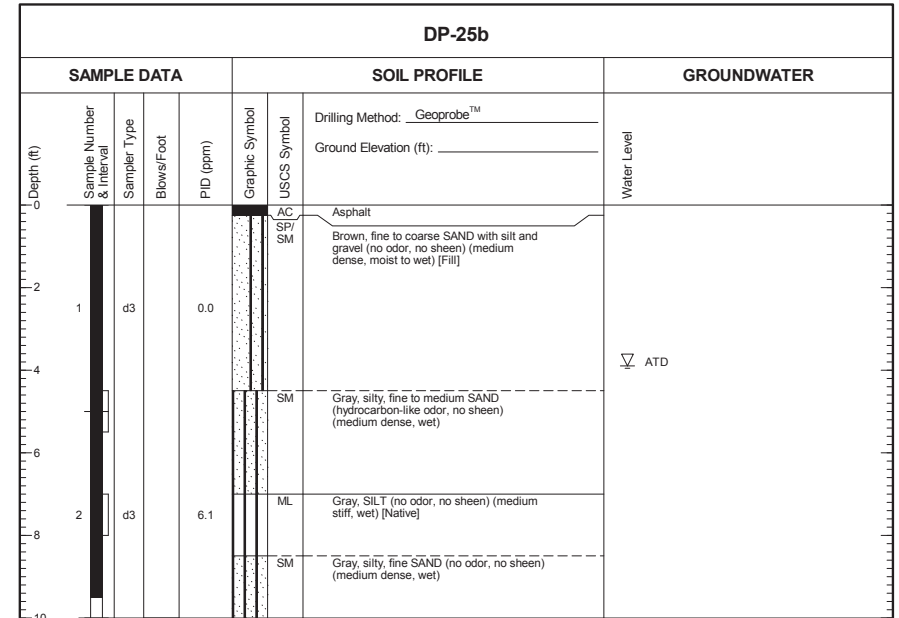
- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.



Project Striker
Kent, Washington

Log of Boring DP-25

Figure
B-26



Boring Completed 01/26/11
Total Depth of Boring = 10.0 ft.

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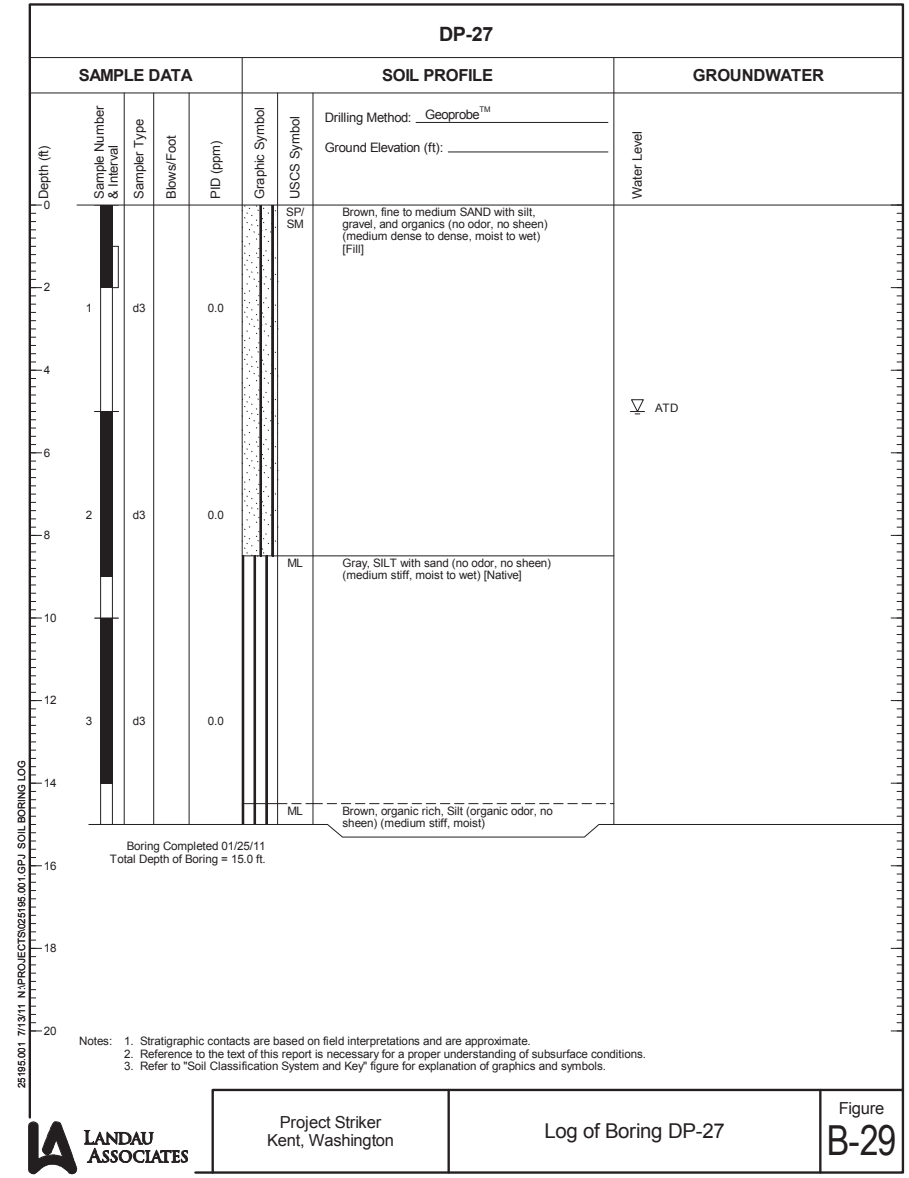
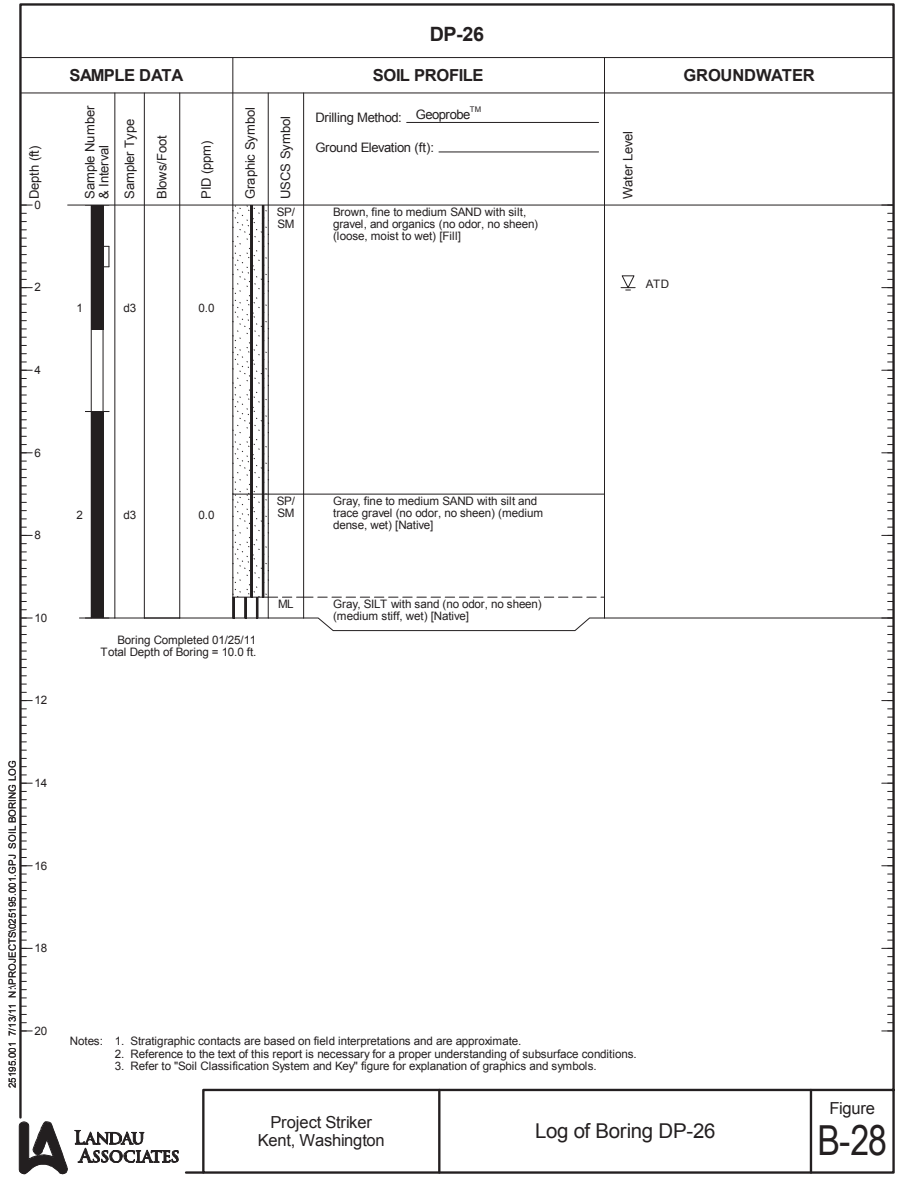
- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

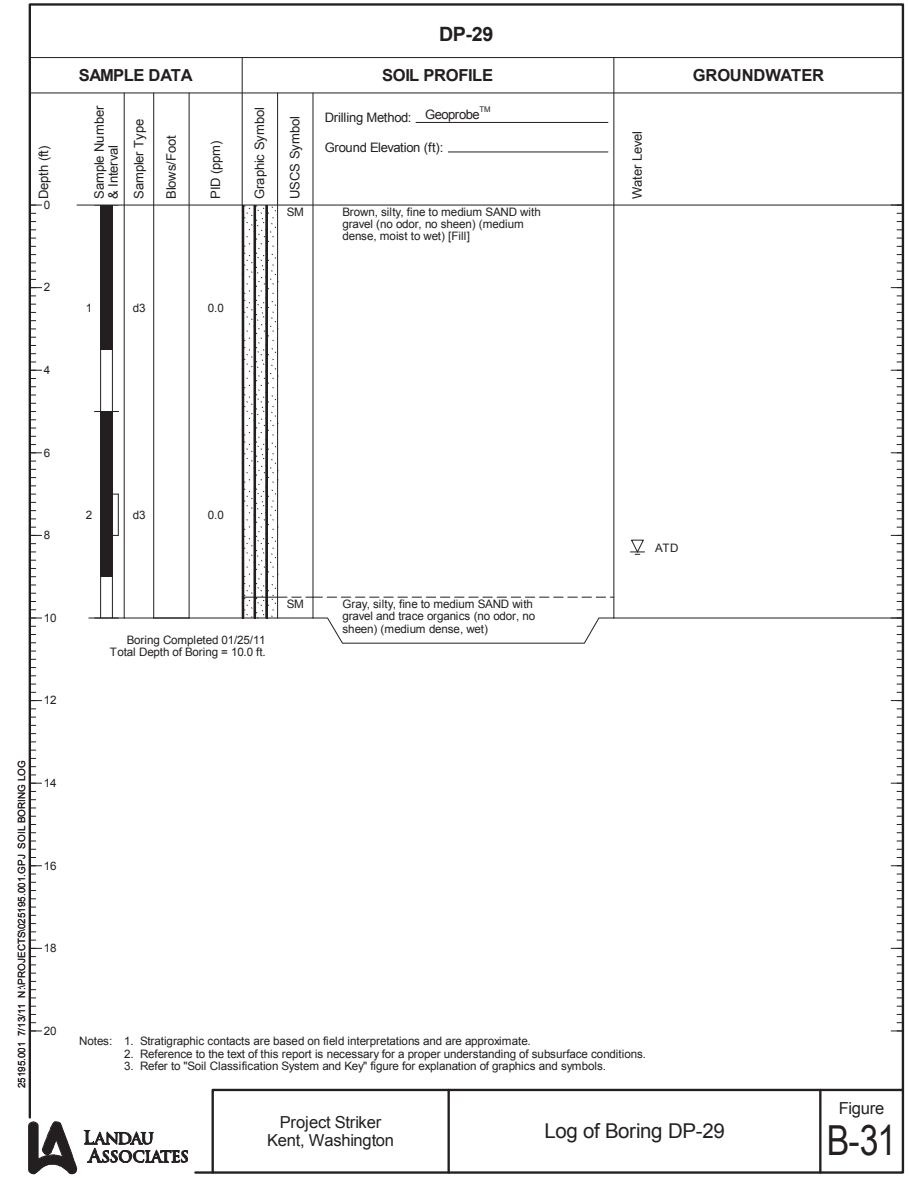
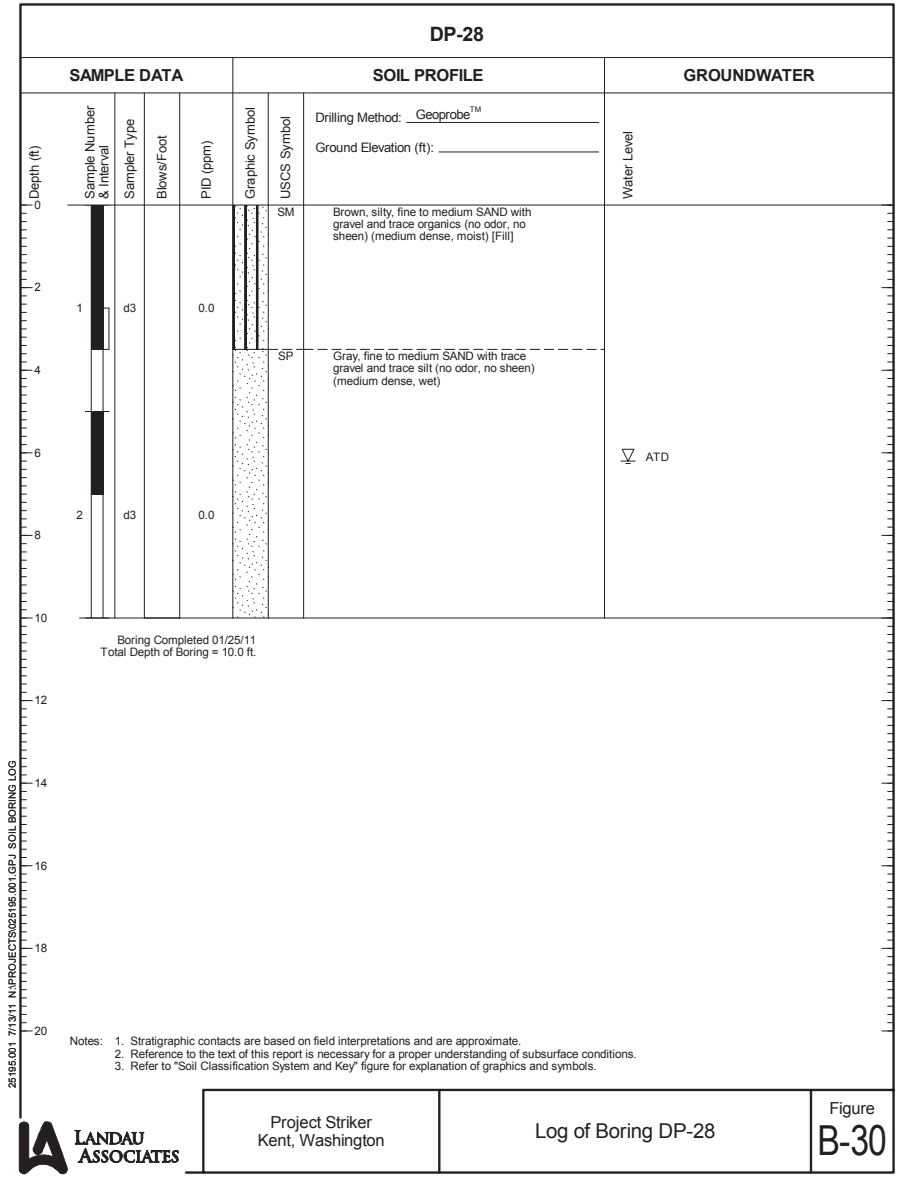


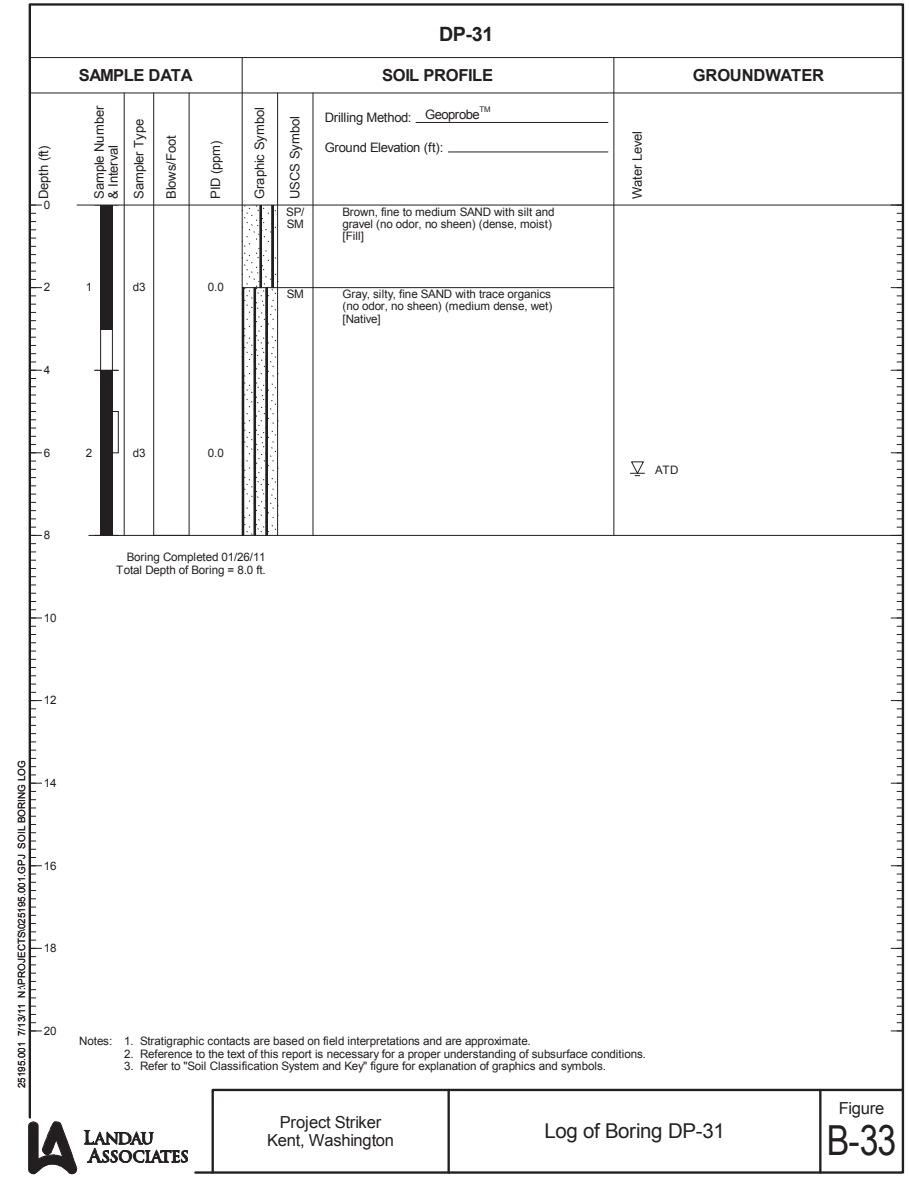
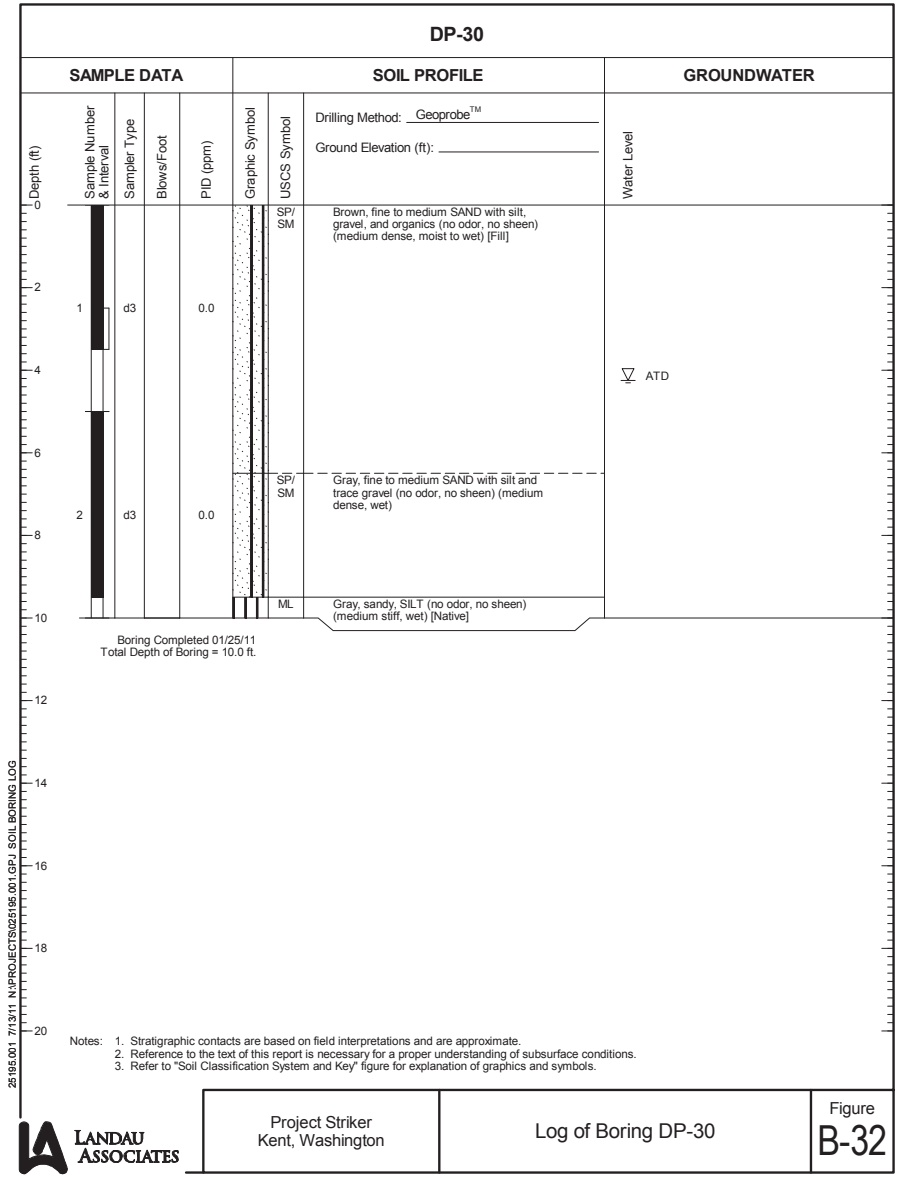
Project Striker
Kent, Washington

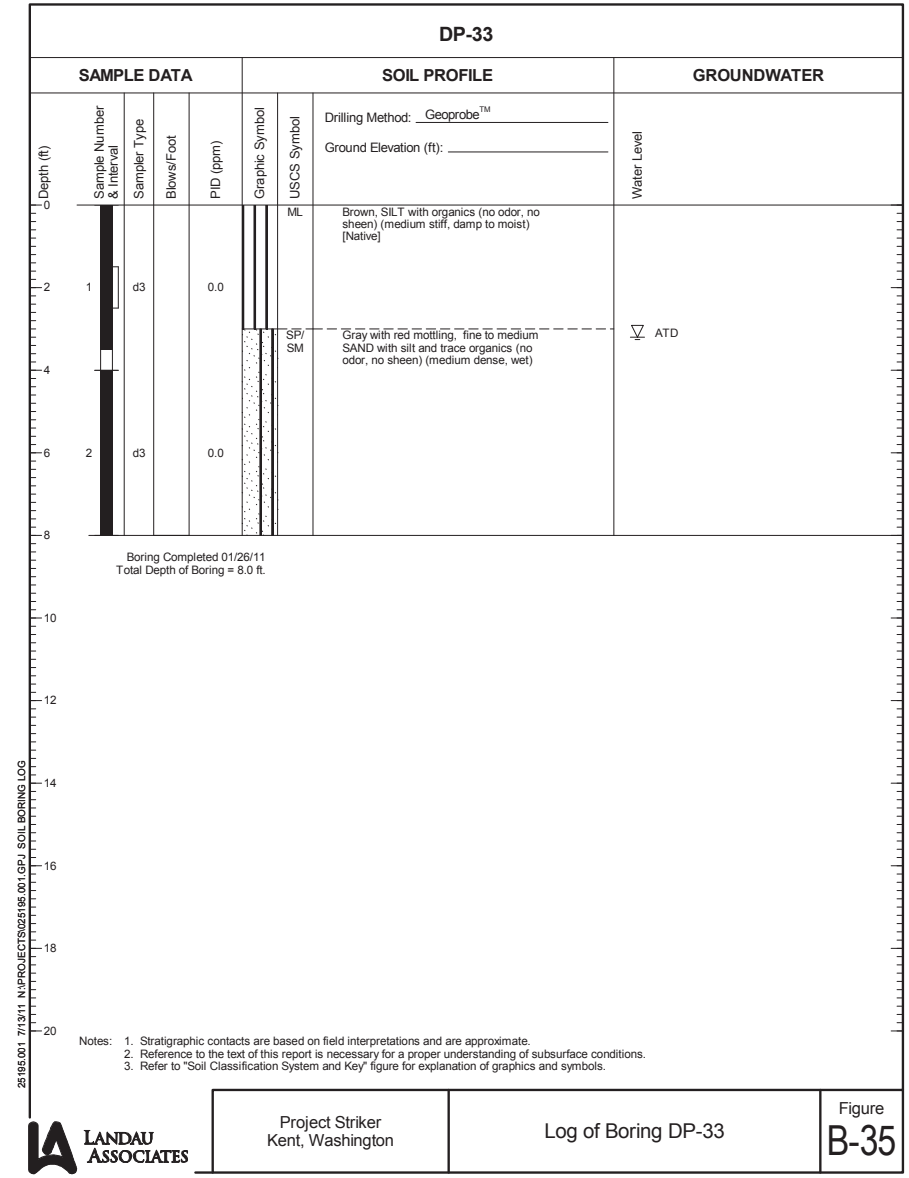
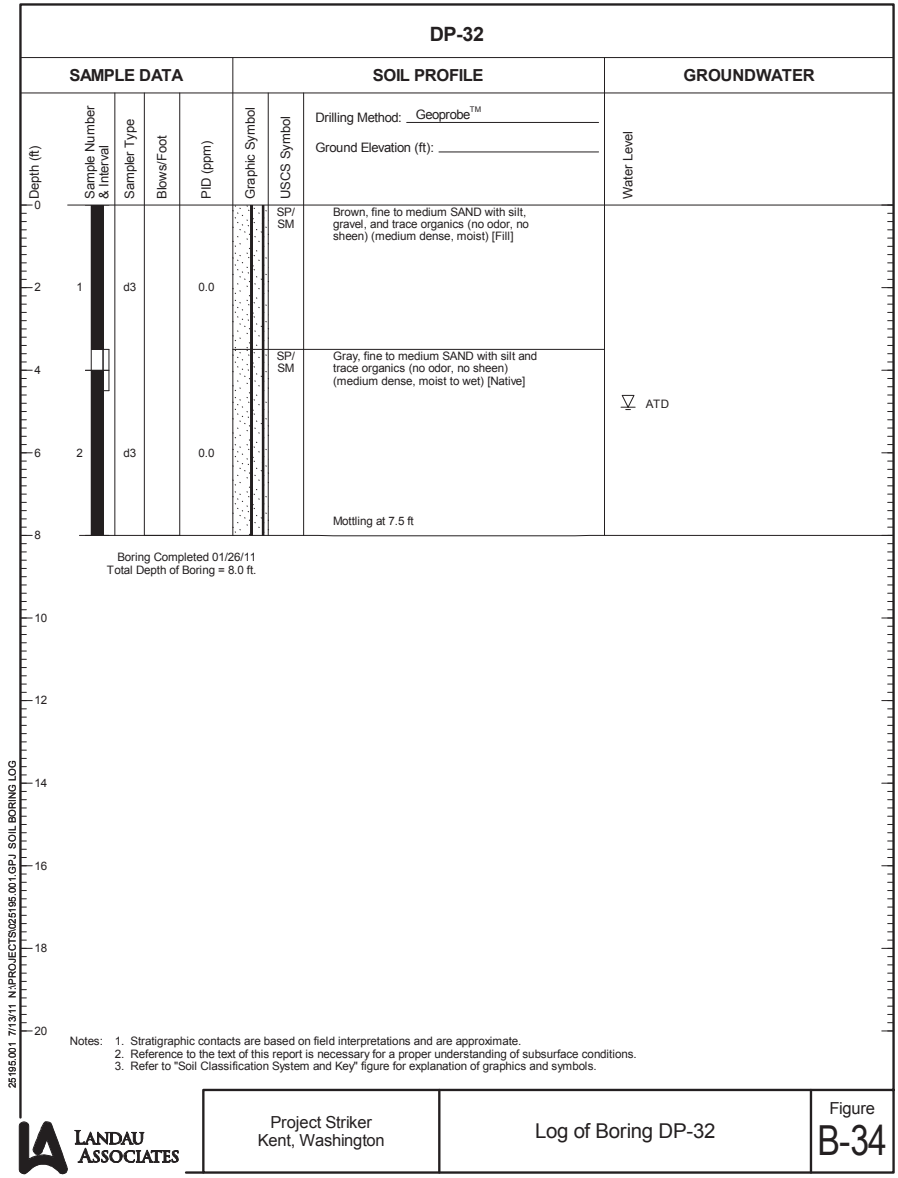
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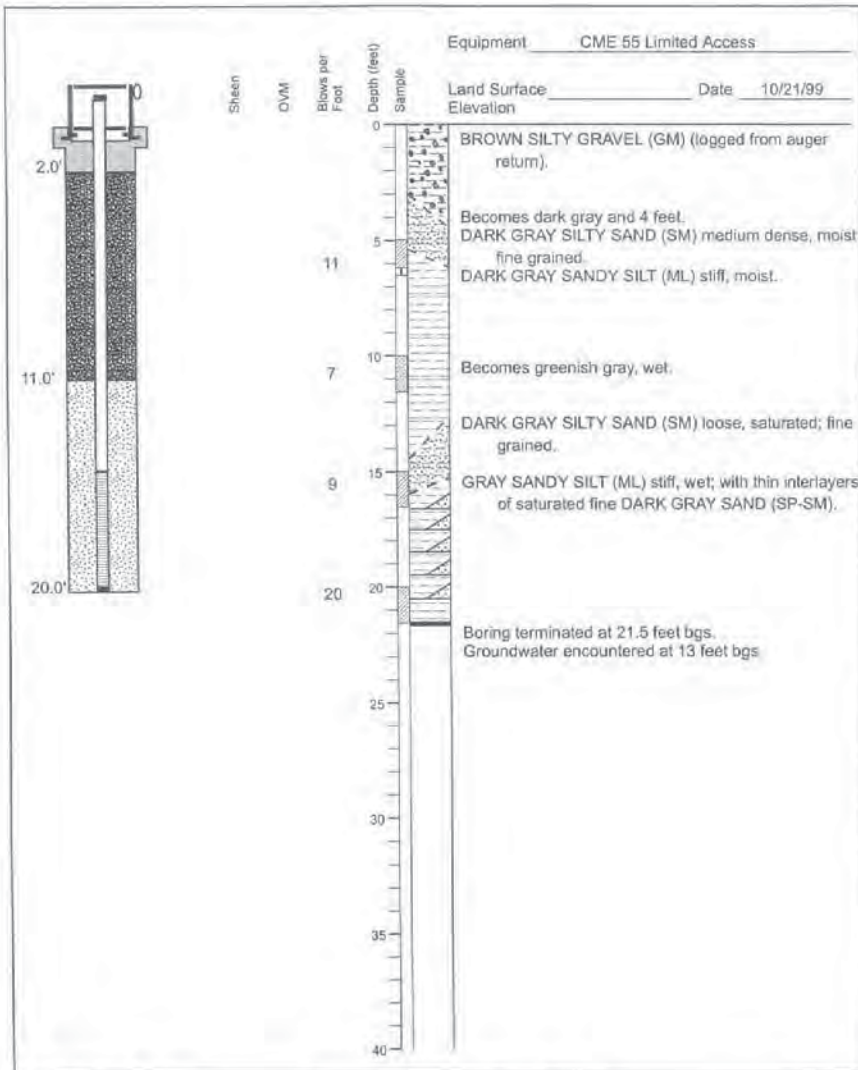
Figure
B-27











AGI
TECHNOLOGIES

Log of Monitoring Well MW1

Boeing/Kent Gun Club
Kent, Washington

PLATE
D3

4327317wl.cdr

PROJECT NO.
14,327,317

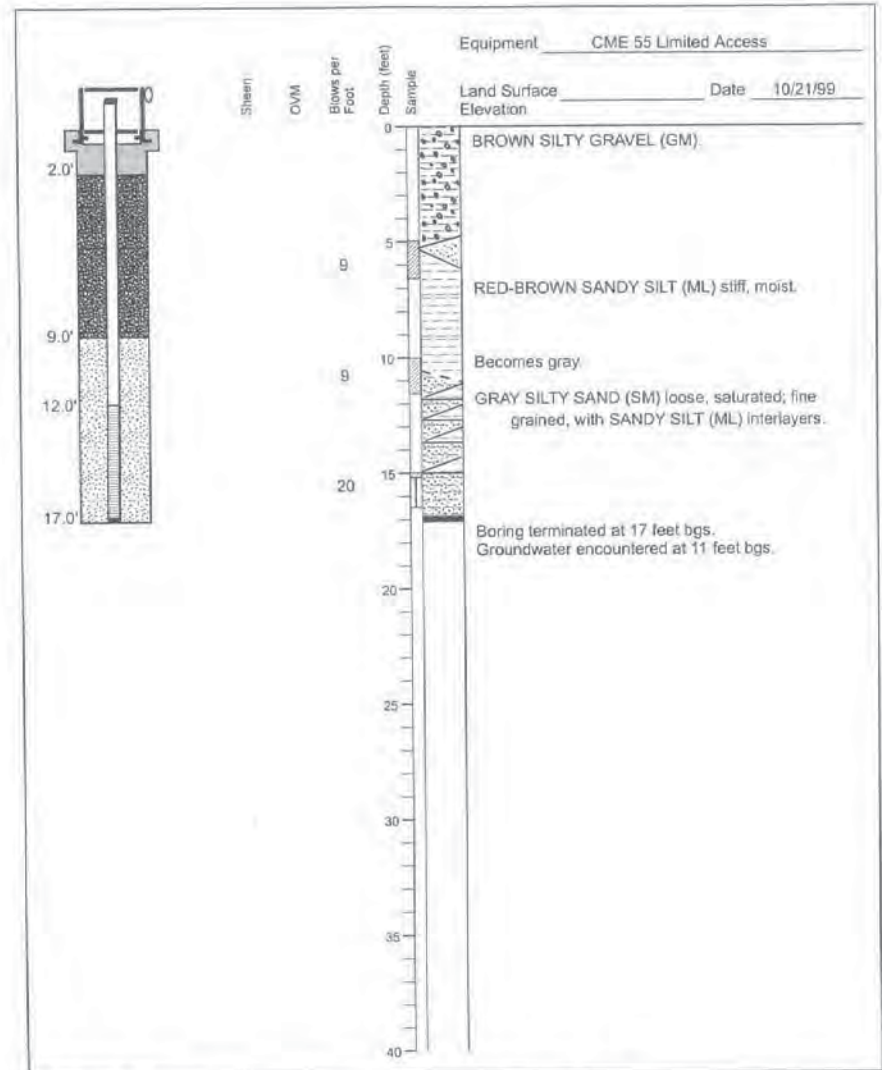
DRAWN
PJS

DATE
1/19/00

APPROVED
MJC

REVISED

DATE



AGI
TECHNOLOGIES

Log of Monitoring Well MW1

Boeing/Kent Gun Club
Kent, Washington

PLATE
D4

4327317wl.cdr

PROJECT NO.
14,327,317

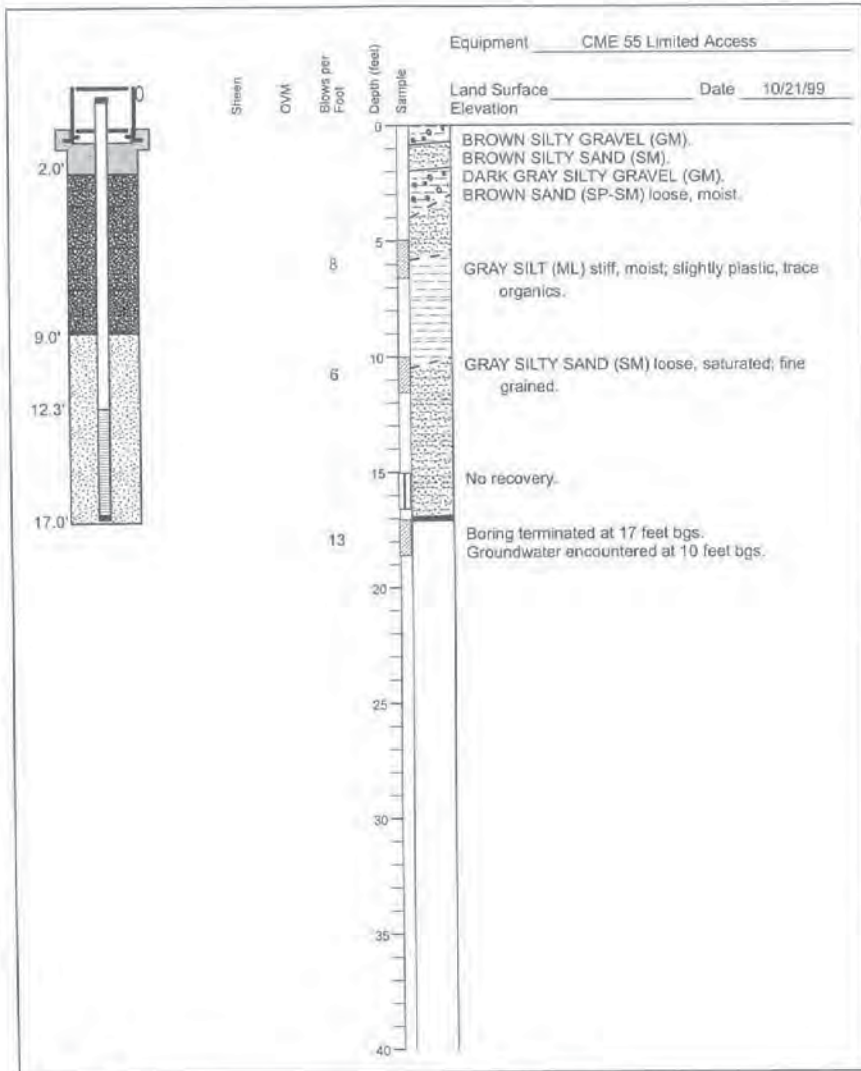
DRAWN
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DATE
1/19/00

APPROVED
MJC

REVISED

DATE



AGI
TECHNOLOGIES

Log of Monitoring Well MW1

Boeing/Kent Gun Club
Kent, Washington

PLATE
D5

4327317W.cdr

PROJECT NO.
14,327,317

DRAWN
PJS

DATE
1/19/00

APPROVED
MSC

REVISED

DATE

3-030 Billy

WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

Construction/Decommission (circle) **137890**
 Construction
 Decommission ORIGINAL CONSTRUCTION Notice of Intent Number

PROPOSED USE: Domestic Industrial Municipal
 DeWater Irrigation Test Well Other

TYPE OF WORK: Owner's number of well (if more than one)
 New Well Reconditioned Method Dug Bored Driven
 Deepened Cable Rotary Jetted

DIMENSIONS: Diameter of well 30 inches, drilled 30 ft
Depth of completed well 30 ft

CONSTRUCTION DETAILS
Casing Welded Diam from _____ ft to _____ ft
Installed: Liner installed 10 Diam from 0 ft to 30 ft
 Threaded _____ Diam from _____ ft to _____ ft

Perforations: Yes No
Type of perforator used _____
SIZE OF PERFS _____ in. by _____ in. and no. of perfs from _____ ft to _____ ft

Screens: Yes No K-Pac Location _____
Manufacturer's Name _____
Type PVC Model No _____
Diam 10" Slot Size .050 from 10 ft to 30 ft
Diam _____ Slot Size _____ from _____ ft to _____ ft

Gravel/Filter pack: Yes No Size of gravel/sand 3/8" Pea Gravel
Materials placed from 5 ft to 30 ft

Surface Seal: Yes No To what depth? 0-5 ft
Materials used in seal Bentonite
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacturer's Name _____
Type _____ HP

WATER LEVELS: Land-surface elevation above mean sea level _____ ft
Static level 7 ft below top of well Date 6-19-03
Artesian pressure _____ lbs per square inch Date _____
Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield _____ gal/min with _____ ft drawdown after _____ hrs
Yield _____ gal/min with _____ ft drawdown after _____ hrs
Yield _____ gal/min with _____ ft drawdown after _____ hrs
Recovery data (time taken as zero when pump turned off/water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____
Bauer test _____ gal/min with _____ ft drawdown after _____ hrs
Artesian _____ gal/min with stem set at _____ ft for _____ hrs
Artesian flow _____ gpm Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) William Hill Jr
Driller/Engineer/Trainee Signature William Hill Jr
Driller or Trainee License No. 1946

If trainee, licensed driller's Signature and License no. _____

CURRENT Notice of Intent No. D 38385

Unique Ecology Well ID Tag No. _____

Water Right Permit No. _____

Property Owner Name GPA-AHF, LLC 12886 Interurban Ave S
Seattle, WA 98168
Well Street Address 19830 68th Ave S

City Kent County: King

Location SW 1/4 NW 1/4 Sec 1 Twn 22N R1E EWM circle or one WWM

Lat/Long: (s, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. Indicate all water encountered (USE ADDITIONAL SHEETS IF NECESSARY)

MATERIAL	FROM	TO
Brown top soil	0	5'
Coarse + Fine gray sand	5'	30'

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WELL DRILLING UNIT
FISCAL BUDGET

Start Date 6/18/03 Completed Date 6-19-03

Drilling Company Slead Construction, Inc.
Address 9021 Waller Rd E

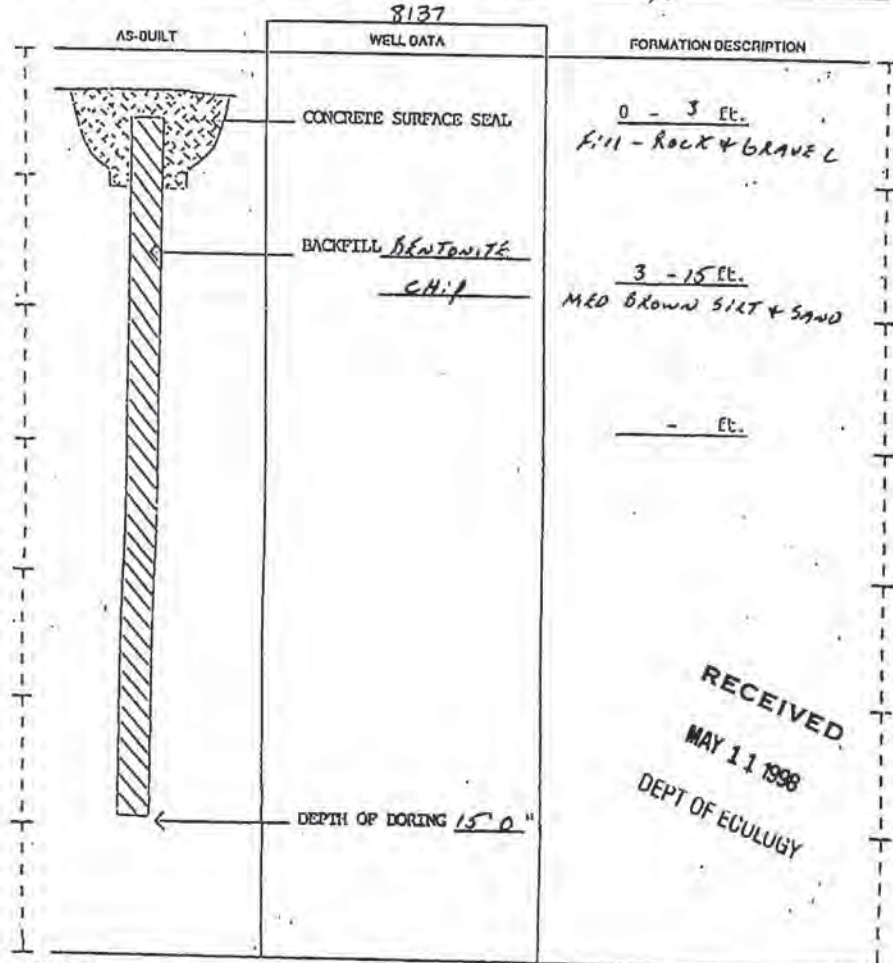
City, State, Zip Tacoma, WA 98446-2531
Contractor's Registration No. SLEADC*325KO Date 7/16/03

Ecology is an Equal Opportunity Employer ECY 050-1-20 (Rev 4/01)

RESOURCE PROJECT REPORT **ENTERED** 22-4-1M
START CARD NO. R23684

PROJECT NAME: American Pole Drilling
WELL IDENTIFICATION NO. n/a
DRILLING METHOD: Probe/Water Sample
DRILLER: F. Lyon Goble
FIRM: Cascade Drilling, Inc.
SIGNATURE: Lynn Zoble
CONSULTING FIRM: Landau & Assoc.
REPRESENTATIVE: J. Baker / B. Christianson

COUNTY: King
LOCATION SW NW Sec 1 Twn 22N R 4E
STREET ADDRESS OF WELL: S. 196th St & 70th Ave S - Kent
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 4-2-98
DEVELOPED: N/A



SCALE: 1" = _____ PAGE _____ OF _____

ECY 050-12 (Rev. 11/00)

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RESOURCE PROTECTION WELL REPORT

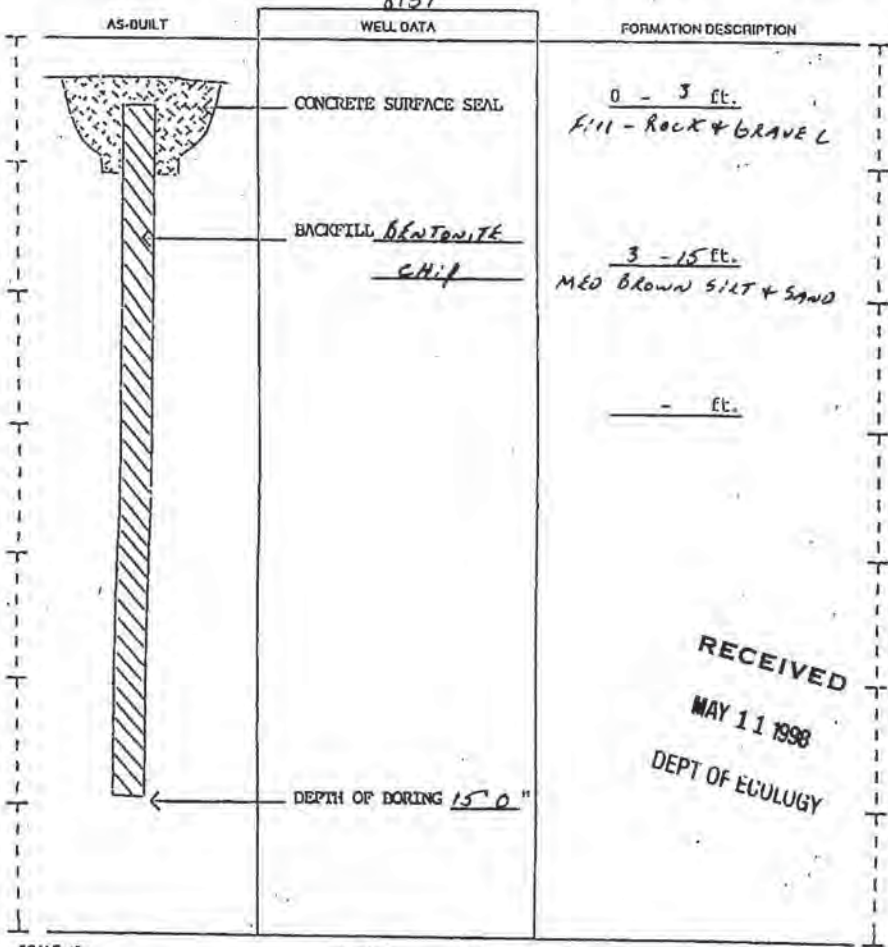
ENTERED

START CARD NO. R28684

PROJECT NAME: American Pole Driving
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Goble
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Lynn Noble
 CONSULTING FIRM: Landau & Assoc.
 REPRESENTATIVE: J. Baker / B. Christianson

COUNTY: King
 LOCATION: SW 1/4 NW 1/4 Sec 1 Twp 22N R 4E
 STREET ADDRESS OF WELL: S. 196th St & 70th Ave S - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 4-2-98
 DEVELOPED: N/A

8137



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RESOURCE PROTECTION WELL REPORT

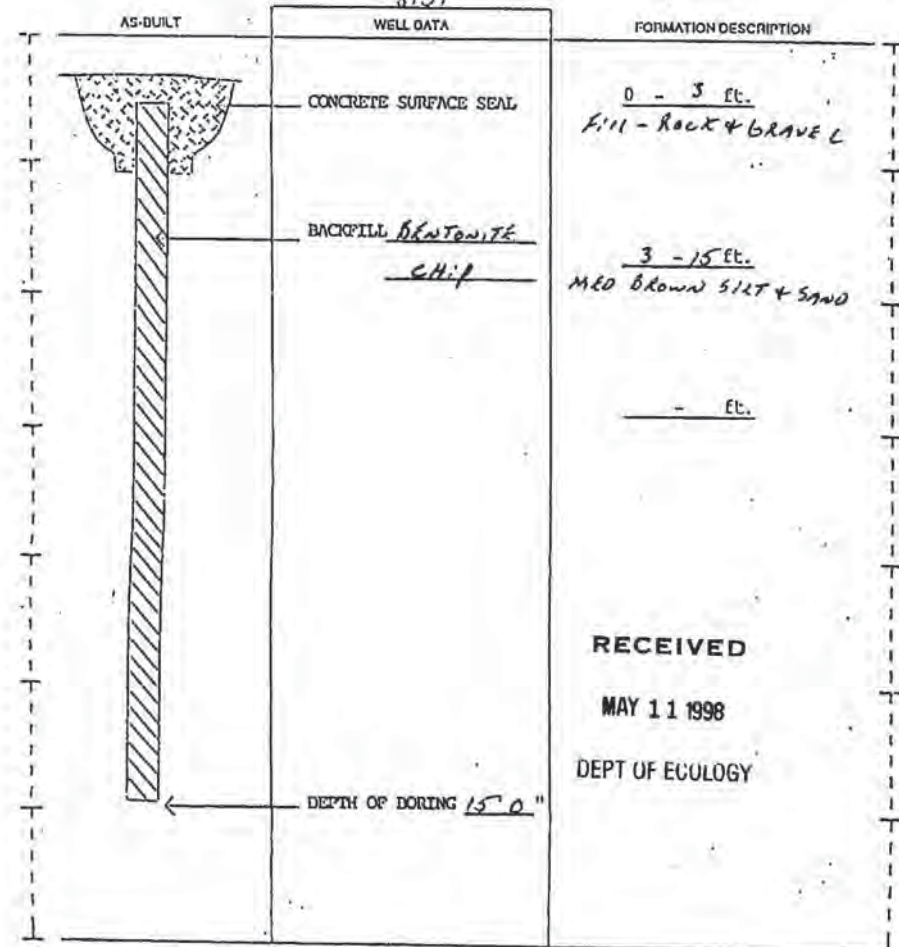
ENTERED

START CARD NO. R28684

PROJECT NAME: American Pole Driving
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Goble
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Lynn Noble
 CONSULTING FIRM: Landau & Assoc.
 REPRESENTATIVE: J. Baker / B. Christianson

COUNTY: King
 LOCATION: SW 1/4 NW 1/4 Sec 1 Twp 22N R 4E
 STREET ADDRESS OF WELL: S. 196th St & 70th Ave S - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 4-2-98
 DEVELOPED: N/A

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MONITORING WELL REPORT
Well ID# Soil Boring
Start Card # SE41446
467497

(1) OWNER/PROJECT WELL NO.
Name American Pile Equipment
Address 1032 S 194th St
City Kent State WA Zip 98032

(6) LOCATION OF WELL By legal description:
County King Latitude Longitude
Township 22N (N or S) Range 4E (E or W) Section 1
SW 1/4 of NW 1/4 of above section.
Street address of well location 1032 S 194th St
Kent WA 98032
Tax lot number of well location

(2) TYPE OF WORK
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

(7) STATIC WATER LEVEL:
_____ Ft. below land surface Date _____
Atmospheric Pressure _____ (lb/sq. in.) Date _____

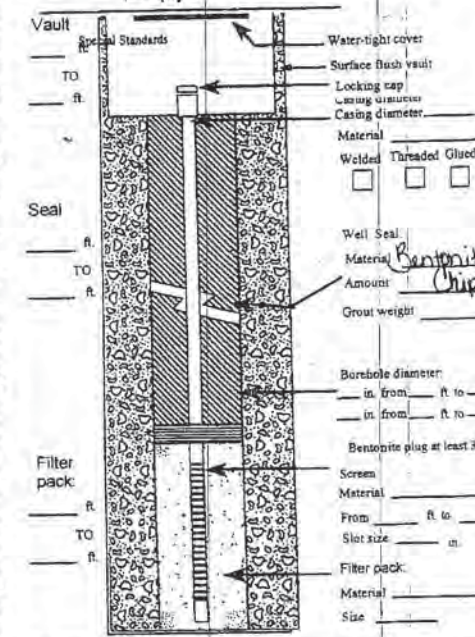
(3) DRILLING METHOD
 Rotary Air
 Hollow Stem Auger
 Rotary Mud
 Other

(8) WATER BEARING ZONES:
Depth at which water was first found _____
From To Est. Flow Rate SWL

From	To	Est. Flow Rate	SWL

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes No
 Depth of Completed Well 41.5 ft.

Material	From	To	SWL



(9) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Sand & silt	0	41.5	

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type or Print Name Jeered Thompson License No. 2823
Trainee Name _____ License No. _____
Drilling Company Holocene Drilling Inc.
(Signed) _____ License No. 2823
Address 11412 162nd Ave. E. Puyallup, WA 98373
Registration No. H0LDCD10444H Date 10/22/2012
Date started 10/12/2012 Completed 10/12/2012

(5) WELL TESTS:
 Pump Baller Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ GFC Depth artesian flow found _____ ft.
Was water analysis done? Yes No
By whom? _____
Depth of strata to be analyzed From _____ ft. to _____ ft.
Remarks: _____
Name of Supervising Geologist/Engineer CRM

MONITORING WELL REPORT
Well ID# Soil Boring
Start Card # AE19315
467498

(1) OWNER/PROJECT WELL NO.
Name American Pile Equipment
Address 1032 S 194th St
City Kent State WA Zip 98032

(6) LOCATION OF WELL By legal description:
County King Latitude Longitude
Township 22N (N or S) Range 4E (E or W) Section 1
SW 1/4 of NW 1/4 of above section.
Street address of well location 1032 S 194th St
Kent WA 98032
Tax lot number of well location

(2) TYPE OF WORK
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

(7) STATIC WATER LEVEL:
_____ Ft. below land surface Date _____
Atmospheric Pressure _____ (lb/sq. in.) Date _____

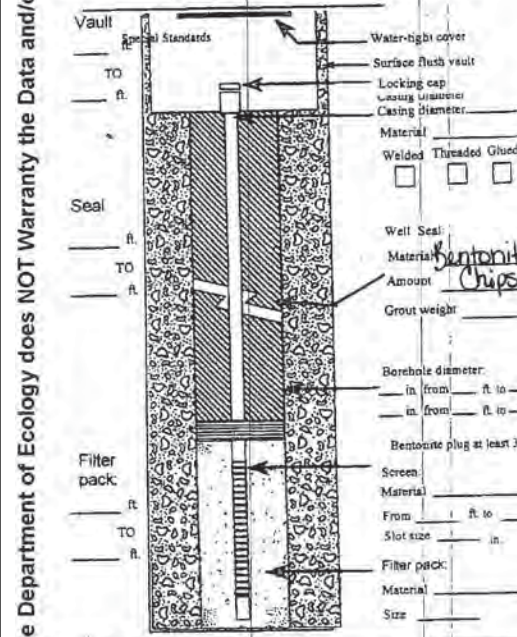
(3) DRILLING METHOD
 Rotary Air
 Hollow Stem Auger
 Rotary Mud
 Other

(8) WATER BEARING ZONES:
Depth at which water was first found _____
From To Est. Flow Rate SWL

From	To	Est. Flow Rate	SWL

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes No
 Depth of Completed Well 41.5 ft.

Material	From	To	SWL



(9) WELL LOG:
Ground Elevation _____

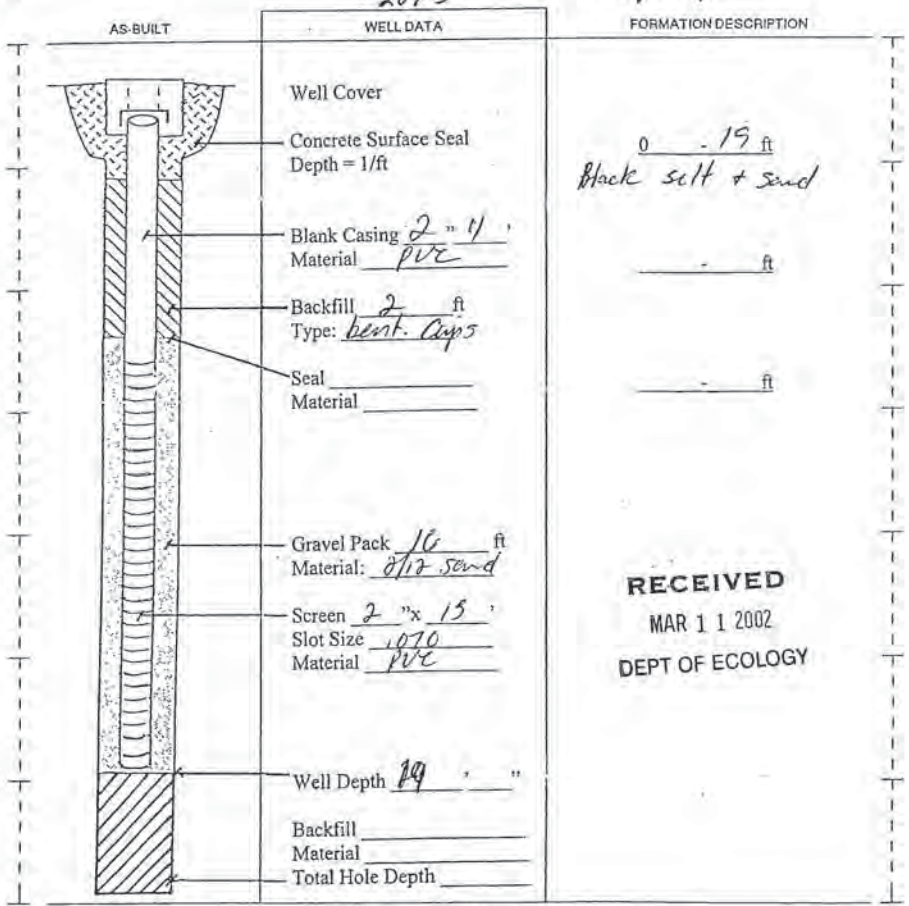
Material	From	To	SWL
Backfilled from bottom to top with Bentonite Chips	0	41.5	

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type or Print Name Jeered Thompson License No. 2823
Trainee Name _____ License No. _____
Drilling Company Holocene Drilling Inc.
(Signed) _____ License No. 2823
Address 11412 162nd Ave. E. Puyallup, WA 98373
Registration No. H0LDCD10444H Date 10/22/2012
Date started 10/12/2012 Completed 10/12/2012

(5) WELL TESTS:
 Pump Baller Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ GFC Depth artesian flow found _____ ft.
Was water analysis done? Yes No
By whom? _____
Depth of strata to be analyzed From _____ ft. to _____ ft.
Remarks: _____
Name of Supervising Geologist/Engineer CRM

11055 RESOURCE PROTECTION WELL REPORT

Client Well # _____ Start Card # R 58163
 Project Name: ARCO (New) County: King 22-4E-2H
 State Identification # AGT 719 Location: SE 1/4 NE 1/4 Sec 2 Twn 22NR 4E
 Drilling Method: HSA Street Address of Well: _____
 Driller: Brian G. Gose or James Goble 19860 68th Ave S, Kent, WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: ?
 Signature: [Signature] Ground Surface Elevation: N/A
 Consulting Firm: Delta Env. Date Installed: 2/12/02
 Representative: Derek Tornow Date Developed: 2/13/02

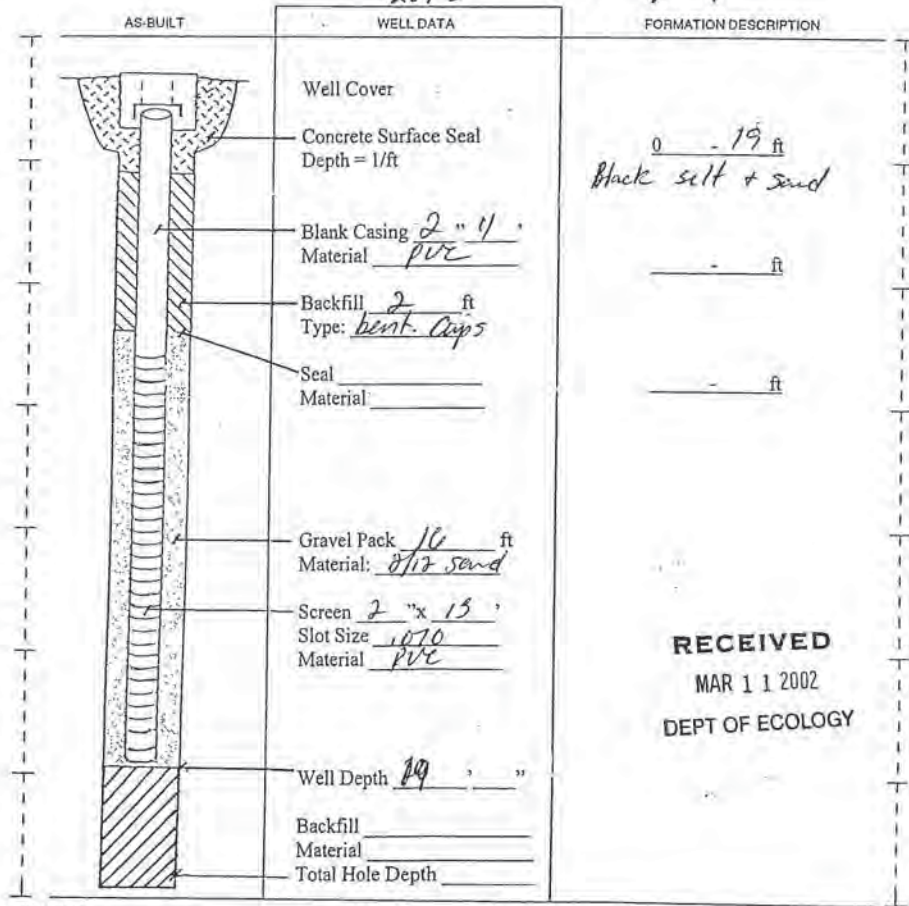


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11056 RESOURCE PROTECTION WELL REPORT

Client Well # _____ Start Card # R 58163
 Project Name: ARCO (New) County: King 22-4E-2H
 State Identification # AGT 720 Location: SE 1/4 NE 1/4 Sec 2 Twn 22NR 4E
 Drilling Method: HSA Street Address of Well: _____
 Driller: Brian G. Gose or James Goble 19860 68th Ave S, Kent, WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: ?
 Signature: [Signature] Ground Surface Elevation: N/A
 Consulting Firm: Delta Env. Date Installed: 2/12/02
 Representative: Derek Tornow Date Developed: 2/13/02

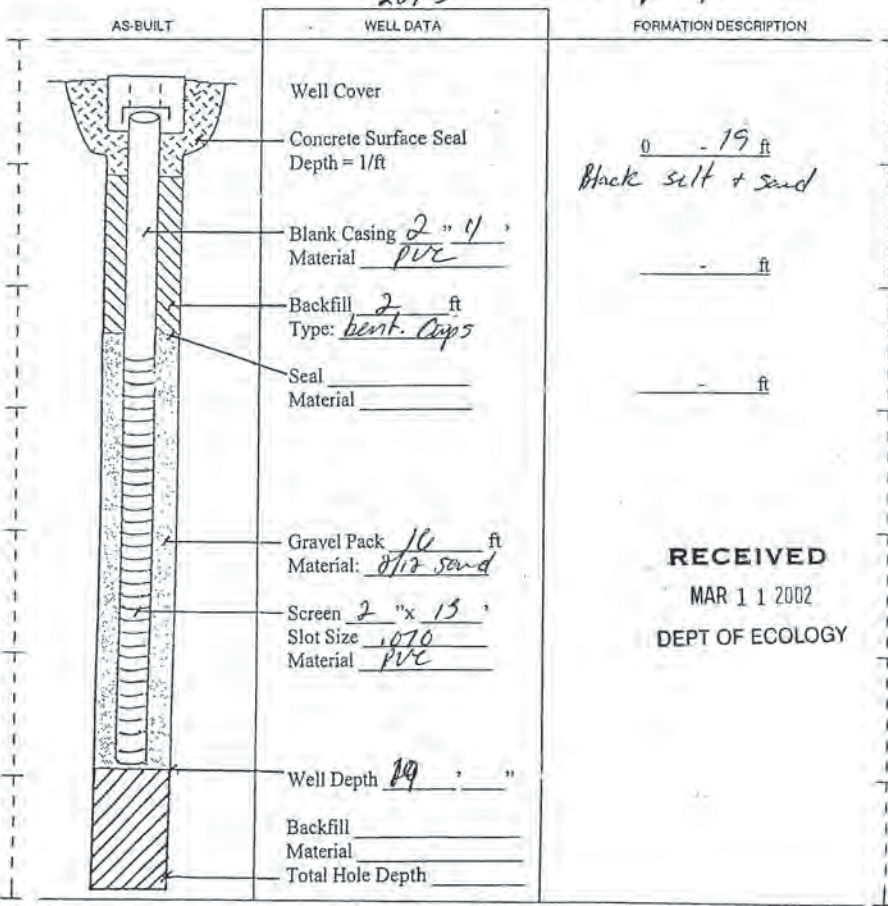


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111057
RESOURCE PROTECTION WELL REPORT

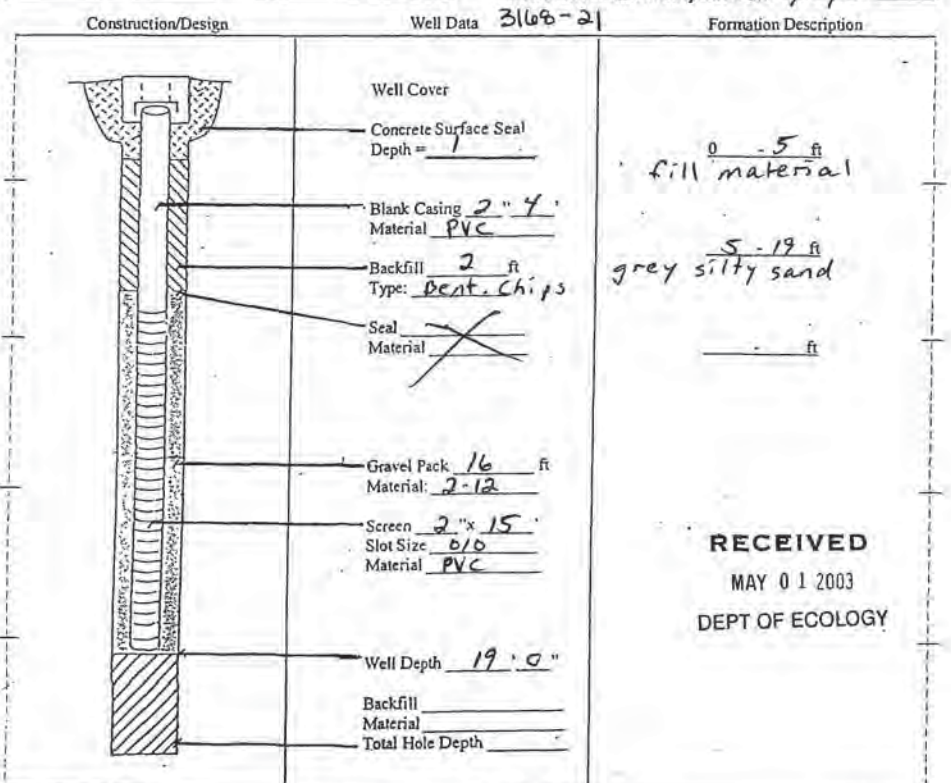
Client Well # _____ Start Card # R 58163
 Project Name: ARCO (New) County: King 22-4E-2H
 State Identification # AGT 72 Location: SE 1/4 NE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HSA Street Address of Well: _____
 Driller: Brian G. Gose or James Goble 19860 68th Ave S, Kent, WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: ?
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Delta Env. Date Installed: 2/12/02
 Representative: Derek Tornow Date Developed: 7/13/02



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RESOURCE PROTECTION WELL REPORT Notice of Intent No. R 63491
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED) 22-4E-2H

Construction/Decommission ("x" in circle) 131121
 Construction
 Decommission Original Construction Notice of Intent Number _____
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring
 Property Owner Arco Corporation Site Address 19860 68th AVE S.
 Unique Ecology Well ID Tag No. AHP 307 City Kent County: King
 Consulting Firm Delta Environmental Location SE 1/4- 1/4 NE 1/4 Sec 2 Twn 22N R 4E (EWM) or one WWM
 Driller or Trainee Name Andrew Flagan Lat/Long (S, L, R) still REQUIRED Lat Deg _____ Lat Min/Sec _____
 Driller or Trainee Signature _____ Long Deg _____ Long Min/Sec _____
 Driller or Trainee License No. 2551 Tax Parcel No. N/A
 Cased or Uncased Diameter 8 1/2 Static Level _____
 Work/Decommission Start Date 4/7/03
 Work/Decommission Completed Date 4/8/03



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. **R 63491**
22-4E-24

Construction/Decommission ("x" in circle) **131122**
 Construction
 Decommission Original Construction Notice of Intent Number

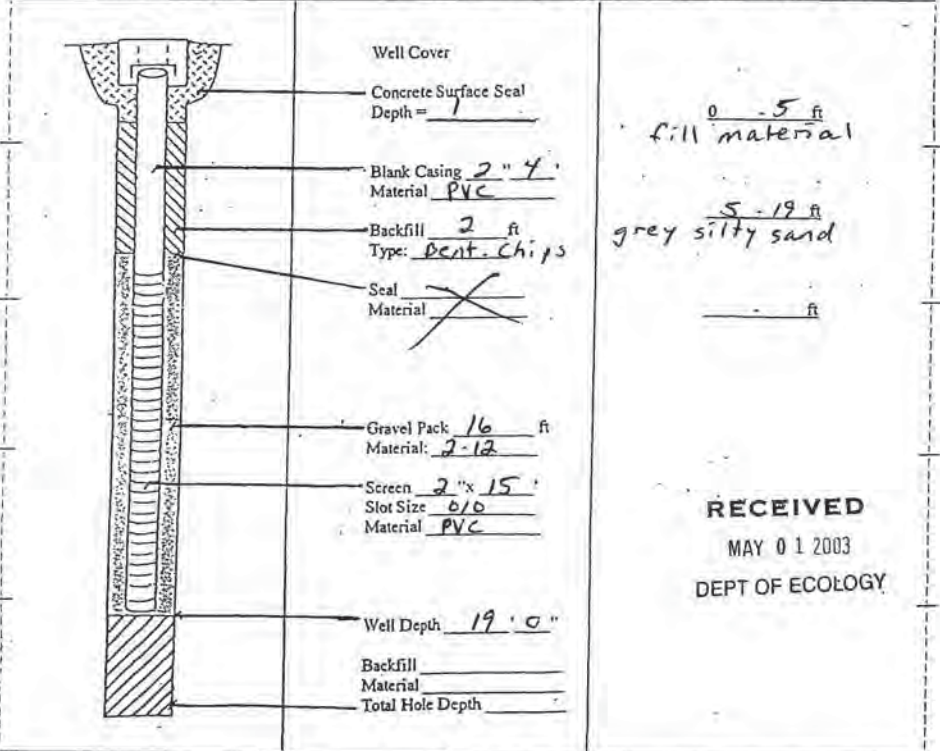
Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Arco Corporation
 Unique Ecology Well ID Tag No. AHP 308
 Consulting Firm Delta Environmental
 Driller or Trainee Name Andrew Flagan
 Driller or Trainee Signature Andrew Flagan
 Driller or Trainee License No. 2551

Site Address 19860 66th AVE S.
 City Kent County: King
 Location SE 1/4-1/4 NE 1/4 Sec 2 Twn 20N R 4E (circle one of WWM)
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 8 1/2 Static Level _____
 Work/Decommission Start Date 4/7/03
 Work/Decommission Completed Date 4/8/03

If trainee, licensed driller's Signature and License no. N/A

Construction/Design Well Data 3168-21 Formation Description



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. **R 63491**
22-4E-24

Construction/Decommission ("x" in circle) **131123**
 Construction
 Decommission Original Construction Notice of Intent Number

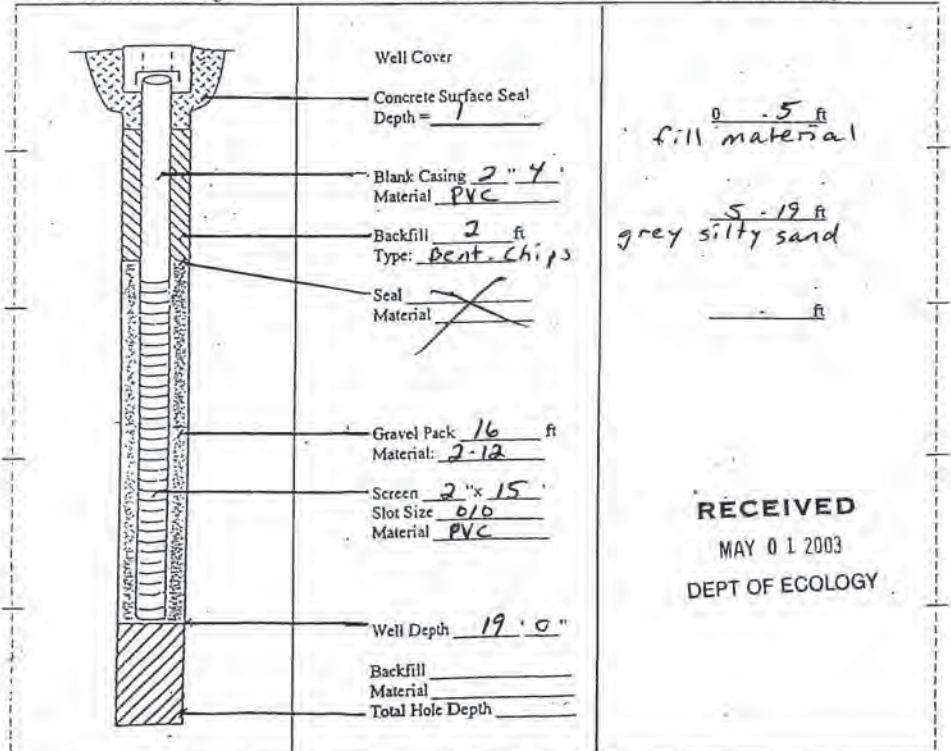
Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Arco Corporation
 Unique Ecology Well ID Tag No. AHP 309
 Consulting Firm Delta Environmental
 Driller or Trainee Name Andrew Flagan
 Driller or Trainee Signature Andrew Flagan
 Driller or Trainee License No. 2551

Site Address 19860 66th AVE S.
 City Kent County: King
 Location SE 1/4-1/4 NE 1/4 Sec 2 Twn 20N R 4E (circle one of WWM)
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 8 1/2 Static Level _____
 Work/Decommission Start Date 4/7/03
 Work/Decommission Completed Date 4/8/03

If trainee, licensed driller's Signature and License no. N/A

Construction/Design Well Data 3168-21 Formation Description



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED) Notice of Intent No. **R 63491**

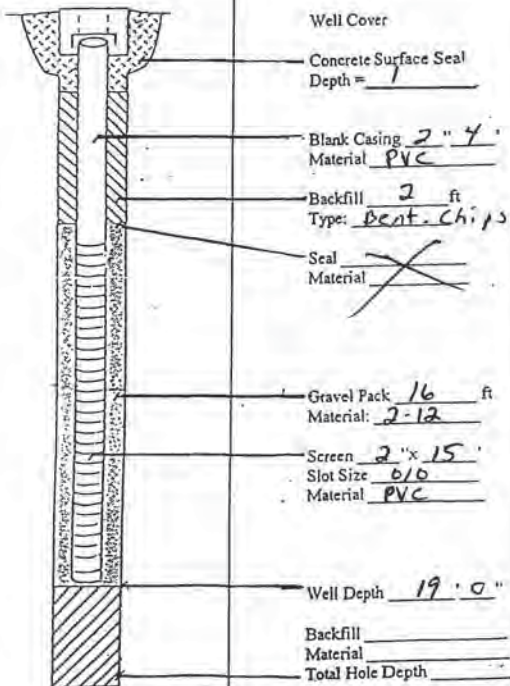
Construction/Decommission ("x" in circle) **22-4E-2H**
 Construction **131124**
 Decommission Original Construction Notice of Intent Number

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Arco Corporation
 Unique Ecology Well ID Tag No. AHP 310
 Consulting Firm Delta Environmental
 Driller or Trainee Name Andrew Flagan
 Driller or Trainee Signature Andrew Flagan
 Driller or Trainee License No. 2551
 If trainee, licensed driller's Signature and License no. N/A

Site Address 19860 66th AVE S.
 City Kent County: King
 Location SE 1/4- 1/4 NE 1/4 Sec 2 Twn 20N R4E (circle one of EWM or WWM)
 Lat/Long (s, t, r still REQUIRED) Lat Deg. _____ Lat Min/Sec _____
 Long Deg. _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 8 1/2 Static Level _____
 Work/Decommission Start Date 4/7/03
 Work/Decommission Completed Date 4/8/03

Construction/Design Well Data 3168-21 Formation Description



Well Cover
 Concrete Surface Seal
 Depth = 1

Blank Casing 2" x 4"
 Material PVC

Backfill 2 ft
 Type: Bent Chips

Seal Material X

Gravel Pack 16 ft
 Material: 2-12

Screen 2" x 15"
 Slot Size 0/0
 Material PVC

Well Depth 19' 0"

Backfill _____
 Material _____
 Total Hole Depth _____

0 - 5 ft
 fill material

5 - 19 ft
 grey silty sand

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED) Notice of Intent No. **R 63491**

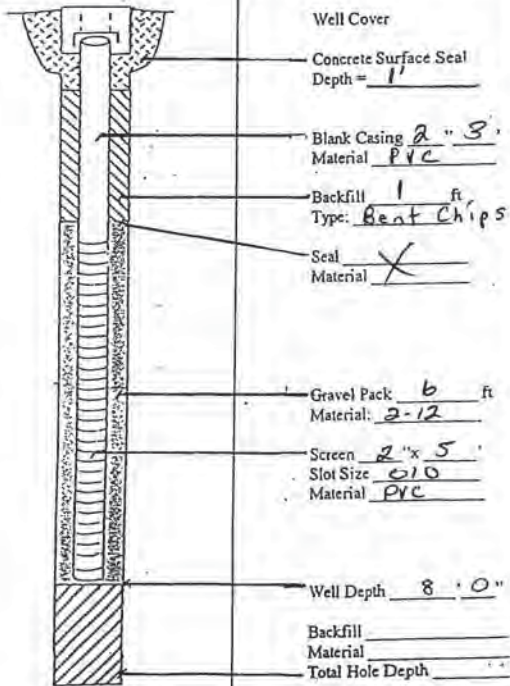
Construction/Decommission ("x" in circle) **22-4E-2H**
 Construction **131125**
 Decommission Original Construction Notice of Intent Number

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Arco Corporation
 Unique Ecology Well ID Tag No. AHP 311
 Consulting Firm Delta Environmental
 Driller or Trainee Name Andy Flagan
 Driller or Trainee Signature Andy Flagan
 Driller or Trainee License No. 2551
 If trainee, licensed driller's Signature and License no. N/A

Site Address 19860 66th AVE S.
 City Kent County: King
 Location SE 1/4- 1/4 NE 1/4 Sec 2 Twn 20N R4E (circle one of EWM or WWM)
 Lat/Long (s, t, r still REQUIRED) Lat Deg. _____ Lat Min/Sec _____
 Long Deg. _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 8 1/2 Static Level _____
 Work/Decommission Start Date 4/7/03
 Work/Decommission Completed Date 4/8/03

Construction/Design Well Data 3168-21 Formation Description



Well Cover
 Concrete Surface Seal
 Depth = 1

Blank Casing 2" x 3"
 Material PVC

Backfill 1 ft
 Type: Bent Chips

Seal Material X

Gravel Pack 6 ft
 Material: 2-12

Screen 2" x 5"
 Slot Size 0/0
 Material PVC

Well Depth 8' 0"

Backfill _____
 Material _____
 Total Hole Depth _____

0 - 5 ft
 brown fill material

5 - 8 ft
 grey silty sand

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED) Notice of Intent No. **R63491**

Construction/Decommission (* in circle)
 Construction **131124**
 Decommission Original Construction Notice of Intent Number

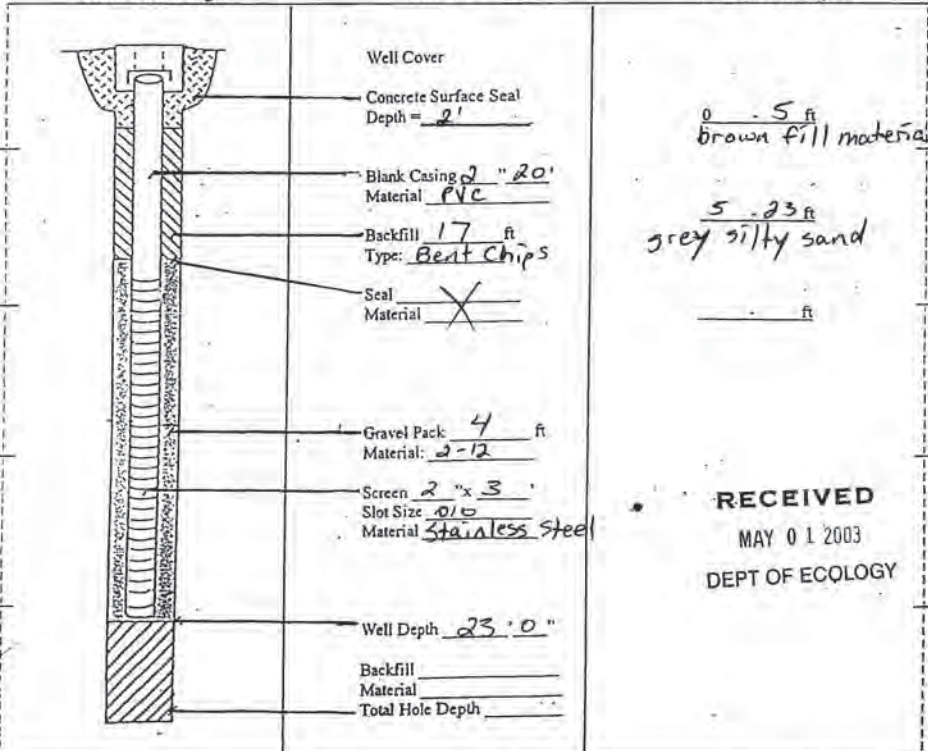
22-4E-2H
 Type of Well (* in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Aria Corporation
 Unique Ecology Well ID Tag No. AHP 312
 Consulting Firm Delta Environmental
 Driller or Trainee Name Andy Flagan
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2551

If trainee, licensed driller's Signature and License no. N/A

Site Address 19860 66th AVE S.
 City Kent County: King
 Location SE 1/4-1/4 NE 1/4 Sec. 2 Twn 20N R. 4E WWM or one
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 8 1/2 Static Level
 Work/Decommission Start Date 4/7/03
 Work/Decommission Completed Date 4/8/03

Construction/Design Well Data 3168-21 Formation Description



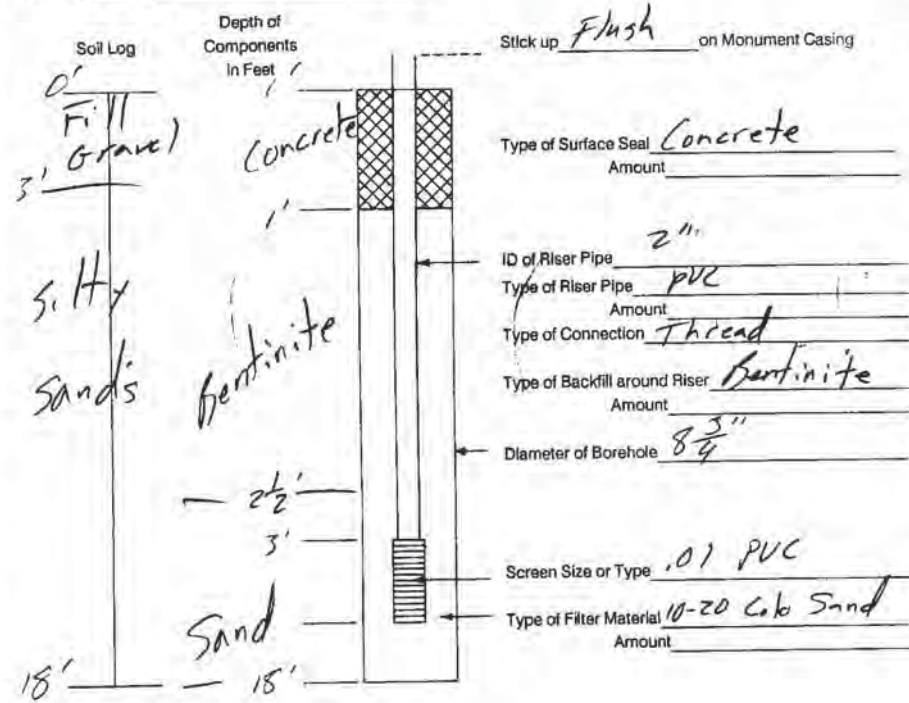
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 MAY 01 2003
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Geoboring & Development, Inc.

22/4E/12 - D
 FEB 19 2001
 DEPT. OF ECOLOGY

Resource Protection Well Report

Project Name D.P. Station "Kent" Date 2/5/91
 Well Identification # MW-4 County King NW 1/4 NW 1/4
 Drilling Method HSA 4" Section 12 T. 22N R. 4E
 Driller Terry Burns Start Card 039167
 License # 1773 Consulting Firm RZA
 Job # 91-31



Stick up Flush on Monument Casing
 Type of Surface Seal Concrete
 Amount _____
 ID of Riser Pipe 2"
 Type of Riser Pipe PVC
 Amount _____
 Type of Connection Thread
 Type of Backfill around Riser Bentinite
 Amount _____
 Diameter of Borehole 8 3/4"
 Screen Size or Type .01 PVC
 Type of Filter Material 10-20 Col Sand
 Amount _____

Remarks: _____

 Signature [Signature]

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

22/4E/12 D

Geoboring & Development, Inc.

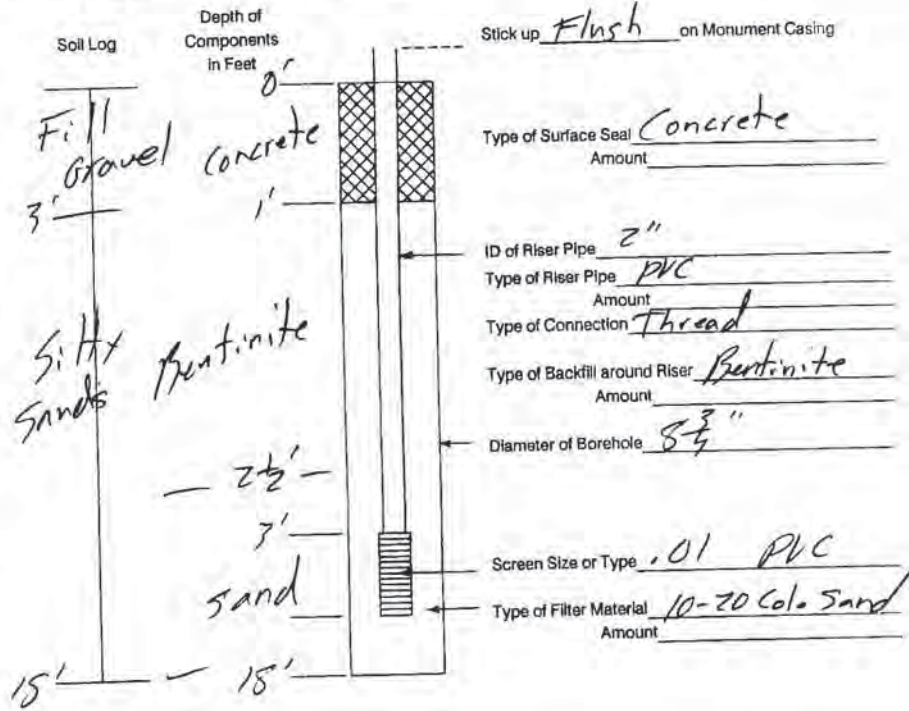
FEB 19 2011

Resource Protection Well Report

DEPT. OF ECOLOGY

Project Name B.P. Station "Kent"
 Well Identification # MW-5
 Drilling Method HSA 4"
 Driller Terry Burns
 License # 1733
 Job # 91-31

Date 2/5/11
 County King NW 1/4 NW 1/4
 Section 12 T. 22N R. 4E
 Start Card 039167
 Consulting Firm R2A



Remarks: _____

Signature [Signature]

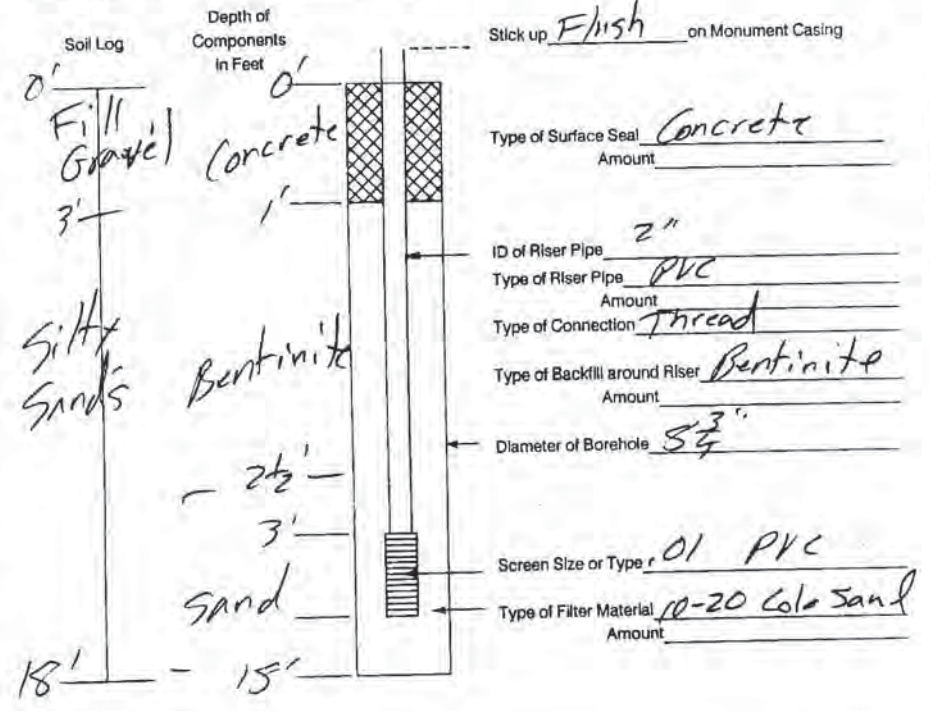
22/4E/12 D

Geoboring & Development, Inc.

Resource Protection Well Report

Project Name B.P. Station "Kent"
 Well Identification # MW-6
 Drilling Method HSA 4"
 Driller Terry Burns
 License # 1733
 Job # 91-31

Date 2/5/11
 County King NW 1/4 NW 1/4
 Section 12 T. 22N R. 4E
 Start Card 039167
 Consulting Firm R2A



Remarks: _____

Signature [Signature]

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Geoboring & Development, Inc.

Resource Protection Well Report

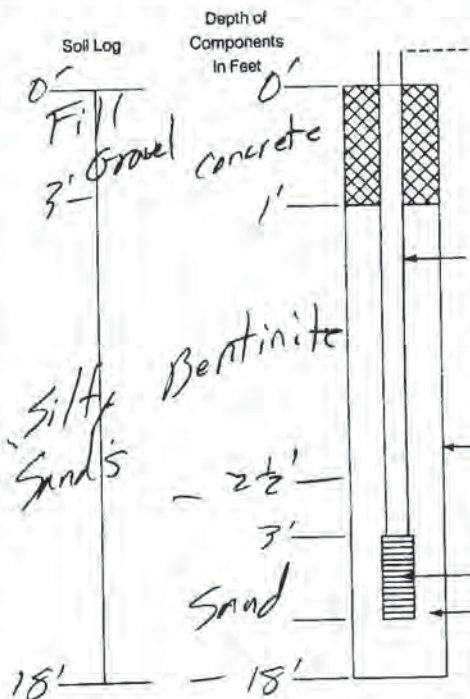
Project Name BP Station "Kent"
 Well Identification # MN-7
 Drilling Method HSA 4"
 Driller Terry Durso
 License # 733
 Job # 91-31

Date 2/5/91
 County King
 Section 12 T. 22N R. 4E
 Start Card 039167
 Consulting Firm RCA

22/4E/2K
 FEB 19 1991

FEB 19 1991

DEPT OF ECOLOGY
 4 WELLS



Stick up Flush on Monument Casing

Type of Surface Seal Concrete
 Amount _____

ID of Riser Pipe 2"
 Type of Riser Pipe PVC
 Amount _____

Type of Connection Thread

Type of Backfill around Riser Bentinite
 Amount _____

Diameter of Borehole 8 3/4"

Screen Size or Type .01 PVC

Type of Filter Material 10-20 Cob Sand
 Amount _____

Remarks: _____

Signature [Signature]

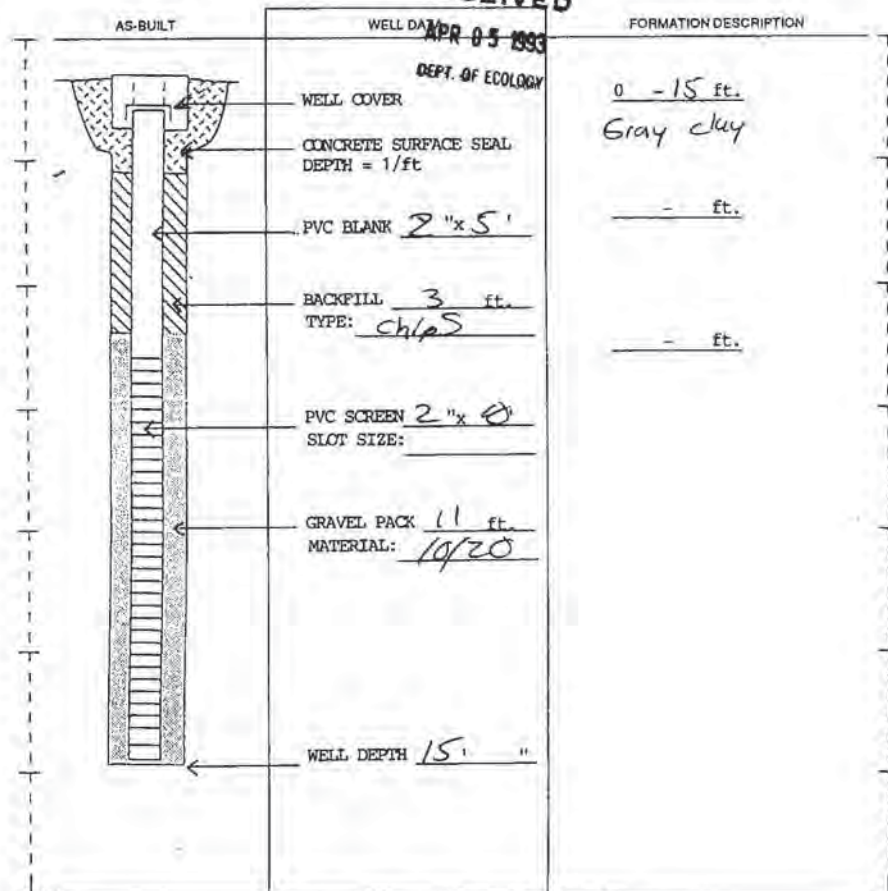
RESOURCE PROTECTION WELL REPORT

START CARD NO. 209600

PROJECT NAME: BOEING
 WELL IDENTIFICATION NO. V1
 DRILLING METHOD: Auger
 DRILLER: Bruce Diekmeyer
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM: WESTON
 REPRESENTATIVE: JIM FITZGERALD

COUNTY: KING
 LOCATION NW 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 STREET ADDRESS OF WELL: 20403 68th AVE.
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 3/17/95
 DEVELOPED: _____

RECEIVED



SCALE: 1" = _____ PAGE 1 OF 1

ECY 050-12 (Rev. 11/09)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 402123

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number SE 08849

Consulting Firm ADAPT ENGINEERING

Unique Ecology Well ID NA

Tag No: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no. _____

CURRENT Notice of Intent No. AE11895

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Property Owner BOEING

Site Address 20403 68th Ave S.

City Kent County: KING

Location NE 1/4 Sec. 2 Twn 22N R. 4C (EWM circle or WWM line)

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____

still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 1 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

Construction/Design	Well Data	Formation Description
1 1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water Level measured	Silty Sand
		SAND
		BOH = 70 FT



Scale 1" = 20ft

Page 1 of 1

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 402124

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number SE 08849

Consulting Firm ADAPT ENGINEERING

Unique Ecology Well ID NA

Tag No: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no. _____

CURRENT Notice of Intent No. AE11895

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Property Owner BOEING

Site Address 20403 68th Ave S.

City Kent County: KING

Location NE 1/4 Sec. 2 Twn 22N R. 4C (EWM circle or WWM line)

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____

still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 1 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

Construction/Design	Well Data	Formation Description
1 1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water Level measured	Silty Sand
		SAND
		BOH = 70 FT



Scale 1" = 20ft

Page 1 of 1

ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE11895

22-4E-2J

Construction/Decommission ("X" in circle)

Construction
 Decommission ORIGINAL INSTALLATION Notice

402125

Type of Well ("X" in circle)

Resource Protection
 Geotech Soil Boring

Consulting Firm ADAPT ENGINEERING

Unique Ecology Well ID NA

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no. _____

Property Owner BOEING

Site Address 20403 68th Ave S.

City Kent County: KING

Location NE 1/4 SE 1/4 Sec 2 Twn 22N 4E R 4E EWM or WWM

Lat/Long (s, t, r) still REQUIRED) Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 1 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

Construction/Design	Well Data	Formation Description
1 1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water	Silty Sand
	Level measured	
		SAND
		BOH = 70 FT

Scale 1" = 20ft

Page 1 of 1



ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE11895

22-4E-2J

Construction/Decommission ("X" in circle)

Construction
 Decommission ORIGINAL INSTALLATION Notice

402126

Type of Well ("X" in circle)

Resource Protection
 Geotech Soil Boring

Consulting Firm ADAPT ENGINEERING

Unique Ecology Well ID NA

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no. _____

Property Owner BOEING

Site Address 20403 68th Ave S.

City Kent County: KING

Location NE 1/4 SE 1/4 Sec 2 Twn 22N 4E R 4E EWM or WWM

Lat/Long (s, t, r) still REQUIRED) Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 1 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

Construction/Design	Well Data	Formation Description
1 1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water	Silty Sand
	Level measured	
		SAND
		BOH = 70 FT

Scale 1" = 20'

Page 1 of 1



ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

CURRENT

Notice of Intent No. SE08849

22-4E-2J

Construction/Decommission ("x" in circle) 402127

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Consulting Firm ADAPT ENGINEERING

Property Owner BOEING

Unique Ecology Well ID NA

Site Address 20403 68th Ave S.

Tag No: _____

City Kent County: KING

Location NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E (EWN) (circled) or WWM

Lat/Long (S, L, T) Lat Deg _____ Lat Min/Sec _____

still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 1 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no. _____

Construction/Design	Well Data	Formation Description
1 1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water	Silty Sand
	Level measured	SAND
		BOH = 70 FT

Scale 1" = 20'

Page 1 of 1



ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

CURRENT

Notice of Intent No. SE08849

22-4E-2J

Construction/Decommission ("x" in circle) 402128

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Consulting Firm ADAPT ENGINEERING

Property Owner BOEING

Unique Ecology Well ID NA

Site Address 20403 68th Ave S.

Tag No: _____

City Kent County: KING

Location NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E (EWN) (circled) or WWM

Lat/Long (S, L, T) Lat Deg _____ Lat Min/Sec _____

still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 1 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no. _____

Construction/Design	Well Data	Formation Description
1 1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water	Silty Sand
	Level measured	SAND
		BOH = 70 FT

Scale 1" = 20'

Page 1 of 1



ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE08849

22-4E-2J

Construction/Decommission ("x" in circle)

Construction 402129

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Property Owner BOEING

Consulting Firm ADAPT ENGINEERING

Unique Ecology Well ID NA

Tag No:

Site Address 20403 68th Ave S.

City Kent County KING

Location NE 1/4 SE 1/4 Sec 2 Twn 22N 4E R 4E

Lat/Long (s, i, r) still REQUIRED)

Long Deg _____ Long Min/Sec _____

Tax Parcel No _____

Cased or Uncased Diameter 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no.

Construction/Design	Well Data	Formation Description
1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water Level measured	Silty Sand
		SAND
		BOH = 70 FT



Scale 1" = 20' Page 1 of 1

ECY 050-12 (Rev 2011)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE08849

22-4E-2J

Construction/Decommission ("x" in circle)

Construction 402130

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Property Owner BOEING

Consulting Firm ADAPT ENGINEERING

Unique Ecology Well ID NA

Tag No:

Site Address 20403 68th Ave S.

City Kent County KING

Location NE 1/4 SE 1/4 Sec 2 Twn 22N 4E R 4E

Lat/Long (s, i, r) still REQUIRED)

Long Deg _____ Long Min/Sec _____

Tax Parcel No _____

Cased or Uncased Diameter 1/2" Static Level NA

Work/Decommission Start Date 12-27-10

Work/Decommission Completed Date 12-27-10

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) CHRIS NOWAK

Driller/Engineer/Trainee Signature Chris Nowak

Driller or Trainee License No. 2810

If trainee, licensed driller's Signature and License no.

Construction/Design	Well Data	Formation Description
1/2" OD CPT RODS hole backfilled w/ #8 bentonite chips	No well	clay + silt
	No water Level measured	Silty Sand
		SAND
		BOH = 70 FT



Scale 1" = 20' Page 1 of 1

ECY 050-12 (Rev 2011)

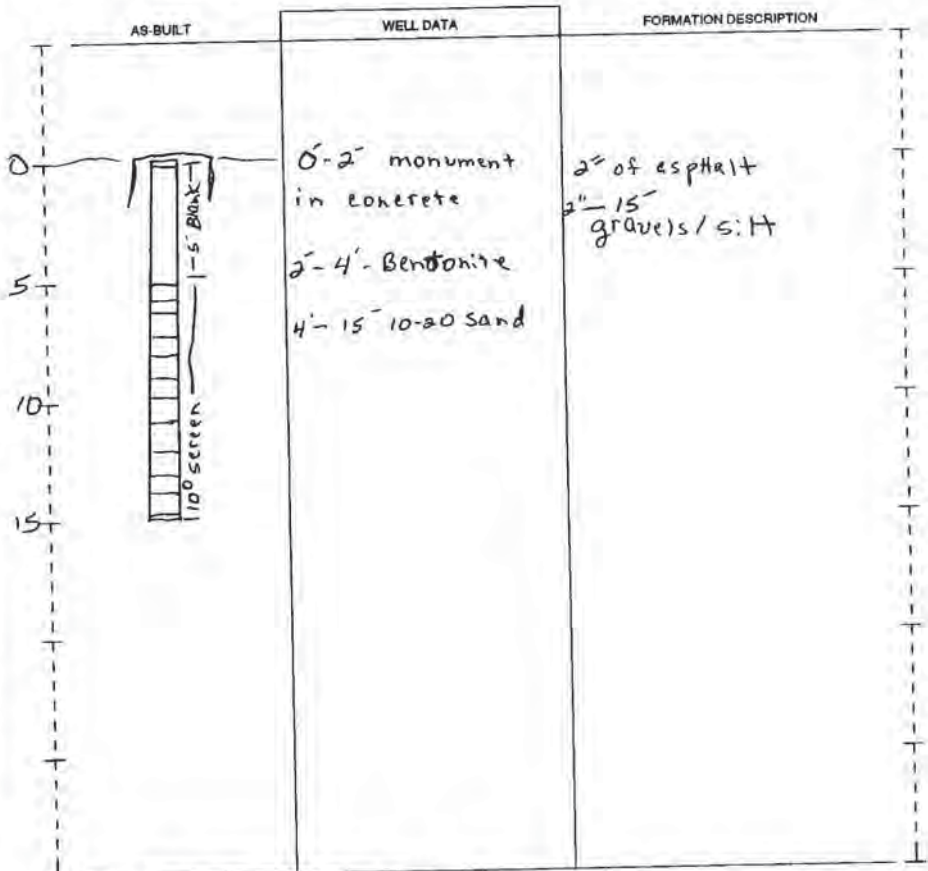
The Dep. The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

22/4E/2J

START CARD NO. [REDACTED]

PROJECT NAME: Boeing 1803 RECEIVED COUNTY: King
 WELL IDENTIFICATION NO. CANW-1 LOCATION: NE 1/4 SE 1/4 Sec 2 Twp 22N R 4E
 DRILLING METHOD: HSA 4" FEB 16 1993 STREET ADDRESS OF WELL: Air Space
 DRILLER: Clay Griffith DEPT. OF ECOLOGY
 FIRM: Pacific Testing Labs WATER LEVEL ELEVATION: 6'
 SIGNATURE: Clay Griffith GROUND SURFACE ELEVATION: ?
 CONSULTING FIRM: Weston INSTALLED: 2" well 5'-0.16x 10'-Screen
 REPRESENTATIVE: Tim Fitzpatrick DEVELOPED: unknown



SCALE: 1" = _____ PAGE _____ OF _____
 ECY 050-12 (Rev. 11/89)

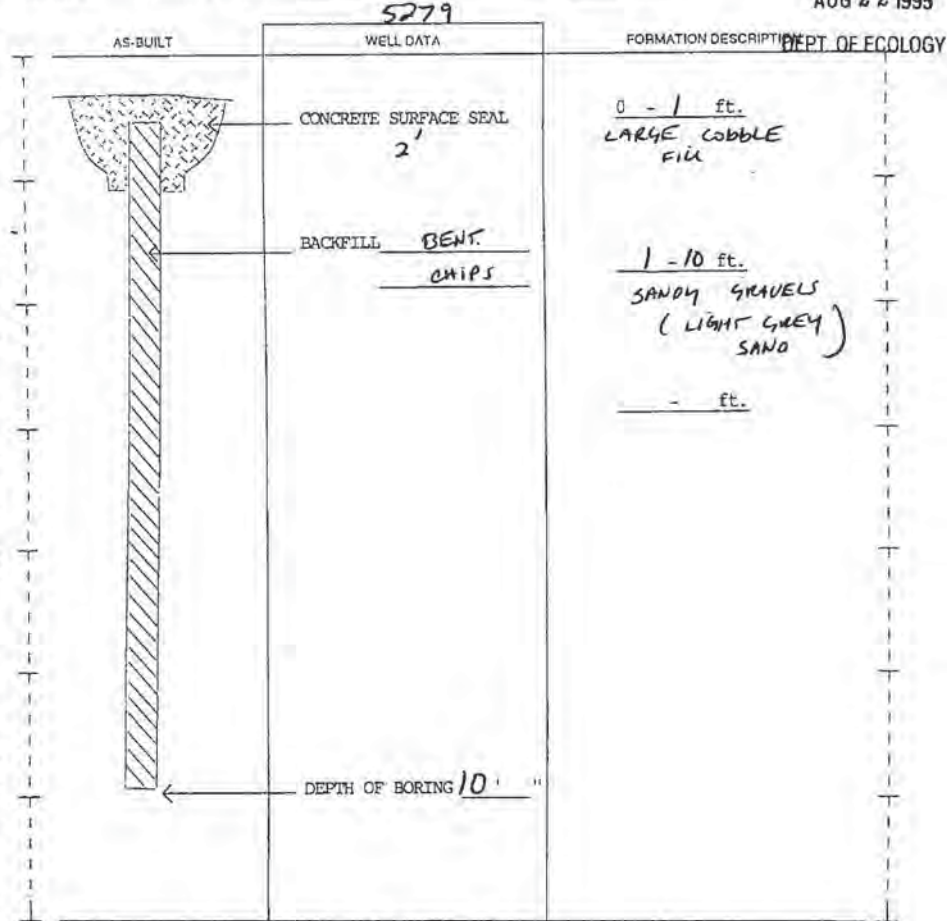
RESOURCE PROTECTION WELL REPORT

22/4/2R

START CARD NO. A12170

PROJECT NAME: BOEING-1862 BLDG COUNTY: KING
 WELL IDENTIFICATION NO. NA LOCATION: SE 1/4 SE 1/4 Sec 2 Twp 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL: 20435-108th AVE S KENT
 DRILLER: BRENT C. MALOY WATER LEVEL ELEVATION: N/A
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: [Signature] INSTALLED: 7-24-95 RECEIVED
 CONSULTING FIRM: SAIC CONSTRUCTION DEVELOPED: N/A
 REPRESENTATIVE: LARRY KIMBALL

AUG 22 1995



SCALE: 1" = _____ PAGE _____ OF _____
 ECY 050-12 (Rev. 11/89)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

ENTRUSTED

RESOURCE PROTECTION WELL REPORT

22/4/2R

START CARD NO. A12170

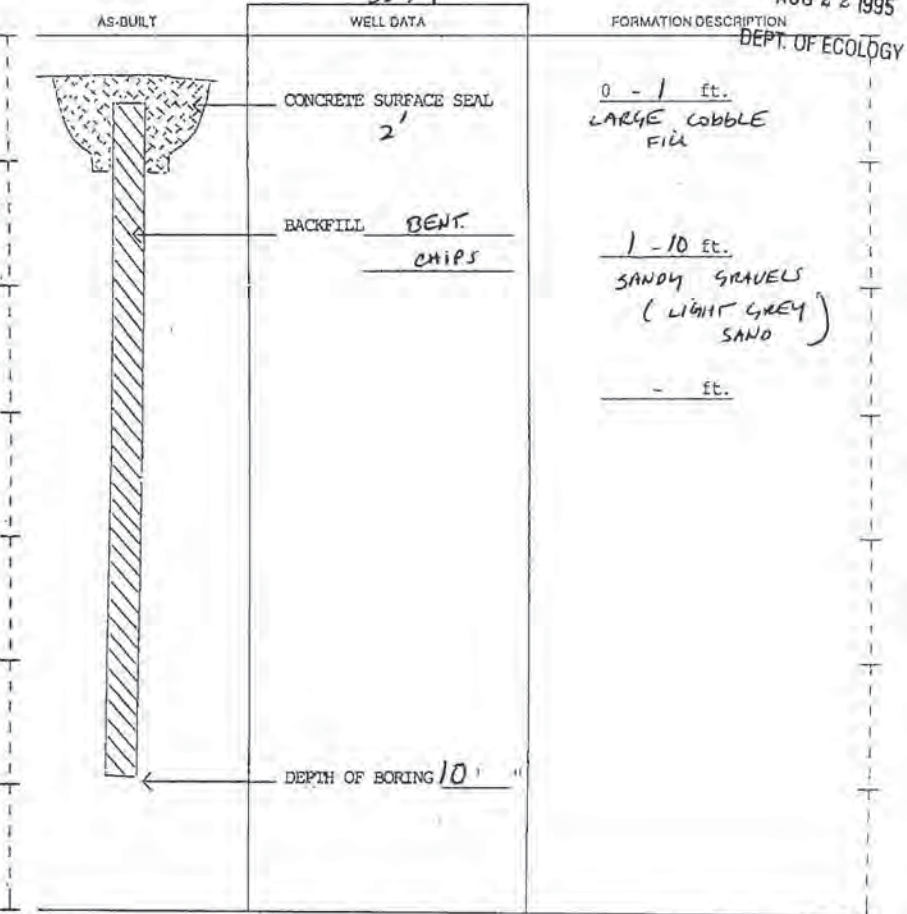
PROJECT NAME: BOEING 1862 BLDG
 WELL IDENTIFICATION NO. 110
 DRILLING METHOD: HSA
 DRILLER: BRENT C. MALOY
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM: SPINE CONSTRUCTION
 REPRESENTATIVE: LATHY KIMBALL

COUNTY: KING
 LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 STREET ADDRESS OF WELL: 20435-168th AVE S. KENT
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 7-24-95
 DEVELOPED: N/A

RECEIVED

5279

AUG 22 1995



SCALE: 1" = _____ PAGE _____ OF _____

FORM NO. 1010 (11/88)

ENTRUSTED

RESOURCE PROTECTION WELL REPORT

22/4/2R

START CARD NO. A12170

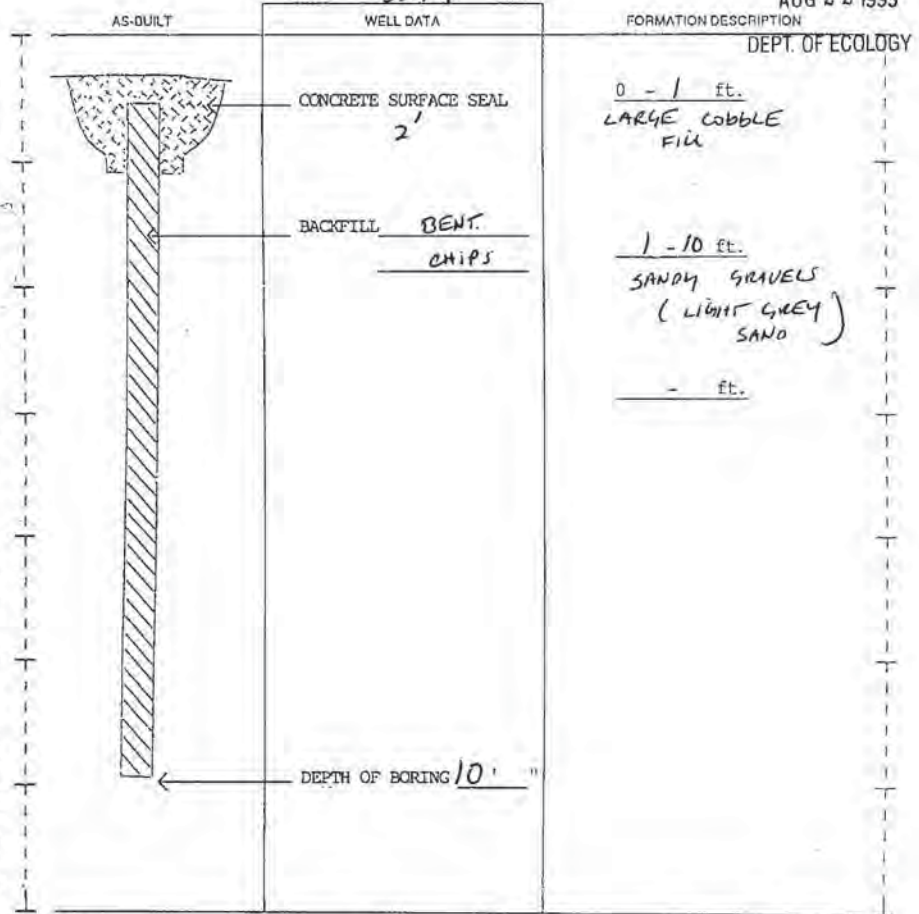
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 WELL IDENTIFICATION NO. 110
 DRILLING METHOD: HSA
 DRILLER: BRENT C. MALOY
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM: SPINE CONSTRUCTION
 REPRESENTATIVE: LATHY KIMBALL

COUNTY: KING
 LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 STREET ADDRESS OF WELL: 20435-168th AVE S. KENT
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 7-24-95
 DEVELOPED: N/A

RECEIVED

5279

AUG 22 1995



SCALE: 1" = _____ PAGE _____ OF _____

FORM NO. 1010 (11/88)

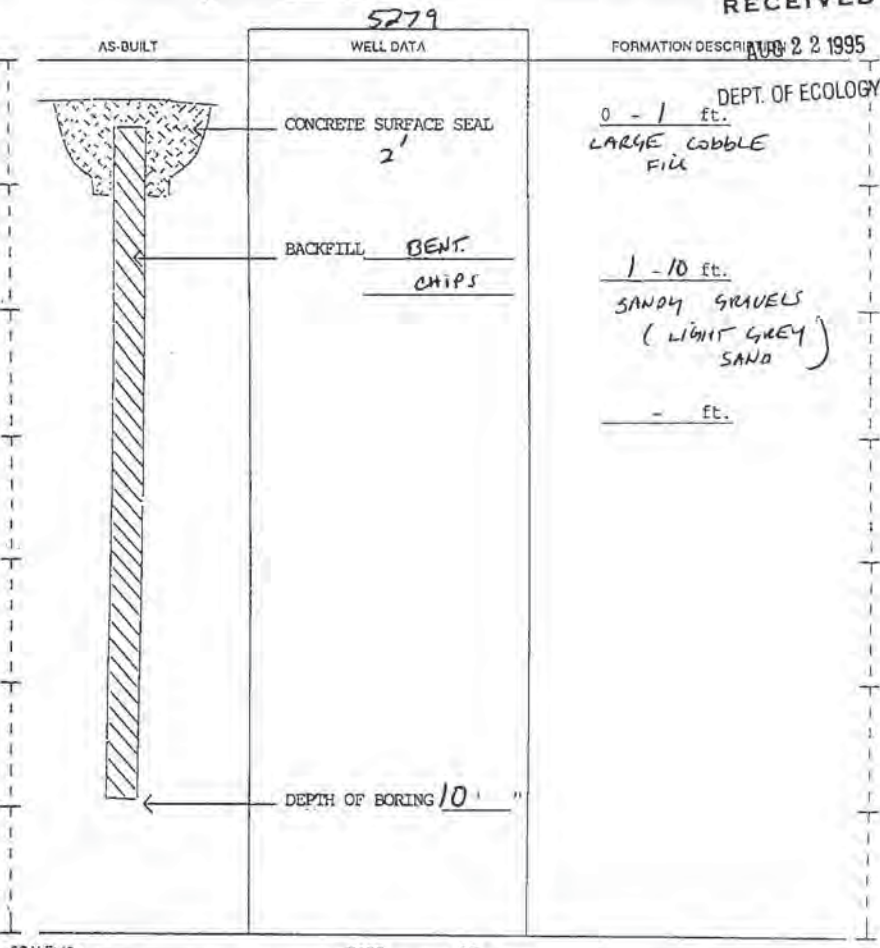
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT 22/4/2R
START CARD NO. A12170

PROJECT NAME: BOEING 1862 BLDG
WELL IDENTIFICATION NO. 1/a
DRILLING METHOD: HSA
DRILLER: BRENT C. MALOY
FIRM: Cascade Drilling, Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: SAFE CONSTRUCTION
REPRESENTATIVE: LATHY KIMBALL

COUNTY: KING
LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: 20435-168th AVE S KENT
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 7-24-95
DEVELOPED: N/A

RECEIVED



SCALE: 1" = _____ PAGE _____ OF _____

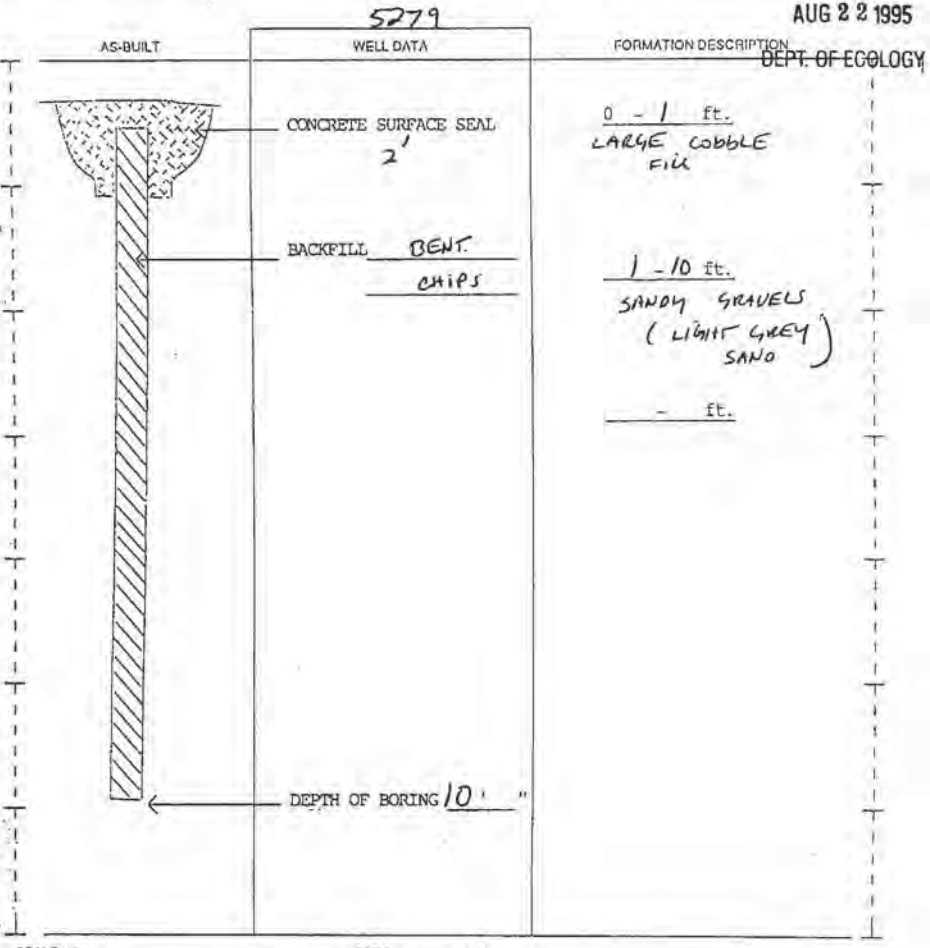
RESOURCE PROTECTION WELL REPORT 22/4/2R
START CARD NO. A12170

PROJECT NAME: BOEING 1862 BLDG
WELL IDENTIFICATION NO. 1/a
DRILLING METHOD: HSA
DRILLER: BRENT C. MALOY
FIRM: Cascade Drilling, Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: SAFE CONSTRUCTION
REPRESENTATIVE: LATHY KIMBALL

COUNTY: KING
LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: 20435-168th AVE S KENT
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 7-24-95
DEVELOPED: N/A

RECEIVED

AUG 22 1995



SCALE: 1" = _____ PAGE _____ OF _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

DEPT. OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

ENTERED

RESOURCE PROTECTION WELL REPORT

22/4/2R

START CARD NO. A12170

PROJECT NAME: BOEING 1862 BLDG
WELL IDENTIFICATION NO. N/A
DRILLING METHOD: HSA
DRILLER: BRENT C. MALOY
FIRM: Cascade Drilling, Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: [Signature] BGC CONSTRUCTION
REPRESENTATIVE: KATHY KIMBALL

COUNTY: KING
LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: 20435-168TH AVE S KENT
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 7-24-95
DEVELOPED: N/A

RECEIVED

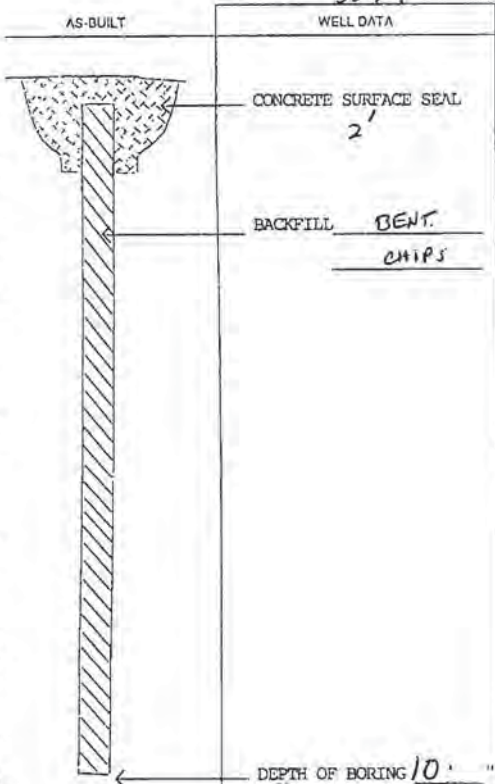
FORMATION DESCRIPTION AUG 2 2 1995

DEPT. OF ECOLOGY

0 - 1 ft.
LARGE COBBLE
FILL

1 - 10 ft.
SANDY GRAVELS
(LIGHT GREY)
SAND

- ft.



ENTERED

RESOURCE PROTECTION WELL REPORT

22/4/2R

START CARD NO. A12170

PROJECT NAME: BOEING 1862 BLDG
WELL IDENTIFICATION NO. N/A
DRILLING METHOD: HSA
DRILLER: BRENT C. MALOY
FIRM: Cascade Drilling, Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: [Signature] BGC CONSTRUCTION
REPRESENTATIVE: KATHY KIMBALL

COUNTY: KING
LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: 20435-168TH AVE S KENT
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 7-24-95
DEVELOPED: N/A

RECEIVED

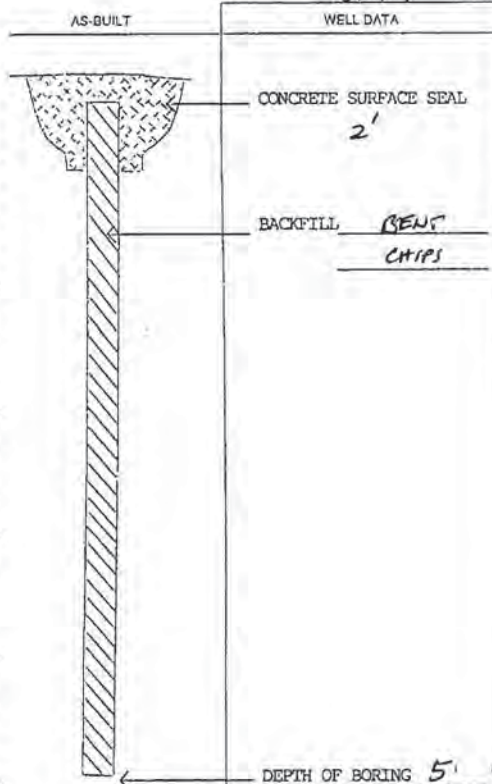
FORMATION DESCRIPTION AUG 2 2 1995

DEPT. OF ECOLOGY

0 - 1 ft.
LARGE COBBLE
FILL

1 - 5 ft.
SANDY GRAVEL
(LIGHT GREY)
SAND

- ft.

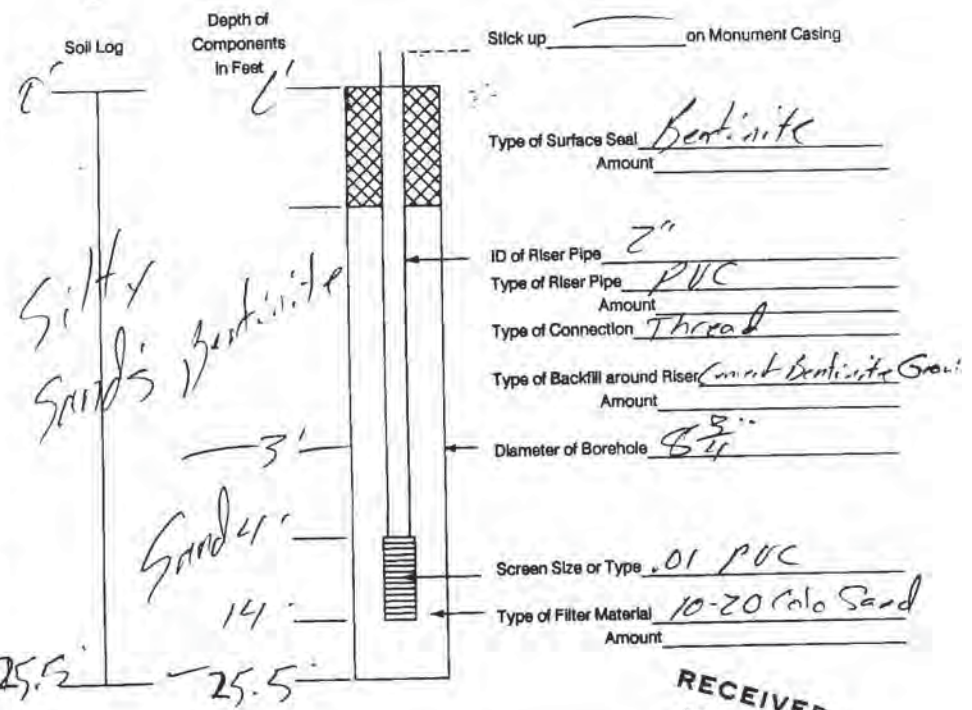


The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Geoboring & Development, Inc.

Resource Protection Well Report

Project Name Boring Aerospace plant Date 11/15/91
 Well Identification # 142-3 County King NR 1/4 SW 1/4
 Drilling Method ASA 4" Section 2 T. 22N R. 4E
 Driller Terry Burns Start Card 235498
 License # 1733 Consulting Firm Paros & Moore
 Job # 91-332 City Kent



Remarks: _____

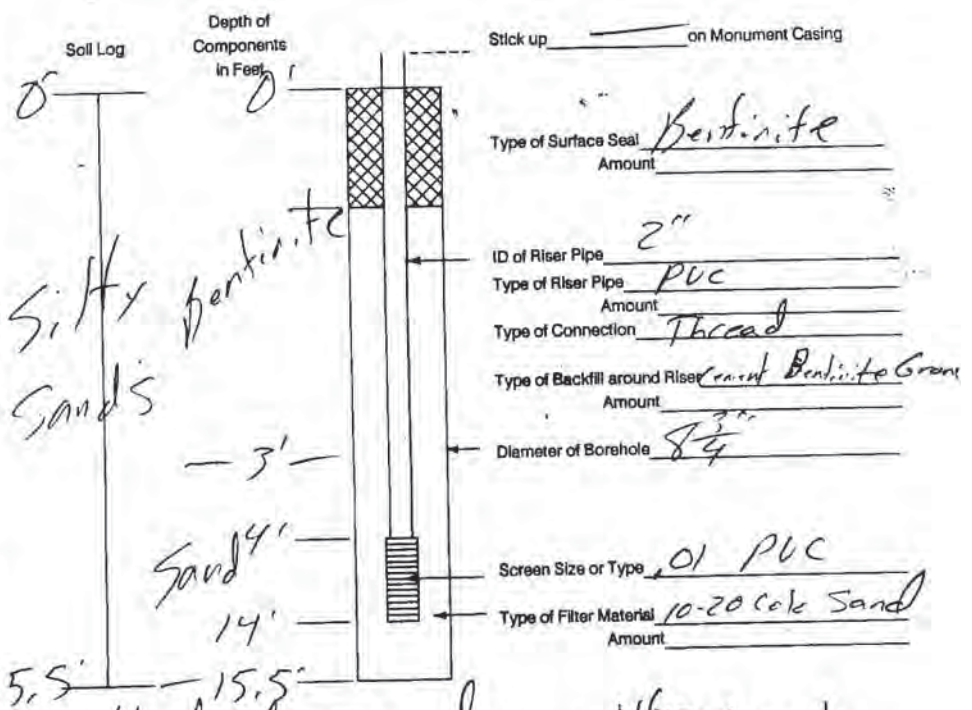
Signature Terry Burns

RECEIVED
 DEC 16 1991
 DEPT. OF ECOLOGY

Geoboring & Development, Inc.

Resource Protection Well Report

Project Name Boring Aerospace plant Date 11/15/91
 Well Identification # 142-2 County King NR 1/4 SW 1/4
 Drilling Method ASA 4" Section 2 T. 22N R. 4E
 Driller Terry Burns Start Card 235498
 License # 1733 Consulting Firm Paros & Moore
 Job # 91-332 City Kent



Remarks: Abandoned same day with Bentinite Grout. _____

Signature Terry Burns

RECEIVED
 DEC 16 1991
 DEPT. OF ECOLOGY

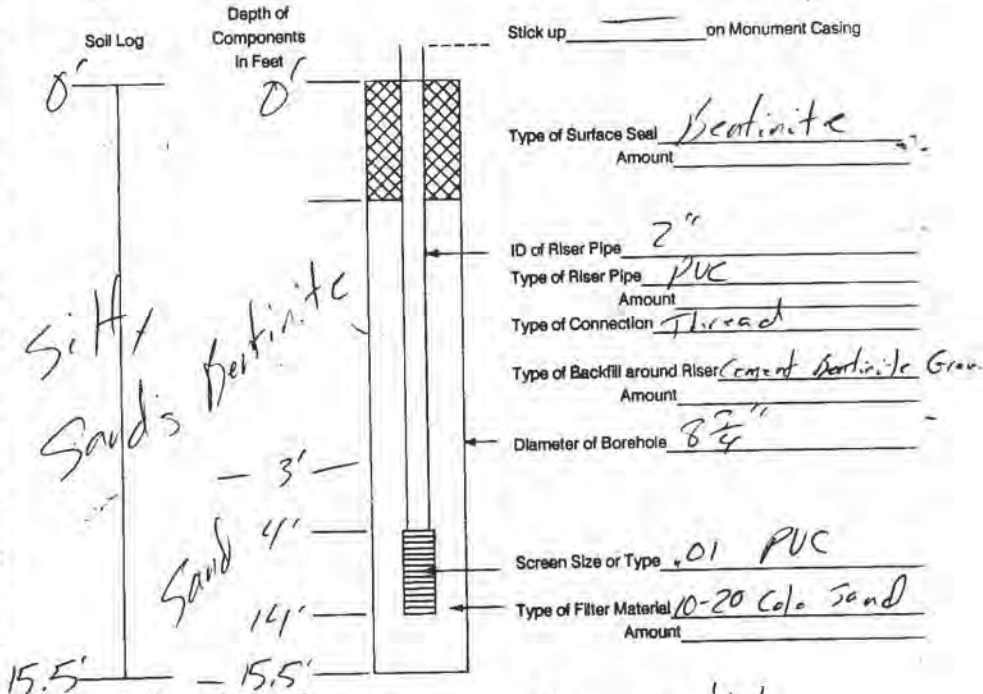
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Geoboring & Development, Inc.

Resource Protection Well Report

Project Name Being kerogence start Date 11/15/91
 Well Identification # 21W-1 County King NE 1/4 SW 1/4
 Drilling Method HSA 4" Section 2 T. 22N R. 4E
 Driller Terri Burns Start Card 085478
 License # 1733 Consulting Firm James P Moore
 Job # 91-332 City Kenf

22/4E/26



Remarks: Abandoned same day with cement bentonite grout

RECEIVED
 DEC 06 1991
 DEPT. OF ECOLOGY
 Signature [Signature]



ENTERED

GEOBORING & DEVELOPMENT, INC. 9415 S.R. 162 PUYALLUP, WA. 98372 (206) 845-6900

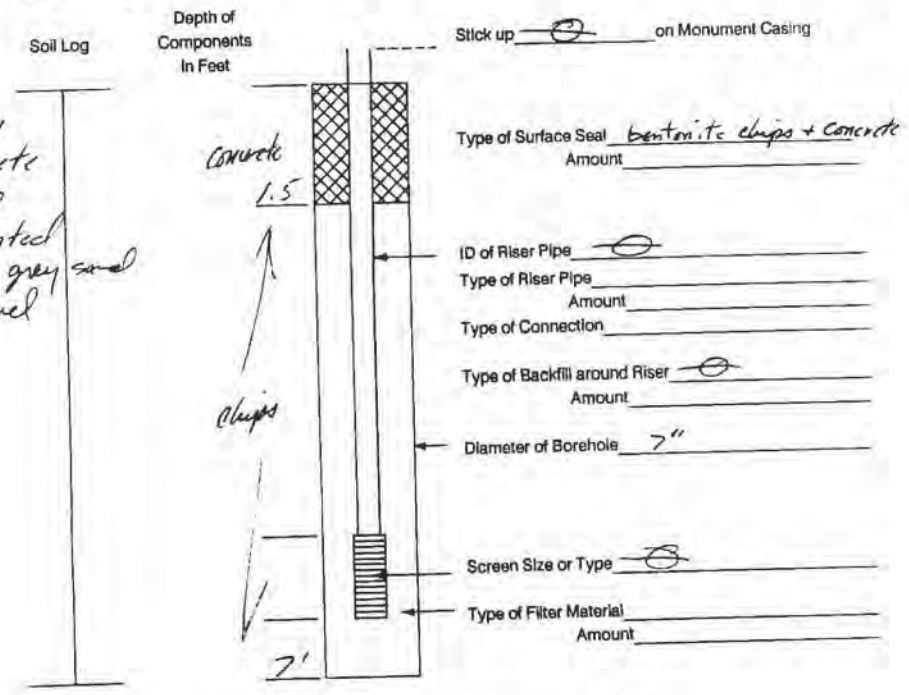
Resource Protection Well Report

Project Name Boring Bldg# 18-67
 Well Identification # B-1 Turu B-7
 Drilling Method 3 1/2" HSA
 Driller Dale Smith
 License # 1229
 Job # 94-103

Date 6-13-94
 County King SW 1/4 NE 1/4
 Section 2 T. 22N R. 4E
 Start Card A 00268
 Consulting Firm Groundwater Technology

22/4/26
 RECEIVED
 JUL 19 1994
 DEPT. OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



Remarks: NO WATER, All borings end AT 7'

Signature Dale Smith

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

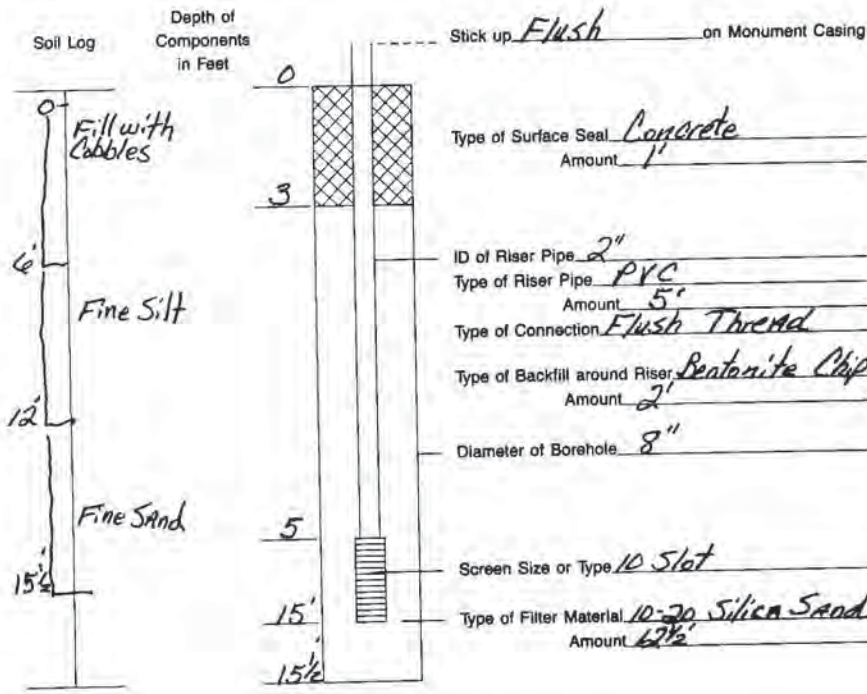
HOLT DRILLING, INC.

Resource Protection Well Report

22/45/2R RECEIVED
 FEB 23 1994
 DEPT. OF ECOLOGY

Project Name Boeing Building 18-67
 Well Identification # 67-MW-01
 Drilling Method HSA
 Driller Clyde Moore
 License # 1939

Date 2-17-94
 County King SE 1/4 SE 1/4
 Section 2 T. 22N R. 4
 Start Card R17046
 Consulting Firm Tetra Tech



Remarks:

Signature Clyde Moore

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
 Notice of Intent No. SE07134 SD-4E-2J

Construction/Decommission
 Construction: 374653
 Decommission: ORIGINAL INSTALLATION Notice of Intent Number _____

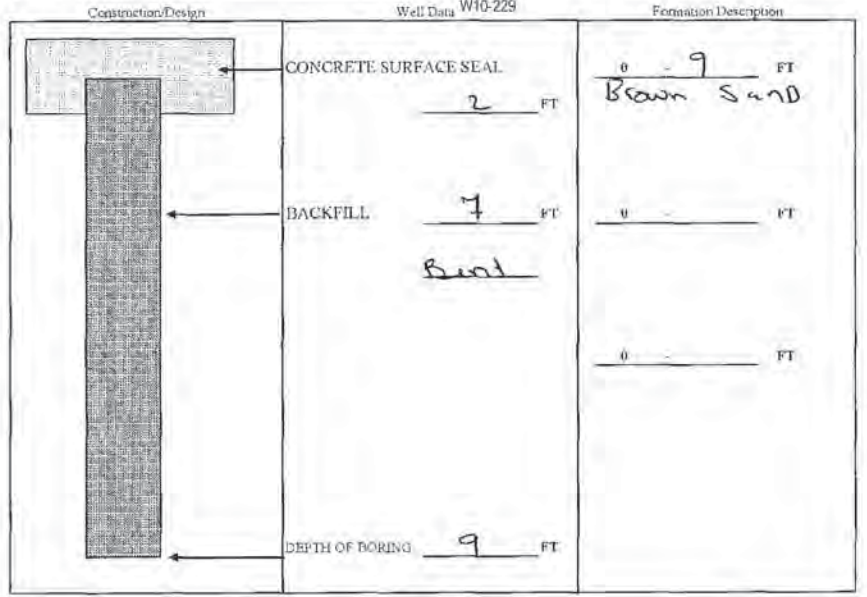
Property Owner: Boeing Co
 Site Address: 20403 68th Ave. S
 City: Kent County: 17-King

Consulting Firm: GeoEngineers-Redmond
 Unique Ecology Well ID: _____
 Tag No.: _____

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R04E LEW or BW

Well CONSTRUCTION CERTIFICATION: I consented and/or accept responsibility for completion of this well, and its compliance with all Washington well construction standards.
 I/we declare that the information reported above is true to my/best knowledge and belief.
 Driller Trained Name (Print) Steve Zingale
 Driller/Trainer Signature: _____
 Driller/Trainer License No: 2682

Property Owner: _____
 Site Address: _____
 City: _____ County: _____
 Tax Parcel No: _____
 Cased or Uncased Diameter: 8" State Level: _____
 Well/Decommission Start Date: 5/5/2010
 Well/Decommission Completed Date: 5-5-10



Scale 1" = _____ Page _____ of _____

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 MAY 13 2010
 Dept of Ecology
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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07134

Construction/Decommission
 Construction 374654
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Co.
 Site Address 20403 68th Ave. S
 City Kent County 17-King

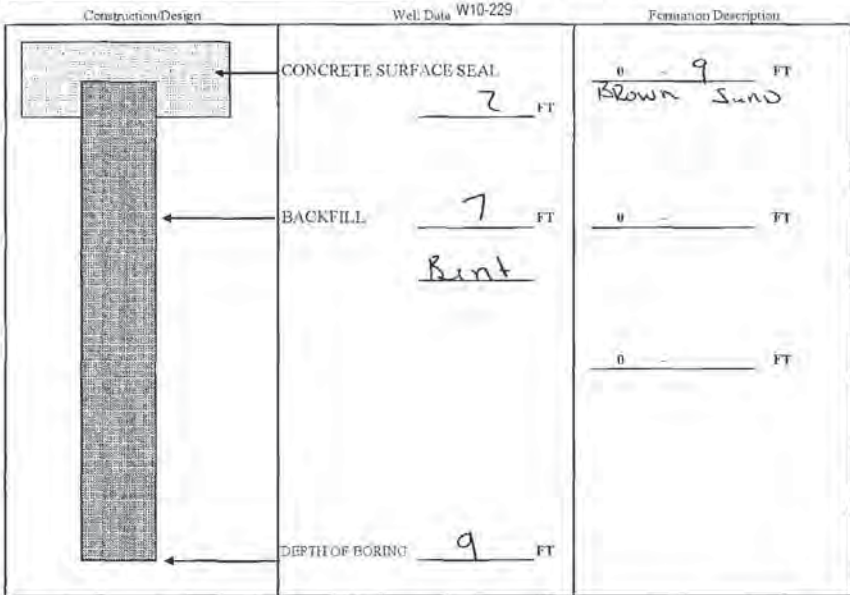
Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R04E EWM
or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.
 Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Cheate
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2682

If trainee, licensed driller's Signature and License No. _____
 Work/Decommission Start Date 5/5/2010
 Work/Decommission Completed Date 5-5-10



Scale 1" = _____ Page _____ of _____ ECV 050-12 (Rev. 2/01)

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 MAY 13 2010
 Dept of Ecology
 WR-NWRC

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
AE09244

Construction/Decommission
 Construction 374655
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Co.
 Site Address 20403 68th Ave. S
 City Kent County 17-King

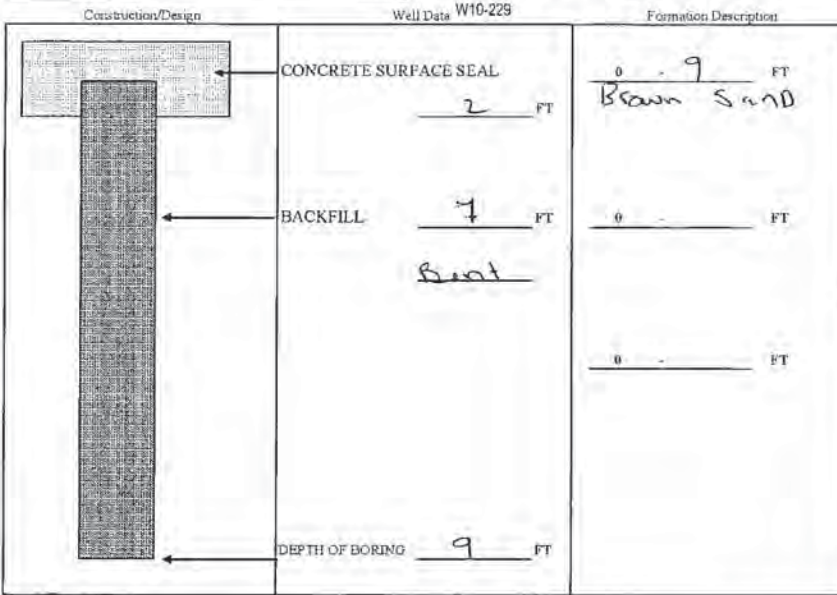
Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R04E EWM
or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.
 Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Cheate
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2682

If trainee, licensed driller's Signature and License No. _____
 Work/Decommission Start Date 5/5/2010
 Work/Decommission Completed Date 5-5-10



Scale 1" = _____ Page _____ of _____ ECV 050-12 (Rev. 2/01)

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 MAY 13 2010
 Dept of Ecology
 WR-NWRC

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 20-4E-2J
REC 4665

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice

374656

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm GeoEngineers-Redmond

Property Owner Boeing Co.

Site Address 20403 68th Ave. S

City Kent County 17-King

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R 04E

Tag No. _____

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Cheate

Driller/Trainee Signature _____

Driller/Trainee License No. 2682

Tax Parcel No. _____

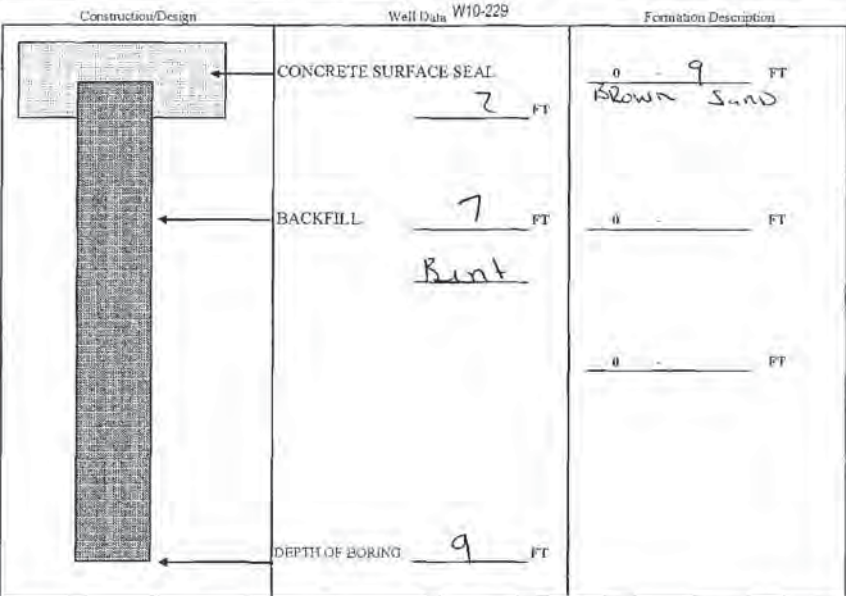
Cased or Uncased Diameter: 8" Static Level _____

Work/Decommission Start Date 5/5/2010

Work/Decommission Completed Date 5-5-10

If trainee, licensed driller's

Signature and License No. _____



Scale 1" = _____ Page _____ of _____

ECR 009-12 (Rev. 10/2011)

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MAY 13 2010
Dept of Ecology
WR-NWRO

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 20-4E-2J
REC 4665

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice

382096

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm GeoEngineers-Redmond

Property Owner The Boeing Company

Site Address 20403 68th Ave. S

City Kent County 17-King

Unique Ecology Well ID

Tag No. BCW-203

Location 1/4 NE 1/4 SE Sec 2 Town 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott

Driller/Trainee Signature _____

Driller/Trainee License No. 25481

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

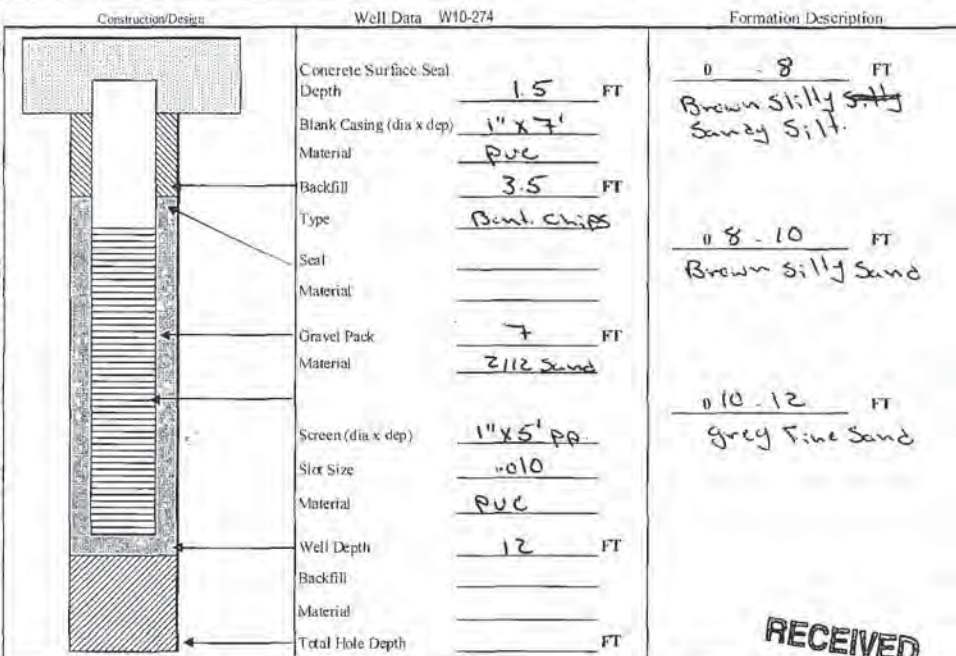
Cased or Uncased Diameter 3" Static Level 11"

Work/Decommission Start Date 6/9/2010

Work/Decommission End Date 6-9-10

If trainee, licensed driller's

Signature and License No. _____



Scale 1" = _____ Page _____ of _____

ECR 009-12 (Rev. 10/2011)

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JUL 20 2010
Dept of Ecology
WR-NWRO

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction 382097
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID

Tag No. BCN204

WELL CONSTRUCTION CERTIFICATION: I (authorized and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2549

If trainee, licensed driller's

Signature and License No. _____

CURRENT

Notice of Intent No. 22-4E-2J
REQ4665

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S

City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E ISWM WWM

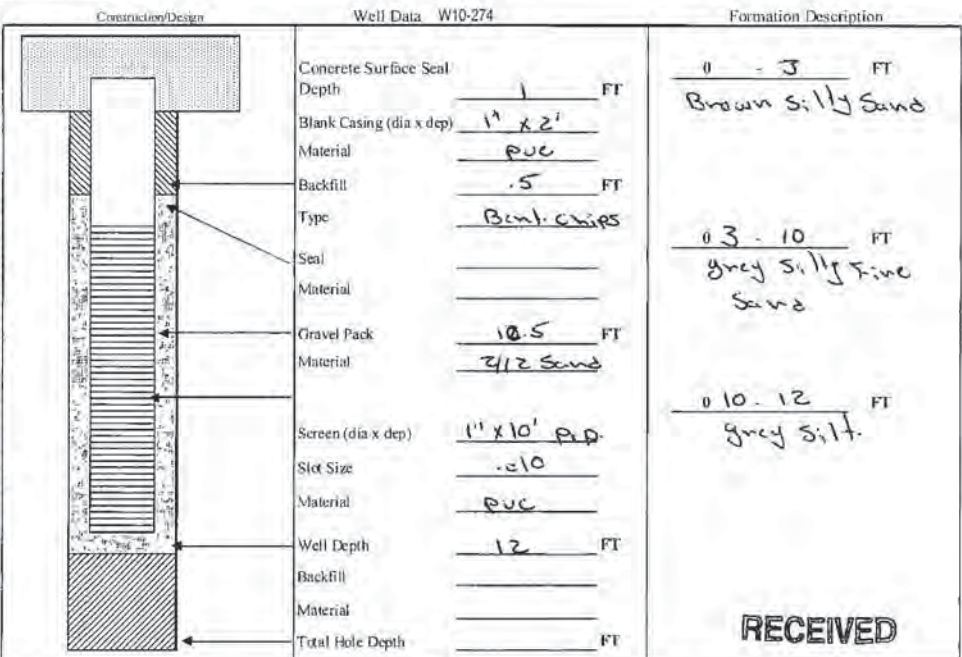
Lat/Long (s, t, r still Required) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 3' Static Level 5'

Work/Decommission Start Date 6/9/2010

Work/Decommission End Date 6-9-10



Scale 1" = _____

Page _____ of _____

JUL 29 2010
 Dept of Ecology
 WR-NWRO

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Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one)

Construction 194749
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. NA Boeing ID: BSC-18-62-04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true in my best knowledge and belief.

Driller Engineer Trainee Name (Print) Clayton Jacob

Driller/Engineer/Trainee Signature [Signature]

Driller or Trainee License No. PE 33840

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. AED-1667

Type of Well (select one)

Resource Protection
 Geotech Soil Boring

Property Owner Boeing Company

Site Address 20403 68th Avenue South

City Kent County King

Location NW 1/4-1/4 NE 1/4 Sec 11 Twn 22 R 4E EWM WWM

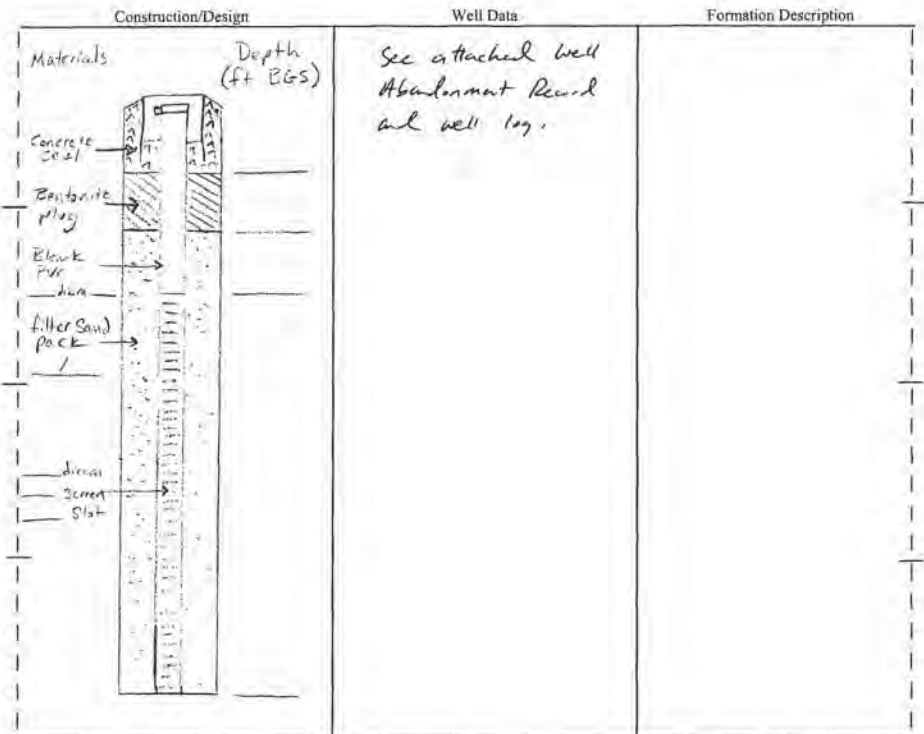
Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level 7.96'

Work/Decommission Start Date 3/28/06

Work/Decommission Completed Date 3/28/06



ECY 050-12 (Rev. 2/03)

SCALE: 1" = _____ Page _____ of _____

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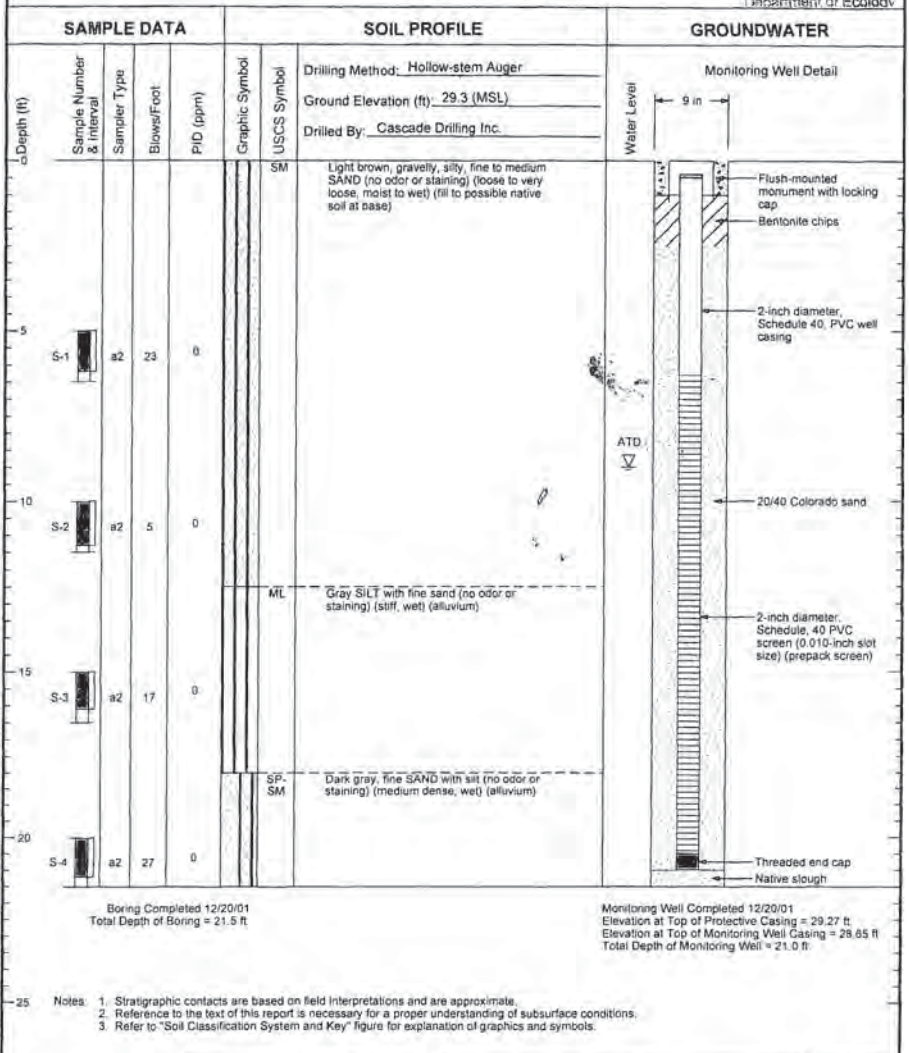
The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

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APR 13 2006

BSC-18-62-4

Water Resources Program
Department of Ecology



- Notes:
- Stratigraphic contacts are based on field interpretations and are approximate.
 - Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
 - Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

29152.D14 2/2/06 REMDATABGHT\PROJECT\2002\182.GPJ WELL LOG



Boeing Clearwater
Kent, Washington

Log of Monitoring Well BSC-18-62-4

Figure
B-20

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Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE 01667

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one) 194750
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Type of Well (select one) **RECEIVED**
 Resource Protection
 Geotech Soil Boring
 APR 13 2006

Consulting Firm Landau Associates
 Unique Ecology Well ID
 Tag No. NA Boeing ID: BSC-18-62-05

Property Owner Boeing Company Water Resources Program
 Department of Ecology
 Site Address 20403 68th Avenue South
 City Kent County King
 Location NW 1/4-1/4 NE 1/4 Sec 1/1 Twn 22 R 92 EWM WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

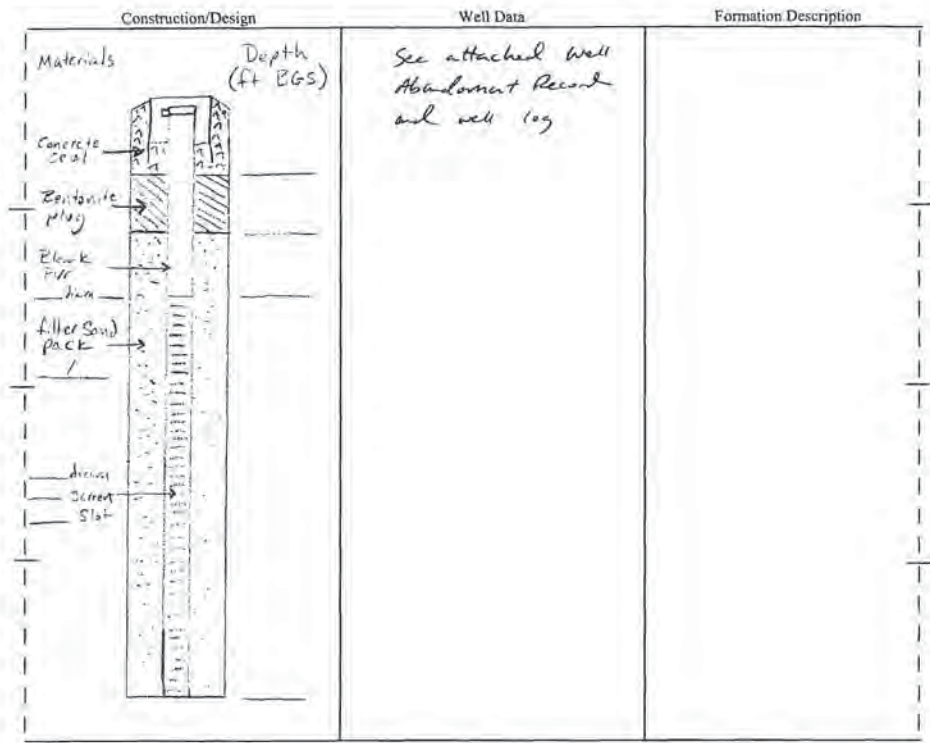
Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Driller Engineer Trainee Name (Print) Chad Jacob
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. PE 38340

Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level 7.85'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 3/28/06
 Work/Decommission Completed Date 3/28/06

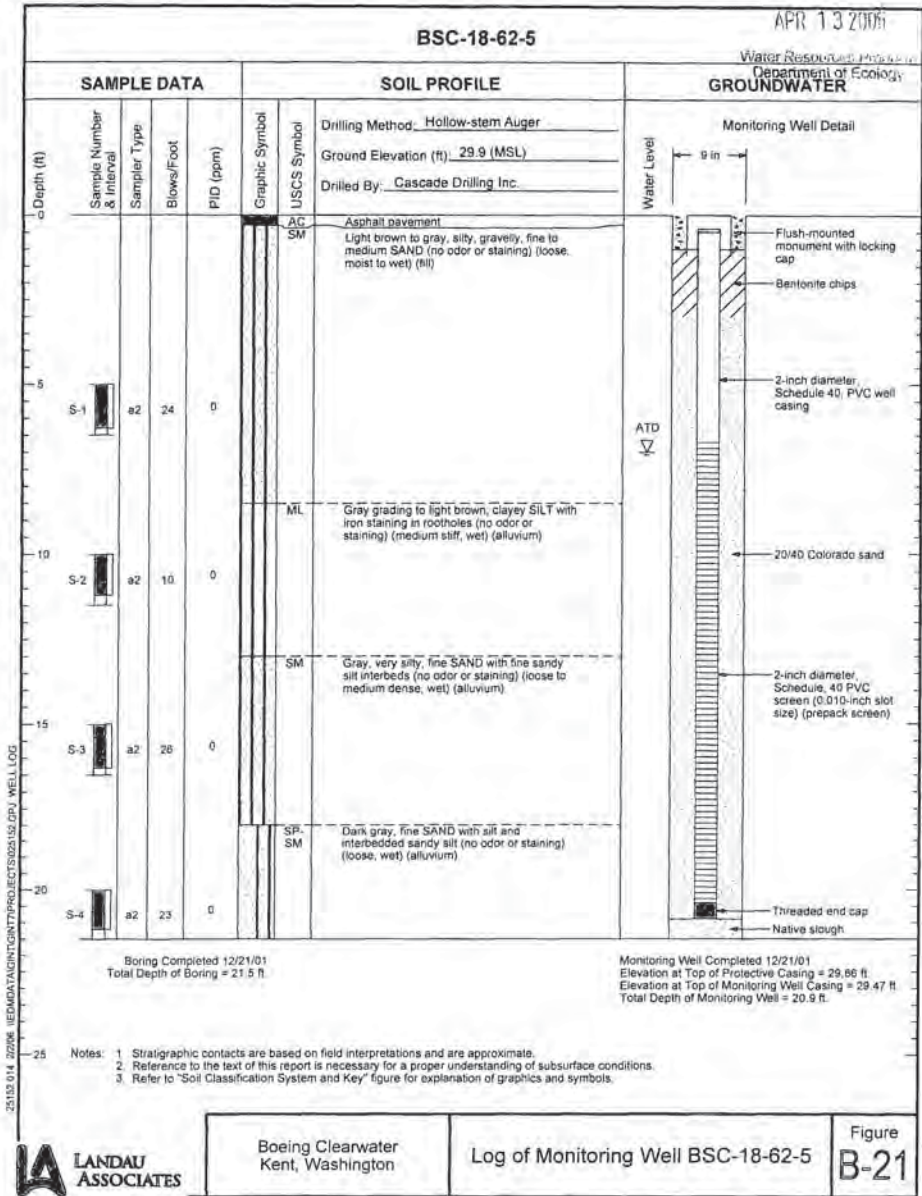


ECY 050-12 (Rev. 2/03)

SCALE: 1" = _____ Page ___ of ___

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Boeing Clearwater
Kent, Washington

Log of Monitoring Well BSC-18-62-5

Figure
B-21

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one)

Construction

Decommission ORIGINAL INSTALLATION Notice

of Intent Number NA

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. NA Boeing ID: BSC-18-22-01

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print)

Driller/Engineer/Trainee Signature Christ Jacob

Driller or Trainee License No. PE 32340

If trainee, licensed driller's
Signature and License No.

CURRENT Notice of Intent No. AEO1669

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Type of Well (select one)

Resource Protection

Geotech Soil Boring

APR 13 2006

Property Owner Boeing Company

Site Address 20403 68th Avenue South

City Kent County King

Location NE 1/4-1/4 NW 1/4 Sec 11 Twn 22 R 4E

Lat/Long (S, T, R)

Lat Deg

Lat Min/Sec

still REQUIRED)

Long Deg

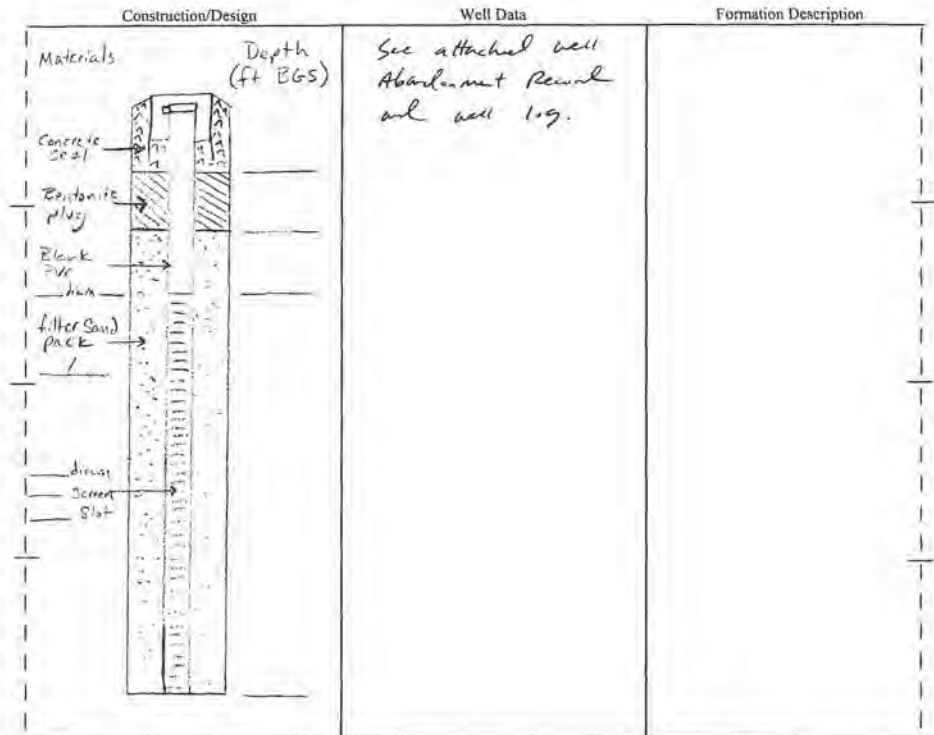
Long Min/Sec

Tax Parcel No.

Cased or Uncased Diameter _____ Static Level 6.99

Work/Decommission Start Date 3/28/06

Work/Decommission Completed Date 3/29/06

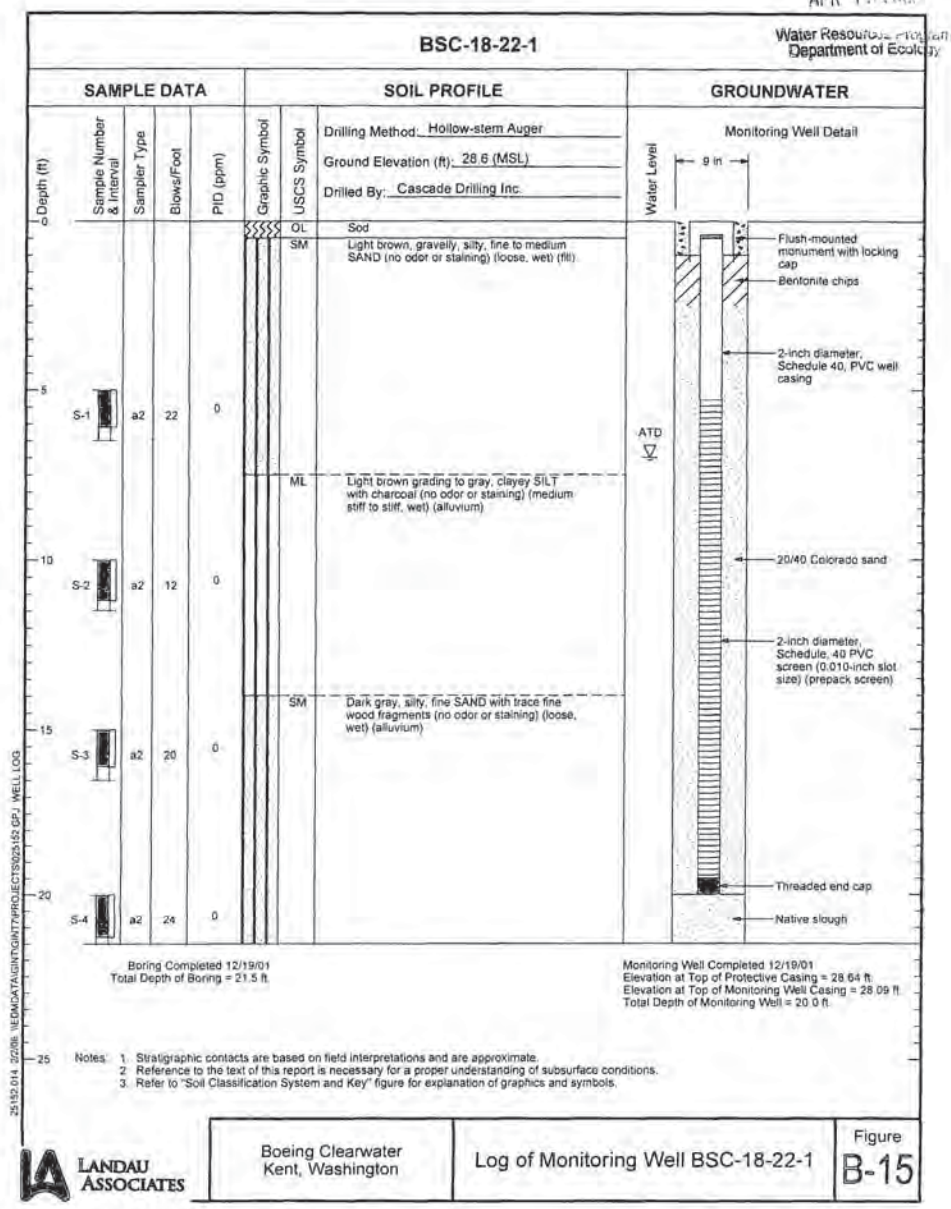


ECY 050-12 (Rev. 2/03)

SCALE: 1" = _____ Page _____ of _____

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The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT CURRENT Notice of Intent No. AE01669
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED) **RECEIVED**

Construction/Decommission (select one) 194755
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

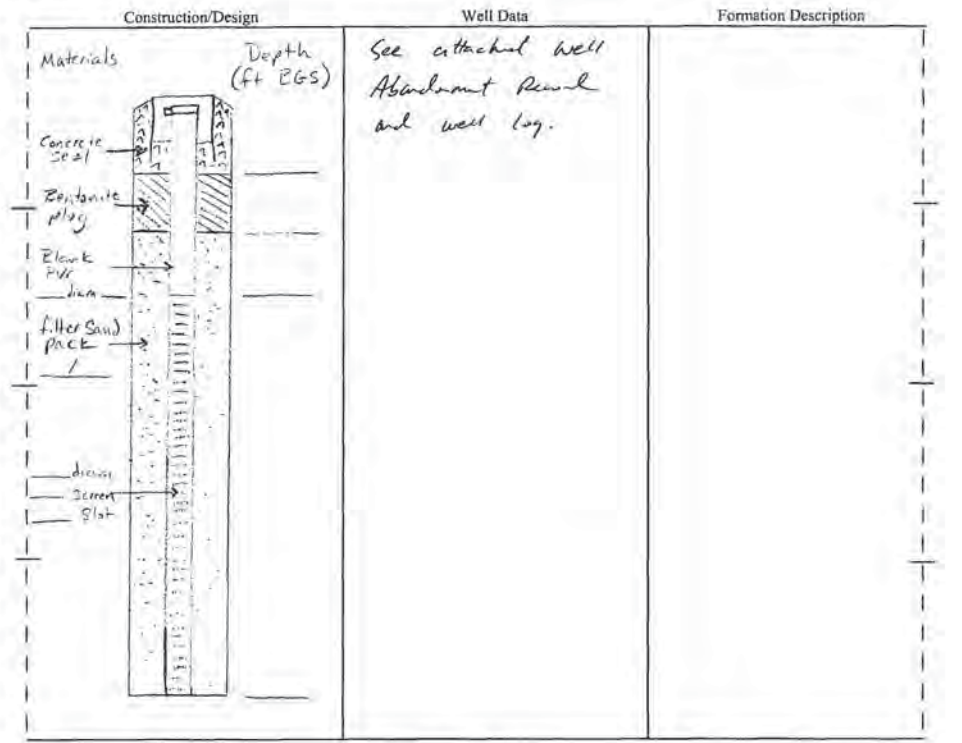
Type of Well (select one)
 Resource Protection
 Geotech Soil Boring APR 13 2006

Consulting Firm Landau Associates Water Resources Program
Department of Ecology
 Unique Ecology Well ID _____
 Tag No. NA Boeing ED: BSC-18-22-02
 Property Owner Boeing Company
 Site Address 20403 68th Avenue South
 City Kent County King
 Location NE 1/4-1/4 NW/4 Sec 11 Twn 22 R4E Select One EWM WWM
 Lat/Long (s, t, r) _____ Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____
 Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level 6.46'
 Work/Decommission Start Date 3/28/06
 Work/Decommission Completed Date 3/29/06

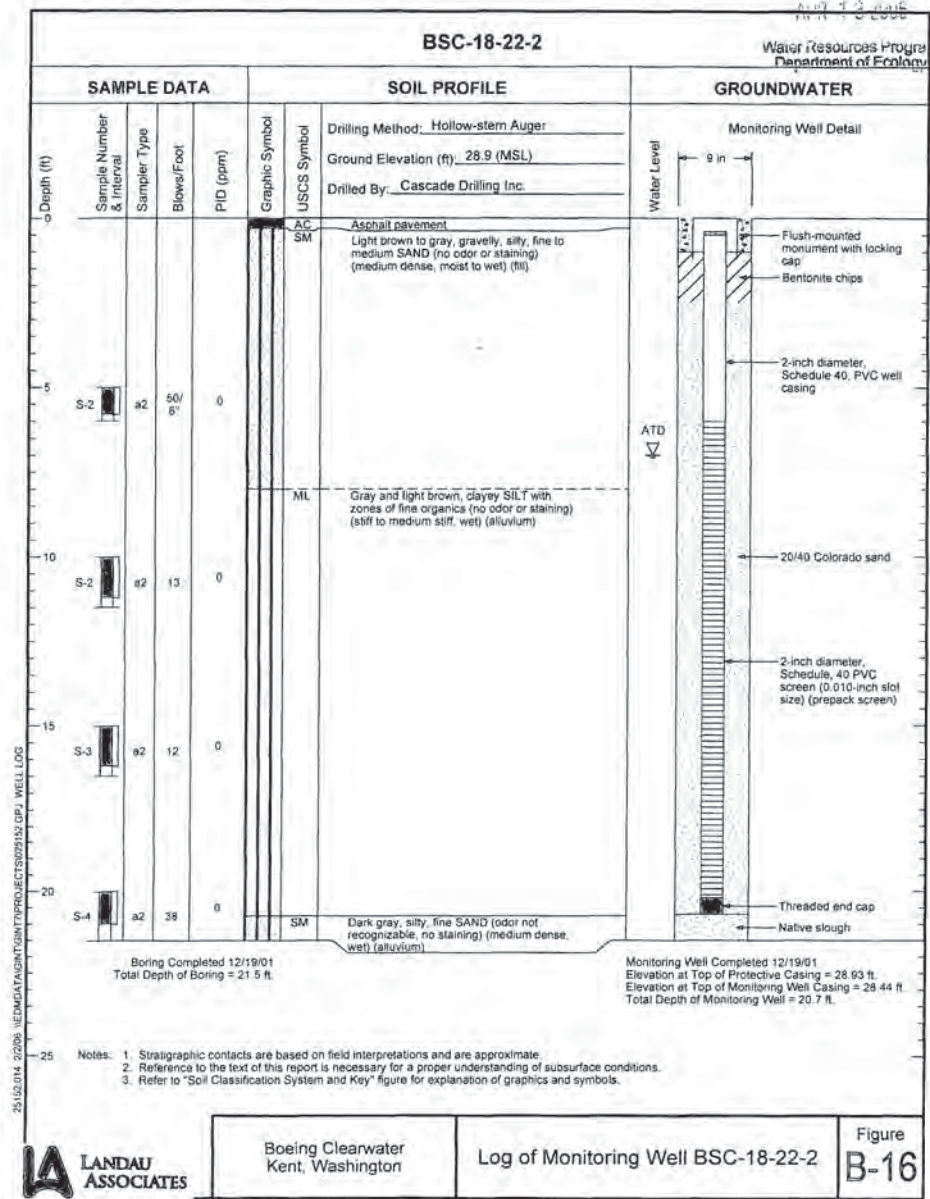
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Chris Jacob
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. PE 32340

If trainee, licensed driller's Signature and License No. _____



The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.



Boeing Clearwater
Kent, Washington

Log of Monitoring Well BSC-18-22-2

Figure
B-16

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one)
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Unique Ecology Well ID 194756
 Tag No. NA Boeing ID: BSC-18-22-03

Consulting Firm Landau Associates

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Clint J. Clark
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. VE 38340

If trainee, licensed driller's Signature and License No. _____

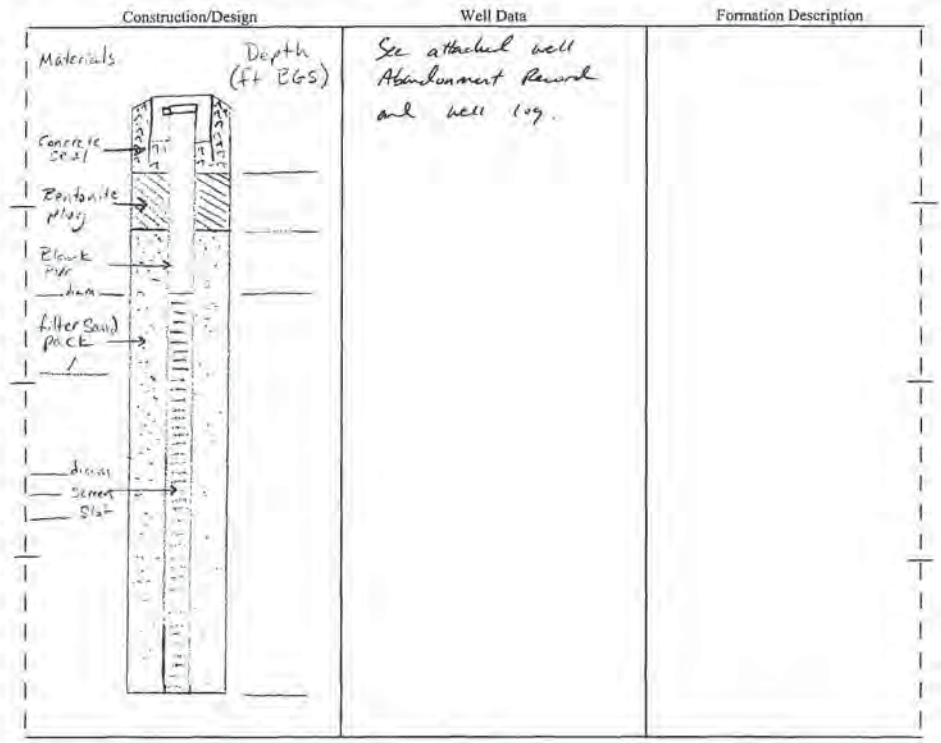
Property Owner Boeing Company
 Site Address 20403 68th Avenue South
 City Kent County King
 Location NE 1/4-1/4 NW/4 Sec 11 Twn 22 R 4E

Type of Well (select one)
 Resource Protection
 Geotech Soil Boring

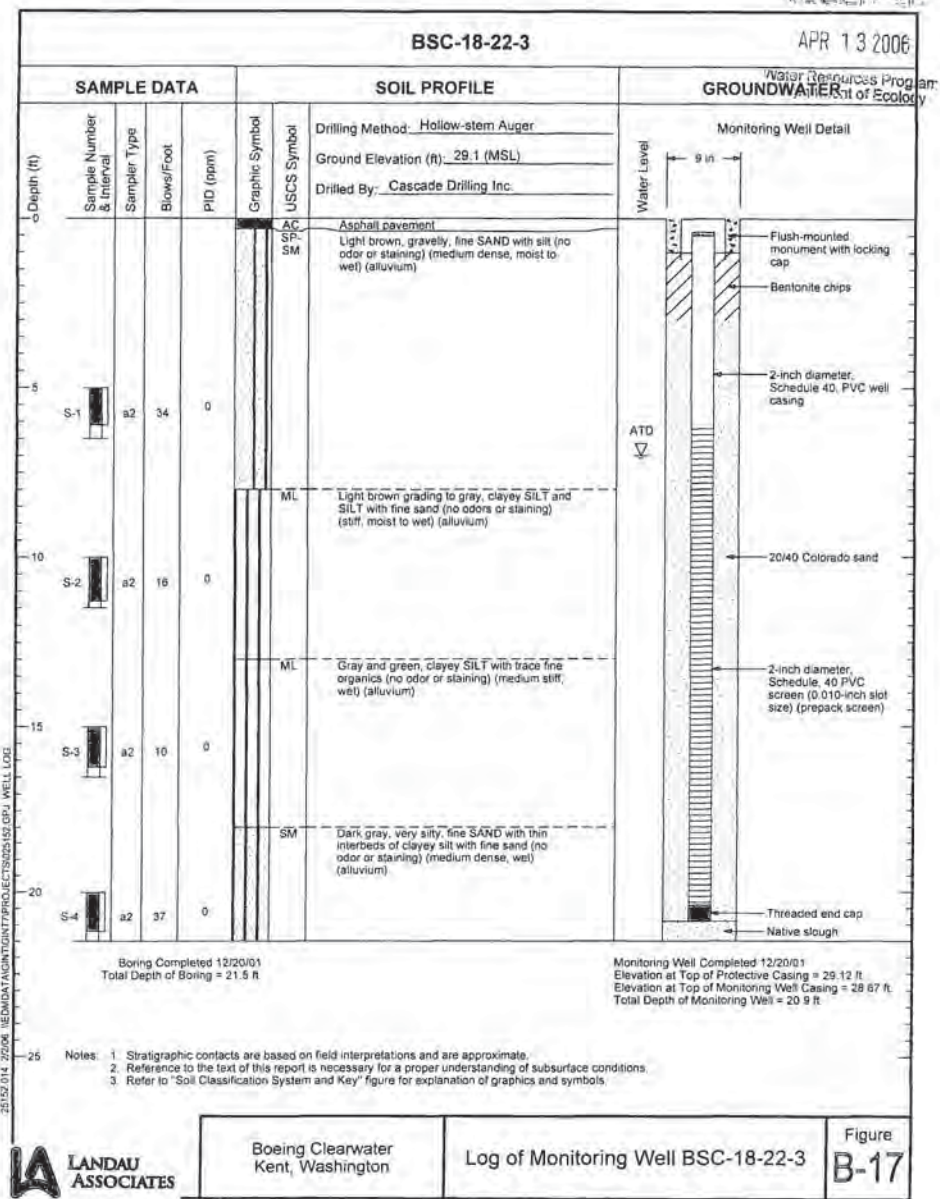
APR 13 2006
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 Water Resources Program
 Department of Ecology

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level 7.45'
 Work/Decommission Start Date 3/28/06
 Work/Decommission Completed Date 3/28/06



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Unique Ecology Well ID _____
 Tag No. NA Boeing ID: BSC-18-23-01

Consulting Firm Landau Associates
 Property Owner Boeing Company

Site Address 20403 68th Avenue South
 City Kent County King

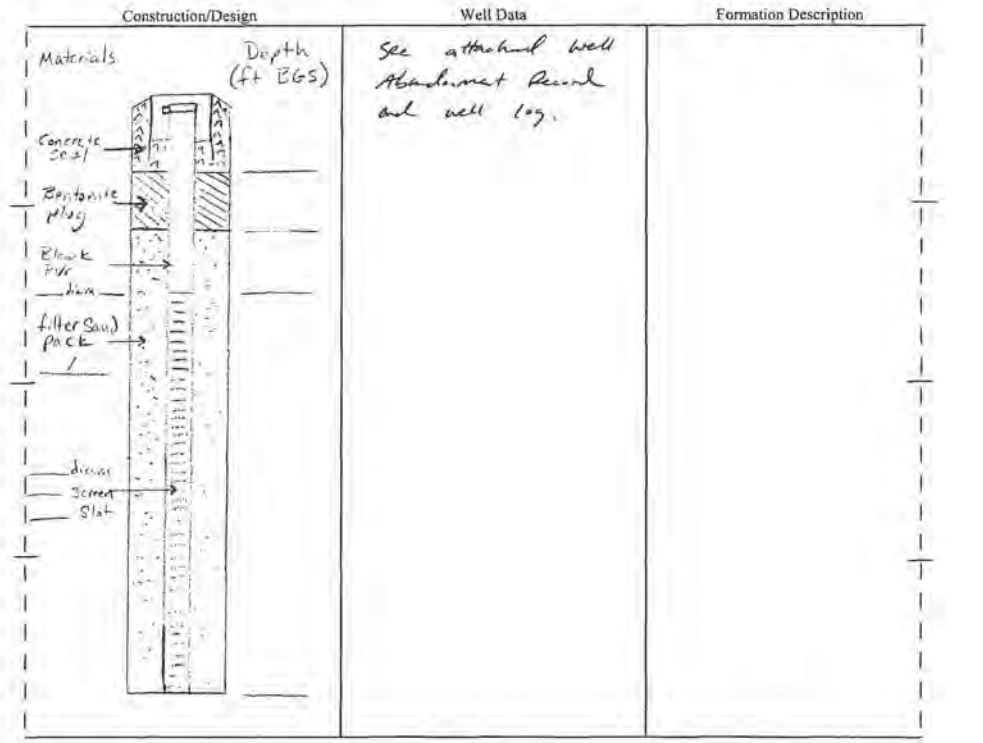
Location NE 1/4-1/4 NW 1/4 Sec 11 Twn 22 R 4E

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

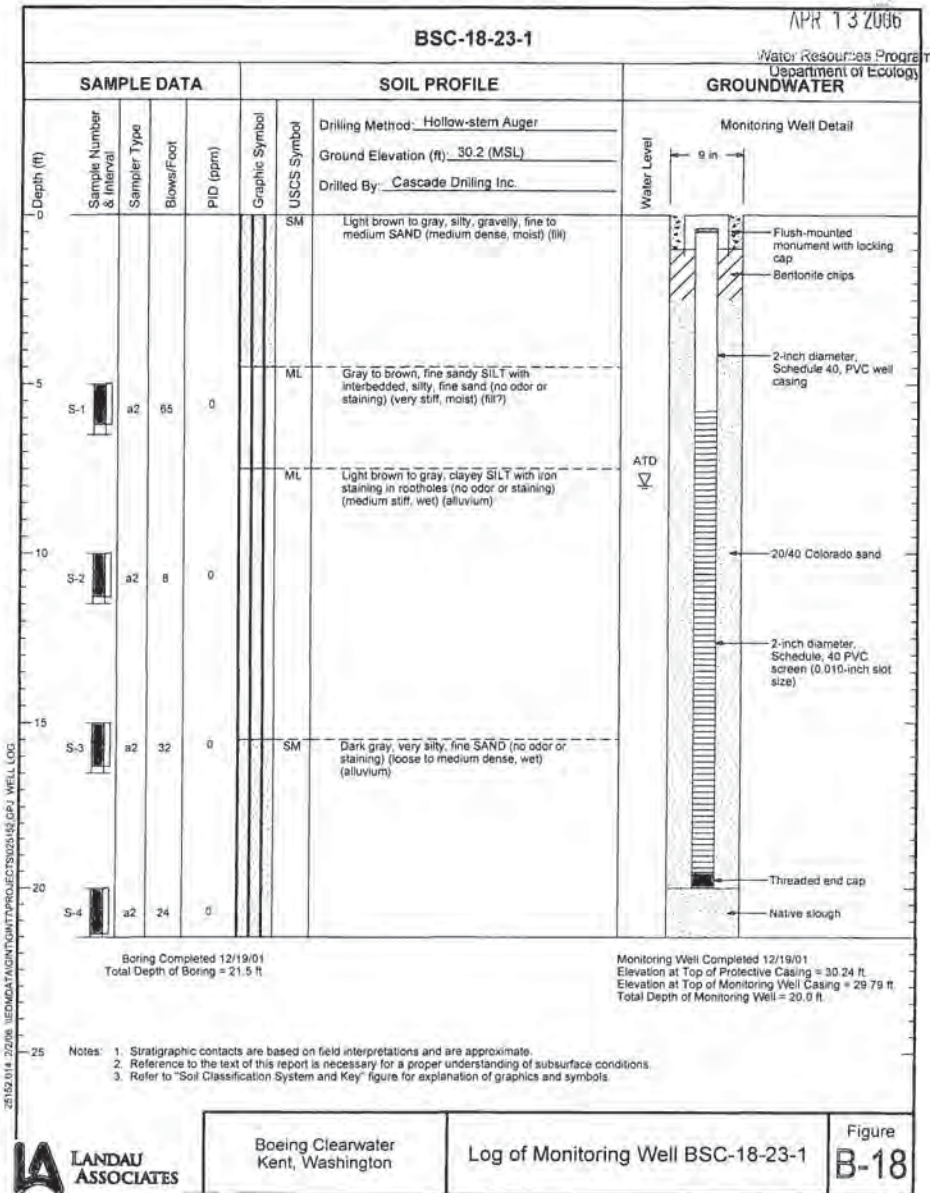
Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level 9.01
 Work/Decommission Start Date 3/28/06
 Work/Decommission Completed Date 3/28/06

Driller Engineer Trainee Name (Print) Chris Jarab
 Driller/Engineer/Trainee Signature Chris Jarab
 Driller or Trainee License No. PE 38240

If trainee, licensed driller's Signature and License No. _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.



25152.014 - 2/206 - IEDM/CATAG/NTG/MT/PROJECT/3025143.GPJ WELL LOG



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT CURRENT Notice of Intent No. AE01669

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one) 19458

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Type of Well (select one)

Resource Protection

Geotech Soil Boring

Property Owner Boeing Company

Site Address 20403 68th Avenue South

City Kent County King

Location NE1/4-1/4 NW1/4 Sec 11 Twn 22 R 4E

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. NA Boeing ID: BSC-18-23-02

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Cliff Jacob

Driller/Engineer/Trainee Signature [Signature]

Driller or Trainee License No. PE 38240

If trainee, licensed driller's Signature and License No. _____

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____

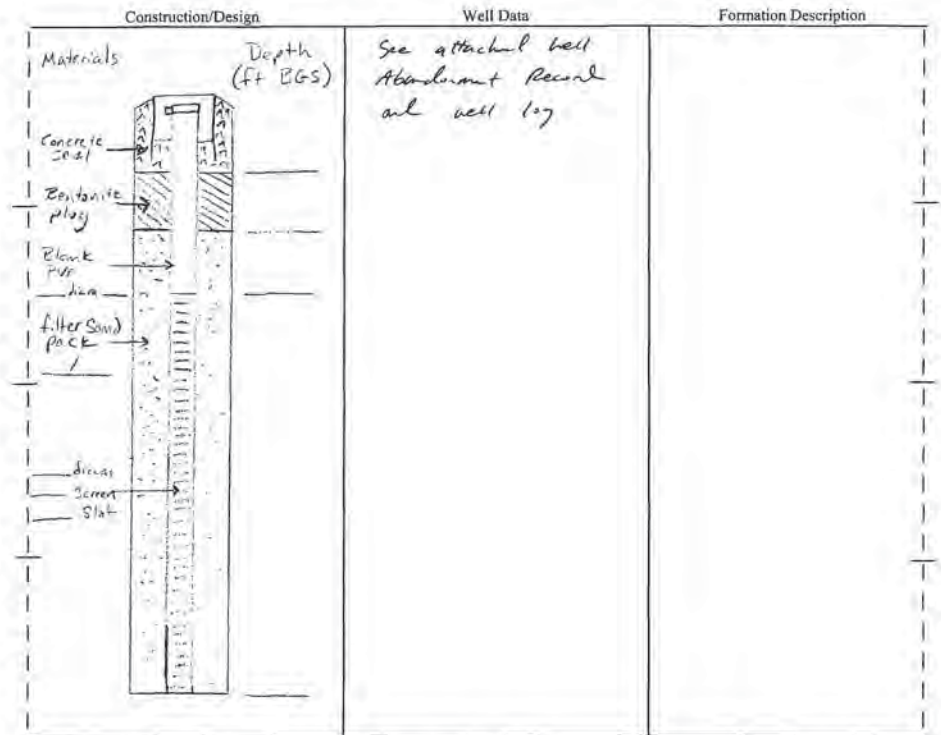
still REQUIRED Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level 8.25

Work/Decommission Start Date 3/28/06

Work/Decommission Completed Date 3/28/06



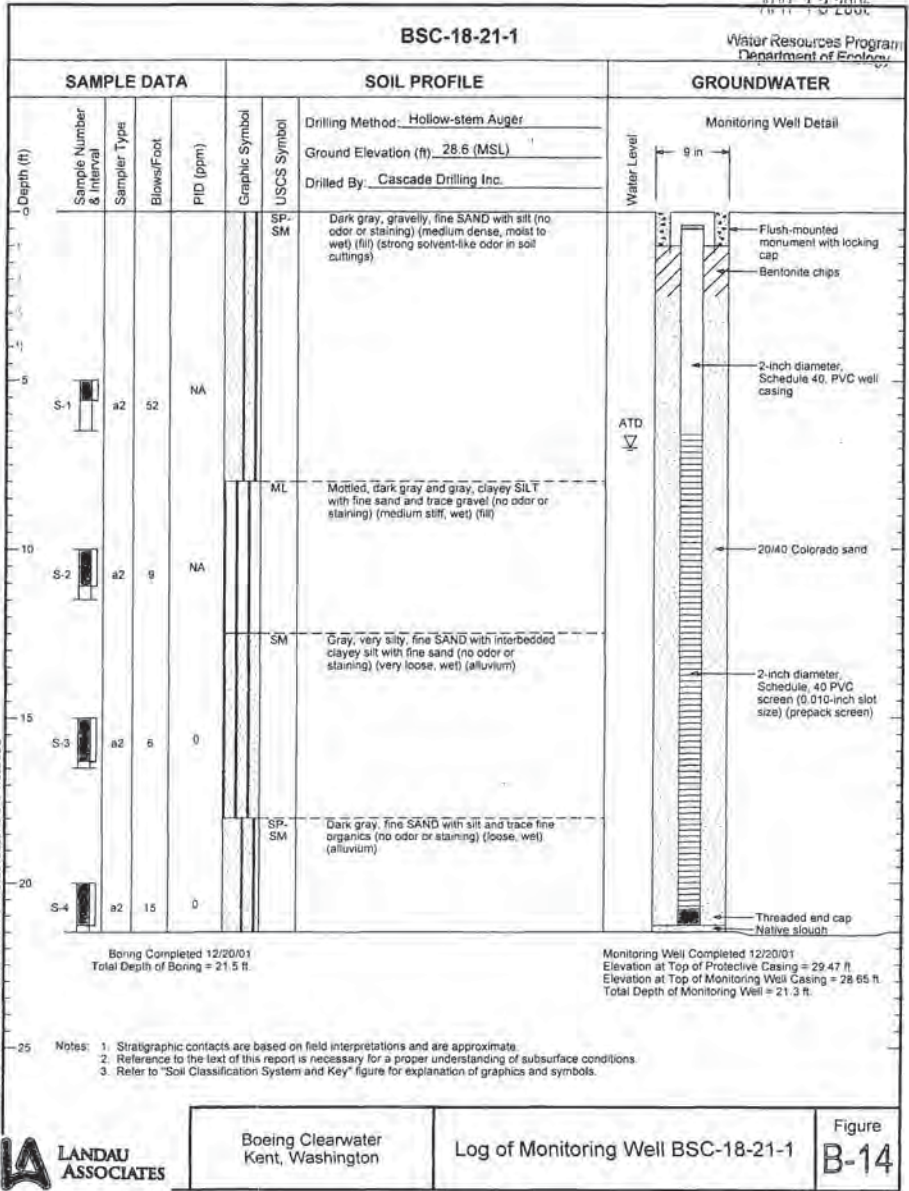
The Department of Ecology does NOT warrant the Data and/or the information on this Well Report.

RECEIVED

APR 13 2006

BSC-18-21-1

Water Resources Program
Department of Ecology



Boeing Clearwater
Kent, Washington

Log of Monitoring Well BSC-18-21-1

Figure
B-14

The Department of Ecology does NOT warrant the Data and/or the information on this Well Report.

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE 01668

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one)

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Type of Well (select one) **RECEIVED**

Resource Protection
 Geotech Soil Boring

APR 13 2006

Consulting Firm Landau Associates
 Unique Ecology Well ID
 Tag No. NA Boeing ID: BSC-18-03-01

Property Owner Boeing Company
 Site Address 20403 68th Avenue South
 City Kent County King
 Location NE 1/4-1/4 NW 1/4 Sec 11 Twn 22 R 4E

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

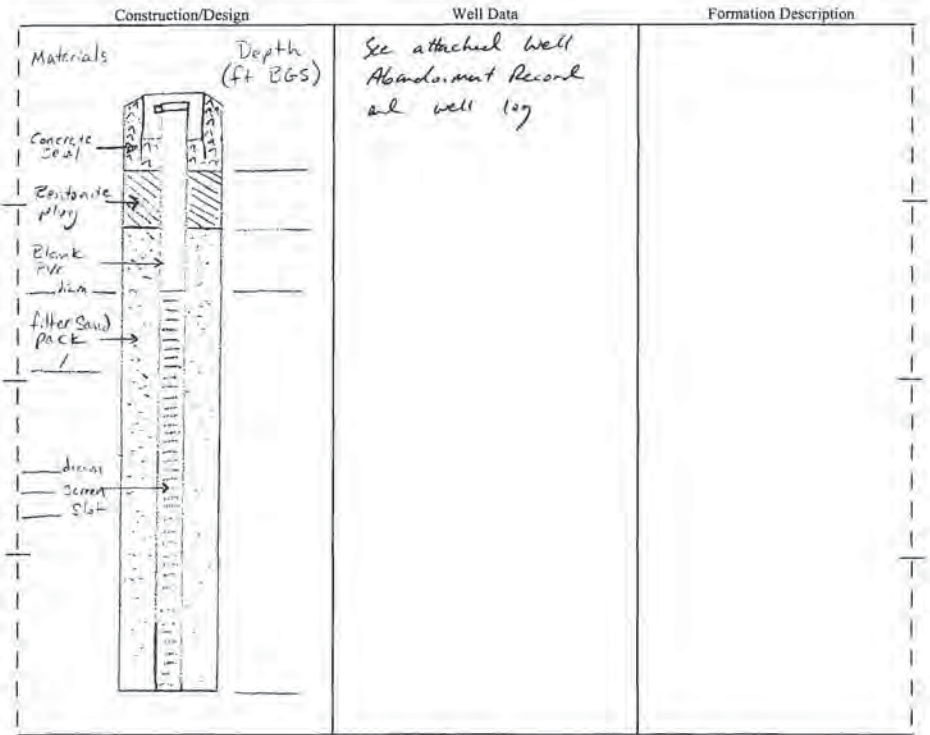
Driller Engineer Trainee Name (Print) Clint Jacob
 Driller/Engineer/Trainee Signature Clint Jacob
 Driller or Trainee License No. PE 38340

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level 2.99

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 3/28/06
 Work/Decommission Completed Date 3/29/06

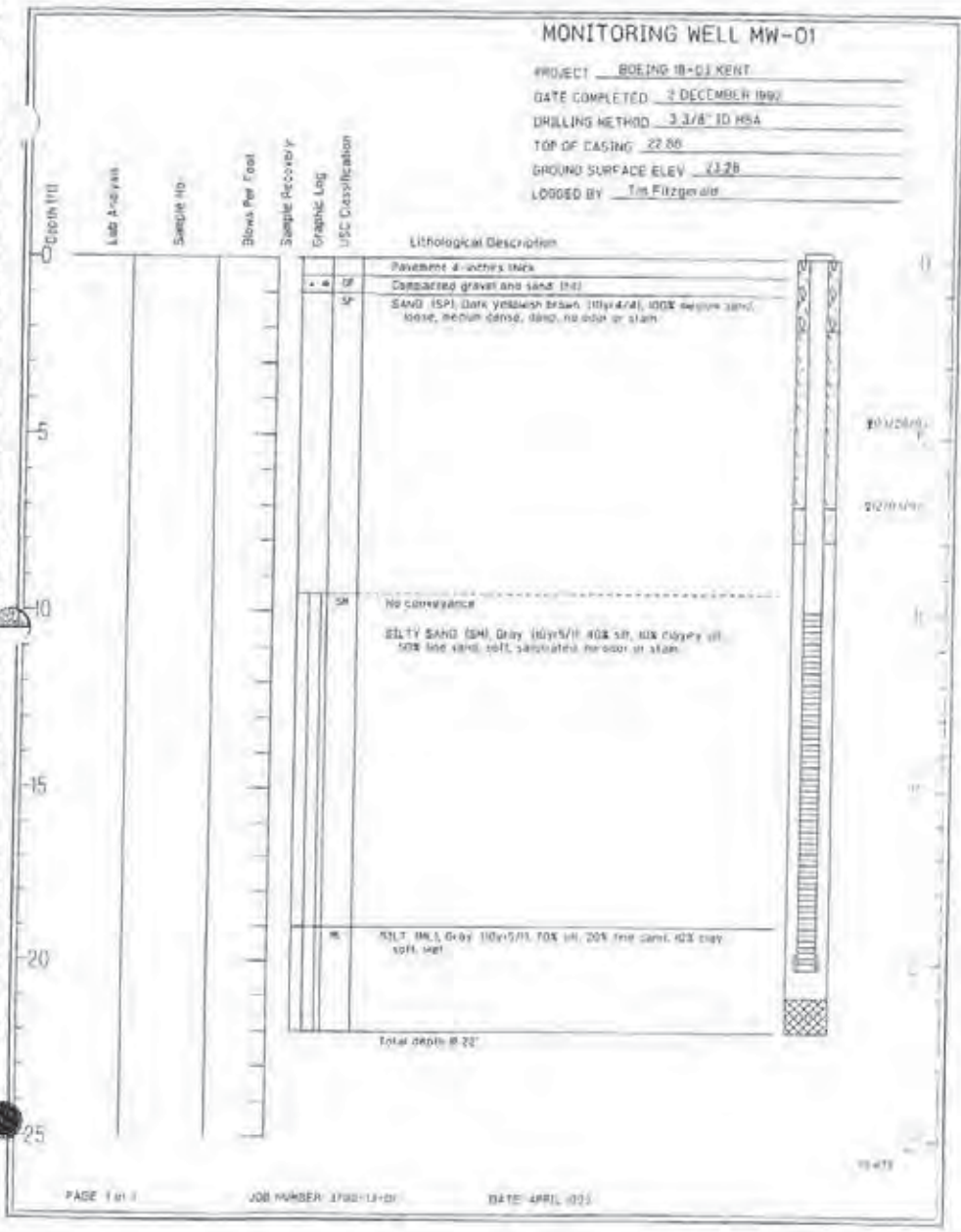


ECY 050-12 (Rev. 2/03)

SCALE: 1" = _____ Page _____ of _____

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Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE01668

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one) 194763
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Type of Well (select one)
 Resource Protection
 Geotech Soil Boring

RECEIVED
APR 13 2006

Property Owner Boeing Company Water Resources Department of Ecology
 Site Address 20403 68th Avenue South
 City King County King
 Location AE (1/4-1/4 NW) 1/4 Sec 11 Twn 22 R 4 E Collect One EWM WWM

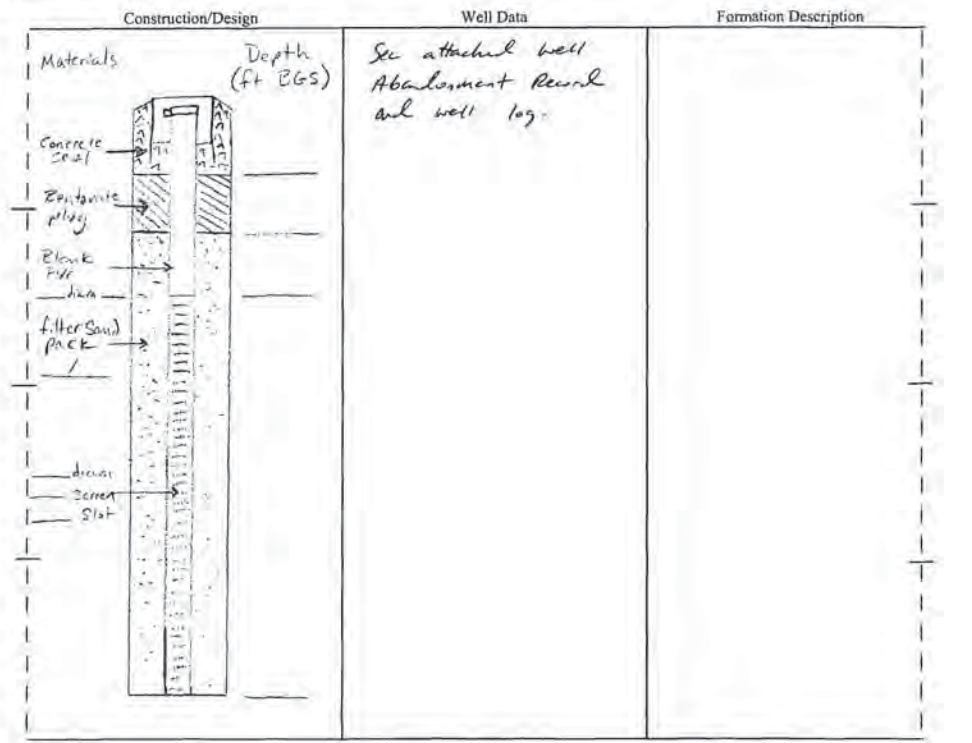
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level 7.90
 Work/Decommission Start Date 3/28/06
 Work/Decommission Completed Date 3/29/06

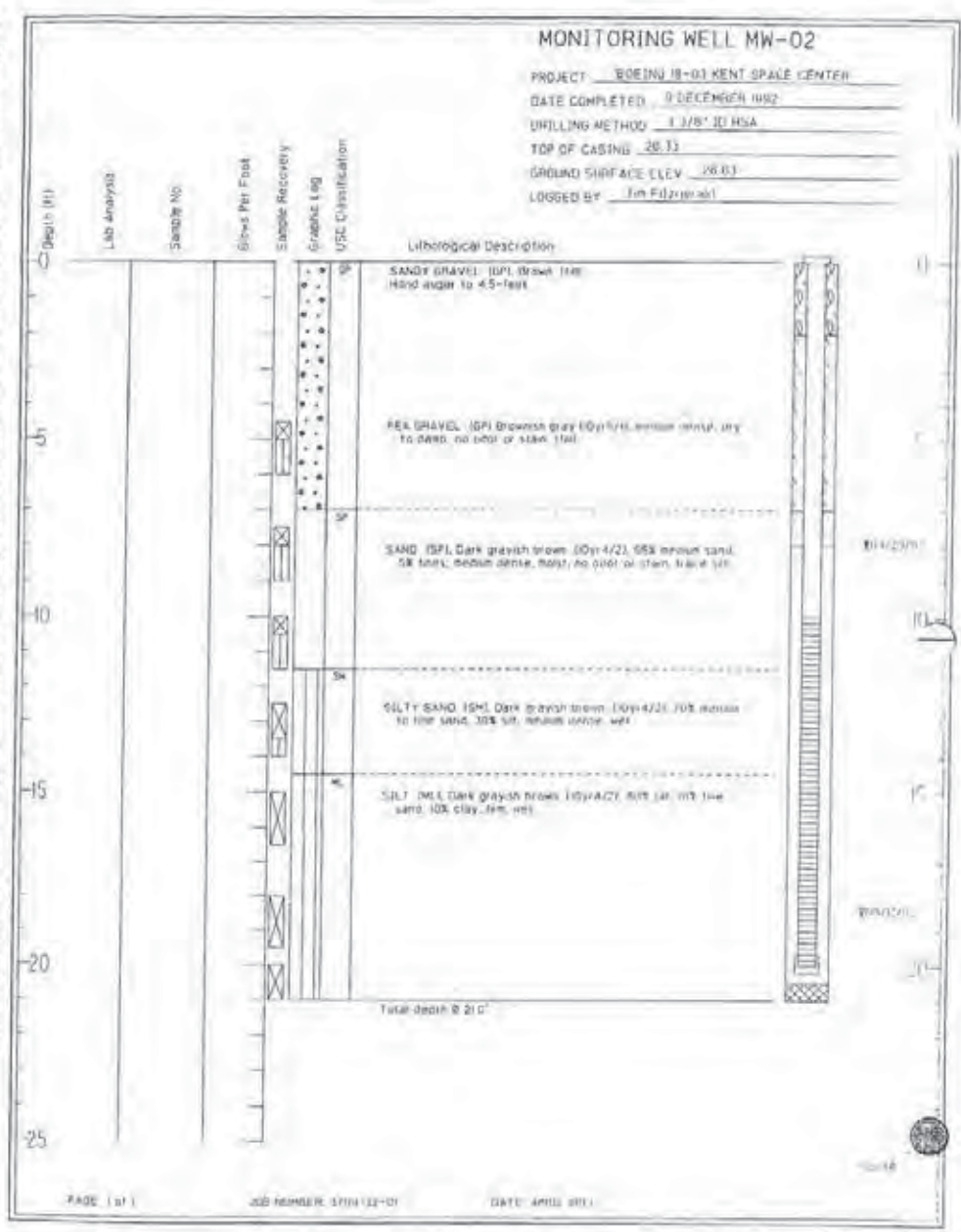
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Clint Jacob
 Driller/Engineer /Trainee Signature Clint Jacob
 Driller or Trainee License No. PE 29340

If trainee, licensed driller's Signature and License No. _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE01668

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one)
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Unique Ecology Well ID: Boeing DE BSC-18-03-03
 Tag No. NA

Consulting Firm: Landau Associates
 Unique Ecology Well ID: Boeing DE BSC-18-03-03
 Tag No. NA

Type of Well (select one)
 Resource Protection
 Geotech Soil Boring

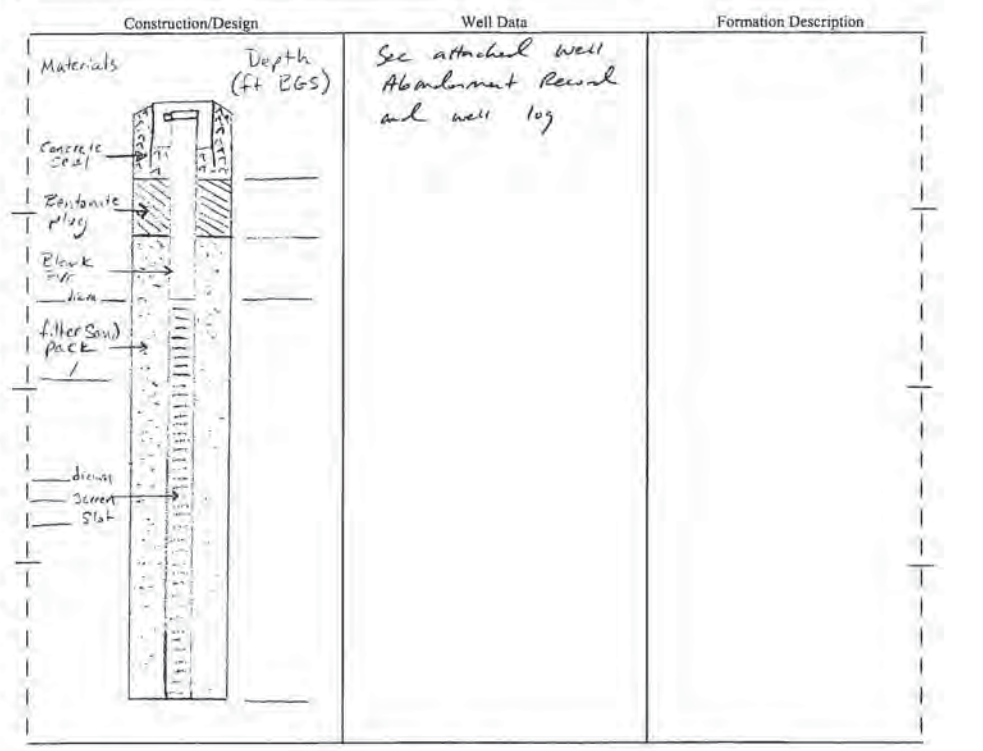
Property Owner: Boeing Company
 Site Address: 20403 68th Avenue South
 City: King County: King
 Location: NE 1/4-1/4 NW 1/4 Sec 11 Twn 22 R 4E

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

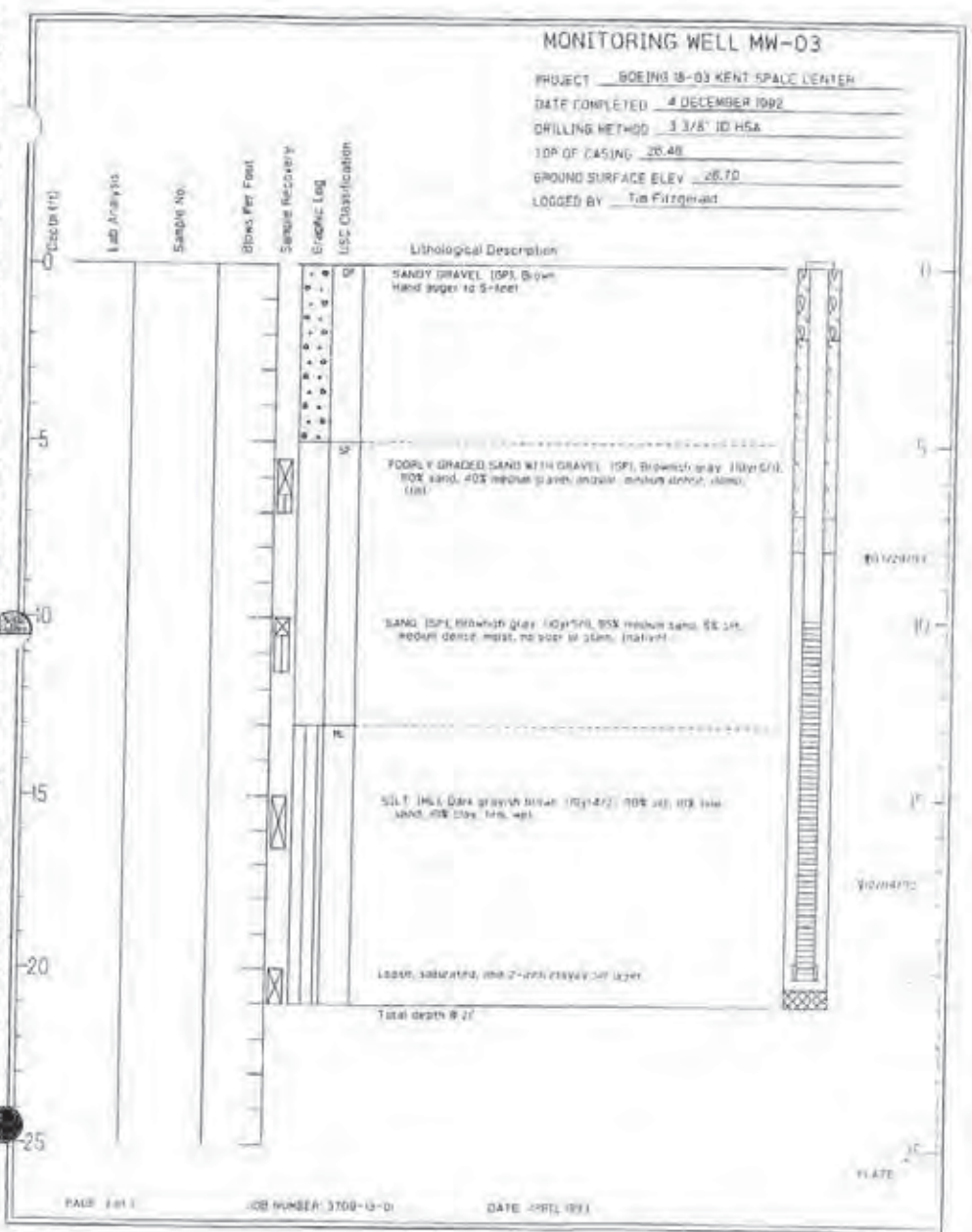
Driller Engineer Trainee Name (Print): Clat Jacob
 Driller/Engineer/Trainee Signature: [Signature]
 Driller or Trainee License No.: PE 28340

If trainee, licensed driller's Signature and License No.: _____

Tax Parcel No.: _____
 Cased or Uncased Diameter: _____ Static Level: 7.68
 Work/Decommission Start Date: 3/28/06
 Work/Decommission Completed Date: 3/29/06



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one) 1947664
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Type of Well (select one)
 Resource Protection
 Geotech Soil Boring

RECEIVED
APR 13 2006

Property Owner Boeing Company
 Site Address 20403 68th Avenue South
 City Kent County King
 Location NE 1/4-1/4 M1/4 Sec 11 Twn 22 R 4E

Unique Ecology Well ID
 Tag No. NA Boeing ID: BSC-18-03-04

Consulting Firm Landau Associates

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Chris Jacobs
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. PE 38340

If trainee, licensed driller's Signature and License No. _____

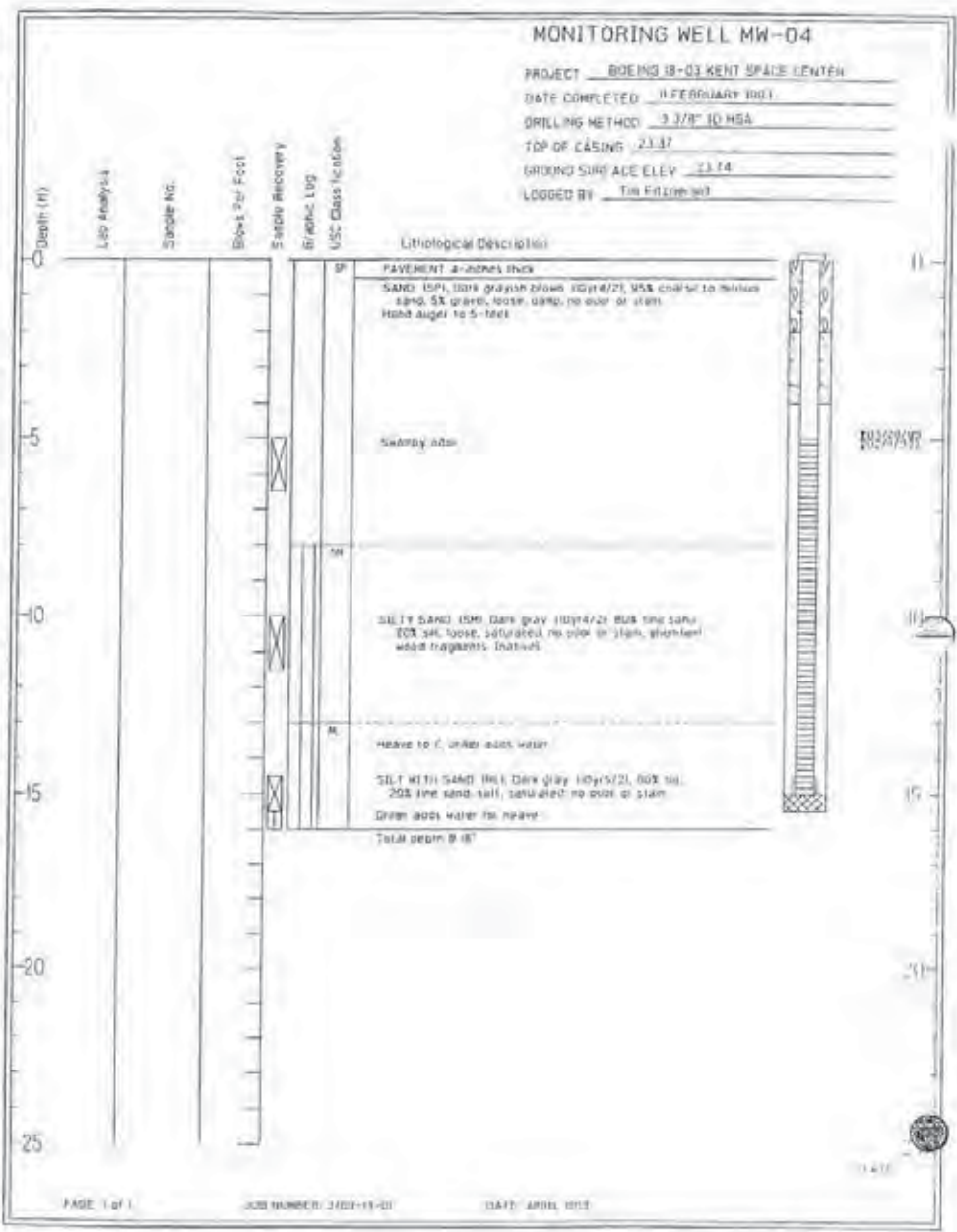
Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level 4.98
 Work/Decommission Start Date 3/28/66
 Work/Decommission Completed Date 3/23/66

Construction/Design	Well Data	Formation Description
Materials Concrete seal Bentonite plug Black PVC filter sand pack screen screen slot	Depth (ft BGS) See attached well Abandonment Record & well log -	

ECY 050-12 (Rev. 2/03) SCALE: 1" = _____ Page _____ of _____ Ecology is an Equal Opportunity Employer.

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Please print, sign and return by mail to Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE 01668

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission (select one) 194768

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number NA

Type of Well (select one)

Resource Protection

Geotech Soil Boring

RECEIVED
APR 13 2006

Property Owner Boeing Company

Site Address 20403 68th Avenue South Water Resources Program Department of Ecology

City King County King

Location NE 1/4-1/4 NW 1/4 Sec 11 Twn 22 R 4E Select One EWM WWM

Lat/Long (S, L, R) Lat Deg _____ Lat Min/Sec _____
still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level 7.01

Work/Decommission Start Date 3/28/06

Work/Decommission Completed Date 3/29/06

Consulting Firm Landau Associates

Unique Ecology Well ID _____

Tag No. NA Boeing ID: BX-18-03-05

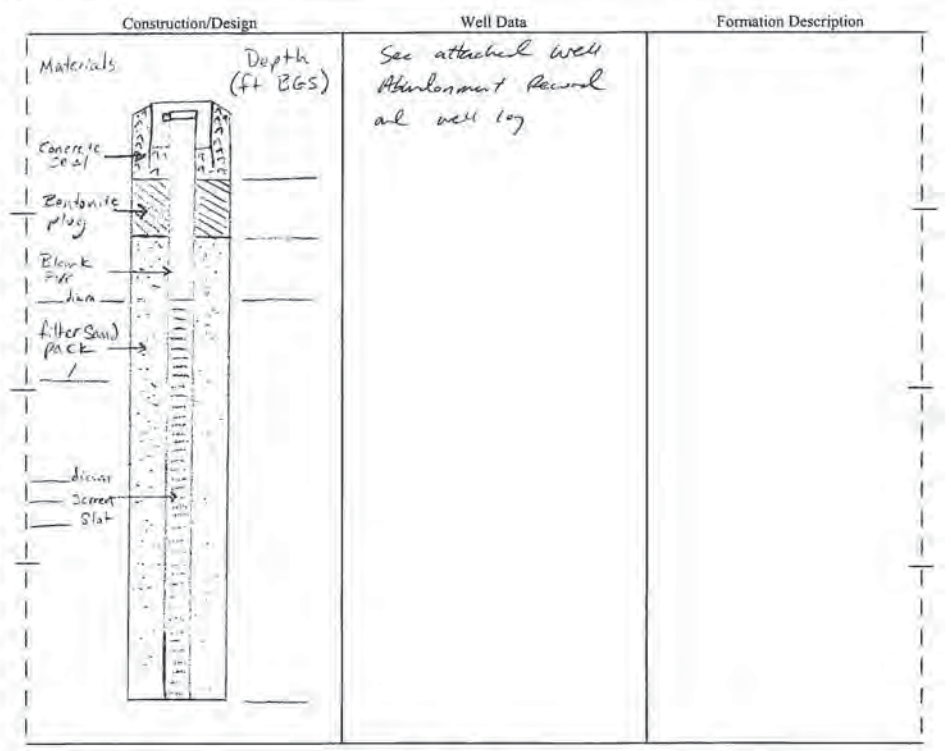
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Christ Jacob

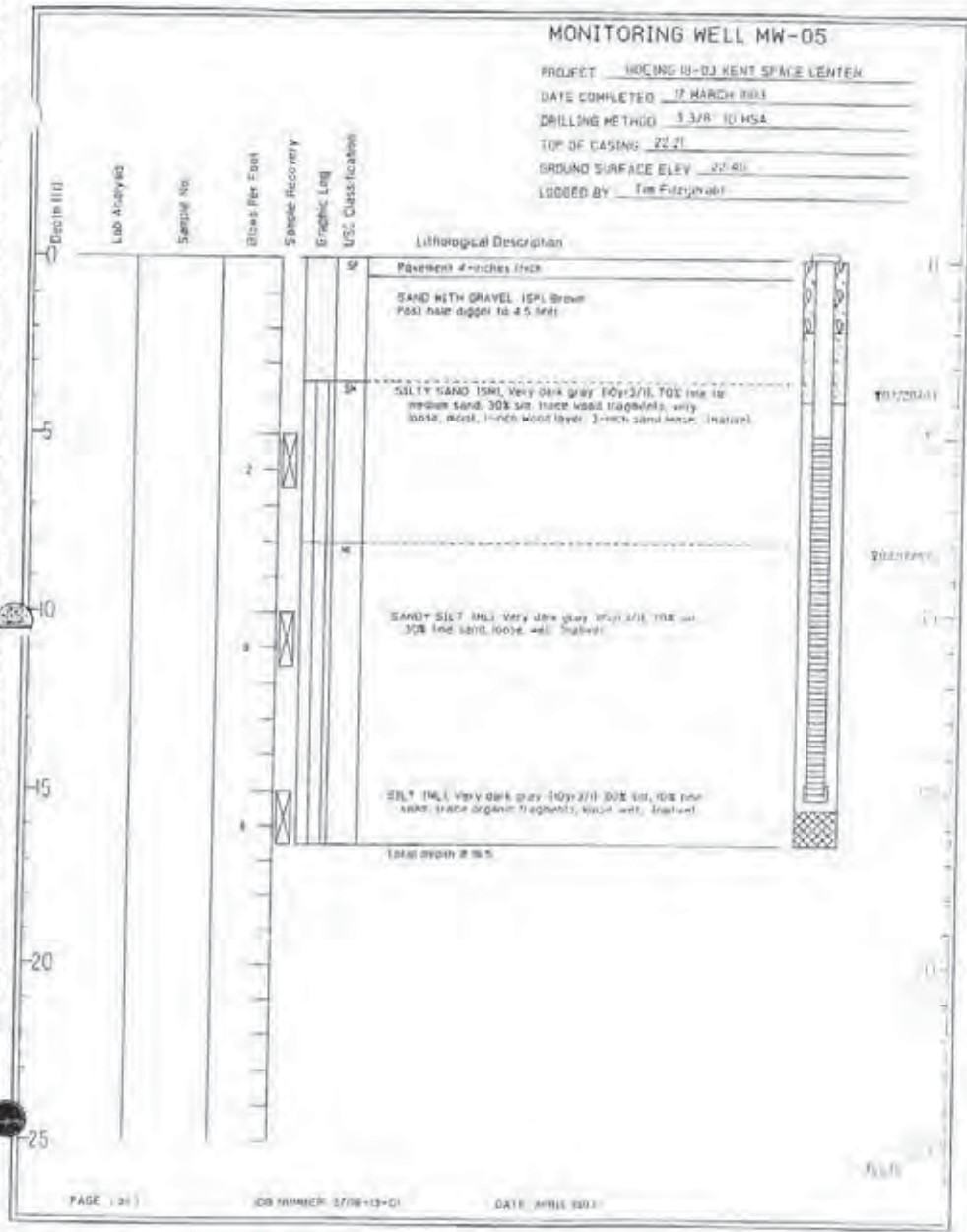
Driller/Engineer/Trainee Signature Christ Jacob

Driller or Trainee License No. PE 38340

If trainee, licensed driller's Signature and License No. _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



114851

RESOURCE PROTECTION WELL REPORT

START CARD NO 503718

PROJECT NAME Pacific Gateway Bus Park COUNTY KING

WELL IDENTIFICATION NO 1-5 LOCATION S^W4 NE¹4 Sec 2 1st 2nd R 4E

DRILLING METHOD CPT STREET ADDRESS OF WELL S. 200th St. & 62nd Ave. So.

DRILLER Keith Brown WATER LEVEL ELEVATION 13' BGS

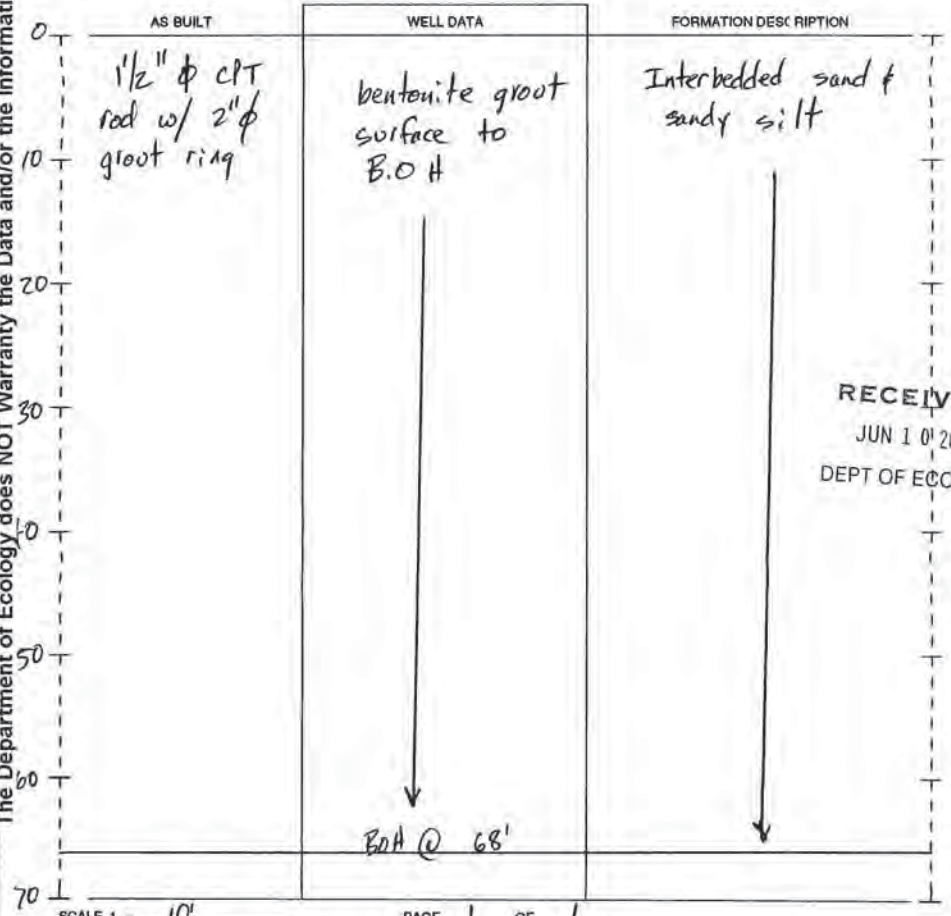
FIRM NW Cong Exploration GROUND SURFACE ELEVATION UNKNOWN

SIGNATURE K. Brown INSTALLED 5/13/02

CONSULTING FIRM Terra Assoc. DEVELOPED N/A

REPRESENTATIVE J. Sadler

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



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JUN 10 2002
DEPT OF ECOLOGY

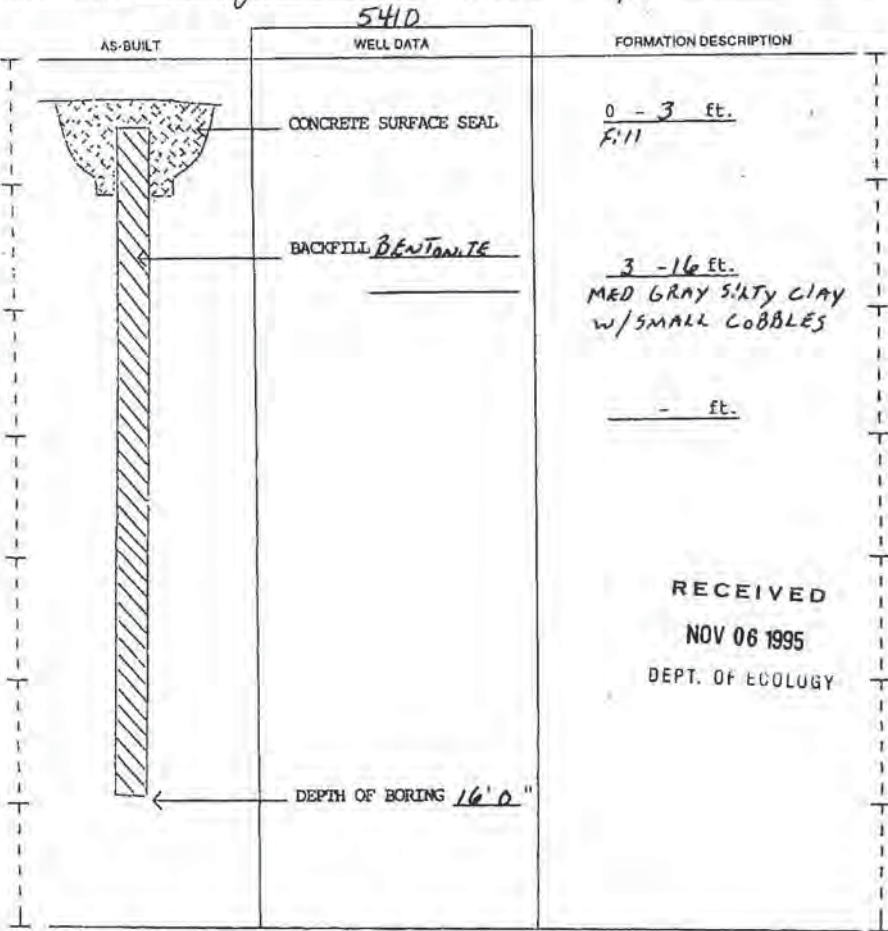
Job #5410

Geoprobe with water sample RESOURCE PROTECTION WELL REPORT 22/4/25

START CARD NO. R03476

PROJECT NAME: Boeing Research Ctr
 WELL IDENTIFICATION NO. 5410
 DRILLING METHOD: PROBE
 DRILLER: MICHAEL COLBERT
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM: BOEING CO.
 REPRESENTATIVE: S. Ryan

COUNTY: King
 LOCATION: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 STREET ADDRESS OF WELL: Hwy 181 & S. 204th St. Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 10-12-95
 DEVELOPED: N/A



SCALE: 1" = _____
ECY 050-12 (Rev. 11/89)

PAGE _____ OF _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

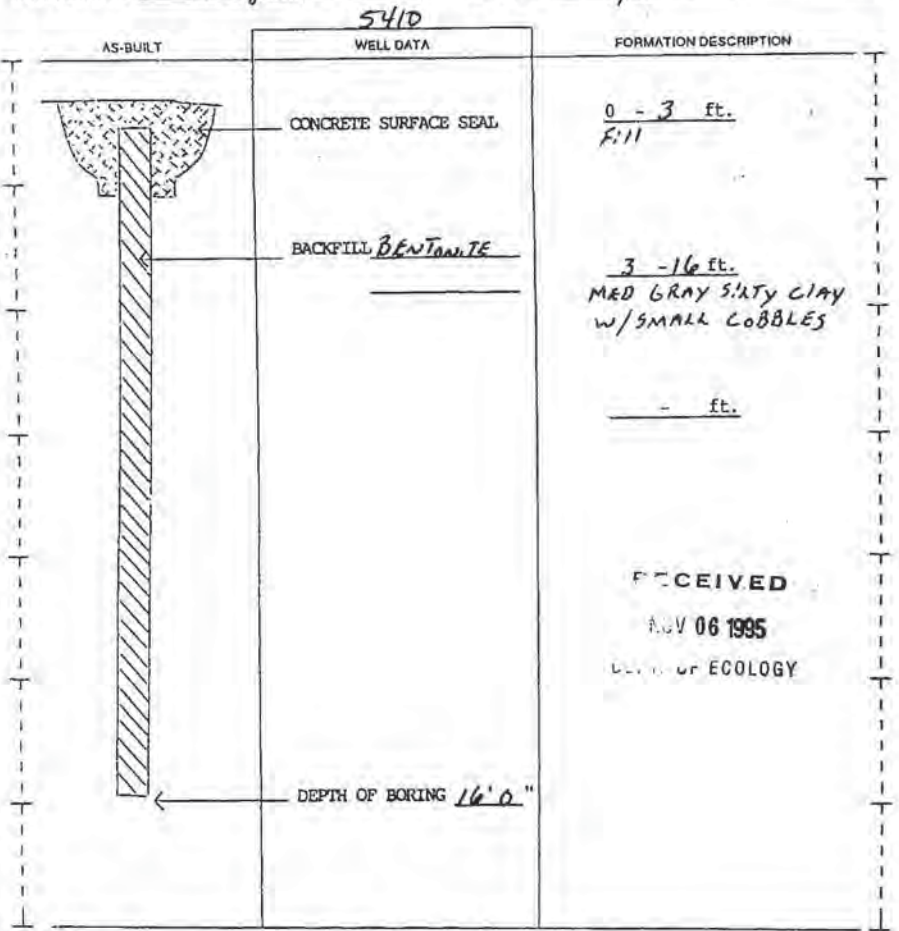
Job #5410

Geoprobe with water sample RESOURCE PROTECTION WELL REPORT 22/4/25

START CARD NO. R03476

PROJECT NAME: Boeing Research Ctr
 WELL IDENTIFICATION NO. 5410
 DRILLING METHOD: PROBE
 DRILLER: MICHAEL COLBERT
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM: BOEING CO.
 REPRESENTATIVE: S. Ryan

COUNTY: King
 LOCATION: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 STREET ADDRESS OF WELL: Hwy 181 & S. 204th St. Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 10-12-95
 DEVELOPED: N/A



SCALE: 1" = _____
ECY 050-12 (Rev. 11/89)

PAGE _____ OF _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Job #5410

Geoprobe with water sample
RESOURCE PROTECTION WELL REPORT

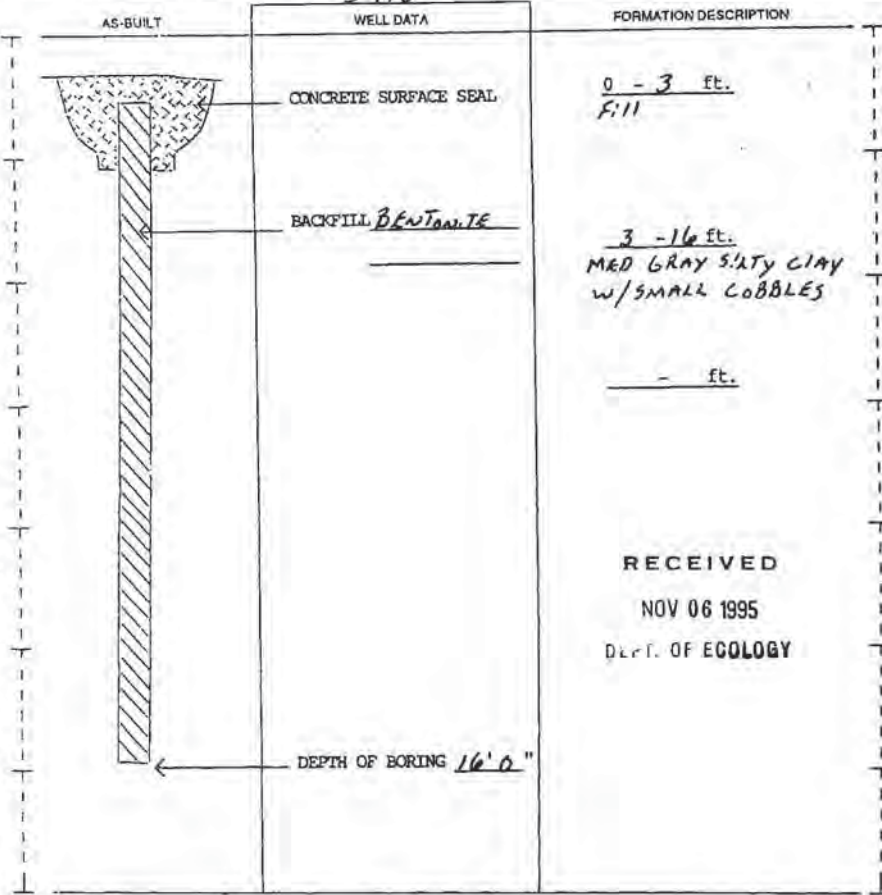
22/4/2J
START CARD NO. R03476

ENTRUSTED

PROJECT NAME: Boeing Research Ctr
WELL IDENTIFICATION NO. 5410
DRILLING METHOD: PROBE
DRILLER: MICHAEL CONBERT
FIRM: Cascade Drilling, Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: BOEING CO.
REPRESENTATIVE: S. Ryan

COUNTY: King
LOCATION: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: Hwy 181 & S. 204th St - Kent
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 10-12-95
DEVELOPED: N/A

5410



RECEIVED
NOV 06 1995
DEPT. OF ECOLOGY

SCALE: 1" = _____ PAGE _____ OF _____

Job #5410

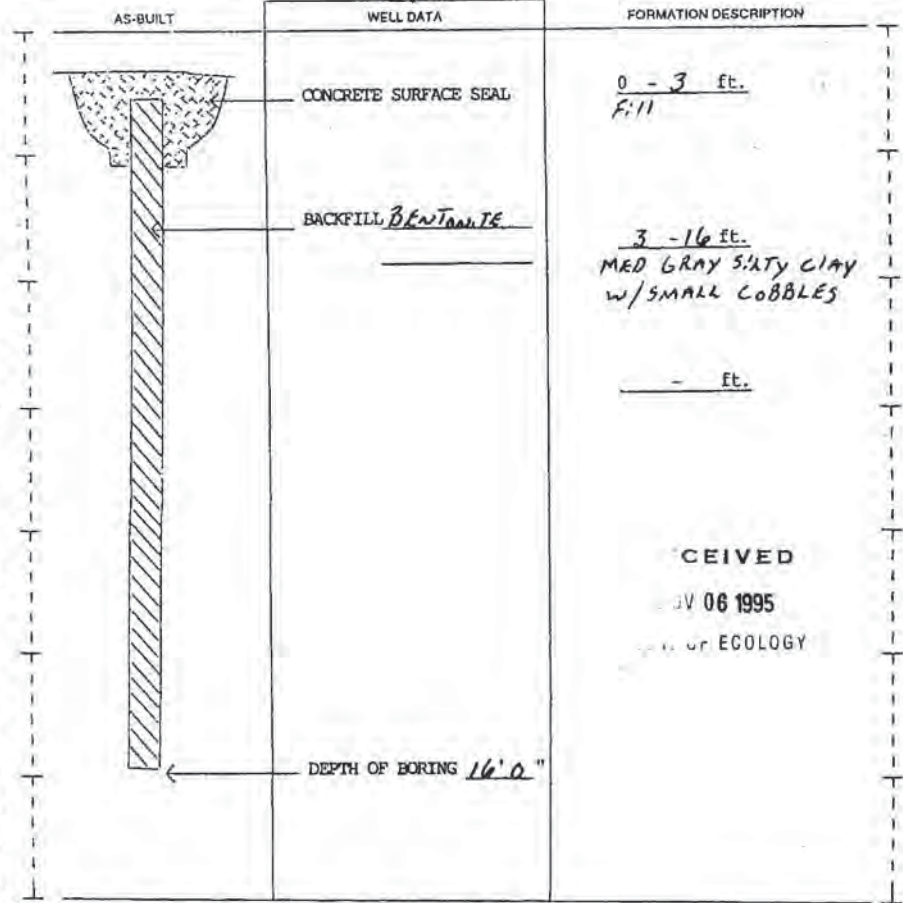
Geoprobe with water sample
RESOURCE PROTECTION WELL REPORT

22/4/2J
START CARD NO. R03476

PROJECT NAME: Boeing Research Ctr
WELL IDENTIFICATION NO. 5410
DRILLING METHOD: PROBE
DRILLER: MICHAEL CONBERT
FIRM: Cascade Drilling, Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: BOEING CO.
REPRESENTATIVE: S. Ryan

COUNTY: King
LOCATION: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: Hwy 181 & S. 204th St. Kent
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 10-12-95
DEVELOPED: N/A

5410



RECEIVED
NOV 06 1995
DEPT. OF ECOLOGY

SCALE: 1" = _____ PAGE _____ OF _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

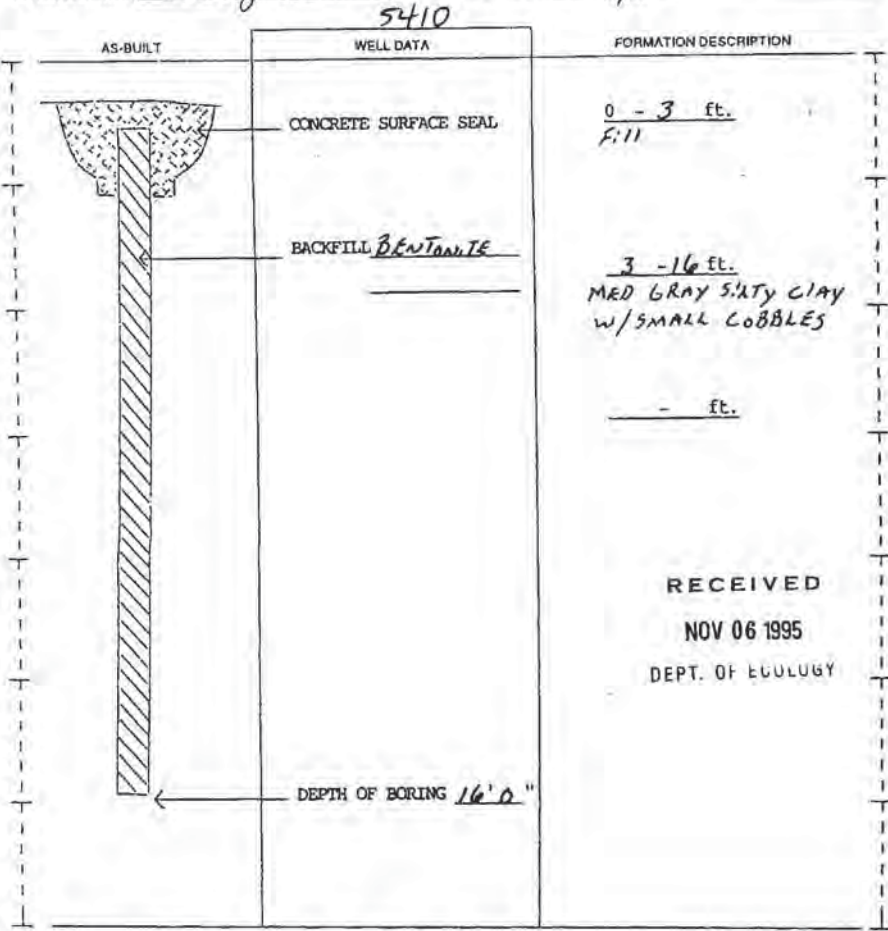
The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

Job # 7410

Geoprobe with water sample RESOURCE PROTECTION WELL REPORT 22/4/95

START CARD NO. R03476

PROJECT NAME: Boeing Research Ctr COUNTY: King
 WELL IDENTIFICATION NO. 5410 LOCATION: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 DRILLING METHOD: PROBE STREET ADDRESS OF WELL: Hwy 181 & S. 204th St. - Kent
 DRILLER: MICHAEL COLBERT WATER LEVEL ELEVATION: N/A
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: [Signature] INSTALLED: 10-12-95
 CONSULTING FIRM: BOEING CO. DEVELOPED: N/A
 REPRESENTATIVE: S. Ryan



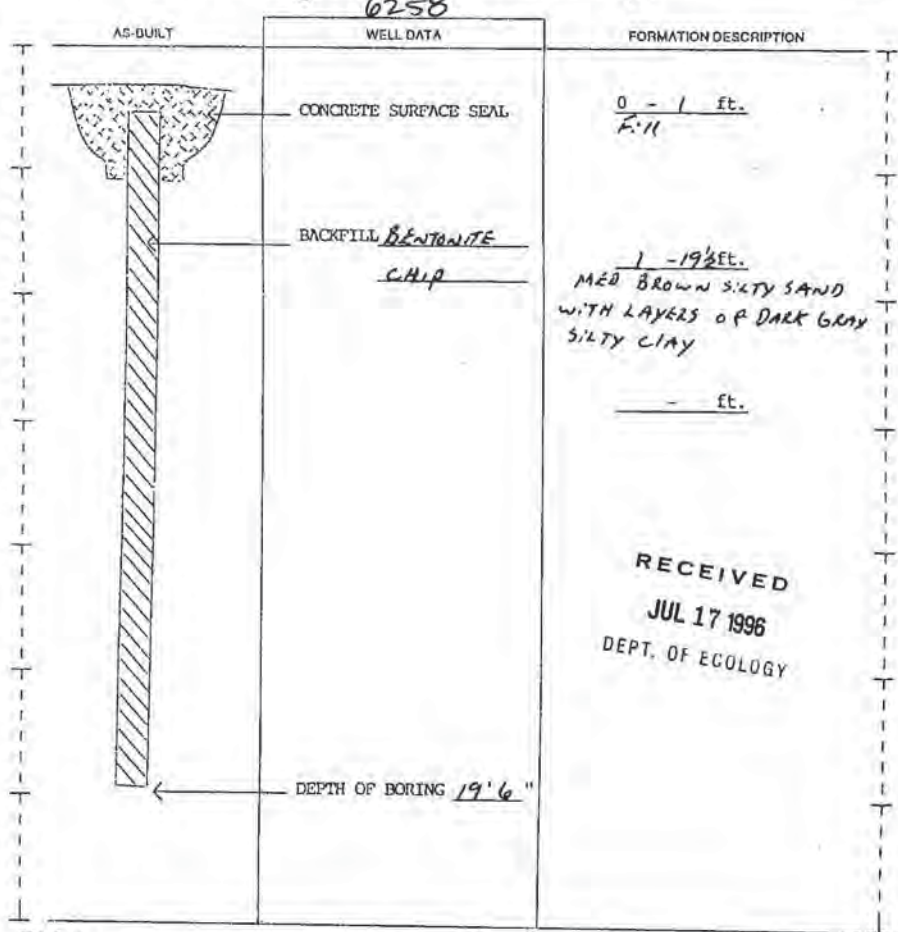
SCALE: 1" = _____ PAGE _____ OF _____
ECY 050-12 (Rev. 11/09)

ENTERED

RESOURCE PROTECTION WELL REPORT 22/4/2 R

START CARD NO. R27210

PROJECT NAME: Boeing Space Center COUNTY: King
 WELL IDENTIFICATION NO. 6258 LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 DRILLING METHOD: PROBE/WATER Sample STREET ADDRESS OF WELL: W. Valley Hwy & S. 204th - Kent
 DRILLER: F. Lynn Goble WATER LEVEL ELEVATION: N/A
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: [Signature] INSTALLED: 6-7-96
 CONSULTING FIRM: Tetra Tech DEVELOPED: N/A
 REPRESENTATIVE: Rick Osgood



SCALE: 1" = _____ PAGE _____ OF _____
ECY 050-12 (Rev. 11/09)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

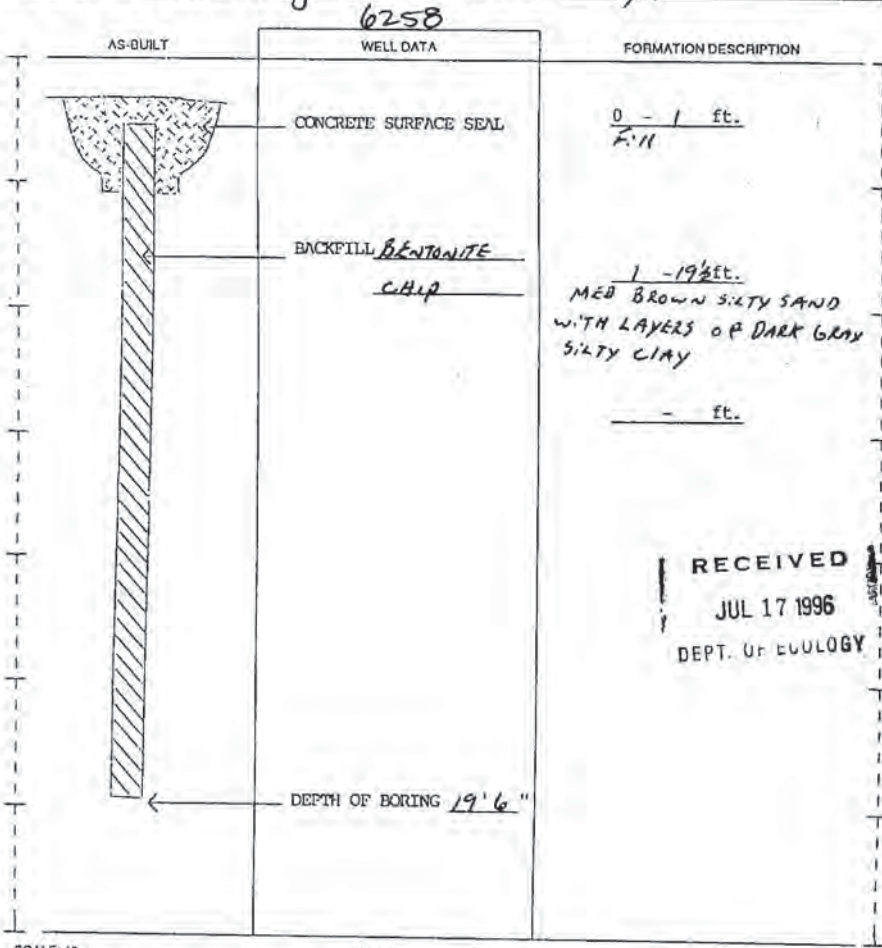
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

ENTERED

RESOURCE PROTECTION WELL REPORT 22/4/2 R
START CARD NO. R27210

PROJECT NAME: Beeing Space Center
WELL IDENTIFICATION NO. n/a
DRILLING METHOD: PROBE/WATER Sample
DRILLER: F. Lynn Goble
FIRM: Cascade Drilling, Inc.
SIGNATURE: F. Lynn Goble
CONSULTING FIRM: Aetra Tech
REPRESENTATIVE: Rick Osgood

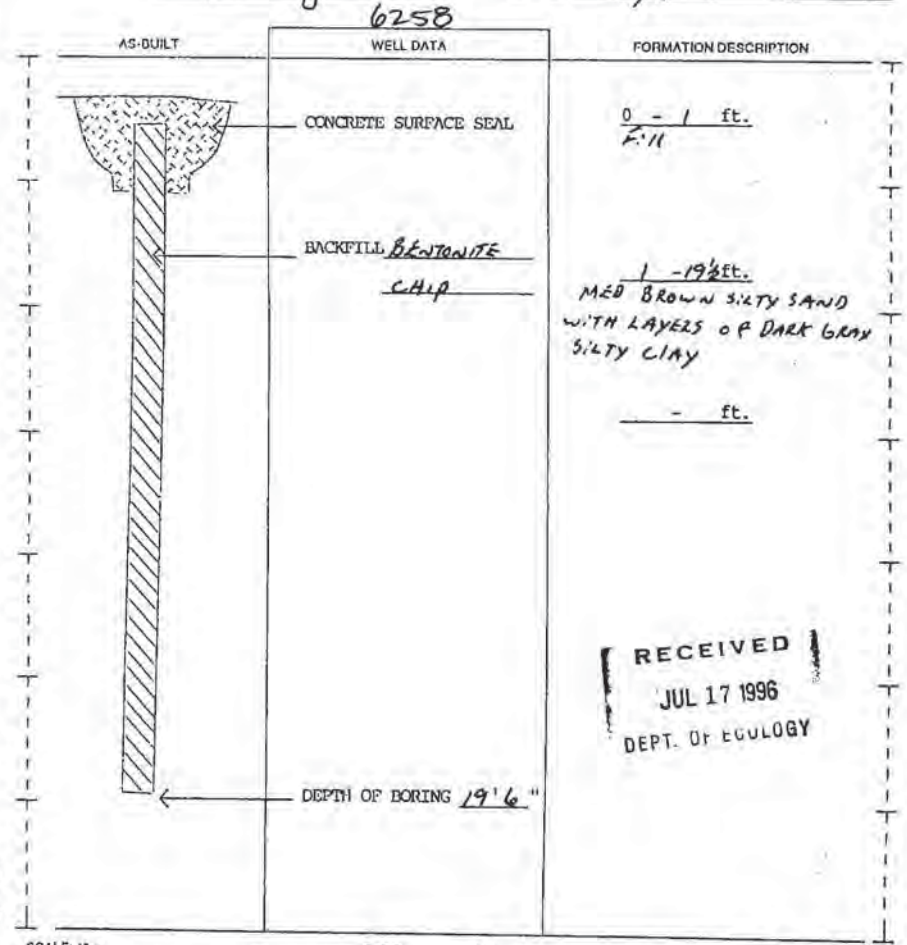
COUNTY: King
LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: W. Valley Hwy 9 S. 201st . Kent
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 6-7-96
DEVELOPED: N/A



RESOURCE PROTECTION WELL REPORT 22/4/2 R
START CARD NO. R27210

PROJECT NAME: Beeing Space Center
WELL IDENTIFICATION NO. n/a
DRILLING METHOD: PROBE/WATER Sample
DRILLER: F. Lynn Goble
FIRM: Cascade Drilling, Inc.
SIGNATURE: F. Lynn Goble
CONSULTING FIRM: Aetra Tech
REPRESENTATIVE: Rick Osgood

COUNTY: King
LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
STREET ADDRESS OF WELL: W. Valley Hwy 9 S. 201st . Kent
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: 6-7-96
DEVELOPED: N/A



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

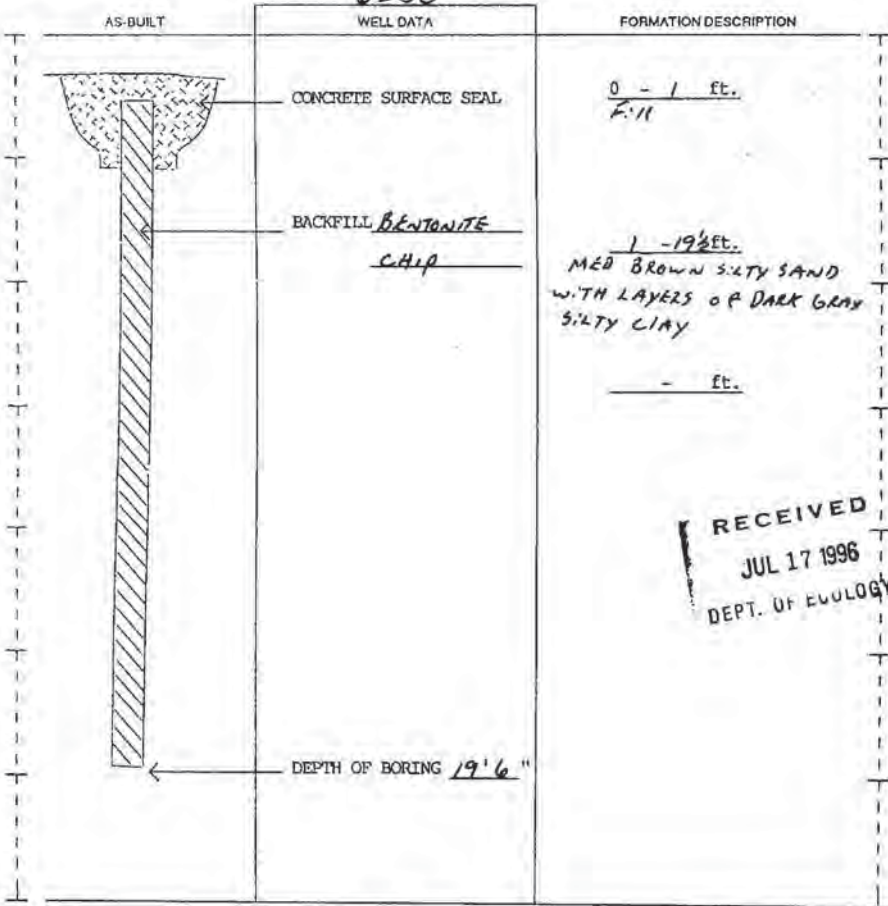
ENTERED
RESOURCE PROTECTION WELL REPORT

22/4/2R

START CARD NO. R27210

PROJECT NAME: Boeing Space Center
 WELL IDENTIFICATION NO. 6258
 DRILLING METHOD: Probe/Water Sample
 DRILLER: F. Lynn Goble
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM: Tetra Tech
 REPRESENTATIVE: Rick Osgood

COUNTY: King
 LOCATION: SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 STREET ADDRESS OF WELL: 10 Valley Hwy & S 201st Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 6-7-96
 DEVELOPED: N/A



SCALE: 1" = _____ PAGE _____ OF _____

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RESOURCE PROTECTION WELL REPORT

CURRENT 22-4E 2R
 Notice of Intent No. A 106111

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)
 Construction/Decommission ("x" in circle) 194086
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm Landau
 Unique Ecology Well ID _____
 Tag No: _____

Property Owner Boeing - Space Center
 Site Address 20403 66th AVE S.
 City Kent County: King

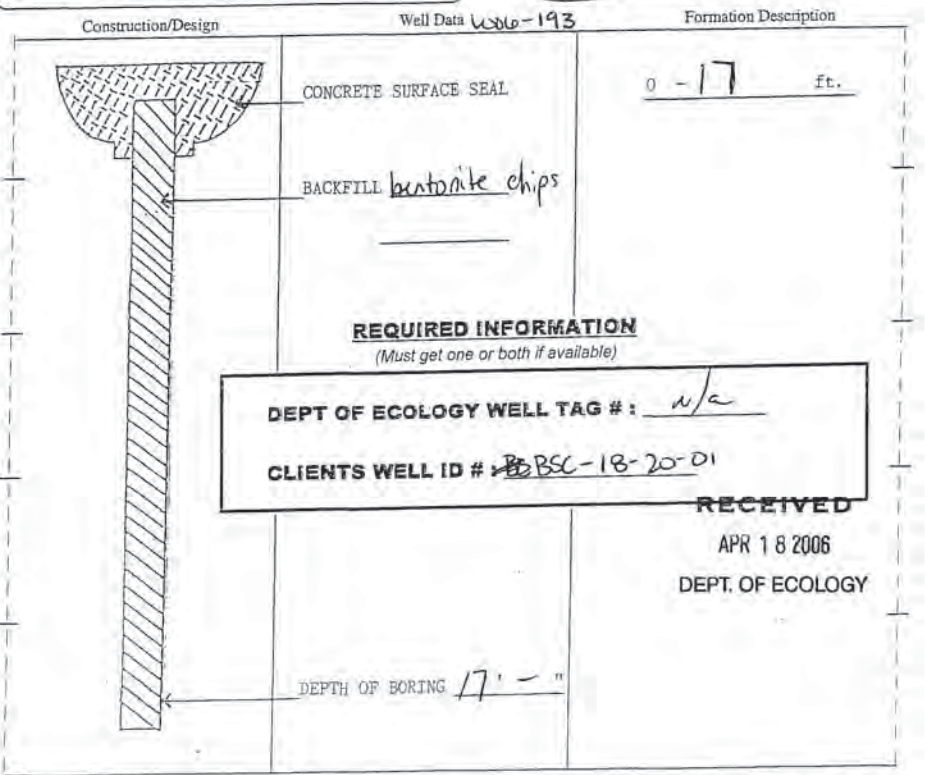
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Location SE 1/4 SE 1/4 Sec 2 Twn 22N R 4E EWD circle of one WWM
 Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____

Driller Engineer Trainee Name (Print) Dave Gose
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 2144T

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level _____
 Work/Decommission Start Date 3/27/06
 Work/Decommission Completed Date 3-27-06

If trainee, licensed driller's Signature and License no. _____



REQUIRED INFORMATION
 (Must get one or both if available)

DEPT OF ECOLOGY WELL TAG #: n/a
 CLIENTS WELL ID # BSC-18-20-01

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 APR 18 2006
 DEPT. OF ECOLOGY

Scale 1" = _____ Page _____ of _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)
 Construction/Decommission ("x" in circle) 194087
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

22-4E-2E

CURRENT
 Notice of Intent No. A 106111
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm Landau
 Unique Ecology Well ID _____
 Tag No: _____

Property Owner Beving - Spaw Center
 Site Address 20403 J Logg Ave S
 City Kent County: King
 Location SE 1/4 SE 1/4 Sec 2 Twn 20N R 4E EWS of circle or one WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____

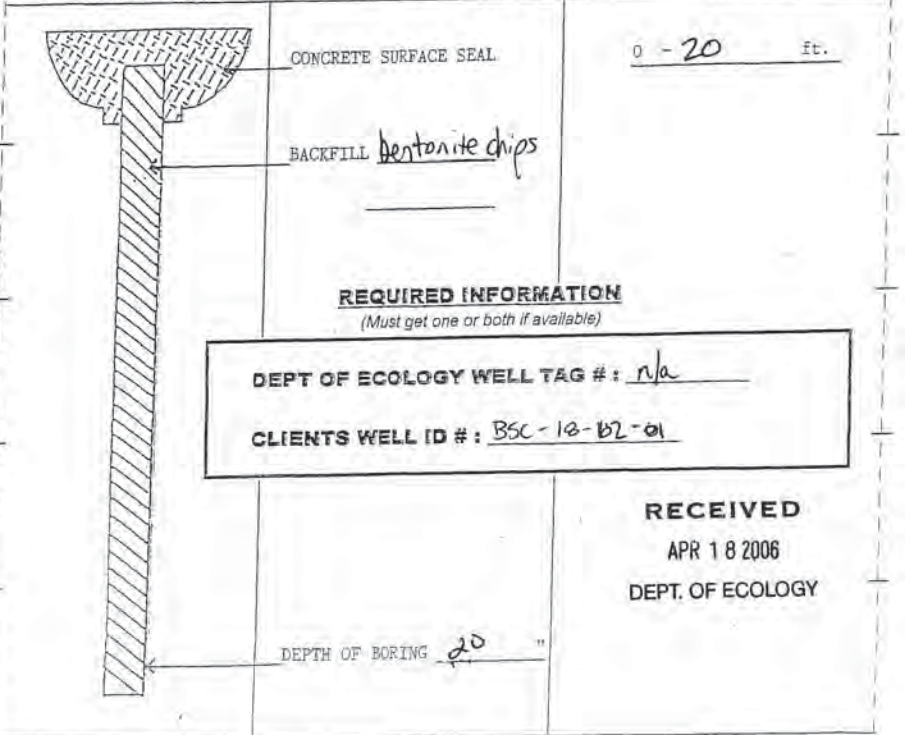
Driller Engineer Trainee Name (Print) Dave Gore
 Driller/Engineer/Trainee Signature _____
 Driller or Trainee License No. 2744T

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level _____

If trainee, licensed driller's Signature and License no. _____

Work Decommission Start Date 3/27/06
 Work Decommission Completed Date 3-27-06

Construction/Design Well Data W26-193 Formation Description



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 DEPT. OF ECOLOGY

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)
 Construction/Decommission ("x" in circle) 194088
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

22-4E-2R

CURRENT
 Notice of Intent No. A 106111
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm Landau
 Unique Ecology Well ID _____
 Tag No: _____

Property Owner Beving - Spaw Center
 Site Address 20403 J Logg Ave S
 City Kent County: King
 Location SE 1/4 SE 1/4 Sec 2 Twn 20N R 4E EWS of circle or one WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____

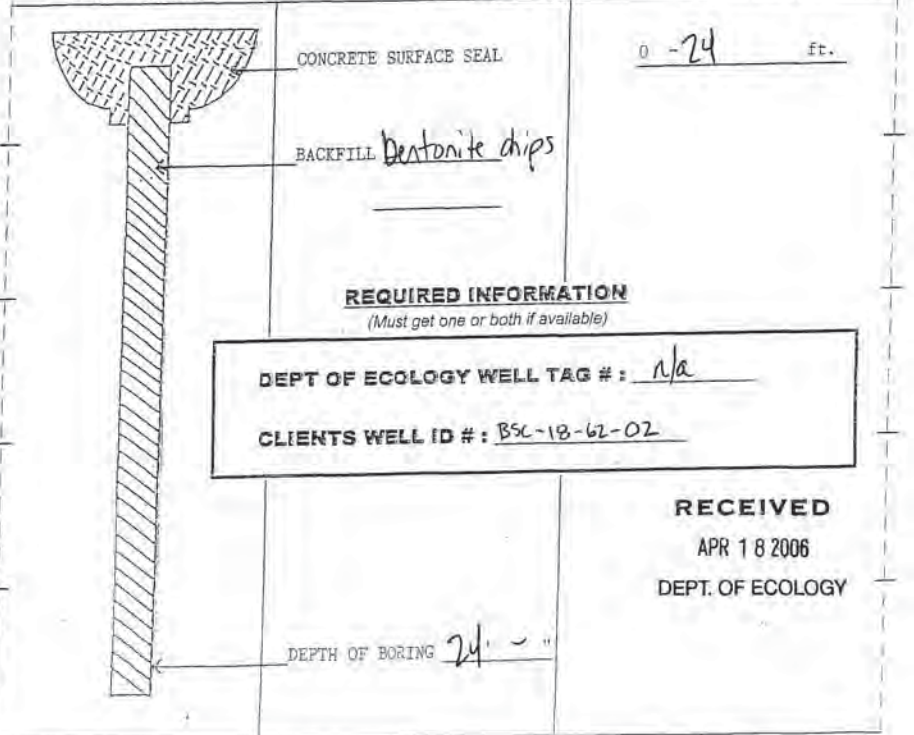
Driller Engineer Trainee Name (Print) Dave Gore
 Driller/Engineer/Trainee Signature _____
 Driller or Trainee License No. 2744T

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level _____

If trainee, licensed driller's Signature and License no. _____

Work Decommission Start Date 3/27/06
 Work Decommission Completed Date 3-27-06

Construction/Design Well Data W26-193 Formation Description



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 APR 18 2006
 DEPT. OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 1941089

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau
 Unique Ecology Well ID _____
 Tag No: _____

CURRENT 22-4E-2R
 Notice of Intent No. A 106111

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Boring - Space Center
 Site Address 20403 168th AVE S.
 City Kent County: King
 Location SE 1/4 SE 1/4 Sec 2 T20N R 4E E1/2 or circle one

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level _____

Work/Decommission Start Date 3/27/06
 Work/Decommission Completed Date 3-27-06

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) John Rose
 Driller/Engineer/Trainee Signature _____
 Driller or Trainee License No. 2144T

If trainee, licensed driller's Signature and License no. _____

Construction/Design	Well Data	Formation Description
	Well ID <u>W316-193</u> Depth of Boring <u>24'</u>	0 - 24 ft.
REQUIRED INFORMATION (Must get one or both if available)		
DEPT OF ECOLOGY WELL TAG #: <u>n/a</u> CLIENTS WELL ID #: <u>356-18-62-03</u>		
RECEIVED APR 18 2006 DEPT. OF ECOLOGY		

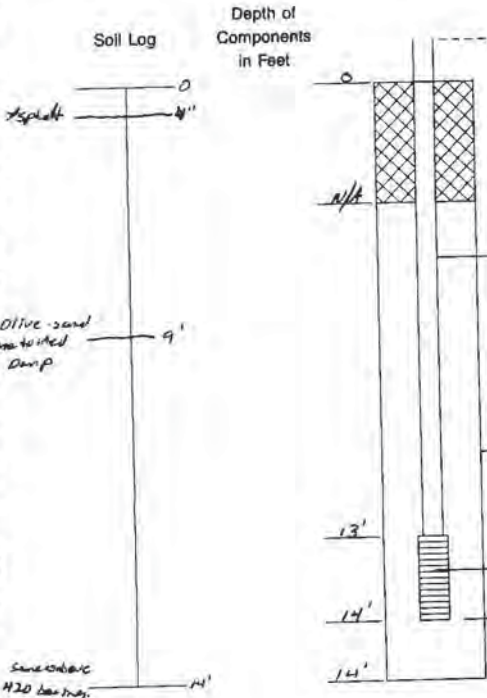


HOLT DRILLING, INC.

Resource Protection Well Report

22/4/2Q

Project Name Boring Space Center (Kent) Date 5-17-94
 Well Identification # P-1 thru 10 County King SW 1/4 SE 1/4
 Drilling Method 4" x 3/4" Geo-Probe/Randoms Section 2 T. 22N R. 4E
 Driller John Bennett Start Card 09295
 License # 2200 Consulting Firm Groundwater Tech, Inc.



Stick up none on Monument Casing

Type of Surface Seal none
 Amount _____

ID of Riser Pipe 3/4"
 Type of Riser Pipe Stainless Steel
 Amount 14'

Type of Connection Flare Thread

Type of Backfill around Riser None
 Amount _____

Diameter of Borehole 3/4"

Screen Size or Type open

Type of Filter Material None
 Amount _____

Remarks: Well point was driven to 14' then pulled back to 13' water sample was taken and then well was abandoned with enviro-plus cement pressure grout from bottom up 10 times over.

Signature John Bennett

RECEIVED
 JUN 13 1994
 DEPT. OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442411

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID _____
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature: [Signature]
 Driller/Trainee License No. 2501

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. EE03823

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

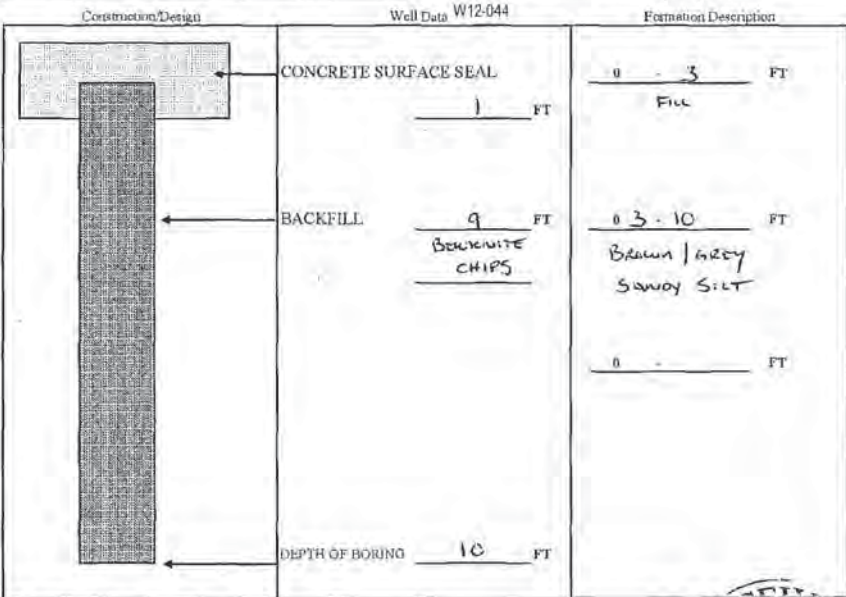
Lat/Long (S, L) Lat Deg x Lat Min/Sec x
 Still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12



Scale 1" = _____

Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442412

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID _____
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature: [Signature]
 Driller/Trainee License No. 2501

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. EE03823

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

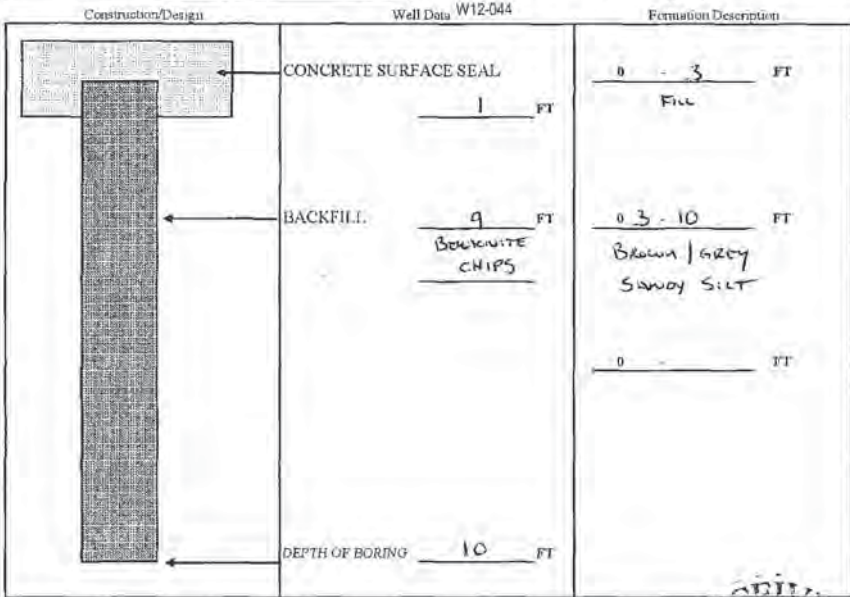
Lat/Long (S, L) Lat Deg x Lat Min/Sec x
 Still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE03823

Construction/Decommission

Construction 442413

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No. _____

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (S,L) Lat Deg 46 Lat Min/Sec 3

still Required) Long Deg 122 Long Min/Sec 3

Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

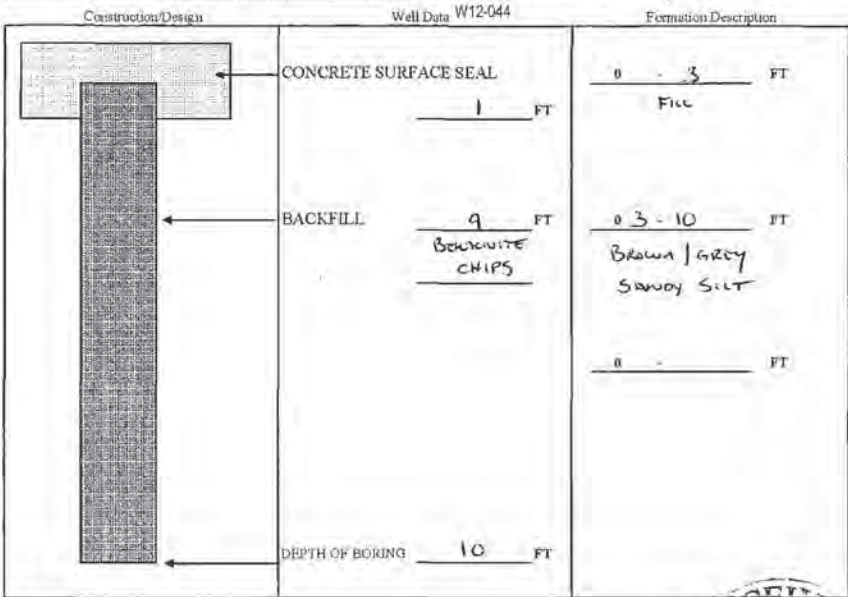
Cased or Un-cased Diameter 2" State Level 5'

Work/Decommission Start Date 1/25/12

If trainee, licensed driller's

Signature and License No. _____

Work/Decommission Completed Date 1/25/12



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE03823

Construction/Decommission

Construction 442414

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No. _____

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (S,L) Lat Deg 46 Lat Min/Sec 3

still Required) Long Deg 122 Long Min/Sec 3

Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

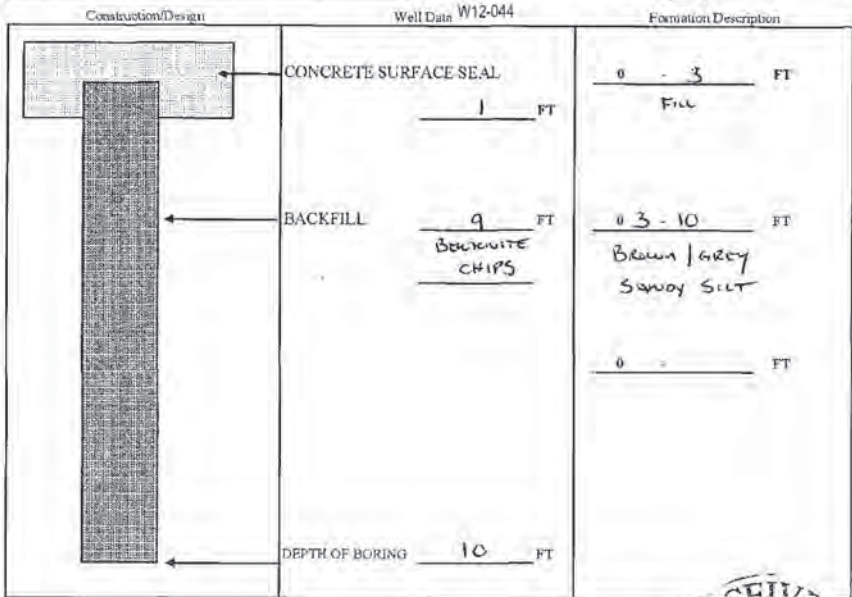
Cased or Un-cased Diameter 2" State Level 5'

Work/Decommission Start Date 1/25/12

If trainee, licensed driller's

Signature and License No. _____

Work/Decommission Completed Date 1/25/12



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE03823

Construction/Decommission

442415

Type of Well

Resource Protection

Geotechnical Soil Boring

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner Boeing Space Center

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (S.L.T. still Required) Lat Deg Lat Min/Sec Long Deg Long Min/Sec

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. _____

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Cased or Uncased Diameter 2" Static Level 5'

Driller/Trainee License No. 2501

Work/Decommission Start Date 1/25/12

If trainee, licensed driller's

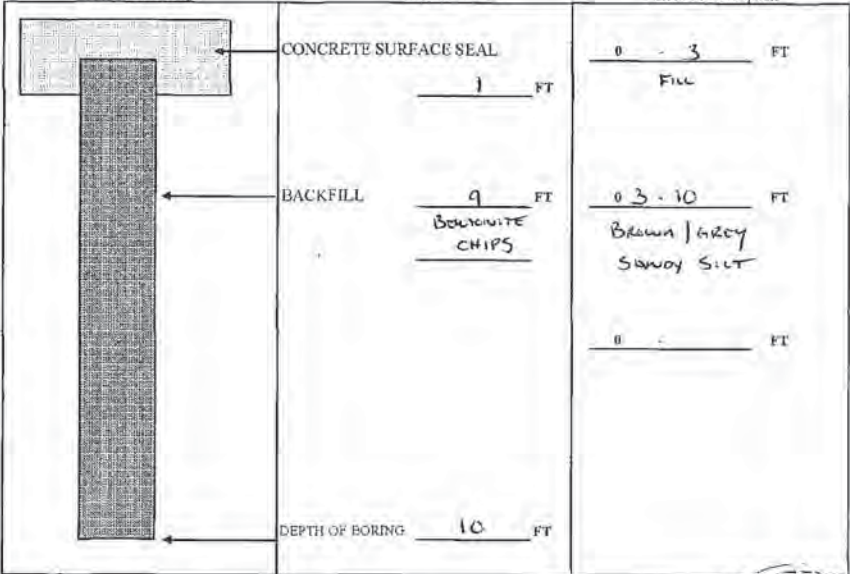
Signature and License No. _____

Work/Decommission Completed Date 1/25/12

Construction/Design

Well Data W12-044

Formation Description



Scale 1" = _____

Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE03823

Construction/Decommission

442416

Type of Well

Resource Protection

Geotechnical Soil Boring

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner Boeing Space Center

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (S.L.T. still Required) Lat Deg Lat Min/Sec Long Deg Long Min/Sec

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. _____

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Cased or Uncased Diameter 2" Static Level 5'

Driller/Trainee License No. 2501

Work/Decommission Start Date 1/25/12

If trainee, licensed driller's

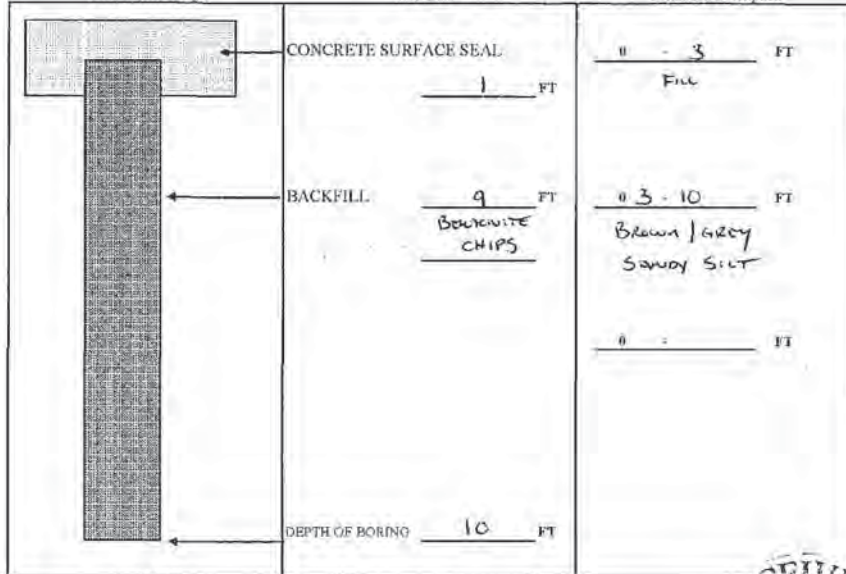
Signature and License No. _____

Work/Decommission Completed Date 1/25/12

Construction/Design

Well Data W12-044

Formation Description



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442417 Type of Well Resource Protection
 Construction Geotechnical Soil Boring
 Decommission; ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT
 Notice of Intent No. EE03823

Consulting Firm Landau Associates-Edmonds Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S. City Kent County 17-King

Unique Ecology Well ID _____ Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I (we) warrant and/or accept responsibility for construction of this well, well to comply with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

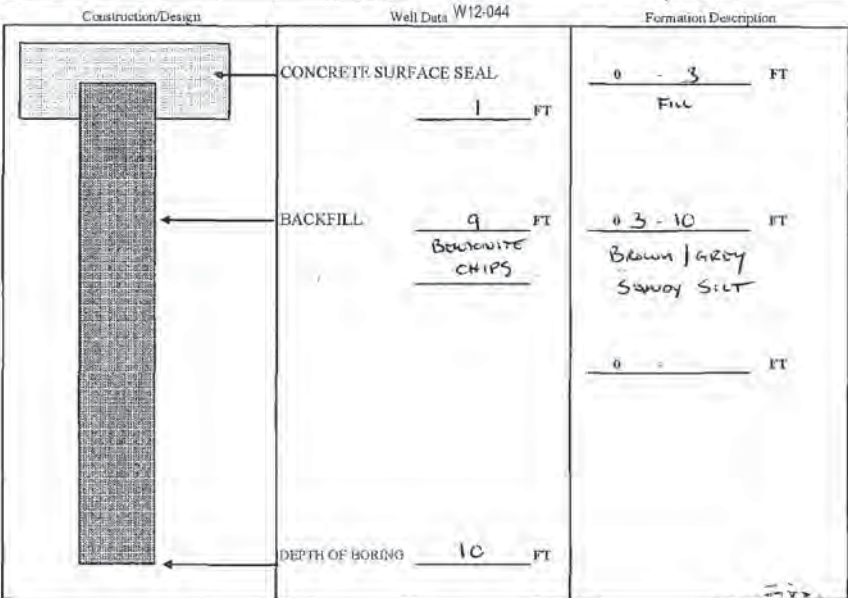
Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12

If trainee, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442418 Type of Well Resource Protection
 Construction Geotechnical Soil Boring
 Decommission; ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT
 Notice of Intent No. EE03823

Consulting Firm Landau Associates-Edmonds Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S. City Kent County 17-King

Unique Ecology Well ID _____ Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I (we) warrant and/or accept responsibility for construction of this well, well to comply with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

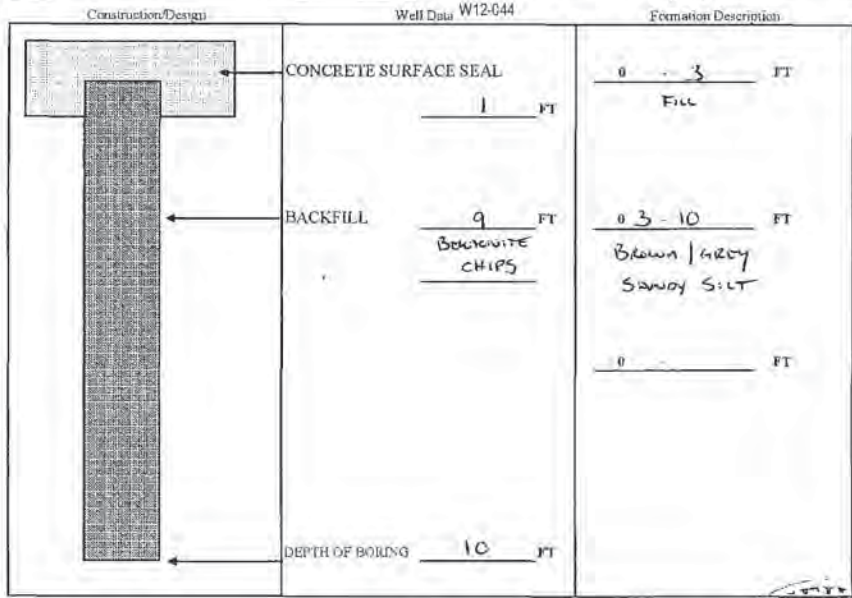
Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12

If trainee, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442419

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number EE03823

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I (contractor) and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

All data used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. AE16161

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave. S

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM

Lat/Long (a, L) Lat Deg x Lon Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 5'

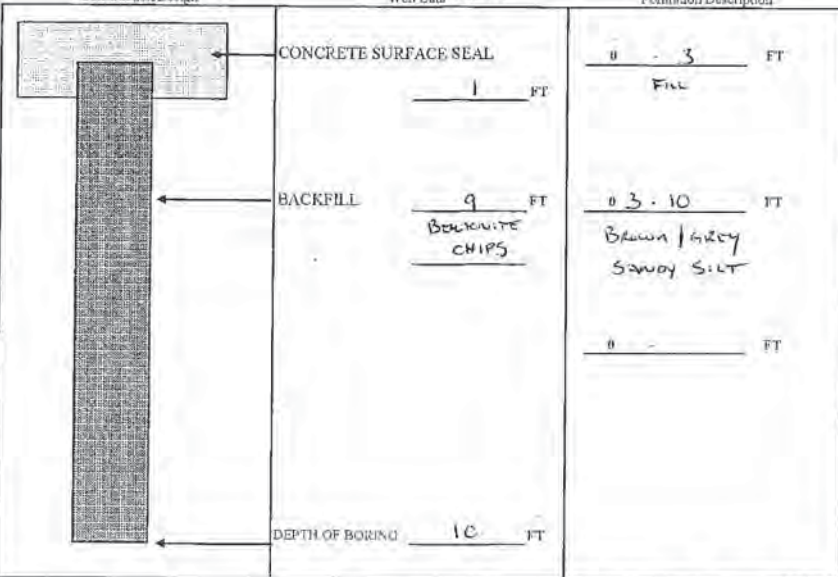
Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12

Construction/Design

Well Data W12-044

Formation Description



Scale 1" = _____

Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442420

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number EE03823

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I (contractor) and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

All data used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. AE16161

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave. S

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM

Lat/Long (a, L) Lat Deg x Lon Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 5'

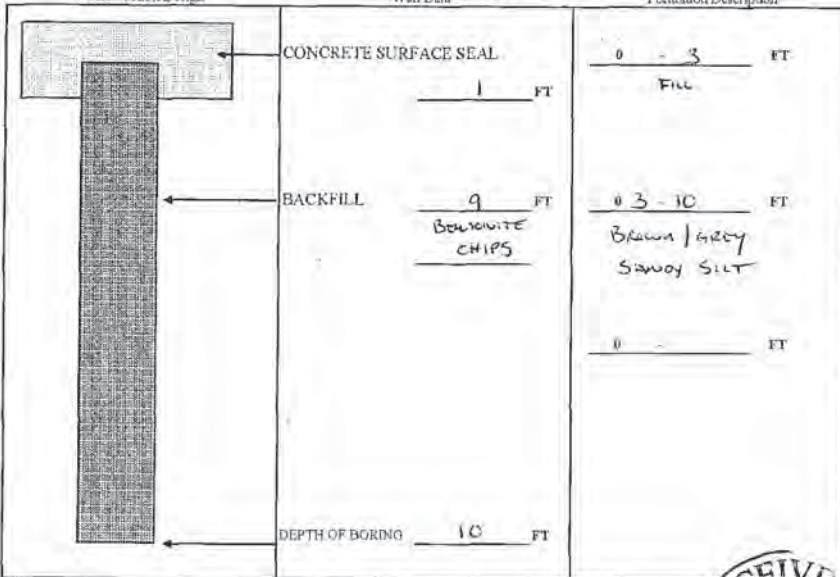
Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12

Construction/Design

Well Data W12-044

Formation Description



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE16161

Construction/Decommission 442421

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE03823

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

Tag No.

WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No.

Driller Trainee Name (Print) Kasey Goble

Cased or Uncased Diameter 2" Static Level 5'

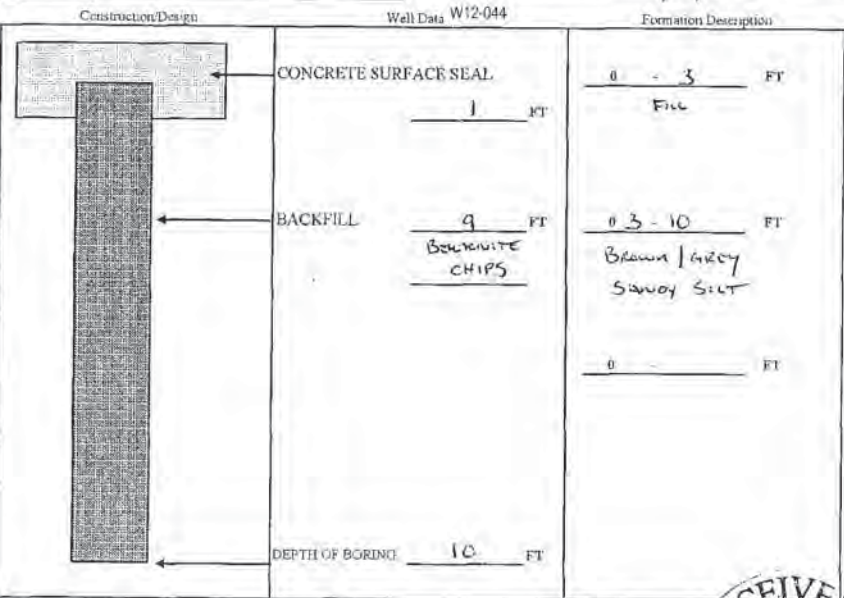
Driller/Trainee Signature [Signature]

Work/Decommission Start Date 1/25/12

Driller/Trainee License No. 2501

Work/Decommission Completed Date 1/25/12

If trainee, licensed driller's
Signature and License No.



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE16161

Construction/Decommission 442422

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE03823

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

Tag No.

WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No.

Driller Trainee Name (Print) Kasey Goble

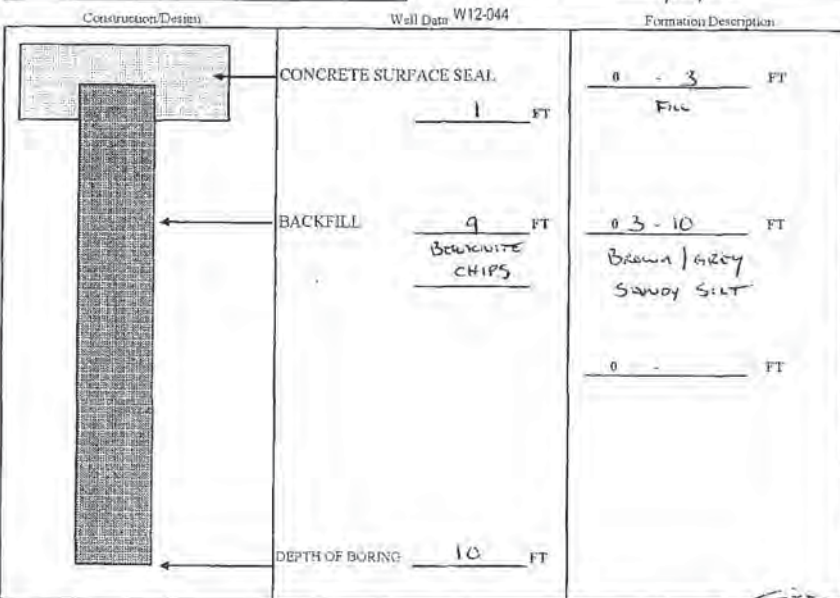
Cased or Uncased Diameter 2" Static Level 5'

Driller/Trainee Signature [Signature]

Work/Decommission Start Date 1/25/12

If trainee, licensed driller's
Signature and License No.

Work/Decommission Completed Date 1/25/12



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL, INSTALLED)

CURRENT

Notice of Intent No. 442423

Construction/Decommission 442423

Type of Well

- Resource Protection
 Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE03823

Property Owner Boring Space Center

Site Address 20403 68th Ave S

Consulting Firm Landau Associates-Edmonds City Kent County 17-King

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

WELL CONSTRUCTION CERTIFICATION: I (we) warrant and accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (S, L, R) Lat Deg 48 Lat Min/Sec 2
still Required) Long Deg 1 Long Min/Sec 2

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. _____

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

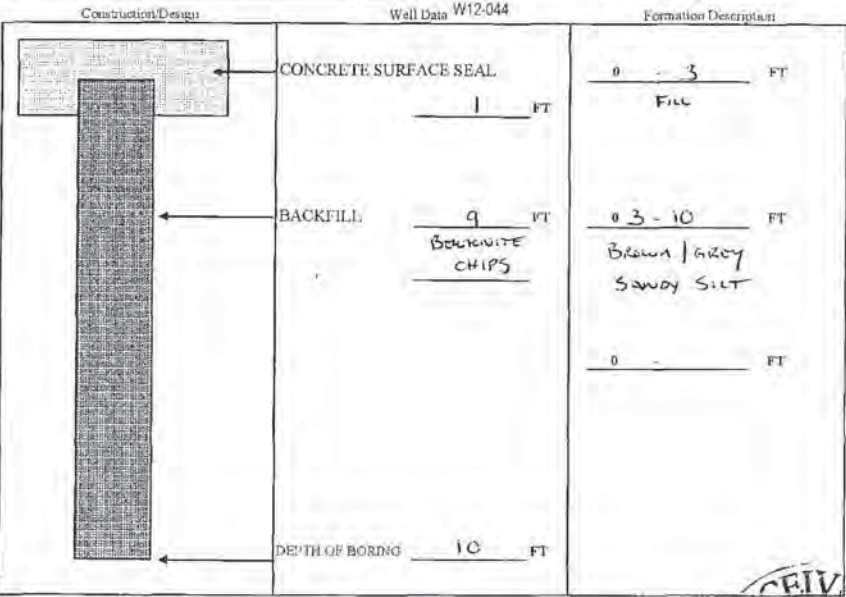
Cased or Uncased Diameter 2" State Level 5'

Work/Decommission Start Date 1/25/12

If trainee, licensed driller:

Signature and License No. _____

Work/Decommission Completed Date 1/25/12



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL, INSTALLED)

CURRENT

Notice of Intent No. 442424

Construction/Decommission 442424

Type of Well

- Resource Protection
 Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE03823

Property Owner Boring Space Center

Site Address 20403 68th Ave S

Consulting Firm Landau Associates-Edmonds City Kent County 17-King

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

WELL CONSTRUCTION CERTIFICATION: I (we) warrant and accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (S, L, R) Lat Deg 48 Lat Min/Sec 2
still Required) Long Deg 1 Long Min/Sec 2

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. _____

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

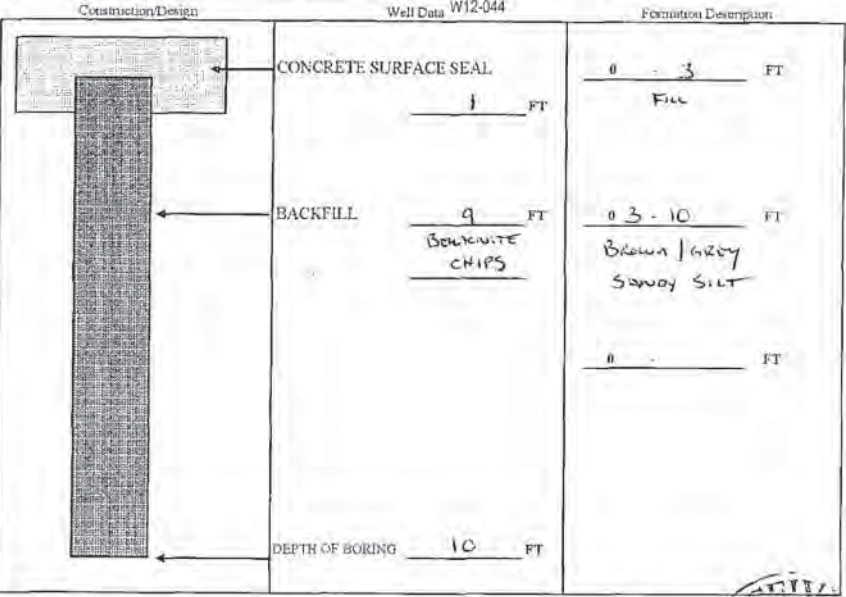
Cased or Uncased Diameter 2" State Level 5'

Work/Decommission Start Date 1/25/12

If trainee, licensed driller:

Signature and License No. _____

Work/Decommission Completed Date 1/25/12



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442425

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number EE03823

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I consented and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. HE16161

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

WWM

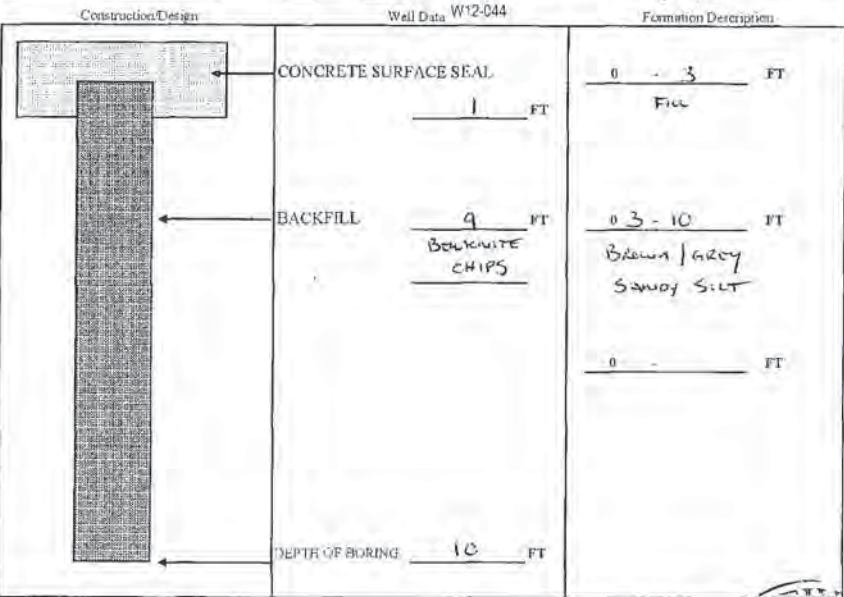
Lat/Long (S, L, Lat Deg x Lat Min/Sec x still Required) Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12



Scale 1" = _____

Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 442426

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number EE03823

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I consented and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. HE16161

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave S

City Kent County 17-King

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

WWM

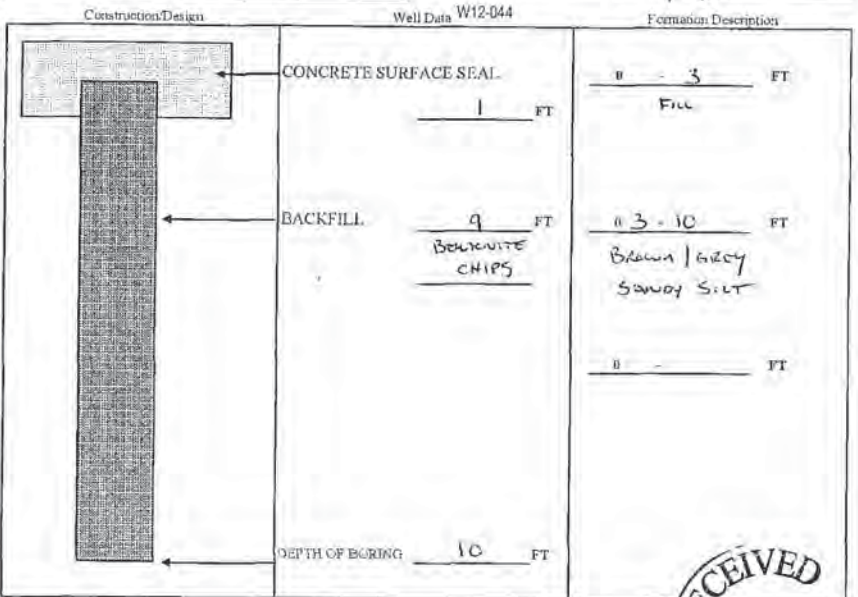
Lat/Long (S, L, Lat Deg x Lat Min/Sec x still Required) Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/25/12

Work/Decommission Completed Date 1/25/12



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EEO3823

Construction/Decommission 444923
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds
 Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM
WWW

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

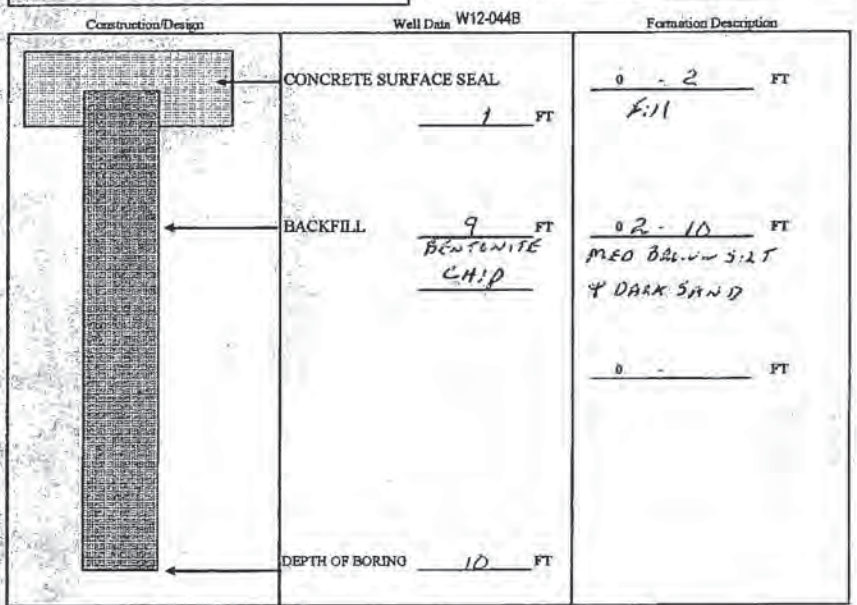
Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Lat/Long (N, E, W) Lat Deg X Lat Min/Sec X
 still Required) Long Deg X Long Min/Sec X

Tax Parcel No. _____
 Cased or Unmanned Diameter 2 Static Level 8'

Work/Decommission Start Date 2-8-12
 Work/Decommission Completed Date 2-9-12

If trained, licensed driller:
 Signature and License No. _____



Scale 1" = _____ Page _____ of _____
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RECEIVED
 MAR 20 2012
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 NWRO - WR

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EEO3823

Construction/Decommission 444924
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds
 Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM
WWW

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

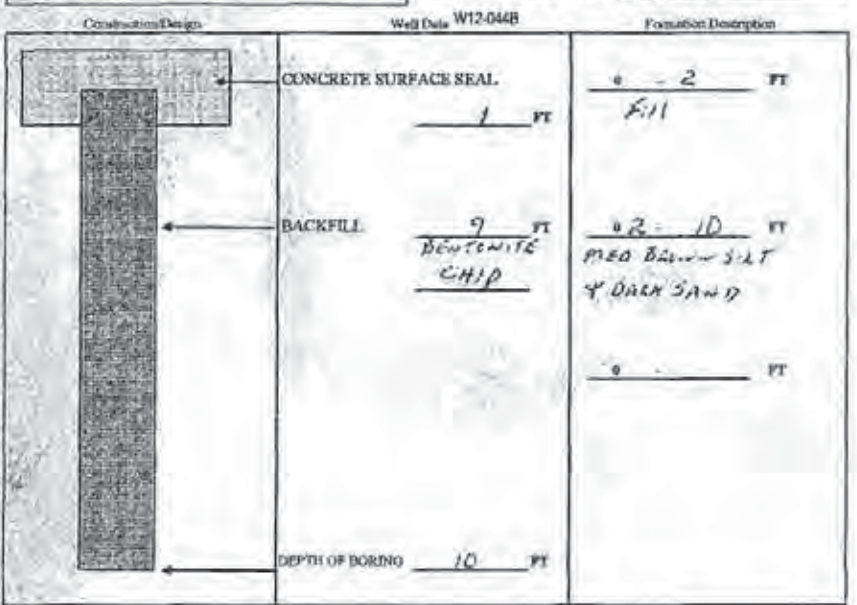
Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Lat/Long (N, E, W) Lat Deg X Lat Min/Sec X
 still Required) Long Deg X Long Min/Sec X

Tax Parcel No. _____
 Cased or Unmanned Diameter 2 Static Level 8'

Work/Decommission Start Date 2-8-12
 Work/Decommission Completed Date 2-9-12

If trained, licensed driller:
 Signature and License No. _____



Scale 1" = _____ Page _____ of _____
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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

444925

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature *Lynn Goble*

Driller/Trainee License No. 2982

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. E003823

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave. S.

City Kent

County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lot/Long (S, L, still Required)

Lot Deg

Lat Min/Sec

Long Deg

Long Min/Sec

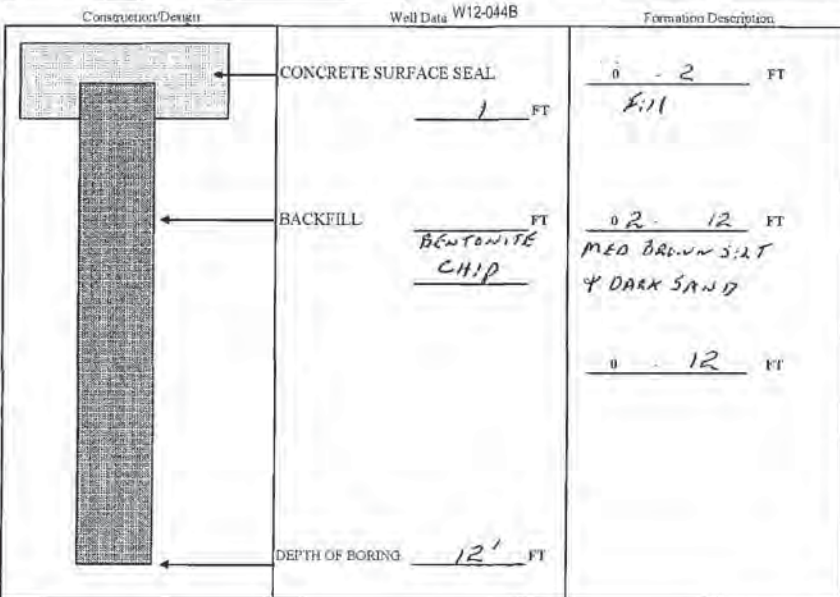
Tax Parcel No.

Cased or Uncased Diameter 2

Static Level 10

Work/Decommission Start Date 2-8-12

Work/Decommission Completed Date 2-9-12



Scale 1" =

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RCY 8912 (Rev. 2011) RECEIVED

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

444926

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature *Lynn Goble*

Driller/Trainee License No. 2982

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. E003823

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 68th Ave. S.

City Kent

County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lot/Long (S, L, still Required)

Lot Deg

Lat Min/Sec

Long Deg

Long Min/Sec

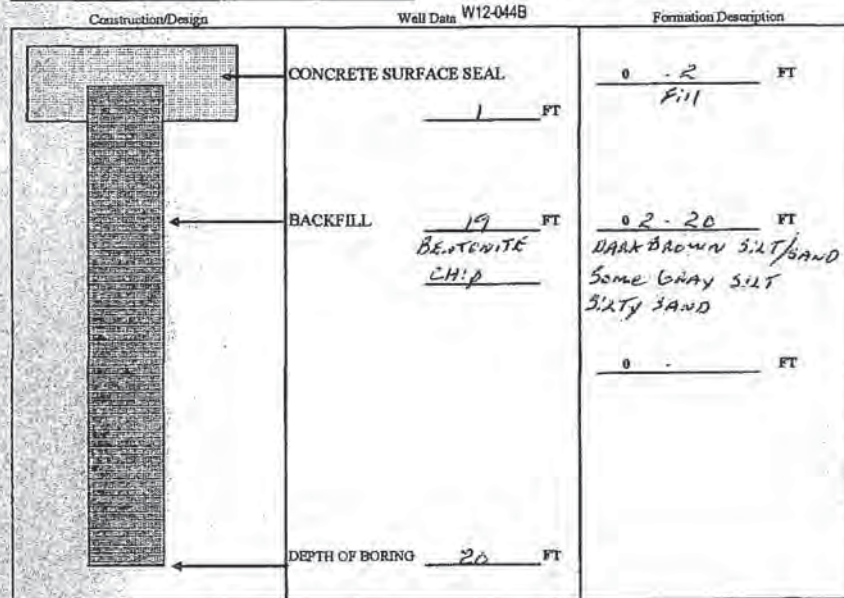
Tax Parcel No.

Cased or Uncased Diameter 2"

Static Level 18

Work/Decommission Start Date 2-8-12

Work/Decommission Completed Date 2-8-12



Scale 1" =

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MAR 20 2012

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 444927

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainer Name (Print) Lynn Goble
 Driller/Trainer Signature Lynn Goble
 Driller/Trainer License No. 2982

If licensed, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. EED3823

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 88th Ave. S.

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E SWM

Lat/Long (G.L.T) Lat Deg 4 Lat Min/Sec 4

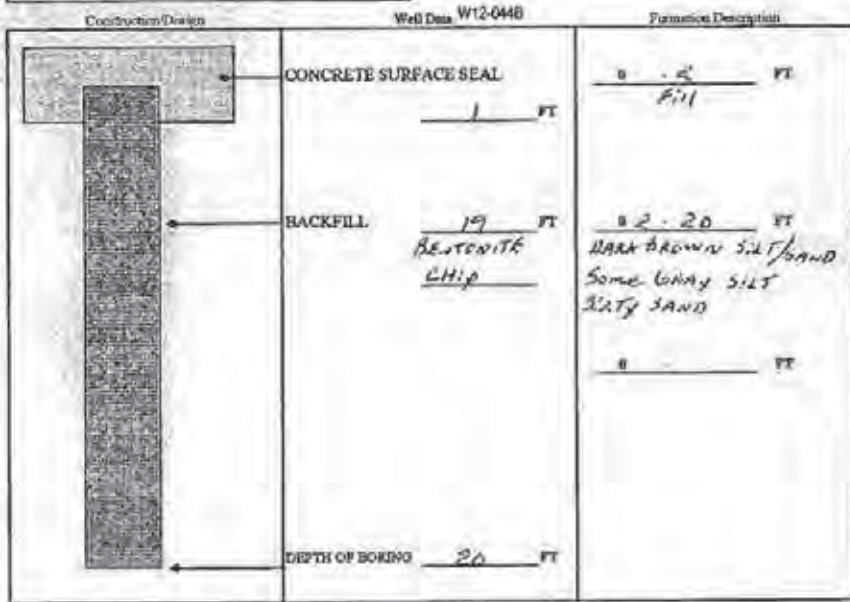
Long Required Long Deg 1 Long Min/Sec 4

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 1B

Work/Decommission Start Date 2-8-12

Work/Decommission Completed Date 2-8-12



Scale 1" = _____

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 444928

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainer Name (Print) Lynn Goble
 Driller/Trainer Signature Lynn Goble
 Driller/Trainer License No. 2982

If trainer, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. EED3823

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Space Center

Site Address 20403 88th Ave. S.

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E SWM

Lat/Long (G.L.T) Lat Deg 4 Lat Min/Sec 4

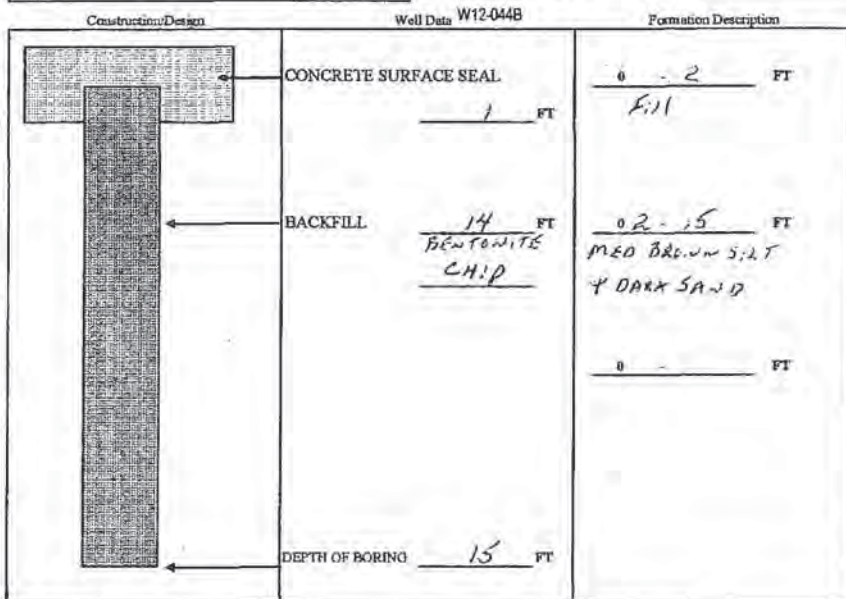
still Required Long Deg 1 Long Min/Sec 4

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 1B

Work/Decommission Start Date 2-8-12

Work/Decommission Completed Date 2-9-12



Scale 1" = _____

Page _____ of _____

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 NWRO - WR

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EEO3823

Construction/Decommission 444929
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

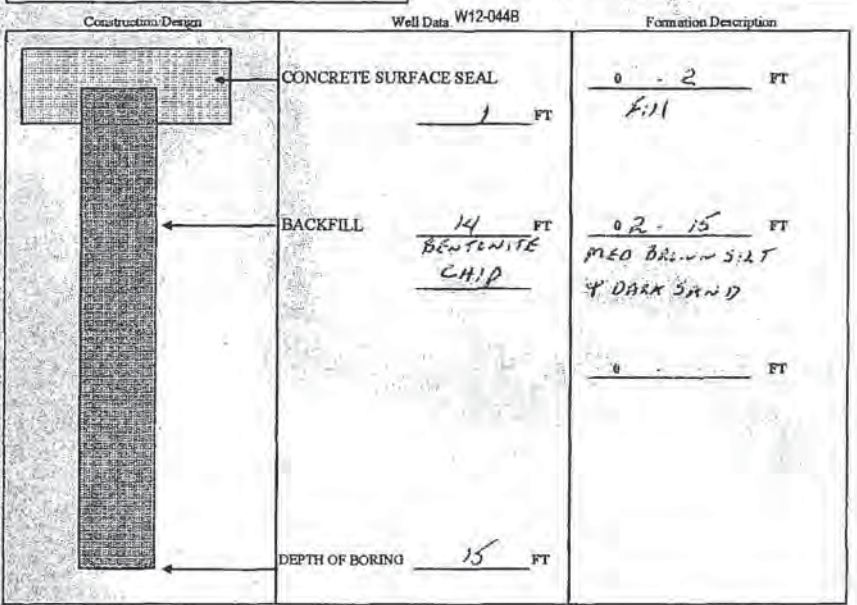
Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds
 Unique Ecology Well ID _____
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM
 Lat/Long (s,l,r still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed driller's Signature and License No. _____
 Cased or Uncased Diameter 2 Static Level 13
 Work/Decommission Start Date 2-8-12
 Work/Decommission Completed Date 2-9-12



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 NWRO - WR

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EEO3823 A/E16161

Construction/Decommission 444930
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEO3823

Type of Well
 Resource Protection
 Geotechnical Soil Boring

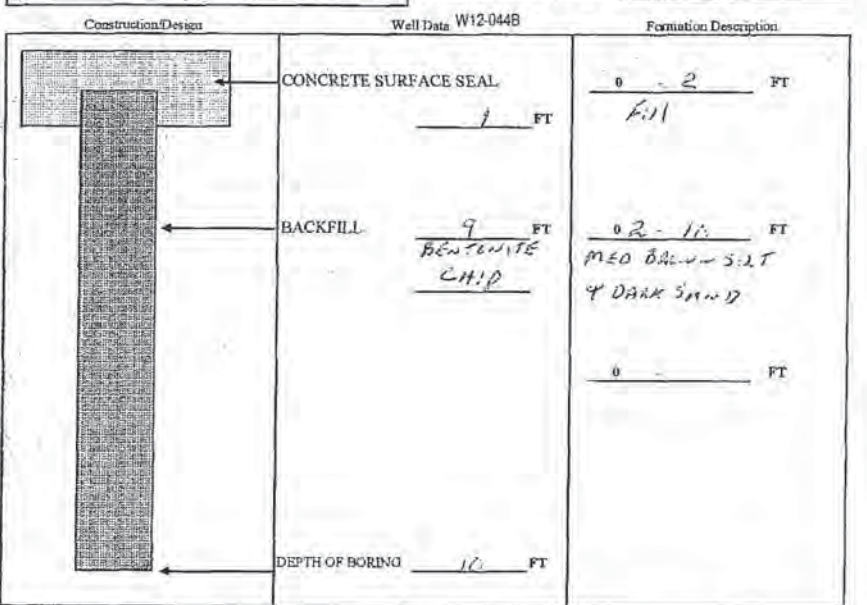
Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds
 Unique Ecology Well ID _____
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM
 Lat/Long (s,l,r still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed driller's Signature and License No. _____
 Cased or Uncased Diameter 2 Static Level 8'
 Work/Decommission Start Date 2-8-12
 Work/Decommission Completed Date 2-9-12



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 NWRO - WR

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

444933
RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
 Notice of Intent No. EEO3823 AE16161

Construction/Decommission: Construction Decommission ORIGINAL INSTALLATION Notice of Intent Number EEO3823

Type of Well: Resource Protection Geotechnical Soil Boring

Property Owner: Boeing Space Center
 Site Address: 20403 68th Ave. S.
 City: Kent County: 17-King

Consulting Firm: Landau Associates-Edmonds

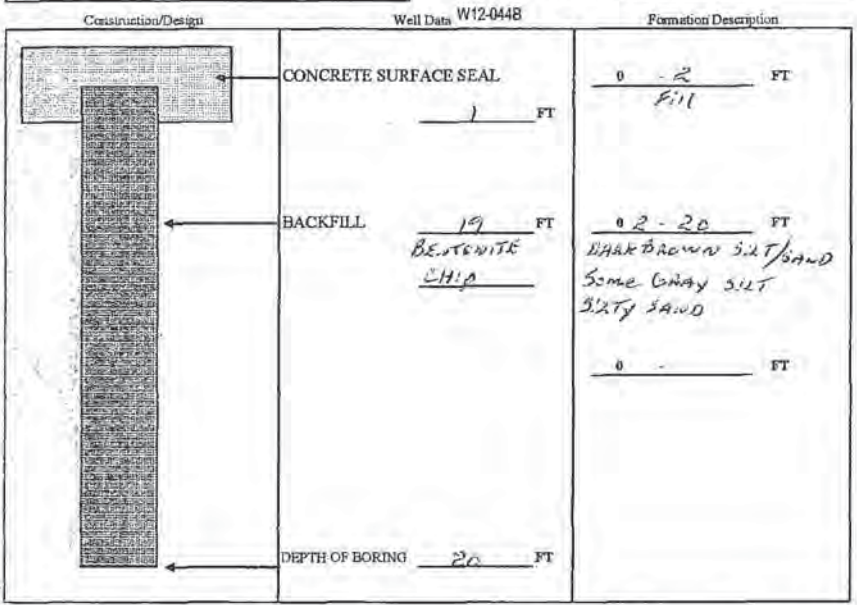
Unique Ecology Well ID: _____
 Tag No.: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Trainer Name (Print): Lynn Goble
 Driller/Trainer Signature: [Signature]
 Driller/Trainer License No.: 2982

Cased or Uncased Diameter: 2" Static Level: 18'

Work/Decommission Start Date: 2-8-12
 Work/Decommission Completed Date: 2-8-12



Scale 1" = _____ Page _____ of _____

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 NWRO - WR

444934
RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
 Notice of Intent No. EEO3823 AE16161

Construction/Decommission: Construction Decommission ORIGINAL INSTALLATION Notice of Intent Number EEO3823

Type of Well: Resource Protection Geotechnical Soil Boring

Property Owner: Boeing Space Center
 Site Address: 20403 68th Ave. S.
 City: Kent County: 17-King

Consulting Firm: Landau Associates-Edmonds

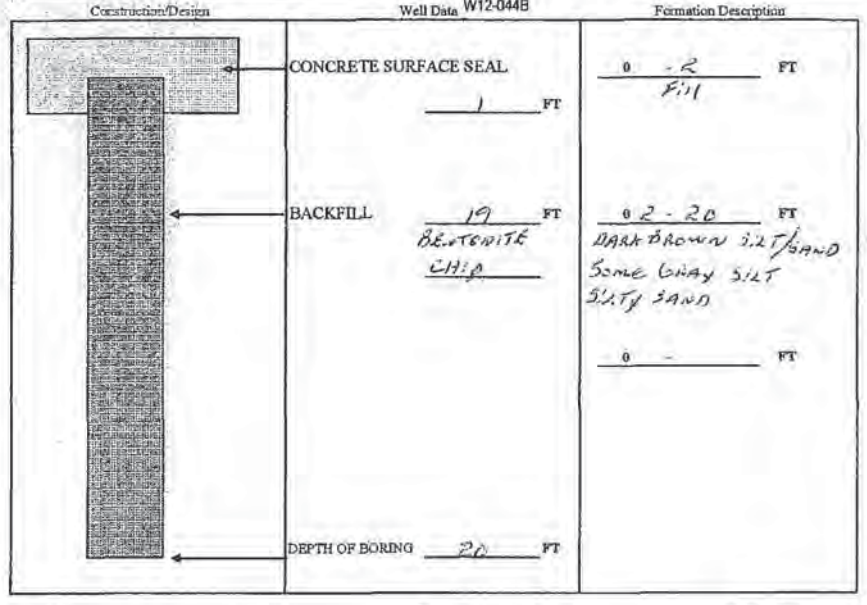
Unique Ecology Well ID: _____
 Tag No.: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Trainer Name (Print): Lynn Goble
 Driller/Trainer Signature: [Signature]
 Driller/Trainer License No.: 2982

Cased or Uncased Diameter: 2" Static Level: 18'

Work/Decommission Start Date: 2-8-12
 Work/Decommission Completed Date: 2-8-12



Scale 1" = _____ Page _____ of _____

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The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

444935
RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EEO3823 AE16161

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EEO3823

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Space Center
Site Address 20403 68th Ave. S
City Kent County 17-King

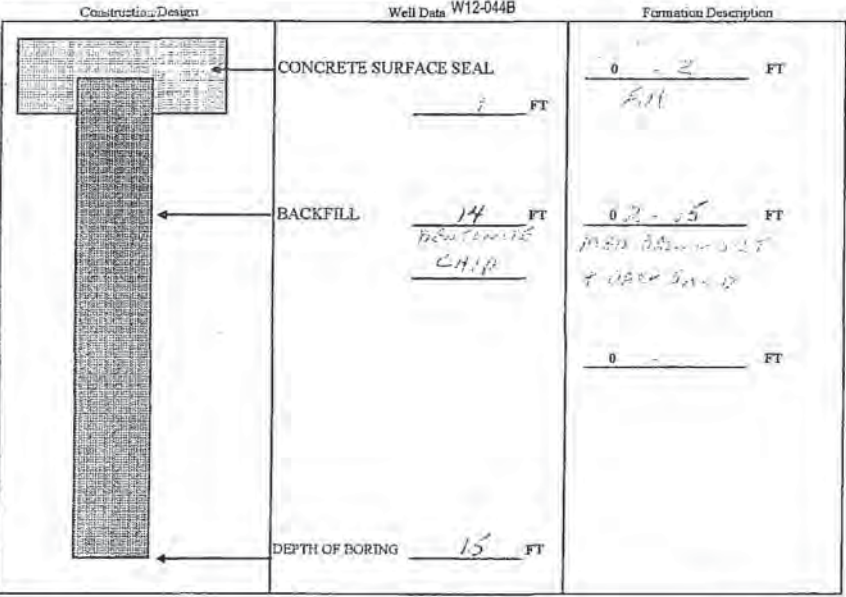
Consulting Firm Landau Associates-Edmonds
Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 2982

If trainee, licensed driller?
Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM
Lat/Long (9, L) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x
Tax Parcel No. _____
Cased or Uncased Diameter 2 Static Level 13
Work/Decommission Start Date 2-8-12
Work/Decommission Completed Date 2-9-12



MAR 20 2012
DEPT OF ECOLOGY
NWRO - WR

444936
RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EEO3823 AE16161

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EEO3823

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing Space Center
Site Address 20403 68th Ave. S
City Kent County 17-King

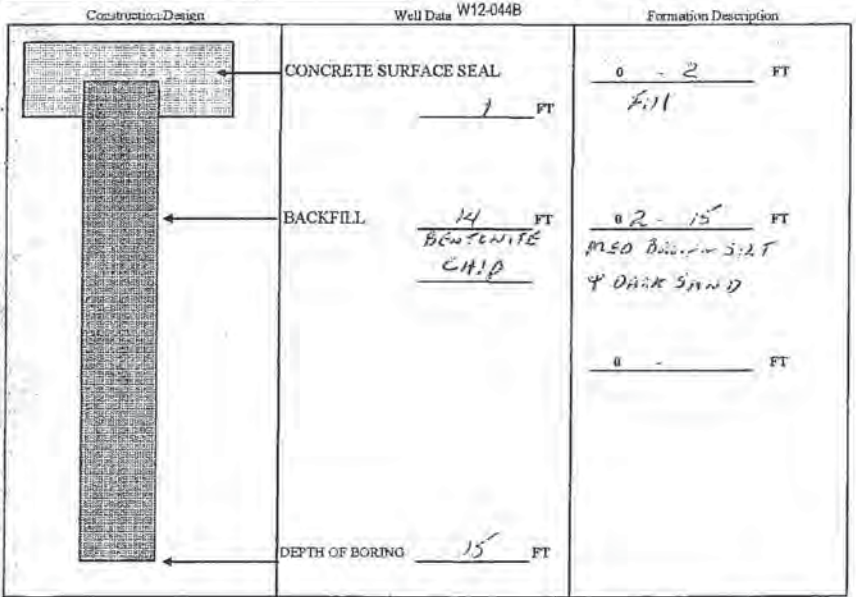
Consulting Firm Landau Associates-Edmonds
Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 2982

If trainee, licensed driller?
Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM
Lat/Long (9, L) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x
Tax Parcel No. _____
Cased or Uncased Diameter 2 Static Level 13
Work/Decommission Start Date 2-8-12
Work/Decommission Completed Date 2-9-12



MAR 20 2012
DEPT OF ECOLOGY
NWRO - WR

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

449279
RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
 Notice of Intent No. EE03823

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

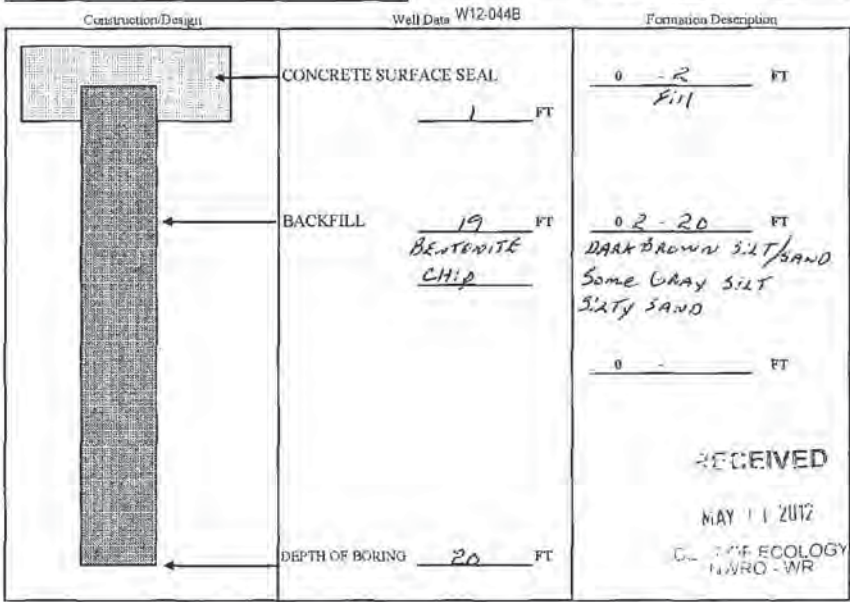
Consulting Firm Landau Associates-Edmonds Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Unique Ecology Well ID _____ Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.
 Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed driller's Signature and License No. _____
 Work/Decommission Start Date 2-8-12
 Work/Decommission Completed Date _____



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 ECY 630-12 (Rev. 2011)
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 DEPT OF ECOLOGY
 NWRO - WR

449300
RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
 Notice of Intent No. AE16161

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EE03823

Type of Well

Resource Protection
 Geotechnical Soil Boring

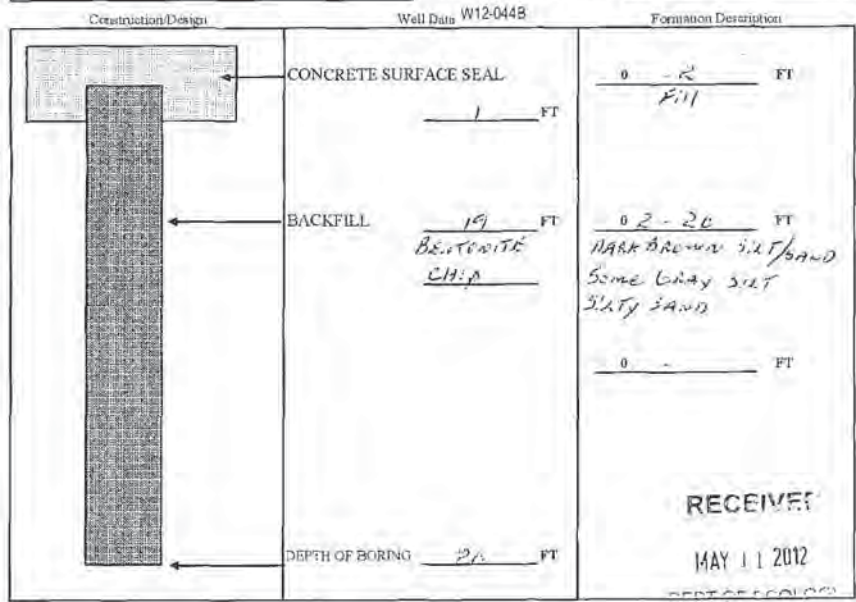
Consulting Firm Landau Associates-Edmonds Property Owner Boeing Space Center
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Unique Ecology Well ID _____ Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E BWM
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.
 Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed driller's Signature and License No. _____
 Work/Decommission Start Date 2-8-12
 Work/Decommission Completed Date _____



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RECEIVED
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 DEPT OF ECOLOGY
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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 1410113

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Unique Ecology Well ID _____

Tag No: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kasey Bobble

Driller/Engineer/Trainee Signature [Signature]

Driller or Trainee License No. 2561

If trainee, licensed driller's Signature and License no. _____

CURRENT Notice of Intent No. E 004786

Type of Well ("x" in circle)
 Resource Protection 22-4E-2L
 Geotech Soil Boring

Property Owner Boeing Space Center

Site Address 20403 60th AVE S.

City Kent County: King

Location NE 1/4 SW 1/4 Sec 2 Twp 22N RAE W circle or one WWM

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____ still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. N/A

Cased or (Uncased) Diameter 2" Static Level

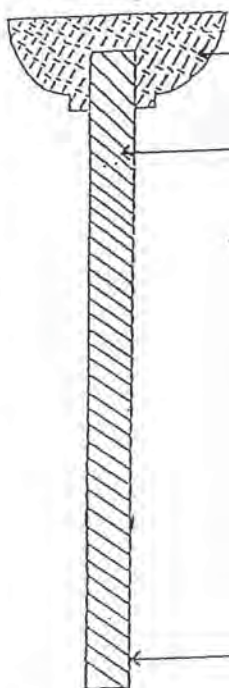
Work/Decommission Start Date 10/8/03

Work/Decommission Completed Date 10/9/03

Construction/Design

Well Data

Formation Description



CONCRETE SURFACE SEAL

BACKFILL Bentonite chips

DEPTH OF BORING 17.0 "

0 - 4 ft.

FILL GRAVEL

4 - 15 ft.

DARK GRAY SILTY SAND

15 - 17 ft.

MED BLACK SAND

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 OCT 16 2003
 DEPT OF ECOLOGY

Scale 1" = _____

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ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 1410114

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Unique Ecology Well ID _____

Tag No: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kasey Bobble

Driller/Engineer/Trainee Signature [Signature]

Driller or Trainee License No. 2561

If trainee, licensed driller's Signature and License no. _____

CURRENT Notice of Intent No. E 004786

Type of Well ("x" in circle)
 Resource Protection 22-4E-2L
 Geotech Soil Boring

Property Owner Boeing Space Center

Site Address 20403 60th AVE S.

City Kent County: King

Location NE 1/4 SW 1/4 Sec 2 Twp 22N RAE W circle or one WWM

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____ still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. N/A

Cased or (Uncased) Diameter 2" Static Level

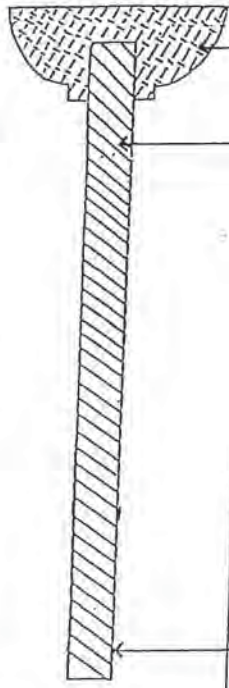
Work/Decommission Start Date 10/8/03

Work/Decommission Completed Date 10/9/03

Construction/Design

Well Data

Formation Description



CONCRETE SURFACE SEAL

BACKFILL Bentonite chips

DEPTH OF BORING 20.0 "

0 - 4 ft.

FILL GRAVEL

4 - 15 ft.

DARK GRAY SILT

15 - 20 ft.

MED BLACK SAND

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Scale 1" = _____

Page 1 of 2

ECY 050-12 (Rev 2/01)

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RESOURCE PROTECTION WELL REPORT CURRENT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E 004786

Construction/Decommission ("x" in circle)
 Construction 140115
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection 224E-2L
 Geotech Soil Boring

Consulting Firm Landau Associates
 Unique Ecology Well ID _____
 Tag No: _____

Property Owner Boeing Space Center
 Site Address 20403 60th AVE S.

City Kent County: King

Location NE 1/4 SW 1/4 Sec 2 Twn 2N R 4E of one WWM

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 2" Static Level

Work/Decommission Start Date 10/8/03

Work/Decommission Completed Date 10/9/03

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kacey Goble

Driller/Engineer/Trainee Signature _____

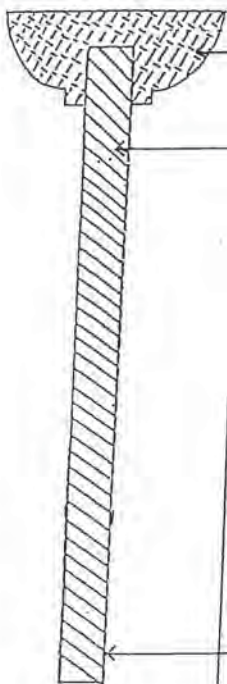
Driller or Trainee License No. 2561

If trainee, licensed driller's Signature and License no. _____

Construction/Design

Well Data

Formation Description



CONCRETE SURFACE SEAL

BACKFILL Bentonite
Chips

DEPTH OF BORING 20' "

0 - 4 ft.

FILL GRAVEL

4 - 15 ft.

DARK GREY SILT

15 - 20 ft.

MED BLACK SAND

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Scale 1" = _____

Page 2 of 2

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT CURRENT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. F 004786

Construction/Decommission ("x" in circle)
 Construction 140116
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection 22-4E-2L
 Geotech Soil Boring

Consulting Firm Landau Associates
 Unique Ecology Well ID _____
 Tag No: _____

Property Owner Boeing Space Center
 Site Address 20403 60th AVE S.

City Kent County: King

Location NE 1/4 SW 1/4 Sec 2 Twn 2N R 4E of one WWM

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 2" Static Level

Work/Decommission Start Date 10/8/03

Work/Decommission Completed Date 10/9/03

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kacey Goble

Driller/Engineer/Trainee Signature _____

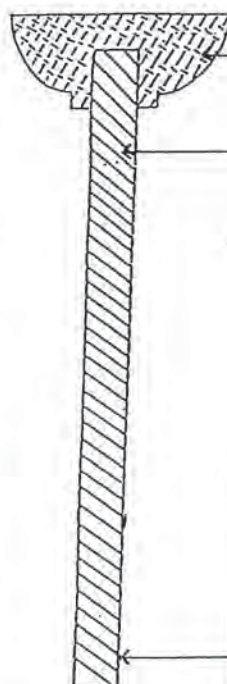
Driller or Trainee License No. 2561

If trainee, licensed driller's Signature and License no. _____

Construction/Design

Well Data

Formation Description



CONCRETE SURFACE SEAL

BACKFILL Bentonite
Chips

DEPTH OF BORING 21' "

0 - 4 ft.

FILL GRAVEL

4 - 17 ft.

DARK GREY SILTY SAND

17 - 21 ft.

MED BLACK SAND

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Page 1 of 2

ECY 050-12 (Rev 2/01)

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RESOURCE PROTECTION WELL REPORT CURRENT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. F 004786

Construction/Decommission ("x" in circle)
 Construction 140117
 Decommission ORIGINAL INSTALLATION Notice of Intent Number X2

Type of Well ("x" in circle)
 Resource Protection 22-4E-2L
 Geotech Soil Boring

Consulting Firm Landau Associates
 Unique Ecology Well ID _____
 Tag No: _____

Property Owner Boeing Space Center
 Site Address 20403 68th AVE S.
 City Kent County: King

Location NE 1/4 SW 1/4 Sec. 2 Twp. 20N R4E WWM or one

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. N/A
 Cased or Uncased Diameter 2" Static Level

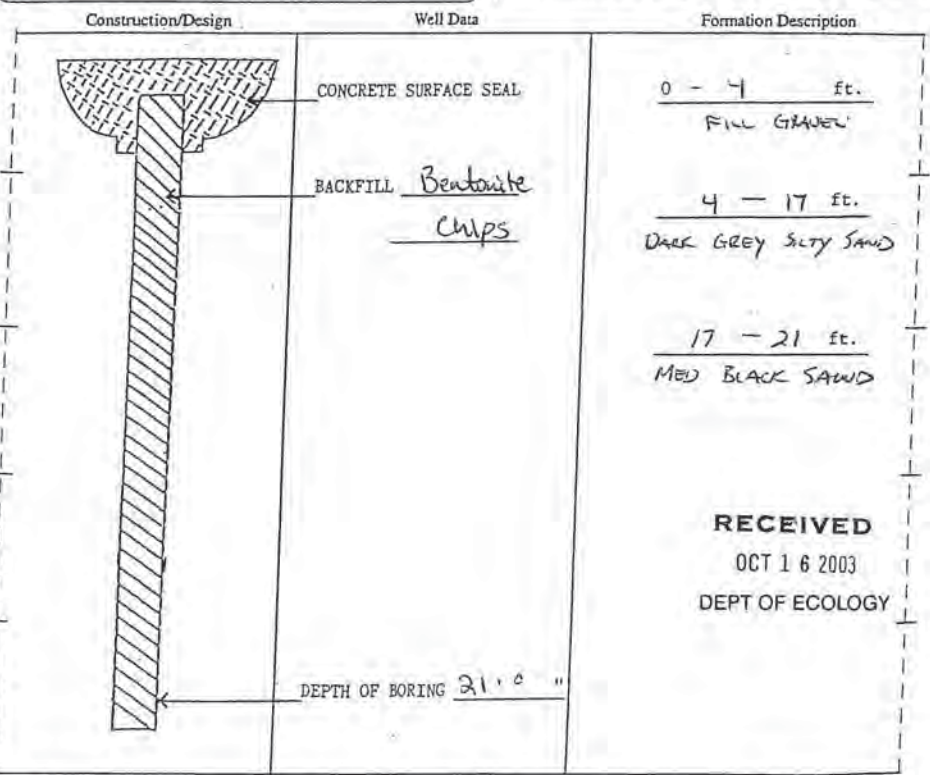
Work/Decommission Start Date 10/8/03
 Work/Decommission Completed Date 10/9/03

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kasey Bobbe

Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 2501

If trainee, licensed driller's Signature and License no. _____



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RESOURCE PROTECTION WELL REPORT CURRENT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E 004786

Construction/Decommission ("x" in circle)
 Construction 140118
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection 22-4E-2L
 Geotech Soil Boring

Consulting Firm Landau Associates
 Unique Ecology Well ID _____
 Tag No: _____

Property Owner Boeing Space Center
 Site Address 20403 68th AVE S.
 City Kent County: King

Location NE 1/4 SW 1/4 Sec. 2 Twp. 20N R4E WWM or one

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. N/A
 Cased or Uncased Diameter 2" Static Level

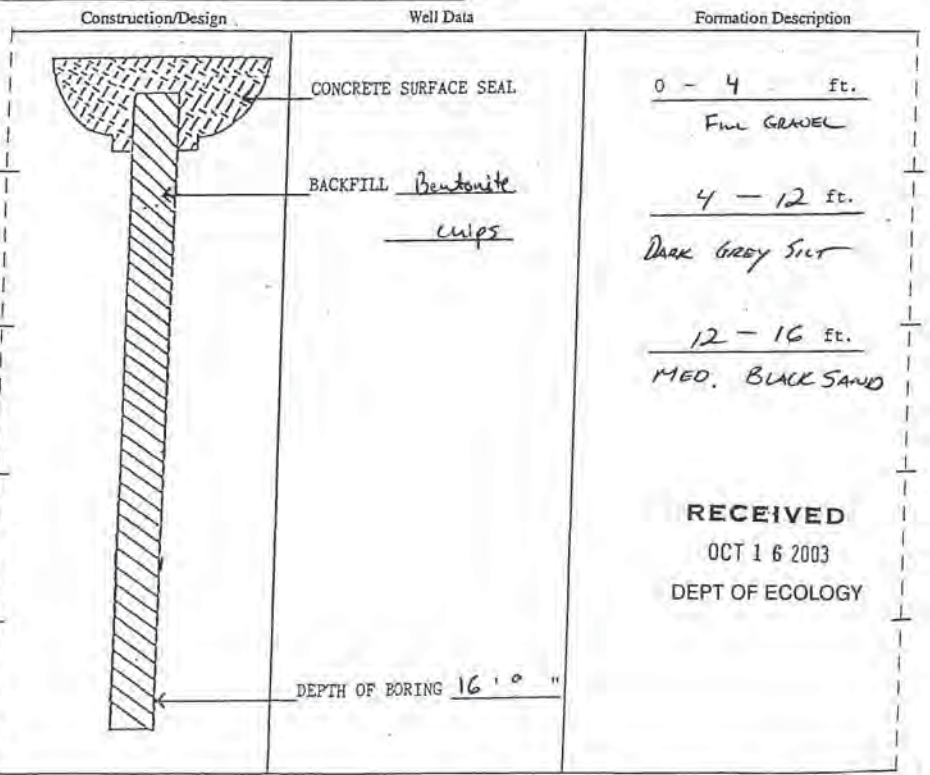
Work/Decommission Start Date 10/8/03
 Work/Decommission Completed Date 10/9/03

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kasey Bobbe

Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 2501

If trainee, licensed driller's Signature and License no. _____



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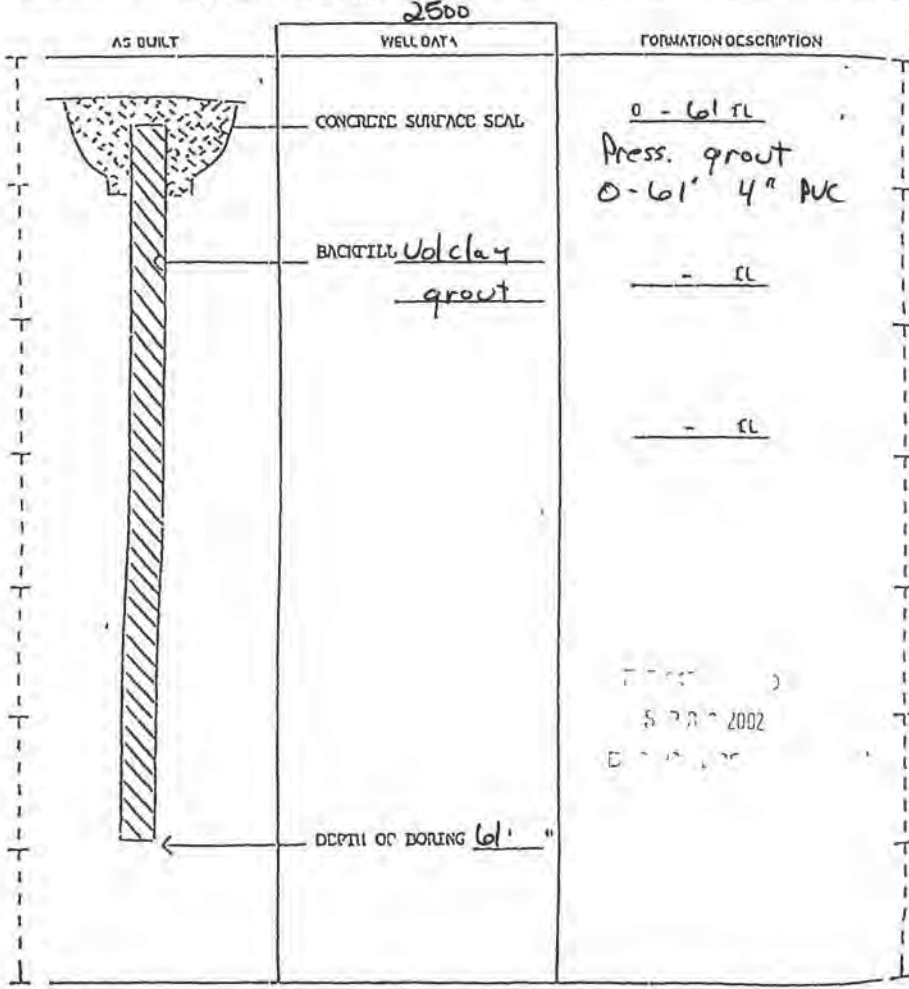
121089

RESOURCE PROTECTION WELL REPORT

START CAP NO A 60205
22-4E-1M

PROJECT NAME Western Process
 WELL IDENTIFICATION NO _____
 DRILLING METHOD Abandon
 DRILLER Scott Kruegar
 FIRM Cascade Drilling, Inc
 SIGNATURE [Signature]
 CONSULTING FIRM Boeing
 REPRESENTATIVE Wayne Schlappa

COUNTY King
 LOCATION NW 1/4 SW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL 2005 7th AVE S Kent WA
 WATER LEVEL ELEVATION N/A
 GROUND SURFACE ELEVATION N/A
 GROUND SURFACE ELEVATION 9/11/02
 DEVELOPER N/A



SCALE 1" = _____ PAGES _____ OF _____

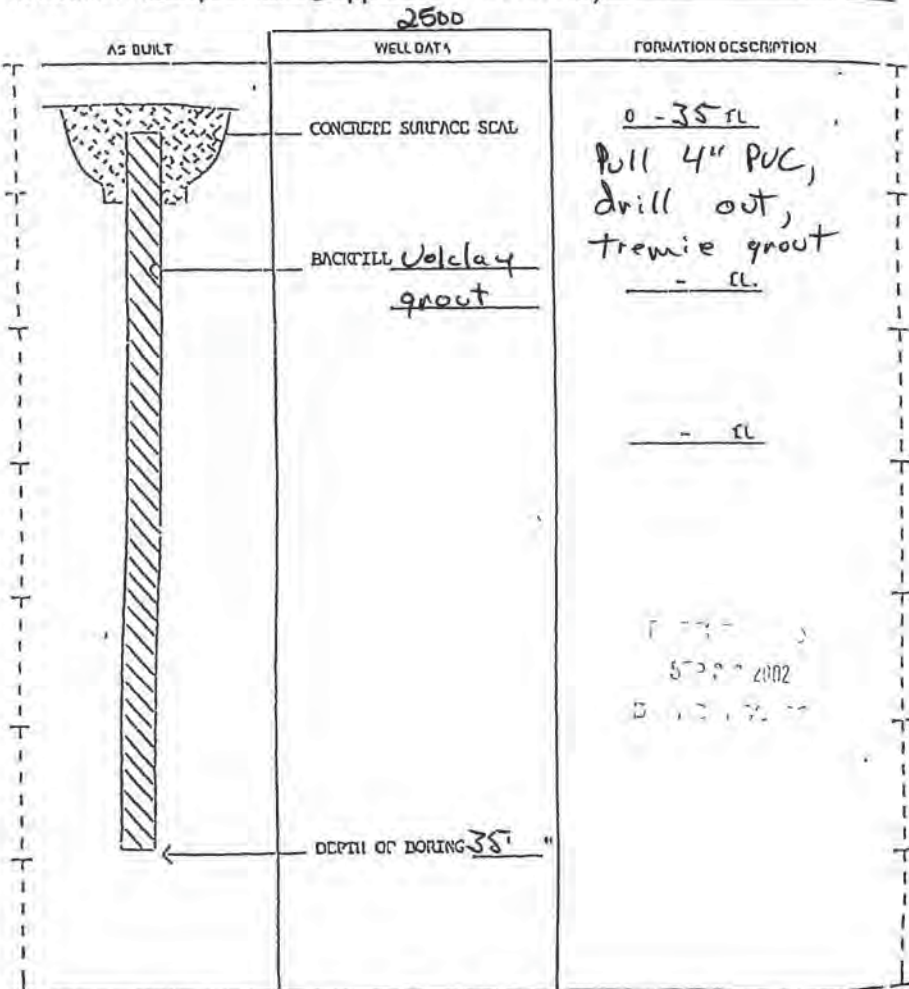
121090

RESOURCE PROTECTION WELL REPORT

START CAP NO A 60205
22-4E-1M

PROJECT NAME Western Process
 WELL IDENTIFICATION NO _____
 DRILLING METHOD Abandon
 DRILLER Scott Kruegar
 FIRM Cascade Drilling, Inc.
 SIGNATURE [Signature]
 CONSULTING FIRM Boeing
 REPRESENTATIVE Wayne Schlappa

COUNTY King
 LOCATION NW 1/4 SW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL 2005 7th AVE S Kent WA
 WATER LEVEL ELEVATION N/A
 GROUND SURFACE ELEVATION N/A
 GROUND SURFACE ELEVATION 9/11/02
 DEVELOPER N/A



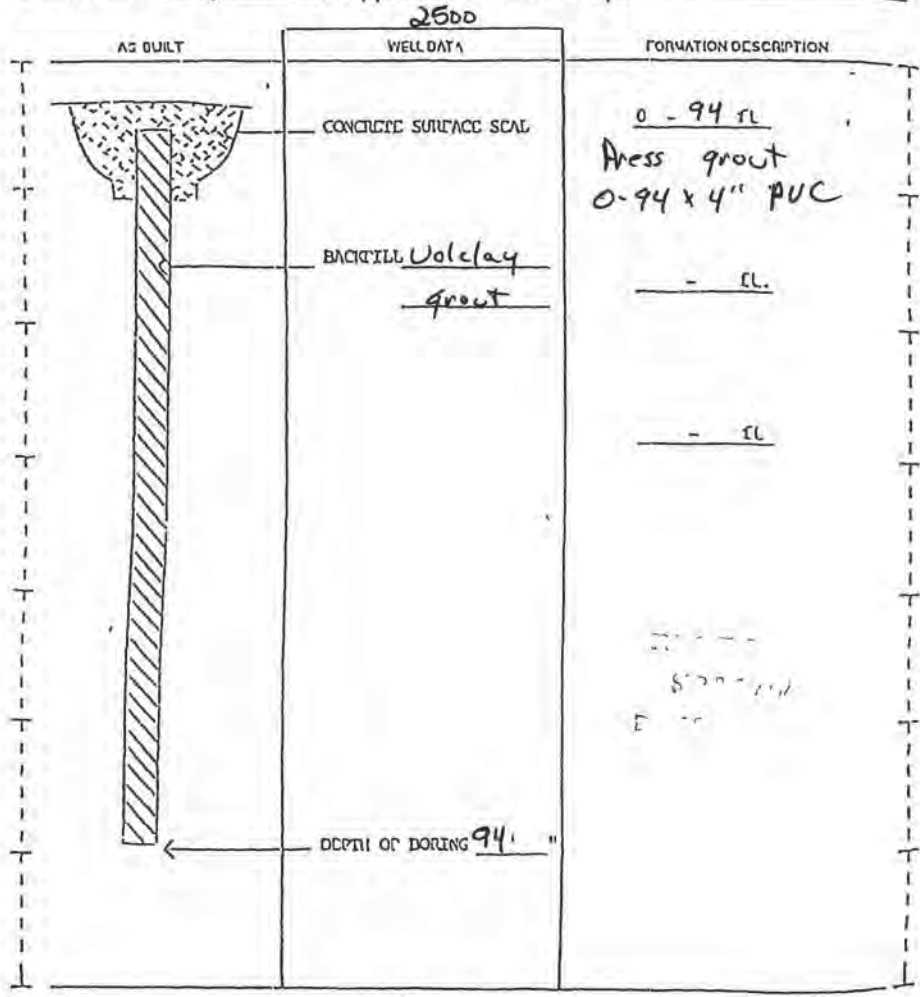
SCALE 1" = _____ PAGES _____ OF _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

121091
 PROJECT NAME Western Process
 WELL IDENTIFICATION NO _____
 DRILLING METHOD Abandon
 DRILLER Scott Kruegar
 FIRM Cascade Drilling, Inc
 SIGNATURE [Signature]
 CONSULTING FIRM Boeing
 REPRESENTATIVE Wayne Schlapp

START CADD NO A 60205
 COUNTY King 22-4E-1M
 LOCATION NW 1/4 SW 1/4 Sec 1 T22N R4E
 STREET ADDRESS OF WELL 2015 7th AVE S Kent WA
 WATER LEVEL ELEVATION N/A
 GROUND SURFACE ELEVATION N/A
 DATE INSTALLED 9/11/02
 DEVELOPED N/A



SCALE 1" = _____ PAGE _____ OF _____

RESOURCE PROTECTION WELL REPORT CURRENT

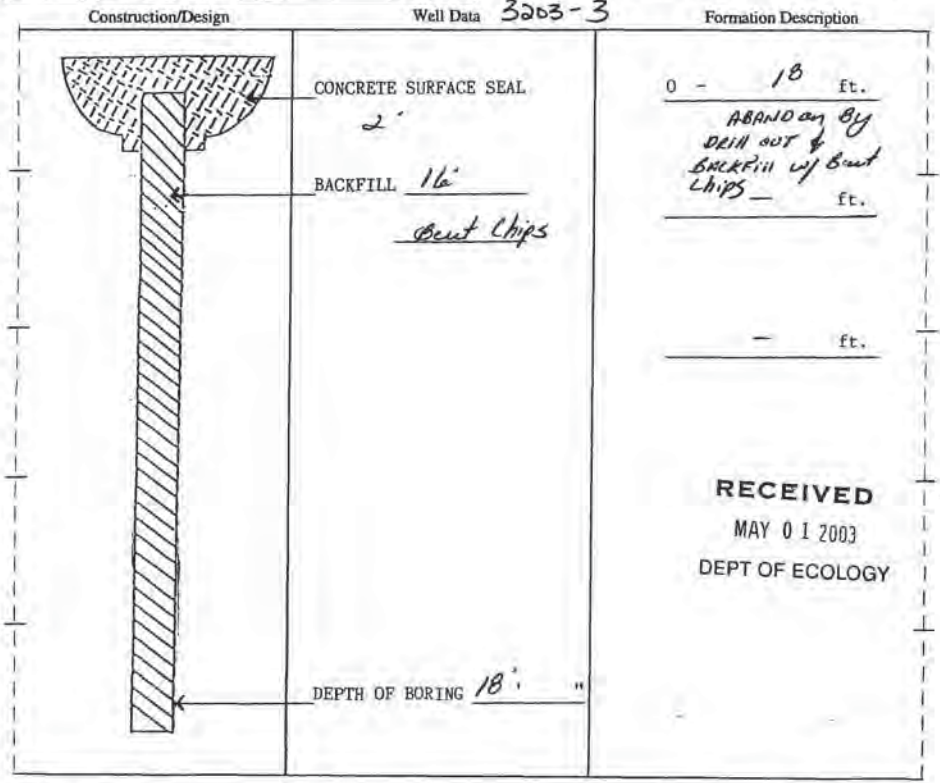
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)
 Construction/Decommission ("x" in circle)
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 131153

Property Owner Boeing / Western Processing
 Site Address 2015 7th AVE S
 City Kent County: King
 Location NW 1/4 SW 1/4 Sec 1 T22N R4E (EWM circle of one)
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 4/18/03
 Work/Decommission Completed Date 4/18/03

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) James Goble
 Driller/Engineer/Trainee Signature _____
 Driller or Trainee License No. 2440

If trainee, licensed driller's Signature and License no. N/A



Scale 1" = _____ Page _____ of _____ ECY 050-12 (Rev 2/01)

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GEOBORING & DEVELOPMENT, INC. 9415 S.R. 162 PUYALLUP, WA. 98372 (206) 845-6990

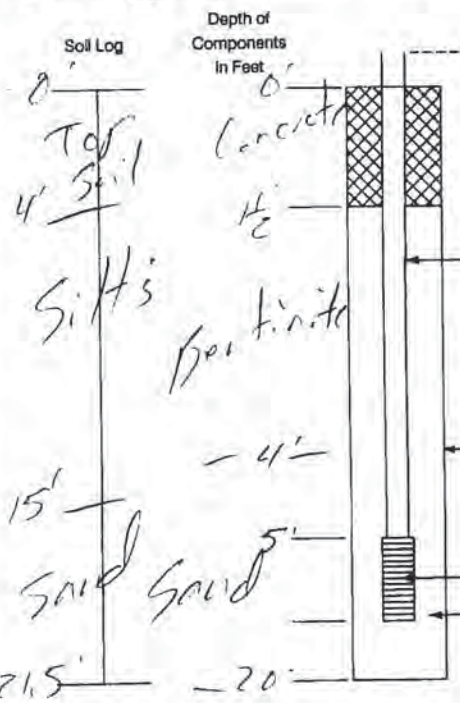
22N/4E/12D

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MAR 29 1993

Resource Protection Well Report

Project Name BR Station 65th Ave S&S 212th St
Well Identification # 11A-1
Drilling Method HSA
Driller Terry Burns
License # 1733
Job # 93-38

Date 3-10-93
County King NW 1/4 NW 1/4
Section 12 T. 22N R. 4E
Start Card 202727
Consulting Firm HCA



Stick up Flush on Monument Casing
Type of Surface Seal Concrete
Amount _____
ID of Riser Pipe 2"
Type of Riser Pipe PVC
Amount _____
Type of Connection Thread
Type of Backfill around Riser Ben-lite
Amount _____
Diameter of Borehole 8 3/4"
Screen Size or Type .02 PVC
Type of Filter Material 10-20 G. 1/2 Sand
Amount _____

Remarks: _____

Signature [Signature]



GEOBORING & DEVELOPMENT, INC. 9415 S.R. 162 PUYALLUP, WA. 98372 (206) 845-6990

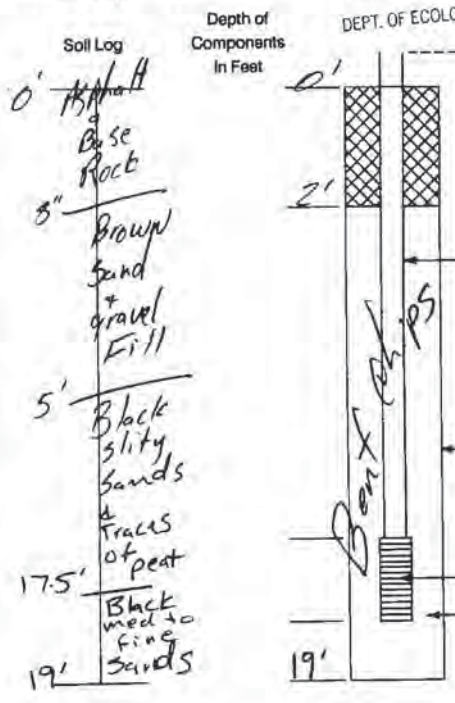
Resource Protection Well Report

22/4/12D

Project Name 212th Road work
Well Identification # B-2 Thur 7
Drilling Method 4" HSA
Driller John Ranish
License # 1805
Job # 94-50

Date 3-14-94
County King NW 1/4 NW 1/4
Section 12 T. 22N R. 4E
Start Card A 09325
Consulting Firm GeoEngineers

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APR 11 1994



Stick up N/A on Monument Casing
Type of Surface Seal Premix & J-T set
Amount _____
ID of Riser Pipe N/A
Type of Riser Pipe _____
Amount _____
Type of Connection _____
Type of Backfill around Riser Ben clips
Amount _____
Diameter of Borehole 9 5/8"
Screen Size or Type N/A
Type of Filter Material _____
Amount _____

Remarks: _____

Signature [Signature]

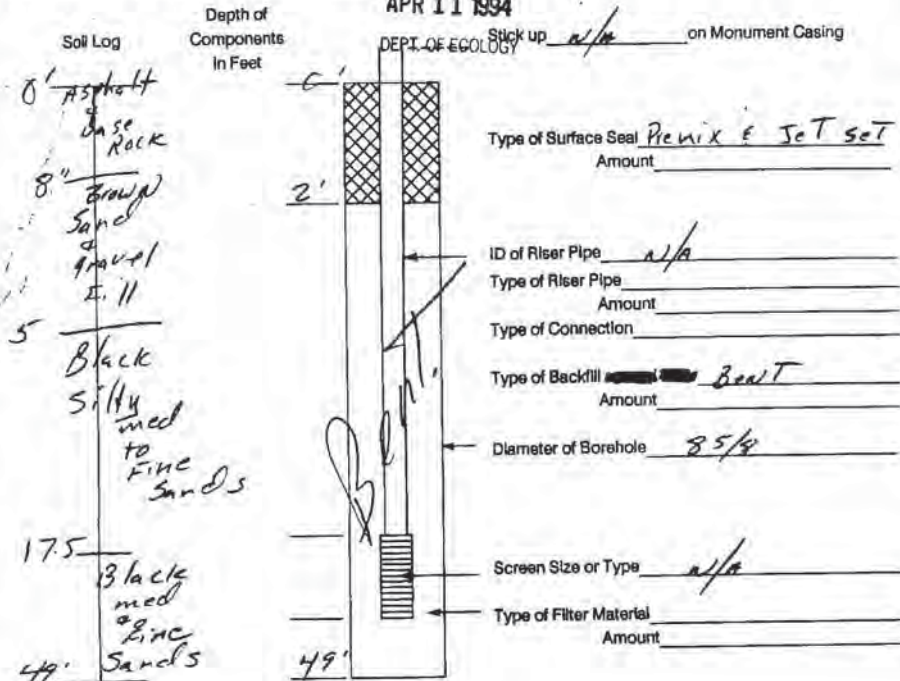
The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

Resource Protection Well Report

Project Name 212th Road work Date 3-12-94
 Well Identification # B-1 County King NW 1/4 NW 1/4
 Drilling Method 4" HSA Section 12 T. 22N R. 4E
 Driller John Ranish Start Card A09325
 License # 1805 Consulting Firm Geo Engineers
 Job # 94-50

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APR 11 1994



Remarks:

Signature John Ranish

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. RE10235

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm ARCADIS - Seattle

Property Owner Chevron
 Site Address 19918 68th Ave S
 City Kent County 17-King

Unique Ecology Well ID Tag No. BIS-617

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I hereby attest the information reported above are true to my best knowledge and belief.

Lat/Long (s, l, r still Required) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) James Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3131

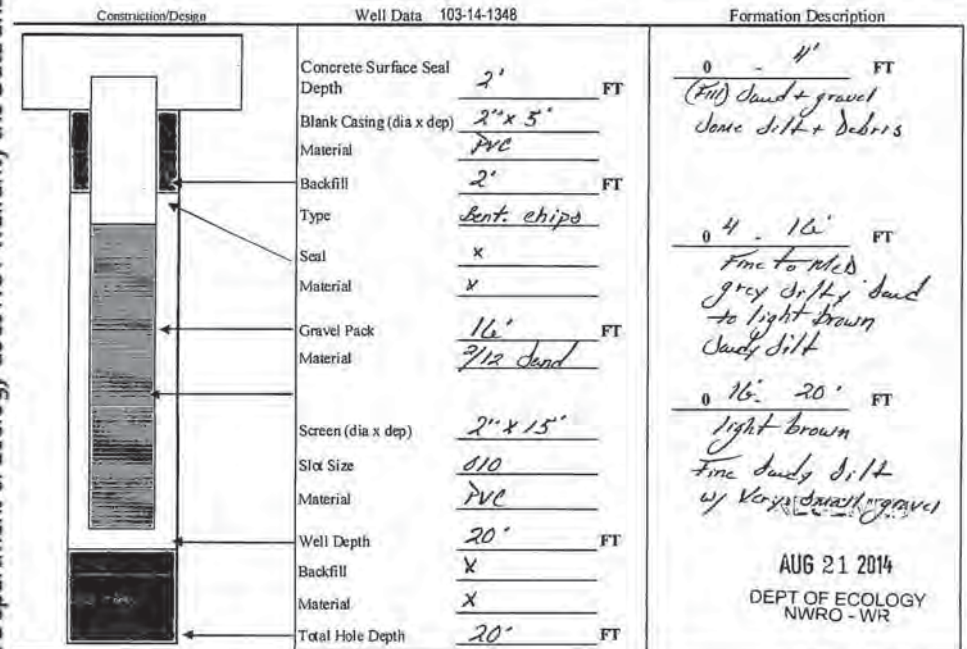
Tax Parcel No. 012204-9089

Cased or Uncased Diameter 8" Static Level 7'

Trainee, licensed driller's signature and License No. _____

Work/Decommission Start Date 7/30/2014

Work/Decommission End Date 7/31/2014



Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. RE10235

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm ARCADIS - Seattle

Property Owner Chevron
Site Address 19918 68th Ave S
City Kent County 17-King

Unique Ecology Well ID

Tag No. BID-615

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I am restricted and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 012204-9089

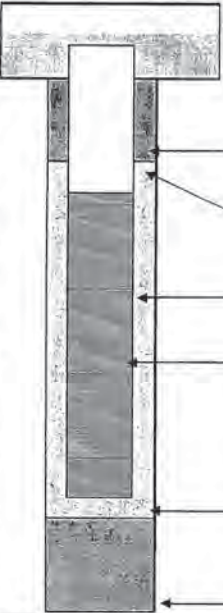
Driller Trainee Name (Print) James Gobie
Driller/Trainee Signature _____
Driller/Trainee License No. 3131

Cased or Uncased Diameter 8" Static Level 7'

Work/Decommission Start Date 7/30/2014

If trainee, licensed driller's Signature and License No. _____

Work/Decommission End Date 7/31/2014

Construction/Design	Well Data 103-14-1348	Formation Description
	Concrete Surface Seal Depth <u>2'</u> FT	<u>0 - 4'</u> FT (Fm) Sand + gravel some silt + debris
Blank Casing (dia x dep) <u>2" x 3'</u>	Material <u>PVC</u>	
Backfill <u>2'</u> FT	Type <u>lent. chips</u>	
Seal <u>x</u>	Material <u>x</u>	<u>0 4' - 16'</u> FT Fine to Med. grey silty sand to light brown sandy silt
Gravel Pack <u>16'</u> FT	Material <u>3/12 sand</u>	
Screen (dia x dep) <u>2" x 15'</u>	Slot Size <u>010</u>	<u>0 16' - 20'</u> FT light brown fine sandy silt w/ very small gravel
Material <u>PVC</u>	Well Depth <u>20'</u> FT	
Backfill <u>x</u>	Material <u>x</u>	
Total Hole Depth <u>20'</u> FT		

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE27867

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE52127

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm ARCADIS - Seattle

Property Owner Chevron
Site Address 19918 68th Ave S
City Kent County 17-King

Unique Ecology Well ID
Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____

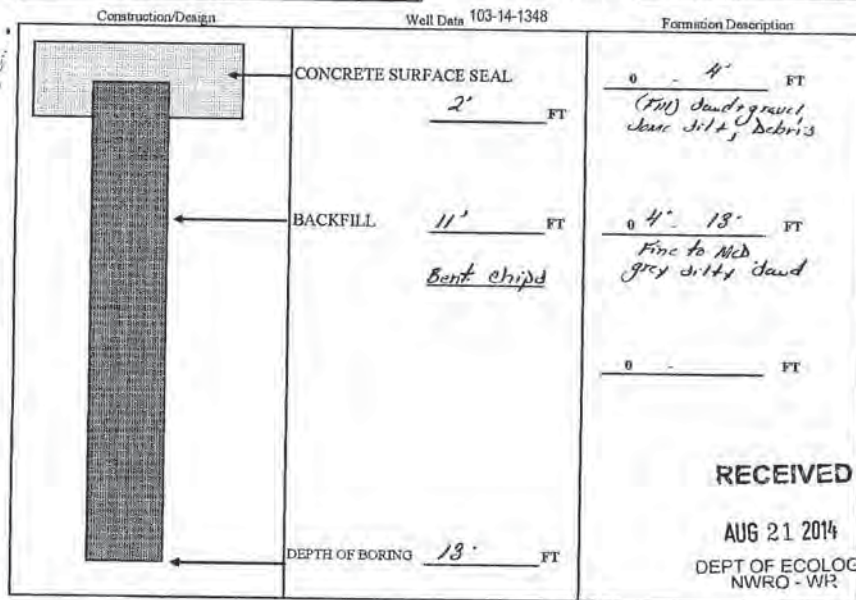
Driller Trainee Name (Print) James Gobie
Driller/Trainee Signature _____
Driller/Trainee License No. 3131

Tax Parcel No. 012204-9089
Cased or Uncased Diameter 8" Static Level 8"

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 7/30/2014

Work/Decommission Completed Date 7/31/2014



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. RE10235

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm ARCADIS - Seattle

Property Owner Chevron
 Site Address 19918 68th Ave S
 City Kent County 17-King

Unique Ecology Well ID Tag No. BIA-616

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E EWM or WWM

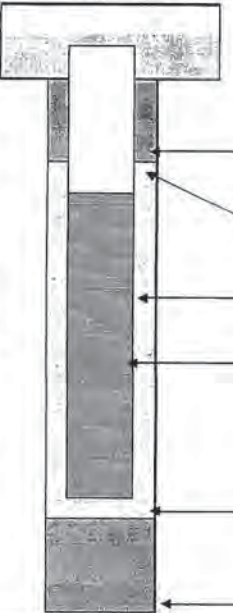
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) James Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 3131

Tax Parcel No. 012204-9089
 Cased or Uncased Diameter 8" Static Level 7'

Work/Decommission Start Date 7/30/2014
 Work/Decommission End Date 7/31/2014

Construction/Design	Well Data 103-14-1348	Formation Description
	Concrete Surface Seal Depth <u>2'</u> FT	<u>0 - 4'</u> FT (Fm) Sand + gravel Some silt + debris
	Blank Casing (dia x dep) <u>2" x 3'</u> Material <u>PVC</u>	
	Backfill <u>2'</u> FT Type <u>lent. chips</u>	
	Seal <u>x</u> Material <u>x</u>	<u>0 4 - 16'</u> FT Fine to Med. grey silty sand to light brown sandy silt
	Gravel Pack <u>16'</u> FT Material <u>3/12 sand</u>	
	Screen (dia x dep) <u>2" x 15'</u> Slot Size <u>010</u> Material <u>PVC</u>	<u>0 16 - 20'</u> FT light brown fine sandy silt w/ very small gravel
	Well Depth <u>20'</u> FT	
	Backfill <u>x</u> Material <u>x</u>	
	Total Hole Depth <u>20'</u> FT	

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE52127

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm ARCADIS - Seattle

Property Owner Chevron
 Site Address 19918 68th Ave S
 City Kent County 17-King

Unique Ecology Well ID Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E EWM or WWM

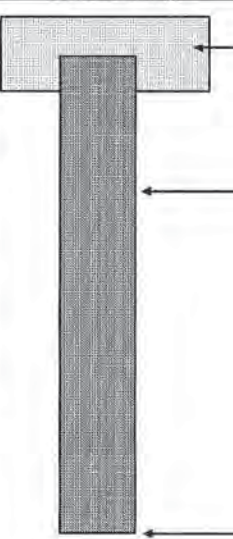
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) James Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 3131

Tax Parcel No. 012204-9089
 Cased or Uncased Diameter 8" Static Level 8'

Work/Decommission Start Date 7/30/2014
 Work/Decommission Completed Date 7/31/2014

Construction/Design	Well Data 103-14-1348	Formation Description
	CONCRETE SURFACE SEAL <u>2'</u> FT	<u>0 - 4'</u> FT (Fm) Sand + gravel Some silt + debris
	BACKFILL <u>11'</u> FT <u>lent chips</u>	<u>0 4 - 13'</u> FT Fine to Med. grey silty sand
	DEPTH OF BORING <u>13'</u> FT	<u>0 - _____</u> FT

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The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

433527

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. RE06329

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Chevron
 Site Address 19918 68th Ave. S.
 City Kent County 17-King

Consulting Firm ARCADIS
 Unique Ecology Well ID Tag No. BHK-191
 Location 1/4 SW 1/4 NW Sec 1 T22N R 4E of WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used in the construction reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2761
 If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. 0122049089
 Cased or Uncased Diameter 8" Static Level 10'
 Work/Decommission Start Date 11-16-11
 Work/Decommission End Date 11-16-11

Construction Design	Well Data W11-599	Formation Description	
	Concrete Surface Seal Depth <u>3'</u> FT	<u>0 - 23'</u> FT <u>grey silty sand</u>	
	Blank Casing (dia x dep) <u>2" x 21'</u> Material <u>sch 80 pvc</u>		
	Backfill <u>8'</u> FT Type <u>neat cement</u>		
	Seal <u>11'</u> Material <u>bent chips</u>	<u>0 23' - 24.5'</u> FT <u>brown clay</u>	
	Gravel Pack <u>3'</u> FT Material <u>2-12</u>		
	Screen (dia x dep) <u>2" x 2'</u> Slot Size <u>.010</u> Material <u>S.S.</u>		
	Well Depth <u>23'</u> FT Backfill <u>1.5'</u> Material <u>sand</u>		
	Total Hole Depth <u>24.5'</u> FT		



433528

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. RE06329

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Chevron
 Site Address 19918 68th Ave. S.
 City Kent County 17-King

Consulting Firm ARCADIS
 Unique Ecology Well ID Tag No. BHK-192
 Location 1/4 SW 1/4 NW Sec 1 T22N R 4E of WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used in the construction reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2761
 If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. 0122049089
 Cased or Uncased Diameter 8" Static Level 10'
 Work/Decommission Start Date 11-16-11
 Work/Decommission End Date 11-16-11

Construction Design	Well Data W11-599	Formation Description	
	Concrete Surface Seal Depth <u>3'</u> FT	<u>0 - 20'</u> FT <u>grey silty sand</u>	
	Blank Casing (dia x dep) <u>2" x 18'</u> Material <u>sch. 80 pvc</u>		
	Backfill <u>6'</u> FT Type <u>neat cement</u>		
	Seal <u>8'</u> Material <u>bent chips</u>	<u>0 20' - 22.5'</u> FT <u>clay</u>	
	Gravel Pack <u>3'</u> FT Material <u>2-12</u>		
	Screen (dia x dep) <u>2" x 2'</u> Slot Size <u>.010</u> Material <u>S.S.</u>		
	Well Depth <u>20'</u> FT Backfill <u>2.5'</u> Material <u>sand</u>		
	Total Hole Depth <u>22.5'</u> FT		



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

433529

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE06329

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Chevron
 Site Address 19918 68th Ave. S
 City Kent County 17-King

Consulting Firm ARCADIS
 Unique Ecology Well ID Tag No. BHK-193

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E or WWM
 Lat/Long (s, l, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 0122049089
 Cased or Uncased Diameter 8" Static Level 10'
 Work/Decommission Start Date 11-16-11
 Work/Decommission End Date 11-16-11

Construction/Design	Well Data W11-599	Formation Description
	Concrete Surface Seal Depth <u>3'</u> FT	<u>0 - 20'</u> FT grey silty sand
	Blank Casing (dia x dep) <u>2" x 18'</u>	
	Material <u>Sch. 80 pvc</u>	
	Backfill <u>6"</u> FT	
	Type <u>neat cement</u>	<u>0 20' - 21'</u> FT clay
	Seal <u>8'</u>	
	Material <u>best chips</u>	
	Gravel Pack <u>3'</u> FT	
	Material <u>2-12</u>	
	Screen (dia x dep) <u>2" x 2'</u>	<u>0 -</u> FT
Slot Size <u>.010</u>		
Material <u>S.S.</u>		
Well Depth <u>20'</u> FT		
Backfill <u>1'</u>		
Material <u>sand</u>		
Total Hole Depth <u>21'</u> FT		



433530

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE06329

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Chevron
 Site Address 19918 68th Ave. S
 City Kent County 17-King

Consulting Firm ARCADIS
 Unique Ecology Well ID Tag No. BHK-194

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E or WWM
 Lat/Long (s, l, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 0122049089
 Cased or Uncased Diameter 8" Static Level 10'
 Work/Decommission Start Date 11-17-11
 Work/Decommission End Date 11-17-11

Construction/Design	Well Data W11-599	Formation Description
	Concrete Surface Seal Depth <u>3'</u> FT	<u>0 - 18'</u> FT grey silty sand
	Blank Casing (dia x dep) <u>2" x 16'</u>	
	Material <u>Sch. 80 pvc</u>	
	Backfill <u>6'</u> FT	
	Type <u>neat cement</u>	<u>0 18' - 19'</u> FT clay
	Seal <u>6'</u>	
	Material <u>best chips</u>	
	Gravel Pack <u>3'</u> FT	
	Material <u>2-12</u>	
	Screen (dia x dep) <u>2" x 2'</u>	<u>0 19' - 21'</u> FT sand
Slot Size <u>.010</u>		
Material <u>S.S.</u>		
Well Depth <u>18'</u> FT		
Backfill <u>3'</u>		
Material <u>sand</u>		
Total Hole Depth <u>21'</u> FT		



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 471783

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm Arcadis

Unique Ecology Well ID Tag No. AHQ 308

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards.

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) James Lauer
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2745

If trainee, licensed driller's Signature and License No.

CURRENT Notice of Intent No. AE19415

Type of Well
 Resource Protection
 Geotechnical Soil Boring

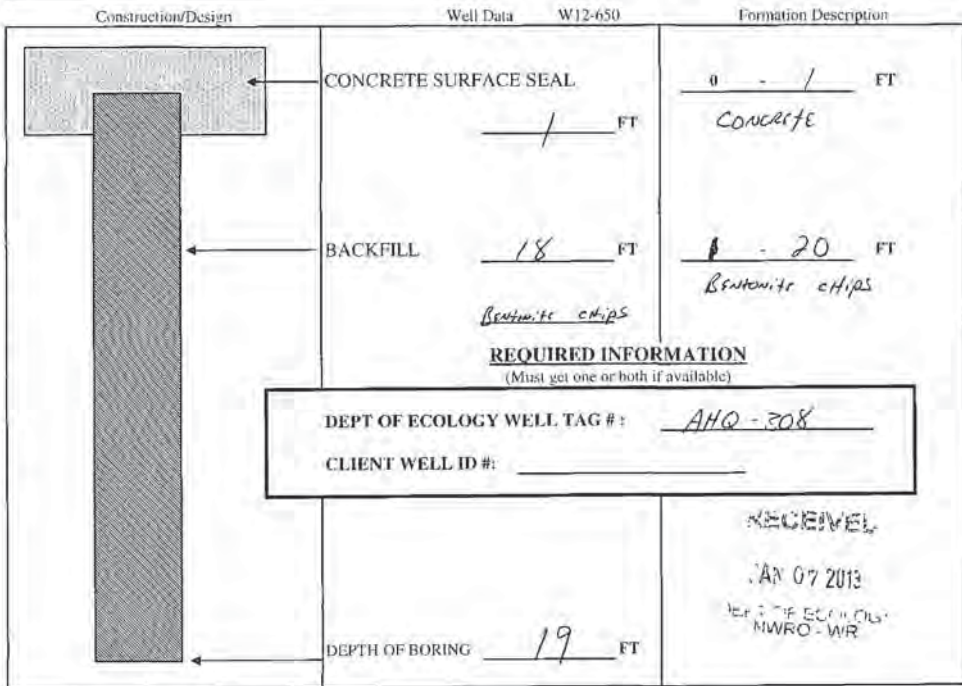
Property Owner Arco BP
 Site Address 19918 68th Ave S
 City Kent County King

Location SW 1/4 NW Sec 1 Twp 22N R. 4E or WWM
 Lat/Long (S, L, R) Lat Deg. n/a Lat Min/Sec n/a
 still Required) Long Deg. n/a Long Min/Sec n/a

Tax Parcel No. _____
 Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date 10-18-12

Work/Decommission Completed Date 10-18-12



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. R 64919

Construction/Decommission ("x" in circle) 140011 (4)

Construction
 Decommission Original Construction Notice of Intent Number

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron

Unique Ecology Well ID Tag No. AHQ 435

Consulting Firm Delta Environmental

Driller or Trainee Name James Goble

Driller or Trainee Signature [Signature]

Driller or Trainee License No. 2440

If trainee, licensed driller's Signature and License no.

Site Address 19660 68th AVE S
 City Kent County: King

Location SW 1/4-1/4 NW 1/4 Sec 1 Twp 22N R 4E ^{WWM} circle or one

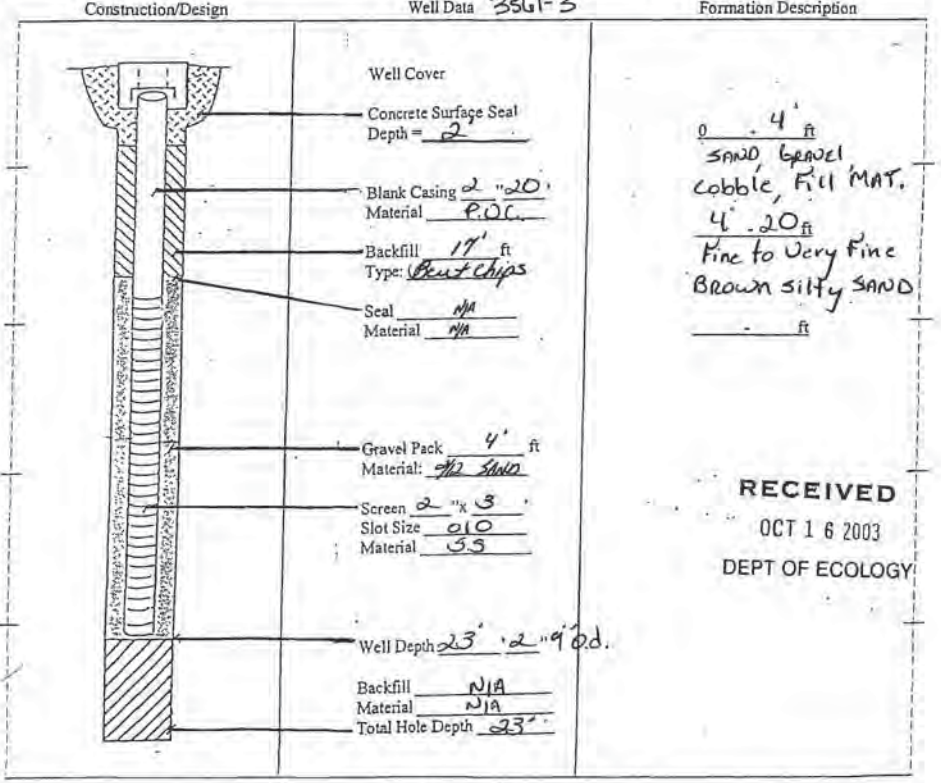
Lat/Long (s, l, r) Lat Deg. _____ Lat Min/Sec _____
 still REQUIRED) Long Deg. _____ Long Min/Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 9" Static Level _____

Work/Decommission Start Date 9/22/03

Work/Decommission Completed Date 9/23/03



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RESOURCE PROTECTION WELL REPORT Notice of Intent No. R 64919
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 140012 (4)
 Construction
 Decommission Original Construction Notice of Intent Number

22-4E-1E
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 436
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

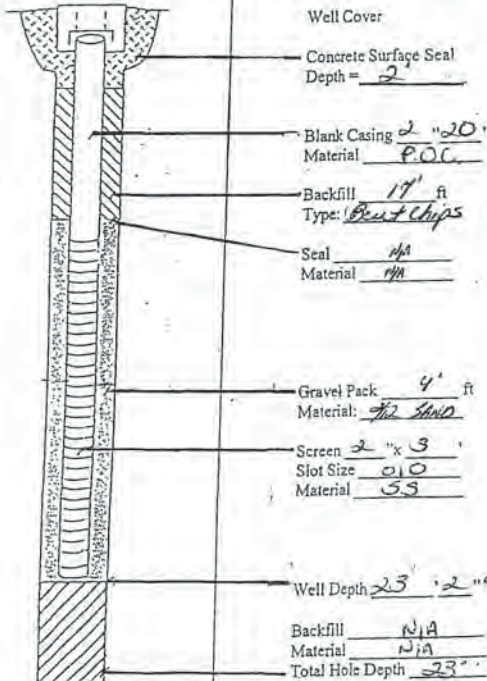
Site Address 19860 68th AVE S
 City Kant County: King
 Location SW 1/4- 1/4 NW 1/4 Sec. 1 Twn 20N R 4E ^{EW} circle or one WWM
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design

Well Data 3561-3

Formation Description



0 - 4' ft
SAND, GRAVEL
COBBLE, FILL MAT.
4' - 20' ft
Fine to Very Fine
BROWN SILTY SAND
 _____ ft

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Scale 1" = _____

Page 2 of 4

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT Notice of Intent No. R 64919
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 140013 (4)
 Construction
 Decommission Original Construction Notice of Intent Number

22-4E-1E
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 437
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

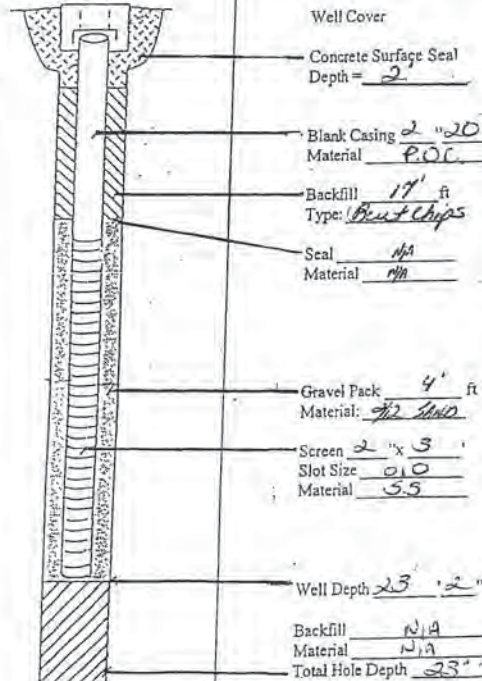
Site Address 19860 68th AVE S
 City Kant County: King
 Location SW 1/4- 1/4 NW 1/4 Sec. 1 Twn 20N R 4E ^{EW} circle or one WWM
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design

Well Data 3561-3

Formation Description



0 - 4' ft
SAND, GRAVEL
COBBLE, FILL MAT.
4' - 20' ft
Fine to Very Fine
BROWN SILTY SAND
 _____ ft

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Scale 1" = _____

Page 3 of 4

ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

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RESOURCE PROTECTION WELL REPORT Notice of Intent No. R 64919
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 140014 (4)
 Construction
 Decommission Original Construction Notice of Intent Number

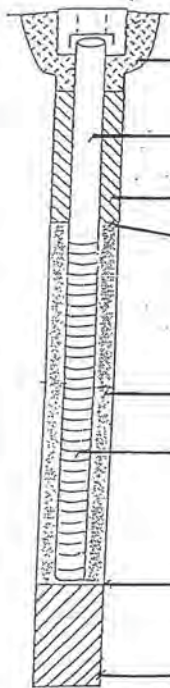
22-4E-1E
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 438
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

Site Address 19860 68th AVE S
 City Kent County: King
 Location SW 1/4-1/4 NW 1/4 Sec 1 Twn 20N R4E EWB circle or WWM one
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design Well Data 3561-3 Formation Description



Well Cover
 Concrete Surface Seal
 Depth = 2
 Blank Casing 2" x 3"
 Material P.O.C.
 Backfill 17' ft
 Type: Bent Chips
 Seal N/A
 Material N/A
 Gravel Pack 4' ft
 Material: #12 SAND
 Screen 2" x 3"
 Slot Size 0.10
 Material P.O.C.
 Well Depth 23' 2" 9/10
 Backfill N/A
 Material N/A
 Total Hole Depth 23'

0 - 4' ft
SAND, Gravel
cobble, Fill MAT.
4 - 20' ft
Fine to Very Fine
Brown silty SAND

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RESOURCE PROTECTION WELL REPORT Notice of Intent No. R 64919
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 140015 (3)
 Construction
 Decommission Original Construction Notice of Intent Number

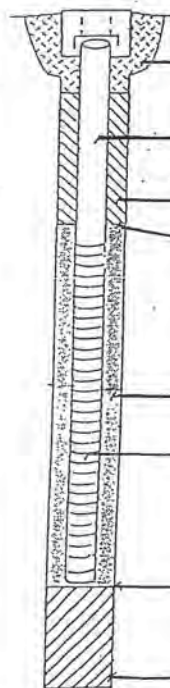
22-4E-1E
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 439
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

Site Address 19860 68th AVE S
 City Kent County: King
 Location SW 1/4-1/4 NW 1/4 Sec 1 Twn 20N R4E EWB circle or WWM one
 Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design Well Data 3561-3 Formation Description



Well Cover
 Concrete Surface Seal
 Depth = 1
 Blank Casing 2" x 4"
 Material PVC
 Backfill N/A ft
 Type: N/A
 Seal 2'
 Material Bent chips
 Gravel Pack 7' ft
 Material: #12 SAND
 Screen 2" x 6"
 Slot Size 0.10
 Material P.O.C.
 Well Depth 10.9'
 Backfill N/A
 Material N/A
 Total Hole Depth 10'

0 - 4' ft
Fill SAND, Gravel,
Cobbles
4 - 10' ft
Fine to Very Fine
brown silty Sand

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RESOURCE PROTECTION WELL REPORT

Notice of Intent No. R 64919
 22-4E-1E

Construction/Decommission ("x" in circle) 140016 (3)
 Construction
 Decommission Original Construction Notice of Intent Number

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 440
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

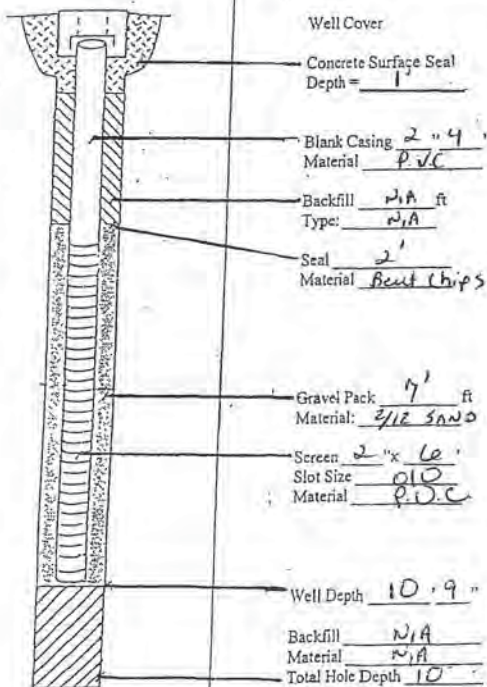
Site Address 19660 68th AVE S
 City Kent County: King
 Location SW 1/4-1/4 NW 1/4 Sec 1 Twn 20N R4E WWM circle or one
 Lat/Long (s, t, r) still REQUIRED Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design

Well Data 3561-3

Formation Description



0 - 4 ft
 Fill SAND, Gravel, Cobbles
 4 - 10 ft
 Fine to very fine brown Silty Sand

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Scale 1"=

RESOURCE PROTECTION WELL REPORT

Notice of Intent No. R 64919
 22-4E-1E

Construction/Decommission ("x" in circle) 140017 (3)
 Construction
 Decommission Original Construction Notice of Intent Number

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 441
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

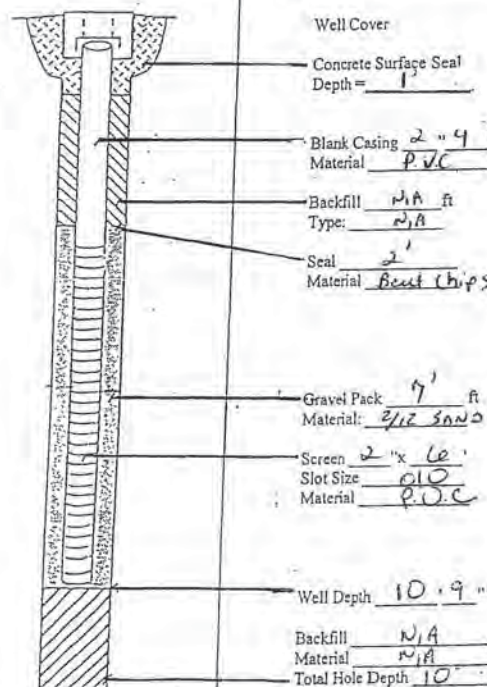
Site Address 19660 68th AVE S
 City Kent County: King
 Location SW 1/4-1/4 NW 1/4 Sec 1 Twn 20N R4E WWM circle or one
 Lat/Long (s, t, r) still REQUIRED Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design

Well Data 3561-3

Formation Description



0 - 4 ft
 Fill SAND, Gravel, Cobbles
 4 - 10 ft
 Fine to very fine brown Silty Sand

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 DEPT OF ECOLOGY

Scale 1"=

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. R 64919

Construction/Decommission ("x" in circle) 140018
 Construction
 Decommission Original Construction Notice of Intent Number

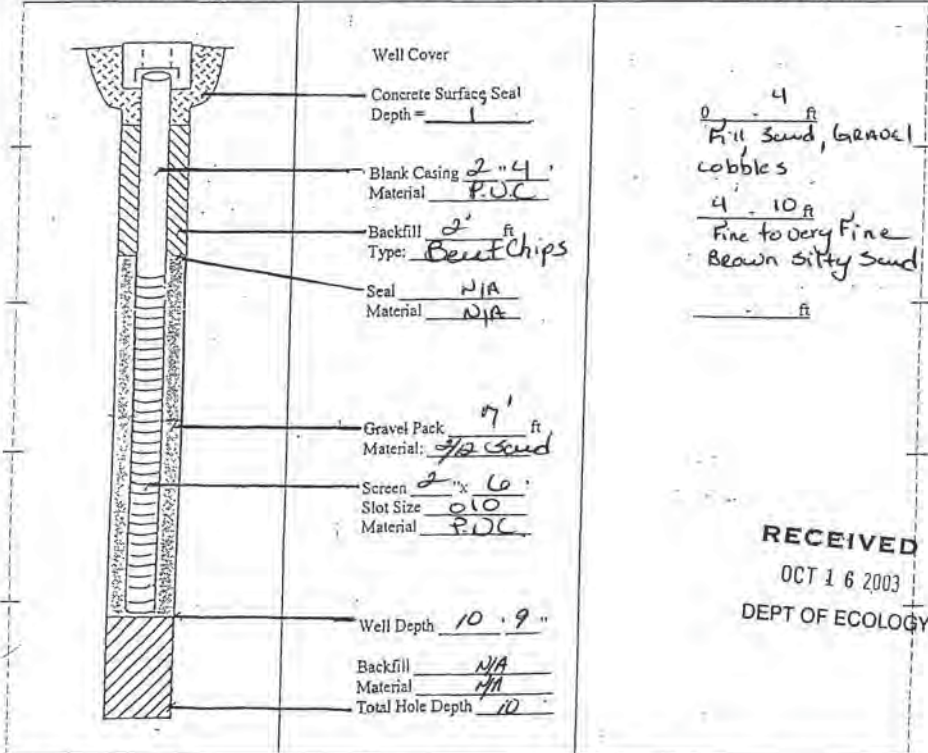
22-4E-1E
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 442
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

Site Address 19660 68th AVE S
 City Kent County: King
 Location SW 1/4-1/4 NW 1/4 Sec 1 Twn 20N R4E ^{(W) circle} _{or one}
 Lat/Long (s, l, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design Well Data 35U-3 Formation Description



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. R 64919

Construction/Decommission ("x" in circle) 140019
 Construction
 Decommission Original Construction Notice of Intent Number

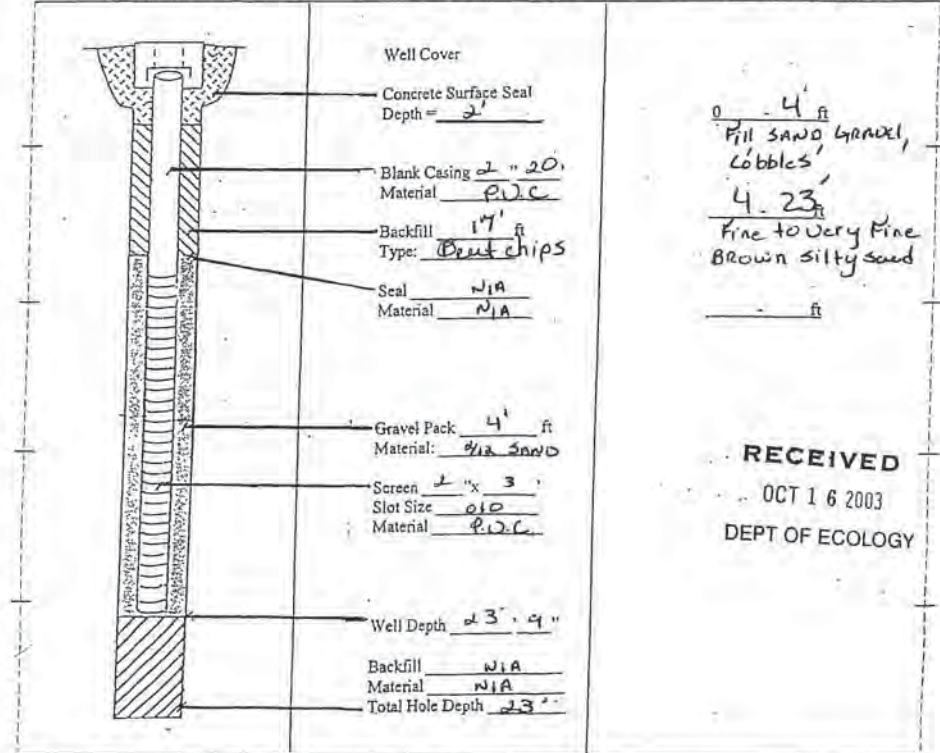
22-4E-1E
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 443
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Goble
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

Site Address 19660 68th AVE S
 City Kent County: King
 Location SW 1/4-1/4 NW 1/4 Sec 1 Twn 20N R4E ^{(W) circle} _{or one}
 Lat/Long (s, l, r) Lat Deg _____ Lat Min/Sec _____
 still REQUIRED) Long Deg _____ Long Min/Sec _____
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level _____
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no. _____

Construction/Design Well Data 35U-3 Formation Description



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT Notice of Intent No. R 64919
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle) 140020
 Construction (2)
 Decommission Original Construction Notice of Intent Number

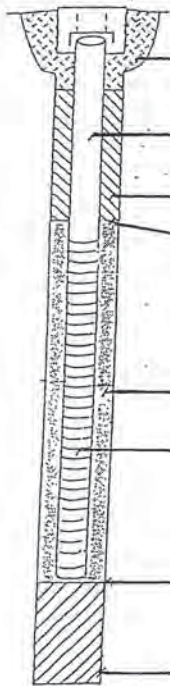
22-4E-1E
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner Chevron
 Unique Ecology Well ID Tag No. AHQ 444
 Consulting Firm Delta Environmental
 Driller or Trainee Name James Gable
 Driller or Trainee Signature [Signature]
 Driller or Trainee License No. 2440

Site Address 19660 68th AVE S
 City Kent County: King
 Location SW 1/4-1/4 NW 1/4 Sec 1 Twn 22N R4E EWS circle of WWM
 Lat/Long (s, l, r) Lat Deg Lat Min/Sec
 still REQUIRED) Long Deg Long Min/Sec
 Tax Parcel No. N/A
 Cased or Uncased Diameter 9" Static Level
 Work/Decommission Start Date 9/22/03
 Work/Decommission Completed Date 9/23/03

If trainee, licensed driller's Signature and License no.

Construction/Design Well Data 3561-3 Formation Description



Well Cover
 Concrete Surface Seal Depth = 2'
 Blank Casing 2" 20'
 Material PVC
 Backfill 17'
 Type: Deer chips
 Seal N/A
 Material N/A
 Gravel Pack 4'
 Material: fine sand
 Screen 2" x 3'
 Slot Size 0.10
 Material PVC
 Well Depth 23' 4"
 Backfill N/A
 Material N/A
 Total Hole Depth 23"

0 - 4 ft
 Fill SAND GRAVEL, Cobbles
4 - 23 ft
 Fine to Very Fine Brown silty sand

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430344

22-4E-1F

RESOURCE PROTECTION WELL REPORT CURRENT Notice of Intent No. AE15199
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)
 Construction
 Decommission

Type of Well ("x" in box)
 Resource Protection
 Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number: EE03685
 Consulting Firm Kanc Environmental
 Unique Ecology Well ID Tag No.

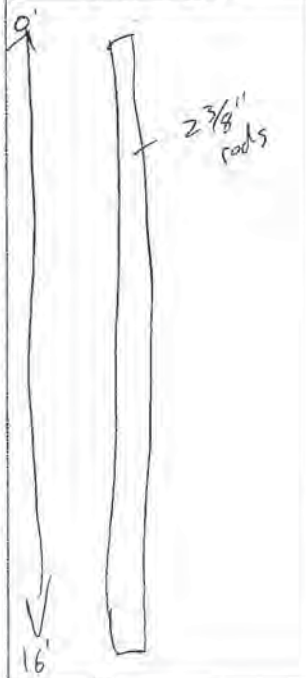
Property Owner Chris Hendley
 Site Address 7038 S 196th Street
 City Kent County King-17
 Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E
 EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Engineer Trainee
 Name (Print Last, First Name) Roddy Gidethy
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 3119

Lat/Long (s, l, r) Lat Deg Min Sec
 still REQUIRED) Long Deg Min Sec
 Tax Parcel No. 331106000325
 Cased or Uncased Diameter 2 3/8" Static Level 12'
 Work/Decommission Start Date 10-18-2011
 Work/Decommission Completed Date 10-18-2011

If trainee, licensed driller's Signature and License Number:
[Signature] License # 3119

Construction Design Well Data Formation Description



6" asphalt cold mix patch
Back filled with 3/8 hole plug

RECEIVED
 OCT 27 2011
 WA State Department of Ecology (SWRO)

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

430345

22-4E-1F

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee

Name (Print Last, First Name) Roddy Gilseth

Driller/Engineer/Trainee Signature Roddy Gilseth

Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number: Maxim A. [Signature] 4773

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kirkt County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

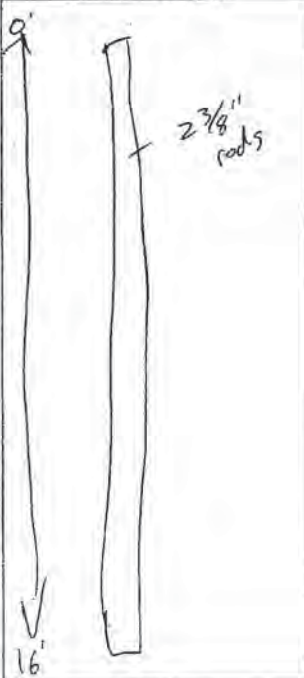
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" ~~asphalt~~ cold mix patch

Back filled with 3/8 Holeplug

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WA State Department of Ecology (SWRO)

SCALE: 1"= _____ PAGE _____ OF _____

430346

22-4E-1F

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee

Name (Print Last, First Name) Roddy Gilseth

Driller/Engineer/Trainee Signature Roddy Gilseth

Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number: Maxim A. [Signature] 4773

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kirkt County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

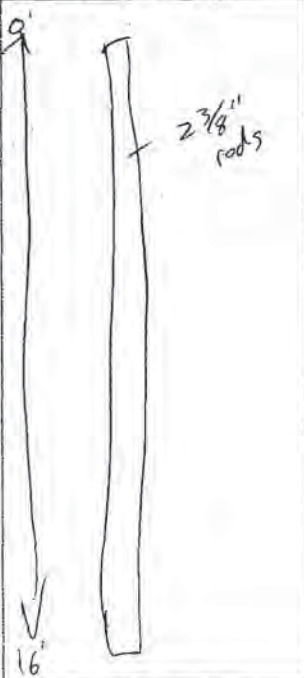
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" ~~asphalt~~ cold mix patch

Back filled with 3/8 Holeplug

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OCT 27 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= _____ PAGE _____ OF _____

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430347

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22-4E-1F

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee

Name (Print Last, First Name) Roddy Gilbethy

Driller/Engineer/Trainee Signature Roddy Gilbethy

Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number
Maxim A. [Signature] 1173

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kirunt County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

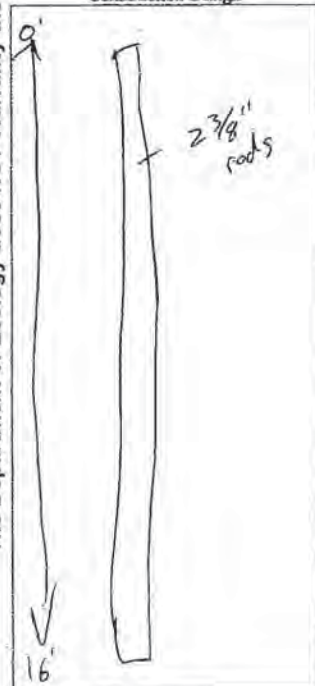
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" ~~asphalt~~ cold mix patch

Back filled with 3/8 Hbleplug

RECEIVED
OCT 27 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= _____ PAGE _____ OF _____

430348

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22-4E-1F

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee

Name (Print Last, First Name) Roddy Gilbethy

Driller/Engineer/Trainee Signature Roddy Gilbethy

Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number
Maxim A. [Signature] 1173

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kirunt County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

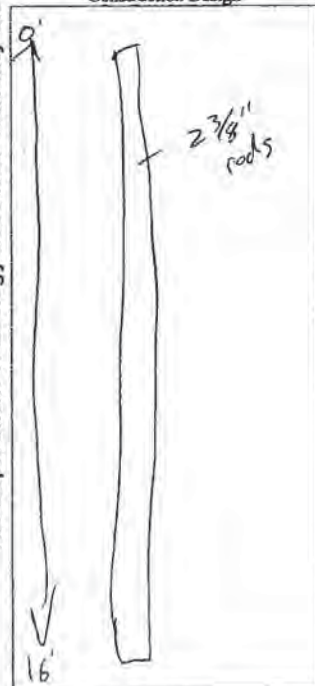
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" ~~asphalt~~ cold mix patch

Back filled with 3/8 Hbleplug

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OCT 27 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= _____ PAGE _____ OF _____

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

430349

22-4E-1F

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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Driller/Engineer/Trainee

Name (Print Last, First Name) Roddy Gilseth

Driller/Engineer/Trainee Signature Roddy Gilseth

Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number

Type of Well ("x" in box)

- Resource Protection
Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kent County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg Min Sec

still REQUIRED Long Deg Min Sec

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

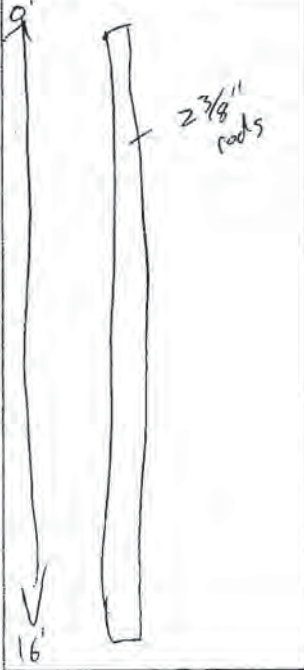
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" cold mix patch
Back filled with 3/8 Holoplug

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WA State Department of Ecology (SWRO)

SCALE: 1"= PAGE OF

430350

22-4E-1F

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Driller/Engineer/Trainee

Name (Print Last, First Name) Roddy Gilseth

Driller/Engineer/Trainee Signature Roddy Gilseth

Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number

Type of Well ("x" in box)

- Resource Protection
Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kent County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg Min Sec

still REQUIRED Long Deg Min Sec

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

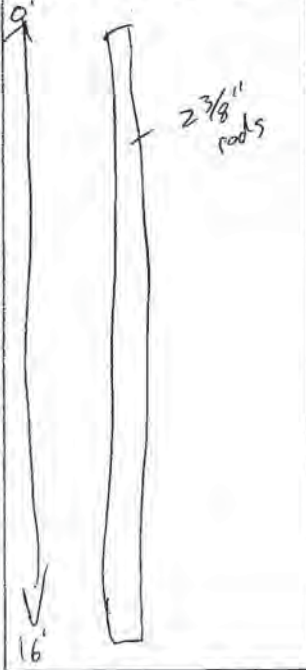
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" cold mix patch
Back filled with 3/8 Holoplug

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OCT 27 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= PAGE OF

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

430351

22-4E-1F

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number: EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name) Roddy Gilbey
 Driller/Engineer/Trainee Signature Roddy Gilbey
 Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number: Roddy Gilbey 3119

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kirkt County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

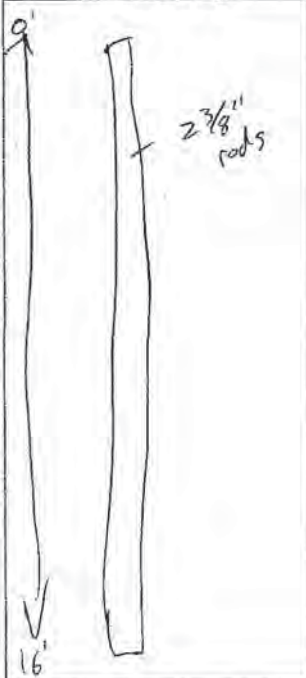
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" ~~asphalt~~ cold mix patch

Back filled with 3/8 Holeplug

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OCT 27 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= _____ PAGE _____ OF _____

430352

22-4E-1F

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number: EE03685

Consulting Firm Kane Environmental

Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name) Roddy Gilbey
 Driller/Engineer/Trainee Signature Roddy Gilbey
 Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number: Roddy Gilbey 3119

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kirkt County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

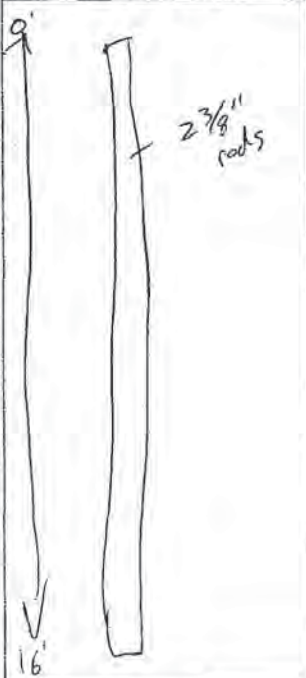
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" ~~asphalt~~ cold mix patch

Back filled with 3/8 Holeplug

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OCT 27 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= _____ PAGE _____ OF _____

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

430358

Please print, sign and return to the Department of Ecology

22-4E-1F

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE15199

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)
 Construction
 Decommission

ORIGINAL INSTALLATION Notice of Intent Number:
EE03685

Consulting Firm Kane Environmental
 Unique Ecology Well IDTag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name) Roddy Gilseth
 Driller/Engineer/Trainee Signature Roddy Gilseth
 Driller or Trainee License No. 3119

If trainee, licensed driller's Signature and License Number:
Maxim A. [Signature] 4173

Type of Well ("x" in box)
 Resource Protection
 Geotech Soil Boring

Property Owner Chris Hendley

Site Address 7038 S 196th Street

City Kent County King-17

Location SE 1/4-1/4 NW 1/4 Sec 1 Twn 22N R 4E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____
 still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. 331106000325

Cased or Uncased Diameter 2 3/8" Static Level 12'

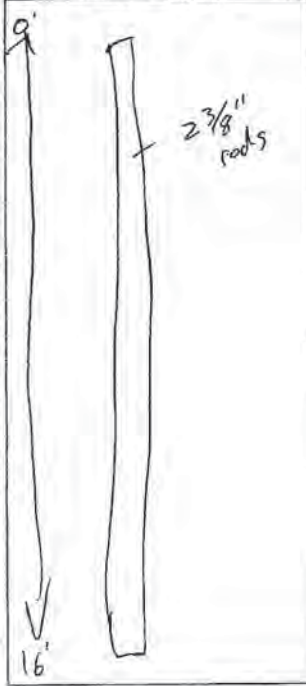
Work/Decommission Start Date 10-18-2011

Work/Decommission Completed Date 10-18-2011

Construction Design

Well Data

Formation Description



6" ~~asphalt~~ cold mix patch

Back filled with 3/8 Holeplug

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 WA State Department of Ecology (SWRO)

SCALE: 1" = _____ PAGE _____ OF _____

MONITORING WELL REPORT

411173

Well ID# Geotech Soil Borings
 Story Card # SE09010

1) OWNER/PROJECT WELL NO. _____
 City of Kent
 Address 2000 Fourth Ave S
 by UNT State WA Zip 98032

16) LOCATION OF WELL By legal description:
 Section King Township _____ Longitude _____
 Township 02N Range 4E (E or W) Section 2
SE (N or S) Range _____ (E or W) Section _____
 Street address of well location Approx S 194th St & 58th Plac S Kent WA 98032
 Top of number of well location City Row

2) TYPE OF WORK
 New construction Alteration (Repair/Reconstruction)
 Conversion Deepening Abandonment

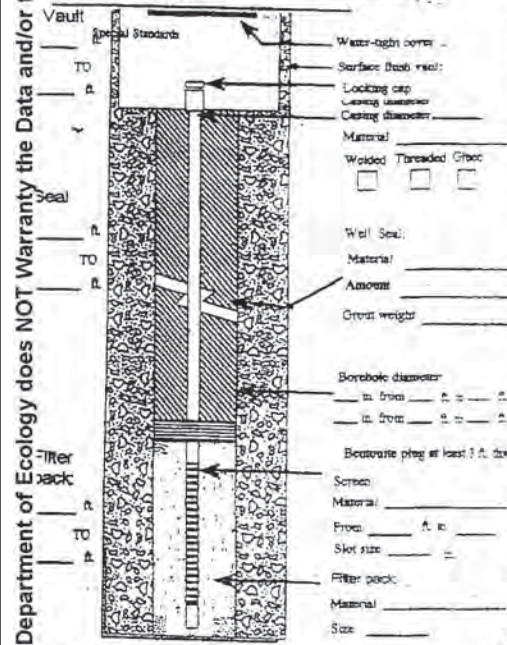
3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stem Auger Other _____

17) STATIC WATER LEVEL
 _____ Ft. below land surface Date _____
 Atmospheric Pressure _____ by _____ Date _____

1) BORE HOLE CONSTRUCTION:
 Special Standards Yes No
 Yes No
 Depth of Completed Well 41.5 ft

(3) WATER BEARING ZONES:
 Depth in which water was first found _____

From	To	Est. Flow Rate	SWL



(2) WELL LOG:
 Ground Elevations _____

Material	From	To	SWL
<u>Sand</u>	<u>0</u>	<u>41.5</u>	



Date drilled: 2/14/11 Completed 2/14/11

WELL TESTS:
 Pump Bail A.S. Flowing Artesian
 Permeability _____ Type _____ OFM _____
 Conductivity _____ PH _____
 Temperature of water _____ OF/C Depth strainer flow found _____ ft
 Was water analysis done? Yes No
 By whom? _____
 Depth of strainer to be analyzed: From _____ ft to _____ ft
 Remarks: _____
 Name of Supervising Geologist/Engineer Geo Engstrom

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Type of Firm Name Todd Knipschild License No. 3021
 Trainee Name _____ License No. _____
 Drilling Concern Holocene Drilling Inc
 Signer Todd Knipschild License No. 3021
 Address 10621 Todd Road E Edgewood WA 98372
 Registration No. H0102104KH March 29, 2011

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

MONITORING WELL REPORT

411174

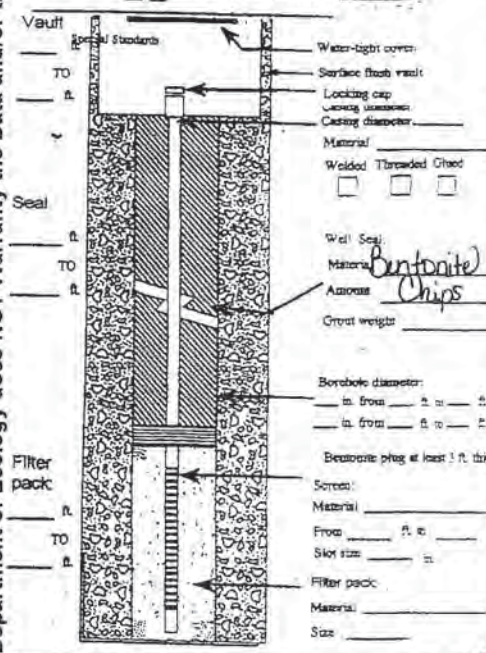
Well ID# Geotech Soil Borings ^{22-4E-2F}
 State Card # AE1815

(1) OWNER/PROJECT Name: City of Kent WELL NO: _____
 Address: 4100 Fourth Ave S
 City: Kent State: WA Zip: 98032

(2) TYPE OF WORK
 New construction Alteration (Repair/Reconstruction)
 Conversion Deepening Abandonment

(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stem Auger Other

(4) BORE HOLE CONSTRUCTION:
 Special Standards Yes No
 Depth of Completed Well 161.5 ft



(5) LOCATION OF WELL By legal description:
 County: King Latitude: _____ Longitude: _____
 Township: 22N (N or S) Range: 4E (E or W) Section: 2
SE 1/4 of NW 1/4 of above section.
 Street address of well location: Approx S 194th St & 58th Plac S Kent WA 98032
 Twp for number of well location: City Row

(7) STATIC WATER LEVEL
 _____ ft below land surface Date: _____
 Atmospheric Pressure: _____ lb/sq in Date: _____

(8) WATER BEARING ZONES:

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
 Ground Elevation _____
 Material From To SWL
 Backfilled from Bottom to top with Bentonite Chips
 RECEIVED MAY 04 2011 WATER RESOURCES - NWRO

Date started: 2/14/11 Completed: 2/14/11

(10) WELL TESTS:
 Pump Bail Air Flowing Artesian
 Permeability _____ Yield _____ GPM
 Conductivity _____ FR _____
 Temperature of water _____ OF/C Depth: _____ ft
 Was water analyzed? Yes No
 By whom? _____
 Depth of tests to be analyzed: From _____ ft to _____ ft
 Remarks: _____
 Name of Supervising Geologist/Engineer: Geo Express

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Type of Print Name: Todd Knipschild License No: 3021
 Trained Name: _____ License No: _____
 Drilling Company: Holocene Drilling Inc
 (Signed) Todd Knipschild License No: 3021
 Address: 10621 Todd Road E Edmonds WA 9832
 Registration No: Holocene 044KH Date: March 29, 2011

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

454615

Please print, sign and return to the Department of Ecology
 CURRENT Notice of Intent No. AE1815

Construction/Decommission ("x" in box)
 Construction Decommission
 ORIGINAL INSTALLATION Notice of Intent Number: SE44840

Consulting Firm: _____
 Unique Ecology Well IDTag No.: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name): Fadich, Nick
 Driller/Engineer/Trainee Signature: Nick Fadich
 Driller or Trainee License No: 2862

If trainee, licensed driller's Signature and License Number: _____

Type of Well ("x" in box)
 Resource Protection Geotech Soil Boring
 Property Owner: City of Kent
 Site Address: beam behind 5858 S. 194th St.
 City: Kent County: King
 Location: NE 1/4-1/4 HW 1/4 Sec 2 Twn 22 R 4
 EWM or WWM
 Lat/Long (s, t, r) still REQUIRED) Lat Deg _____ Min _____ Sec _____
 Long Deg _____ Min _____ Sec _____
 Tax Parcel No.: _____
 Cased or Uncased Diameter: 6" Static Level _____
 Work/Decommission Start Date: 3/13/12
 Work/Decommission Completed Date: 3/13/12

Construction Design	Well Data	Formation Description
	0 ft to <u>10</u> ft <u>bentonite chips</u>	0 ft to <u>10</u> ft <u>tan brown gray sand + gravel fill</u>

RECEIVED JUL 12 2011 DEPT OF ECOLOGY NWRO - WR
 RECEIVED MAY 11 2012 DEPT OF ECOLOGY NWRO - WR

SCALE: 1" = 10' PAGE 1 OF 1

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

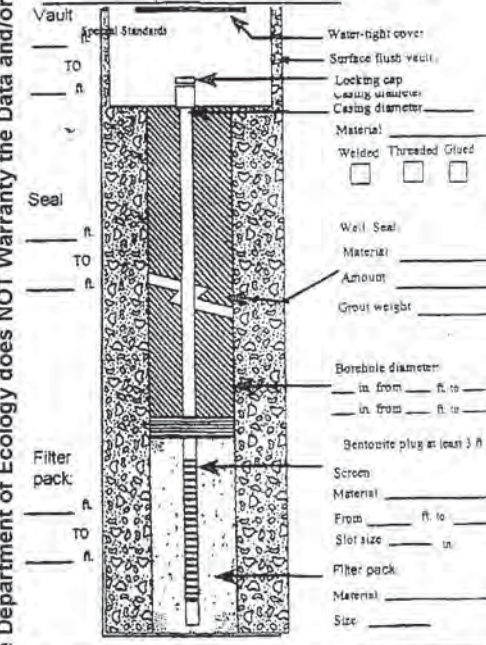
MONITORING WELL REPORT
 Well ID# SOIL BORING
 Start Card # SE49047
 475954

(1) OWNER/PROJECT WELL NO _____
 Name City of Kent
 Address 225 4th Ave South
 City Kent State WA Zip 98032

(2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stain Auger Other _____

(4) BORE HOLE CONSTRUCTION:
 Special Standards Yes No Depth of Completed Well 35 ft.



(5) WELL TESTS:
 Pump Bailor Air Flowing Artesian
 Permeability _____ Yield _____ OPM _____
 Conductivity _____ PH _____
 Temperature of water _____ OPM Depth artesian flow found _____ ft
 Was water analysis done? Yes No
 By whom? _____
 Depth of tests to be analyzed. From _____ ft. to _____ ft.
 Remarks _____
 Name of Supervising Geologist/Engineer Landon Association

(6) LOCATION OF WELL By legal description:
 County King Latitude _____ Longitude _____
 Township 22N (N or S) Range 4E (E or W) Section 1
SW 1/4 of NW 1/4 of above section
 Street address of well location 2nd Ave S & S 196th St
Kent, WA 98032
 Tax lot number of well location ROW

(7) STATIC WATER LEVEL:
 _____ Ft. below lead surface Date _____
 Artesian Pressure _____ (lb/sq. in.) Date _____

(8) WATER BEARING ZONES:
 Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
 Ground Elevation _____
 Material _____ From _____ To _____ SWL _____
Black sand | 0 | 35
 Date started 01/09/13 Completed 01/08/13

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above, are true to my best knowledge and belief.
 Type or Print Name Roddy Gilseth License No. 3119
 Trained Name _____ License No. _____
 Drilling Company Holocene Drilling, Inc.
 (Signed) [Signature] License No. 3119
 Address 11412 62nd Ave. E. Puyallup, WA 98373
 Registration No. HOL0CD1044KH Date 01/24/13

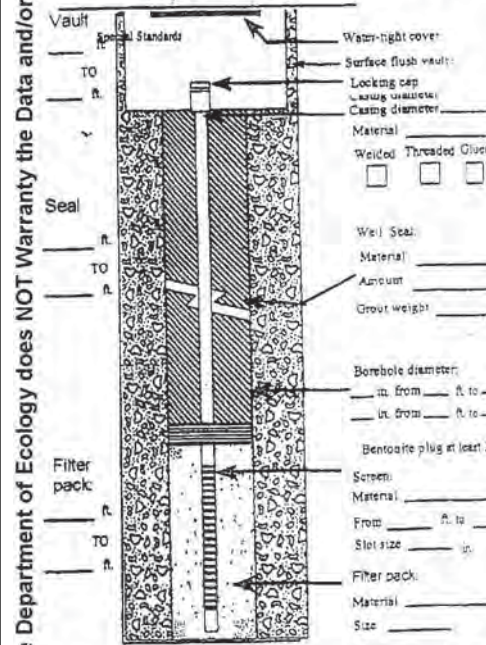
MONITORING WELL REPORT
 Well ID# SOIL BORING
 Start Card # AF 20154
 475958

(1) OWNER/PROJECT WELL NO _____
 Name City of Kent
 Address 225 4th Ave South
 City Kent State WA Zip 98032

(2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stain Auger Other _____

(4) BORE HOLE CONSTRUCTION:
 Special Standards Yes No Depth of Completed Well 35 ft.



(5) WELL TESTS:
 Pump Bailor Air Flowing Artesian
 Permeability _____ Yield _____ OPM _____
 Conductivity _____ PH _____
 Temperature of water _____ OPM Depth artesian flow found _____ ft
 Was water analysis done? Yes No
 By whom? _____
 Depth of tests to be analyzed. From _____ ft. to _____ ft.
 Remarks _____
 Name of Supervising Geologist/Engineer Landon Association

(6) LOCATION OF WELL By legal description:
 County King Latitude _____ Longitude _____
 Township 22N (N or S) Range 4E (E or W) Section 1
SW 1/4 of NW 1/4 of above section
 Street address of well location 2nd Ave S & S 196th St
Kent, WA 98032
 Tax lot number of well location ROW

(7) STATIC WATER LEVEL:
 _____ Ft. below lead surface Date _____
 Artesian Pressure _____ (lb/sq. in.) Date _____

(8) WATER BEARING ZONES:
 Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
 Ground Elevation _____
 Material _____ From _____ To _____ SWL _____
Backfilled from bottom to top with bentonite chips
 Date started 01/09/13 Completed 01/07/13

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above, are true to my best knowledge and belief.
 Type or Print Name Roddy Gilseth License No. 3119
 Trained Name _____ License No. _____
 Drilling Company Holocene Drilling, Inc.
 (Signed) [Signature] License No. 3119
 Address 11412 62nd Ave. E. Puyallup, WA 98373
 Registration No. HOL0CD1044KH Date 01/24/13

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

MONITORING WELL REPORT

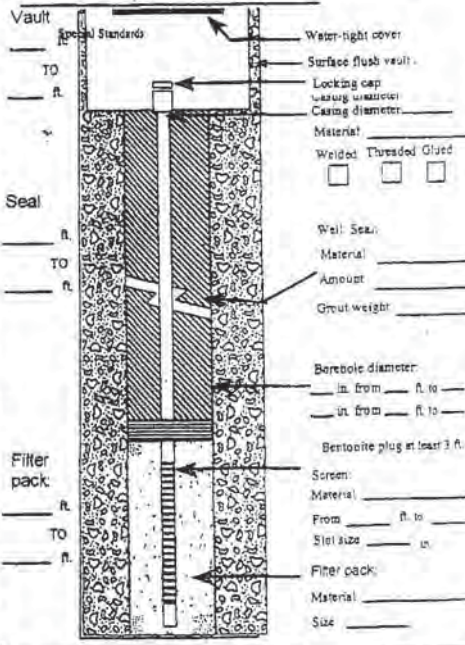
Well ID# SW BORING
Start Card # AE 20154
475 759

(1) OWNER/PROJECT
Name City of Kent WELL NO _____
Address 225 14th Ave South
City Kent State WA Zip 98032

(2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stem Auger Other

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes No
Depth of Completed Well 35 ft



(6) LOCATION OF WELL By legal description:
County King Latitude _____ Longitude _____
Township 22N (N or S) Range 4E (E or W) Section 1
SW 1/4 of NW 1/4 of above section
Street address of well location Pond Ave S & S 196th St
Kent, WA 98032
Tax lot number of well location ROW

(7) STATIC WATER LEVEL:
_____ Ft. below land surface Date _____
_____ Inches (in) Pressure _____ lbs./sq. in. Date _____

(8) WATER BEARING ZONES:
Depth at which water was first found _____
Table with columns: From, To, Est. Flow Rate, SWL

(9) WELL LOG:
Ground Elevation _____
Table with columns: Material, From, To, SWL
Backfilled from bottom to top with bentonite chips

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type or Print Name Roddy Gilseth License No. 3119
Trainee Name _____ License No. _____
Drilling Company Holocore Drilling, Inc.
I (Signed) Roddy Gilseth License No. 3119
Address 11412 62nd Ave E, Puyallup, WA 98073
Registration No. HOLOCD1044KH Date 01/24/13

(5) WELL TESTS:
 Pump Bafer Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ °C Depth Artesian flow found _____ ft
Was water analysis done? Yes No
By whom? _____
Depth of sample to be analyzed, From _____ ft. to _____ ft.
Remarks _____
Name Of Supervising Geologist/Engineer Landon Association

MONITORING WELL REPORT

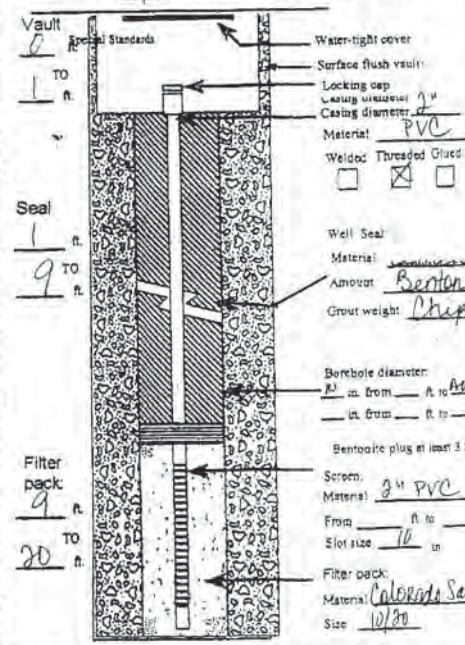
Well ID# BHT1083
Start Card # REC 9764
4789 73

(1) OWNER/PROJECT
Name City of Kent WELL NO _____
Address 225 14th Ave South
City Kent State WA Zip 98032

(2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stem Auger Other

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes No
Depth of Completed Well 20 ft



(6) LOCATION OF WELL By legal description:
County King Latitude _____ Longitude _____
Township 22N (N or S) Range 4E (E or W) Section 1
SW 1/4 of NW 1/4 of above section
Street address of well location Pond Ave S & S 196th St
Kent, WA 98032
Tax lot number of well location ROW

(7) STATIC WATER LEVEL:
_____ Ft. below land surface Date _____
_____ Inches (in) Pressure _____ lbs./sq. in. Date _____

(8) WATER BEARING ZONES:
Depth at which water was first found _____
Table with columns: From, To, Est. Flow Rate, SWL

(9) WELL LOG:
Ground Elevation _____
Table with columns: Material, From, To, SWL
Black sand

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type or Print Name Roddy Gilseth License No. 3119
Trainee Name _____ License No. _____
Drilling Company Holocore Drilling, Inc.
I (Signed) Roddy Gilseth License No. 3119
Address 11412 62nd Ave E, Puyallup, WA 98073
Registration No. HOLOCD1044KH Date 01/24/13

(5) WELL TESTS:
 Pump Bafer Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ °C Depth Artesian flow found _____ ft
Was water analysis done? Yes No
By whom? _____
Depth of sample to be analyzed, From _____ ft. to _____ ft.
Remarks _____
Name Of Supervising Geologist/Engineer Landon Association

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

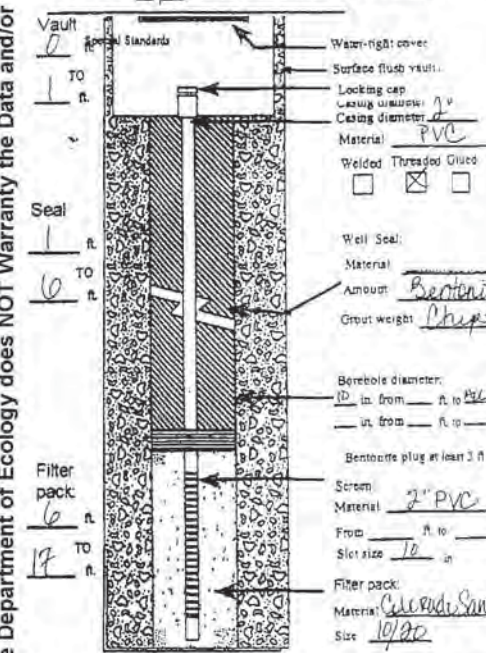
MONITORING WELL REPORT
478974

(1) OWNER/PROJECT
Name City of Kent
Address 222 1/2 Ave South
City Kent State WA Zip 98032

(2) TYPE OF WORK
 New construction
 Alteration (Repair/Recondition)
 Conversion
 Deepening
 Abandonment

(3) DRILLING METHOD
 Rotary Air
 Rotary Mud
 Cable
 Hollow Stem Auger
 Other

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes No
 Yes No
Depth of Completed Well 17 ft



(5) WELL TESTS:
 Pump Bailor Air Flowing Artesian
Permeability Yield OPM
Conductivity FH
Temperature of water OPM Depth artesian flow found
Was water analysis done? Yes No
By whom?
Depth of water to be analyzed. From ft to ft
Remarks
Name of Supervising Geologist/Engineer Landon

Well ID# BHU 004
Start Card # REC 2154

(6) LOCATION OF WELL By legal description:
County King Latitude Longitude
Township 22N (N or S) Range 4E (E or W) Section 1
SW 1/4 of NW 1/4 of above section
Street address of well location 62nd Ave S & S 196th St
Kent, WA 98032
Tax lot number of well location ROW

(7) STATIC WATER LEVEL
Ft below lead surface
Vertical Pressure lb/sq in
Date

(8) WATER BEARING ZONES
Depth at which water was first found
Table with columns: From, To, Est. Flow Rate, SWL

(9) WELL LOG:
Ground Elevation
Material From To SWL
Black sand 0 17
Date started 01/08/13 Completed 01/08/13

WELL CONSTRUCTION CERTIFICATION:
I authorize and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type or Print Name Roddy Gilsoth License No. 3119
Title Name License No.
Drilling Company Holocene Drilling, Inc.
(Signed) [Signature] License No. 3119
Address 11412 62nd Ave E, Puyallup, WA 98043
Registration No. H0LOCD1044KH Date 01/24/13



GEOBORING & DEVELOPMENT, INC. 9415 S.R. 162 PUYALLUP, WA. 98372 (206) 845-6990

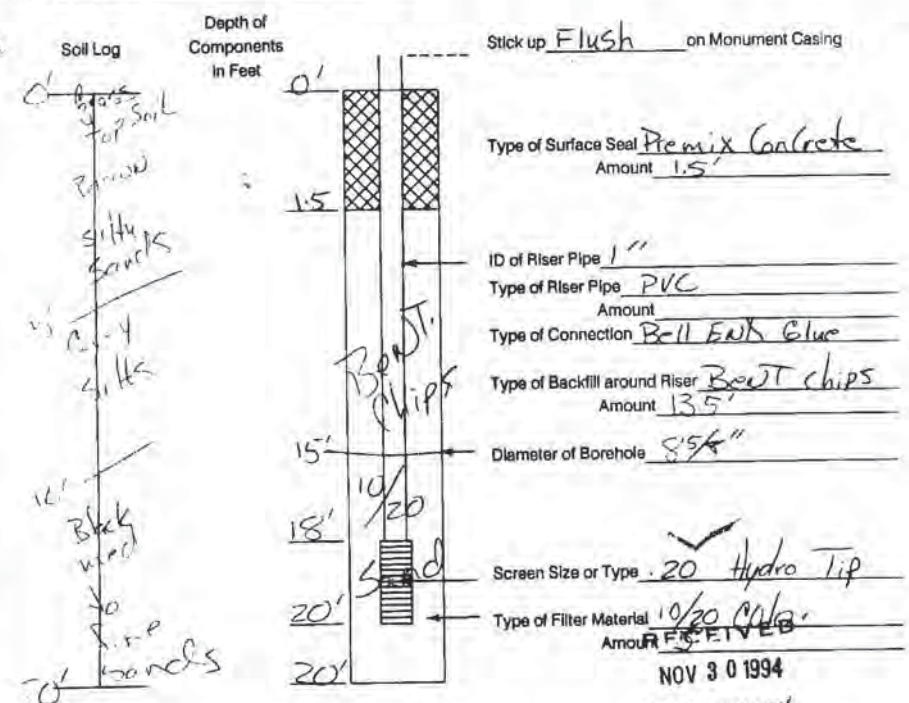
22N-4E-12D

Resource Protection Well Report

ENTERED

Project Name City of Kent Sewer Line
Well Identification # P-22015 142
Drilling Method 1" HSA
Driller John Penick
License # 1905
Job # 21-192

Date 10-19-94
County King NW 1/4 NW 1/4
Section 12 T. 22N R. 4E
Start Card R17147
Consulting Firm Geo Engineers



Remarks: 2 Packers which there were 2 Hydro Tips
Install to check water Table during const.
Signature [Signature]

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT warrant the Data and/or the information on this Well Report.

MONITORING WELL REPORT

199821 10/1
 (1) OWNER/PROJECT Name: David Taylor
 Address: 18 Country Club Lane
 City: Longview State: WA Zip: 98632

Well ID# APB 904
 Start Card # R040694

(2) TYPE OF WORK
 New construction
 Alteration (Repair/Recondition)
 Conversion
 Deepening
 Abandonment

(6) LOCATION OF WELL By legal description:
 County: King Latitude: Longitude:
 Township: 22N (N or S) Range: 4E (E or W) Section: 12
 NW 1/4 of NW 1/4 of above section
 Street address of well location: 21255 76th Ave S
 Kent WA
 Tax lot number of well location:

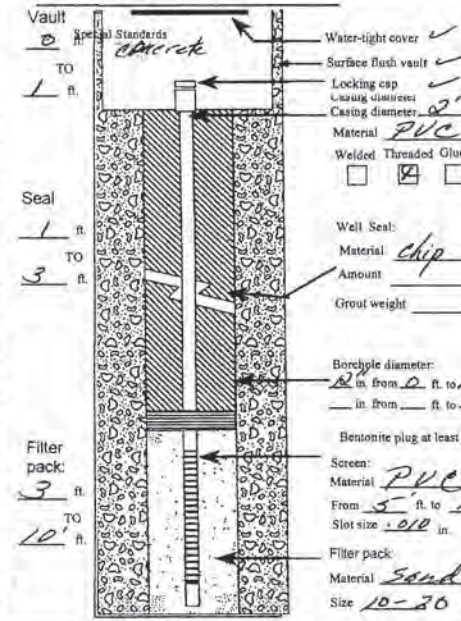
(3) DRILLING METHOD
 Rotary Air
 Rotary Mud
 Cable
 Hollow Stem Auger
 Other

(7) STATIC WATER LEVEL:
 3.5 Ft. below land surface. Date:
 Artesian Pressure: lb/sq. in. Date:

(4) BORE HOLE CONSTRUCTION:
 Special Standards Yes No
 Depth of Completed Well: 10' ft.

(8) WATER BEARING ZONES:
 Depth at which water was first found: 3.5' ft.

From	To	Est. Flow Rate	SWL



(9) WELL LOG:
 Ground Elevation:

Material	From	To	SWL
Concrete Fill	0	5'	
Gray silty sand	5'	10'	

RECEIVED
 JUN 26 2006
 DEPARTMENT OF ECOLOGY
 WELL DRILLING UNIT
 Date started: 5-26-06 Completed: 5-26-06

(5) WELL TESTS:
 Pump
 Bailer
 Air
 Flowing Artesian
 Permeability: Yield: GPM
 Conductivity: PH
 Temperature of water: OF/C Depth artesian flow found: ft.
 Was water analysis done? Yes No
 By whom?
 Depth of strata to be analyzed: From: ft. to: ft.
 Remarks:
 Name of Supervising Geologist/Engineer: Stratum Group

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Type or Print Name: Tom Adair License No: 2684
 Trainee Name: Joe Pruitt License No:
 Drilling Company: Environmental Drilling
 (Signed) Thomas J. Adair License No: 2684
 Address: 10918 154th Ave SE Sno WA
 Registration No: 559817-00 Date: 6-21-06

The Department of Ecology does NOT warrant the Data and/or the information on this Well Report.

503680



GEOTECH SOIL BORING REPORT
 Construction & Decommission

Decommission # AE 24558
 Notice of Intent# SE 49886
 Property Owner: FDC International
 Site Address: 5869 S. 194th Street, Kent, WA
 Location: NE, NW, SEC 2, T22N, R4E
 County: King County
 Work/Decom Date: 11/19/2013
 Date Completed: 11/19/2013
 Consulting Firm: Geo Group NW
 Drilling Company: Geologic Drill Exploration, Inc
 Driller & License #: Wade Bellaf 2922
 Signature: Wade Bellaf

Construction:
 Procedure: Hollow Stem Auger
 Auger Size: 8"
 Boring Depth: See below
 Water Level: 25'

Formation Description: Borings # B-1 and B-2
 B-1 0' to 25' Silt
 25' to 30' Sand
 B-2 0' to 25' Silt
 25' to 30' Sand

Decommission
 Backfilled with Bentonite

RECEIVED

OEC 13 2013

DEPARTMENT OF ECOLOGY
 NWRC WA

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

503681



GEOTECH SOIL BORING REPORT
Construction & Decommission

Decommission # AE 24558
 Notice of Intent# SE 49886

Property Owner: FDC International
 Site Address: 5869 S. 194th Street, Kent, WA
 Location: NE, NW, SEC 2, T22N, R4E
 County: King County
 Work/Decom Date: 11/19/2013
 Date Completed: 11/19/2013

Consulting Firm: Geo Group NW
 Drilling Company: Geologic Drill Exploration, Inc.
 Driller & License #: Wade Betlaf 2922

Signature: Wade Betlaf

Construction:
 Procedure: Hollow Stem Auger
 Auger Size: 8"
 Boring Depth: See below
 Water Level: 25'

Formation Description: Borings # B-1 and B-2

B-1 0' to 25' Silt
 25' to 30' Sand

B-2 0' to 25' Silt
 25' to 30' Sand

Decommission
Backfilled with Bentonite

RECEIVED
 DEC 13 2013
 DEPT. OF ECOLOGY
 NWRC - WR

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

503682



GEOTECH SOIL BORING REPORT
Construction & Decommission

Notice of Intent# SE 49886
 Decommission # AE 24558

Property Owner: FDC International
 Site Address: 5869 S. 194th Street, Kent, WA
 Location: NE, NW, SEC 2, T22N, R4E
 County: King County
 Work/Decom Date: 11/19/2013
 Date Completed: 11/19/2013

Consulting Firm: Geo Group NW
 Drilling Company: Geologic Drill Exploration, Inc.
 Driller & License #: Wade Betlaf 2922

Signature: Wade Betlaf

Construction:
 Procedure: Hollow Stem Auger
 Auger Size: 8"
 Boring Depth: See below
 Water Level: 25'

Formation Description: Borings # B-1 and B-2

B-1 0' to 25' Silt
 25' to 30' Sand

B-2 0' to 25' Silt
 25' to 30' Sand

Decommission
Backfilled with Bentonite

RECEIVED
 DEC 13 2013
 DEPT. OF ECOLOGY
 NWRC - WR

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

503683



GEOTECH SOIL BORING REPORT Construction & Decommission

Notice of Intent# SE 49886
Decommission # AE 24558

Property Owner: FDC International
Site Address: 5869 S. 194th Street, Kent, WA
Location: NE, NW, SEC 2, T22N, R4E
County: King County
Work/Decom Date: 11/19/2013
Date Completed: 11/19/2013

Consulting Firm: Geo Group NW
Drilling Company: Geologic Drill Exploration, Inc
Driller & License #: Wade Betlaf 2922

Signature: Wade Betlaf

Construction:
Procedure: Hollow Stem Auger
Auger Size: 8"
Boring Depth: See below
Water Level: 25'

Formation Description: Borings # B-1 and B-2

B-1 0' to 25' Silt
25' to 30' Sand

B-2 0' to 25' Silt
25' to 30' Sand

Decommission
Backfilled with Bentonite

RECEIVED

DEC 13 2013

DEPT. OF ECOLOGY
NWRQ WR

Geoboring & Development, Inc.

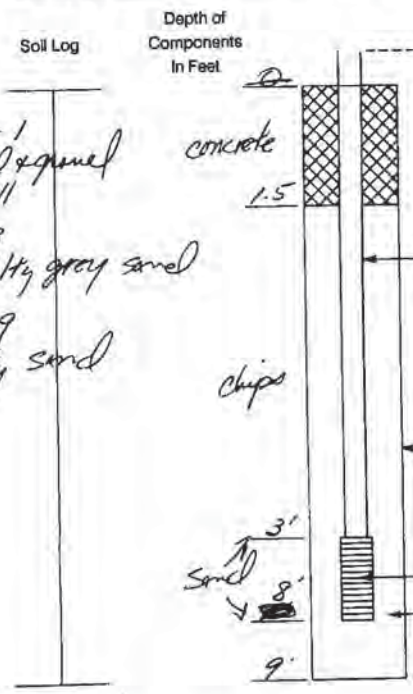
22/4E/1 M

Resource Protection Well Report

Project Name 20730 S. 72nd AVE.
Well Identification # MW-1
Drilling Method 4 1/2" HSA
Driller Dale L. Smith
License # 1229
Job # 198

Date 7-23-90
County King NW 1/4 SW 1/4
Section 19 T. 22N R. 4E
Start Card 040711
Consulting Firm Dames + Moore

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



Stick up Flush on Monument Casing
Type of Surface Seal bentonite chips
Amount _____
ID of Riser Pipe 2"
Type of Riser Pipe PVC
Amount _____
Type of Connection Thread
Type of Backfill around Riser chips
Amount _____
Diameter of Borehole 9"
Screen Size or Type 10/20
Type of Filter Material Colorado 10/20
Amount _____

Remarks: Water at 4'

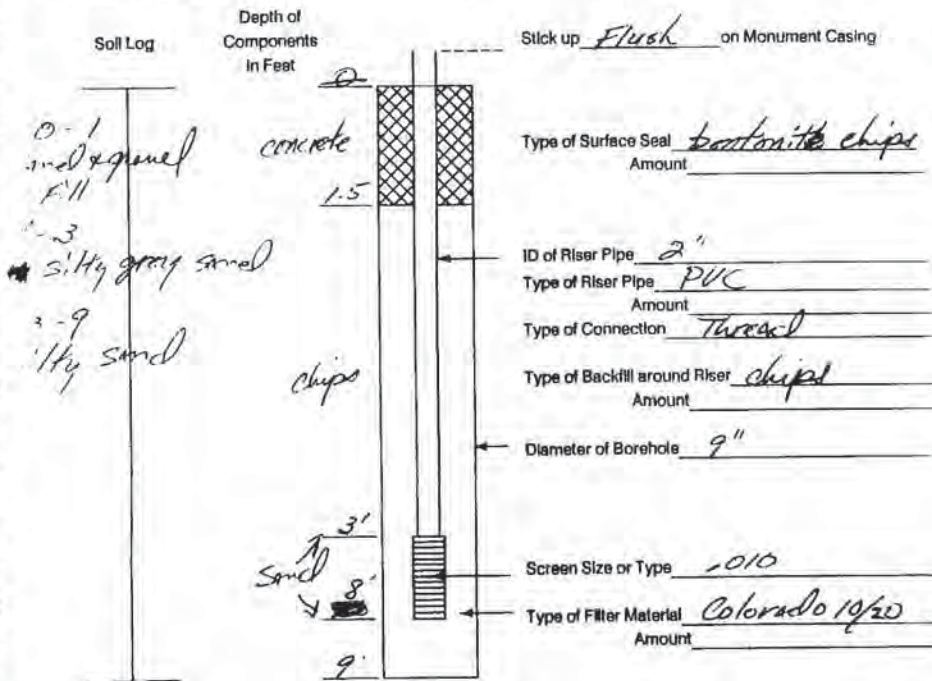
Signature Dale L. Smith

Geoboring & Development, Inc. 22/4E/1 M

Resource Protection Well Report

Project Name 20730 S. 72nd AVE.
 Well Identification # MMU-2
 Drilling Method 4 1/2" HSA
 Driller Dale L. Smith
 License # 1229
 Job # 198

Date 7-23-90
 County King NW 1/4 SW 1/4
 Section 1 T. 22N R. 4E
 Start Card 040711
 Consulting Firm Dames + Moore



Remarks: Water at 4'

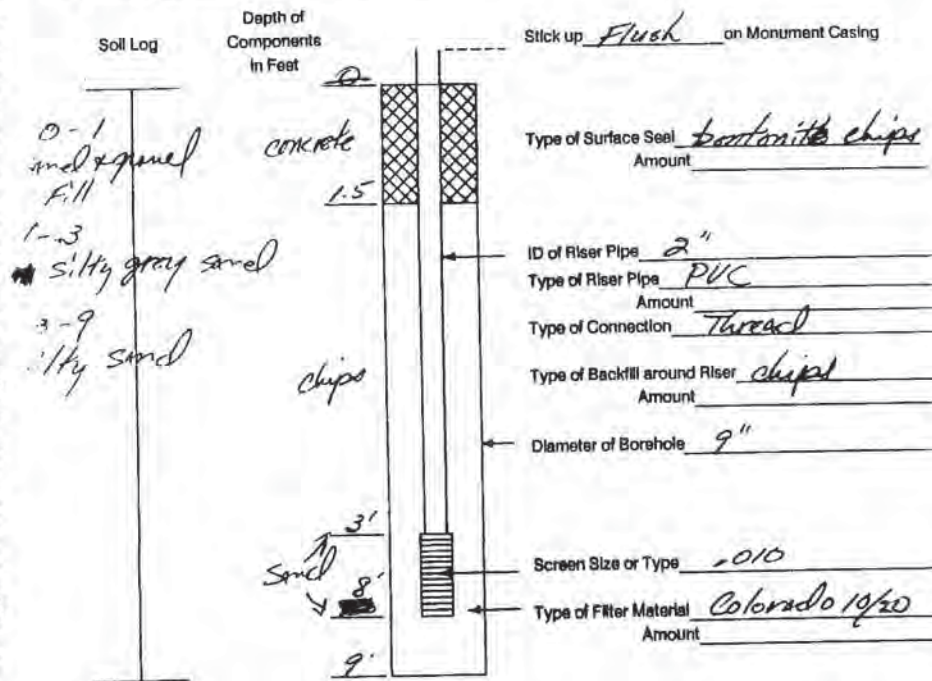
Signature Dale L. Smith

Geoboring & Development, Inc. 22/4E/1 M

Resource Protection Well Report

Project Name 20730 S. 72nd AVE.
 Well Identification # MMU-3
 Drilling Method 4 1/2" HSA
 Driller Dale L. Smith
 License # 1229
 Job # 198

Date 7-23-90
 County King NW 1/4 SW 1/4
 Section 1 T. 22N R. 4E
 Start Card 040711
 Consulting Firm Dames + Moore



Remarks: Water at 4'

Signature Dale L. Smith

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RECEIVED

AUG 27 2001

RESOURCE PROTECTION WELL REPORT

22-4E-12D

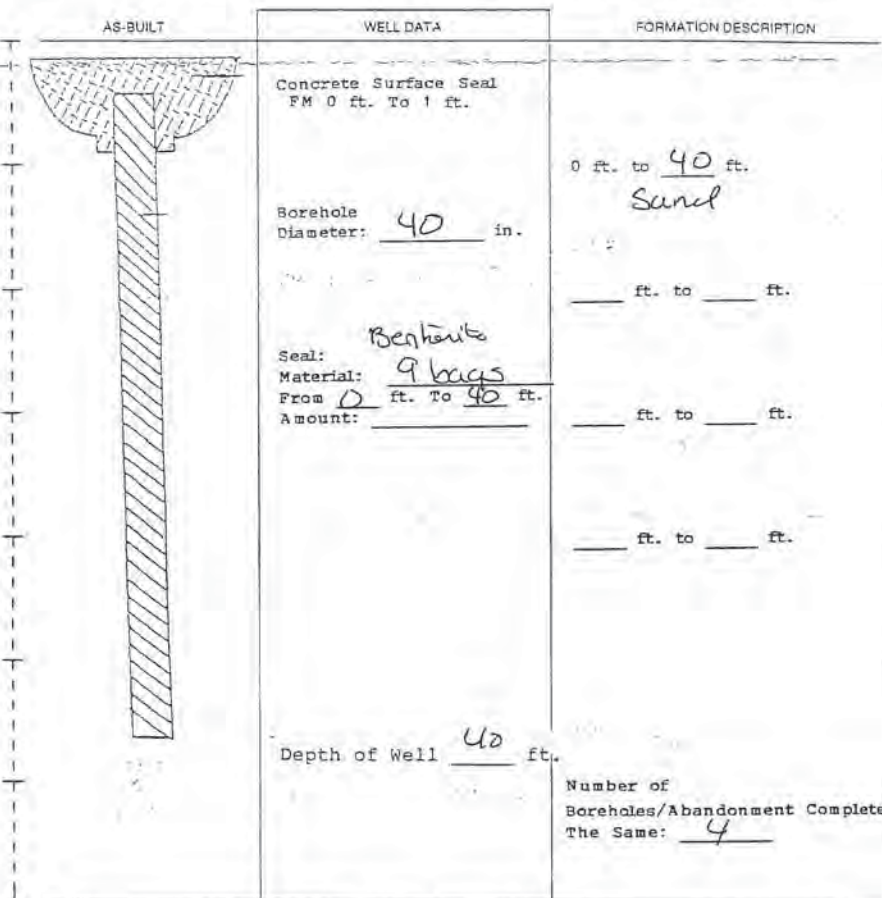
S07554

START CARD NO

DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

PROJECT NAME: Kent
WELL IDENTIFICATION NO: -
DRILLING METHOD: Mud Rotary
DRILLER: Traavis Stephens
FIRM: Geo-Tech Explorations
SIGNATURE: Traavis Stephens
CONSULTING FIRM: ARFC
REPRESENTATIVE: Steve Siebert

COUNTY: King
LOCATION: NW 1/4 NW 1/4 Sec 12 Twn 22N R 4E
STREET ADDRESS OF WELL: 21414 68th Ave So. Kent
WATER LEVEL ELEVATION: _____
GROUND SURFACE ELEVATION: _____
INSTALLED: 7/25/01
DEVELOPED: 7/25/01



SCALE: 1" = _____ PAGE 1 OF 1

3-030 ~~Wells~~ DECOMMISSIONING REPORT
WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller
Construction/Decommission ("x" in circle) 138749
 Construction
 Decommission ORIGINAL CONSTRUCTION Notice of Intent Number D 38385

PROPOSED USE: Domestic Industrial Municipal
 DeWater Irrigation Test Well Other
TYPE OF WORK: Owner's number of well (if more than one) 1
 New Well Reconditioned Method Dug Bored Driven
 Deepened Cable Rotary Jetted
DIMENSIONS: Diameter of well 30 inches; drilled 30 ft
Depth of completed well 30 ft

CONSTRUCTION DETAILS
Casing Welded Diam. from _____ ft to _____ ft
Installed: Liner installed 10" Diam from 0 ft to 30 ft
 _____" Diam from _____ ft to _____ ft

Perforations: Yes No
Type of perforator used: _____
SIZE of perfs. _____ in by _____ in and no of perfs. from _____ ft to _____ ft
Screens: Yes No K-Pac Location _____
Manufacturer's Name _____
Type PVC Model No _____
Diam 10" Slot Size .030 from 10 ft to 30 ft
Diam _____ Slot Size _____ from _____ ft to _____ ft

Gravel/Filter packed: Yes No Size of gravel/sand 8/20
Materials placed from 5 ft to 30 ft
Surface Seal: Yes No To what depth? 0-5 ft
Materials used in seal Native clay
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacturer's Name _____
Type _____ HP
WATER LEVELS: Land-surface elevation above mean sea level _____ ft
Static level 7 ft. below top of well Date 7-7-03
Artesian pressure _____ lbs per square inch Date _____
Artesian water is controlled by: _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal/min with _____ ft drawdown after _____ hrs
Yield: _____ gal/min with _____ ft drawdown after _____ hrs
Yield: _____ gal/min with _____ ft drawdown after _____ hrs
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____
Bailer test _____ gal/min with _____ ft drawdown after _____ hrs
Artesian _____ gal/min with stem set at _____ ft for _____ hrs
Artesian flow _____ g p m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Engineer Trainee Name (Print) William D. Hill, Jr. Drilling Company Slead Construction, Inc.
Driller/Engineer/Trainee Signature William D. Hill, Jr. Address 9021 Waller Rd E
Driller or Trainee License No. 1946 City, State, Zip Tacoma, WA 98446-2531
Contractor's SLEADC*325K0 Registration No. 8/7/03 Date
Signature and License no. _____ Ecology is an Equal Opportunity Employer ECY 050-1-20 (Rev 4/01)

DECOMMISSIONING REPORT
CURRENT
Notice of Intent No. x8x62c A 64143
Unique Ecology Well ID Tag No. _____
Water Right Permit No. _____
GPA-AHF, LLC
Property Owner Name 12886 Interurban Ave S
Seattle, WA 98168
Well Street Address 19830 68th Ave S
City Kent County: King
Location SW 1/4-1/4NW 1/4 Sec 1 Twn 22N R 4E EWM circle or one WWM
Lat/Long: _____ Lat Deg _____ Lat Min/Sec _____
(s,r still REQUIRED) Long Deg _____ Long Min/Sec _____
Tax Parcel No. _____
CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information Indicate all water encountered
(USE ADDITIONAL SHEETS IF NECESSARY)
MATERIAL FROM TO
Pulled well casing & filled with Bentonite chips 30 0
SEP 13 2003
DEPT OF ECOLOGY
WELL DRILLING UNIT
SEP 15 11:13
Start Date 7-7-03 Completed Date 7-7-03

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT STATE OF WASHINGTON

Application No. _____
Permit No. _____

(1) OWNER: Name HITELH FINNISHES Co. Address 8202 South 200th St. Kent, WA 98031
(2) LOCATION OF WELL: County PURDUE KING NW 1/4 NW 1/4 Sec 34 T. 22N. R. 4E W.M.
Bearing and distance from section or subdivision corner _____

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) NY-2
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 2 inches.
Drilled 20 ft. Depth of completed well 14 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 2" Diam. from 0 ft. to 9 ft.
Threaded " Diam. from _____ ft. to _____ ft.
Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name HYDROPHYLIC
Type PVC Model No. _____
Diam. 2 Slot size 0.010 from 9 ft. to 14 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: 3/8
Gravel placed from 5 ft. to 11 ft.

Surface seal: Yes No To what depth? 5 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level. 99 ft.
Static level 5.20 ft. below top of well Date 6/13
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
------	-------------	------	-------------	------	-------------

Date of test _____
Baller test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
SILT, SOME FINE SAND, GRAY (ML)	3.5	5.0
SILT, SOME FINE STRAWERS OF FINE SAND, BLUE GRAY, STRATIFIED (ML)	5.5	10.0
SILT, w/ FINE SAND, GRAY (ML)	13.5	14.0
SAND, FINE GRAINED, GRAY TO BLACK (SP)	14.0	15.5
SAND, FINE GRAINED, SOME SILT, GRAY (SP-SH)	16.5	20

RECEIVED

JUN 28 1982

DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Work started 6/17, 1982 Completed 6/17, 1982

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME SWEET, EDWARDS AND ASSOCIATES
(Person, firm, or corporation) (Type or print)

Address P.O. Box 328, Kent, WA 98026

[Signed] James J. Marshall
(Well Driller)

License No. 1268 Date 6/21, 1982

(USE ADDITIONAL SHEETS IF NECESSARY)

22/4-1A

File Original and First Copy with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT STATE OF WASHINGTON

Application No. _____
Permit No. _____

(1) OWNER: Name HITELH FINNISHES Co. Address 8202 South 200th St. Kent, WA 98031
(2) LOCATION OF WELL: County PURDUE KING NW 1/4 NW 1/4 Sec 34 T. 22N. R. 4E W.M.
Bearing and distance from section or subdivision corner _____

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) NY-4
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 2 inches.
Drilled 20 ft. Depth of completed well 14.5 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 2" Diam. from 0 ft. to 9.5 ft.
Threaded " Diam. from _____ ft. to _____ ft.
Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name HYDROPHYLIC
Type PVC Model No. _____
Diam. 2 Slot size 0.010 from 9.5 ft. to 14.5 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: 3/8
Gravel placed from 8 ft. to 14.5 ft.

Surface seal: Yes No To what depth? 5 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level. 100 ft.
Static level -5 ft. below top of well Date 6/19/82
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
------	-------------	------	-------------	------	-------------

Date of test _____
Baller test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(USE ADDITIONAL SHEETS IF NECESSARY)

22/4-1A

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RECEIVED

JUN 24 1982

DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Stamp: JUN 24 1982
Stamp: JUN 12 1982
Stamp: JUN 11 1982
Stamp: JUN 10 1982
Stamp: JUN 9 1982
Stamp: JUN 8 1982
Stamp: JUN 7 1982
Stamp: JUN 6 1982
Stamp: JUN 5 1982
Stamp: JUN 4 1982
Stamp: JUN 3 1982
Stamp: JUN 2 1982
Stamp: JUN 1 1982

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME SWEET, EDWARDS AND ASSOCIATES
(Person, firm, or corporation) (Type or print)

Address P.O. Box 328, Kent, WA 98026

[Signed] James J. Marshall
(Well Driller)

License No. 1268 Date 6/21, 1982

WATER WELL REPORT

STATE OF WASHINGTON

Application No. _____
Permit No. _____

(1) OWNER: Name HYTECH FINISHES CO. Address 2202 SOUTH 200th ST. KENT, WA 98031
 (2) LOCATION OF WELL: County Pierce KING NW 1/4 NW 1/4 Sec. 34 T. 22N. R. 4E W.M. 1
 Bearing and distance from section or subdivision corner _____

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well NY-3
 New well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 2 inches
 Drilled 20.5 ft. Depth of completed well 19 ft.

(6) CONSTRUCTION DETAILS:
 Casing installed: 2" Diam. from 0 ft. to 10 ft.
 Threaded " Diam. from _____ ft. to _____ ft.
 Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No
 Manufacturer's Name HYDROMILL
 Type PVC Model No. _____
 Diam. 2 Slot size 0.010 from 10 ft. to 15 ft.
 Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: 3/8 in.
 Gravel placed from 8 ft. to 13 ft.

Surface seal: Yes No To what depth: 5 ft.
 Material used in seal: CREATONITE
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation _____
 Static level 7.92 ft. below top of well Date 6/18/82
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

 Date of test _____
 Bailor test: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG:
 Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
SILTY FINE SAND - SANDY SILT, BROWN (SM ML)	3.5	5.0
FINE SANDY SILT TO SILTY SAND, GREY	5.5	9.0
SAND, BLACK, FINE GRAINED (SP)	9.0	10.0
SILT, TRACE FINE SAND, DARK GRAY (ML)	13.5	15.0
SAND, MEDIUM, LOOSE, BLACK (SP)	18.5	20.0

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JUN 28 1982

DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

Work started 6/17 10:30 Completed 6/18 1982

WELL DRILLER'S STATEMENT:
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME SWEET, EDWARDS, AND ASSOCIATES
 (Person, firm, or corporation) (Type or print)
 Address P.O. Box 328, SELW, WA 98086
 [Signed] James J. Mump
 (Well Driller)
 License No. 1268 Date 6/21 1982

WATER WELL REPORT

STATE OF WASHINGTON

Application No. _____
Permit No. _____

(1) OWNER: Name HYTECH FINISHES CO. Address 2202 SOUTH 200th ST. KENT, WA 98031
 (2) LOCATION OF WELL: County Pierce KING NW 1/4 NW 1/4 Sec. 34 T. 22N. R. 4E W.M. 1
 Bearing and distance from section or subdivision corner _____

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well NY-1
 New well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 2 inches
 Drilled 20.5 ft. Depth of completed well 19 ft.

(6) CONSTRUCTION DETAILS:
 Casing installed: 2" Diam. from 0 ft. to 14 ft.
 Threaded " Diam. from _____ ft. to _____ ft.
 Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No
 Manufacturer's Name HYDROMILL
 Type PVC Model No. _____
 Diam. 2 Slot size 0.010 from 14 ft. to 19 ft.
 Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: 3/8"
 Gravel placed from 10 ft. to 16 ft.

Surface seal: Yes No To what depth: 10 ft.
 Material used in seal: CREATONITE 2-4, BENTONITE 4-10
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation _____
 Static level 7.37 ft. below top of well Date 6/18/82
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

 Date of test _____
 Bailor test: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

22/4 - 1/02

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

(10) WELL LOG:
 Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
SILTY FINE SAND, FINE SANDY SILT, brownish grey, medium (ML-SP)	3.5	5.0
SILT w/ some FINE SAND, grey, saturated (ML)	8.5	10.0
SAND, MEDIUM, POORLY GRADED, grey to black, loose, saturated (SP)	13.5	15.0
CLAY, brownish-grey	16	18
SAND, MEDIUM, POORLY GRADED, DBC W/ TO BLACK, SATURATED, loose (SP)	14	20.5

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JUN 28 1982

DEPARTMENT OF ECOLOGY
SOUTHWEST REGIONAL OFFICE

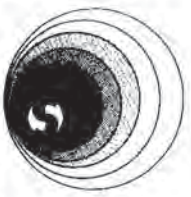
Work started 6/16 10:30 Completed 6/16 1982

WELL DRILLER'S STATEMENT:
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME SWEET, EDWARDS, AND ASSOCIATES
 (Person, firm, or corporation) (Type or print)
 Address P.O. Box 328, SELW, WA 98086
 [Signed] James J. Mump
 (Well Driller)
 License No. 1268 Date 6/21 1982

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.



SOIL SAMPLING SERVICE, INC.

1415 MERIDIAN EAST, PUWALLUP, WA 98371-1999
 FEDERAL ID #: 91-0762274 WA CONT. #SOIL SS*34440
 Geotechnical, Engineering & Mineral Exploration Drilling • Instrumentation • Horizontal Drains
 Ground Water Monitoring • Hazardous Waste Identification • Well Abandonments

(206) 927-3173
 TELEX: 486782
 FAX: (206) 927-3478

22/4E/1 D

RESOURCE PROTECTION WELL REPORT

PROJECT NAME: Hydraulic Repair & Design
 WELL IDENTIFICATION NO.: MW-1
 DRILLING METHOD: 6" H.S. Auger
 DRILLER: Terry Asberry
 SIGNATURE: Terry Asberry
 CONSULTING FIRM: LANDAU & ASSOC.
 REPRESENTATIVE: REN CHAPUT

JOB #: W-2691 START CARD NO.: 034943
 COUNTY: KING CITY: RENT
 LOCATION: King 1/4 NW 1/4 NW 1/4
 SEC.: 1 TOWN: 22N RANGE: 43
 DATUM:
 WATER LEVEL ELEVATION:
 INSTALLED: 7-13-89
 DEVELOPED:

WELL DATA	AS BUILT	FORMATION DESCRIPTION
Flush monument Bentonite chips	4" RISER PIPE	0-23' FINE TO VERY FINE SAND
10-20 Colorado sand pack	10"x4" sch 40 .010 screen	23'- SILT
		23'- DARK gray fine sand
		23'- PEAT
		23'- SILT

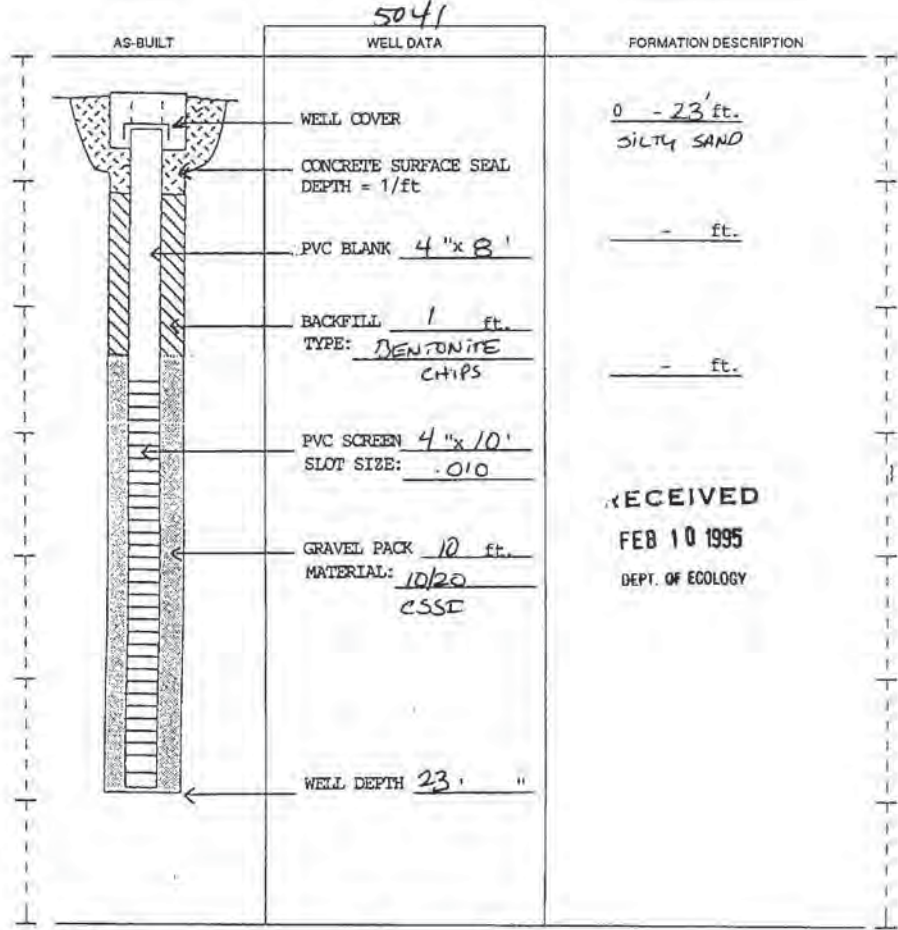
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 AUG 29 1989
 DEPARTMENT OF ECOLOGY
 NORTHWEST REGION

SCALE: 1" = 10' PAGE 1 OF 1

RESOURCE PROTECTION WELL REPORT

PROJECT NAME: HYDRAULIC REPAIR DESIGN
 WELL IDENTIFICATION NO.: ABN 999
 DRILLING METHOD: HSA
 DRILLER: BRENT MALDY
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Brent Maldy
 CONSULTING FIRM: LANDAU & ASSOC.
 REPRESENTATIVE:

START CARD NO. 205289
 COUNTY: KING 22N-4E-1 D
 LOCATION: NW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL: 6942 S. 196th ST. - Kent, WA
 WATER LEVEL ELEVATION:
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 1-30-95
 DEVELOPED: N/A



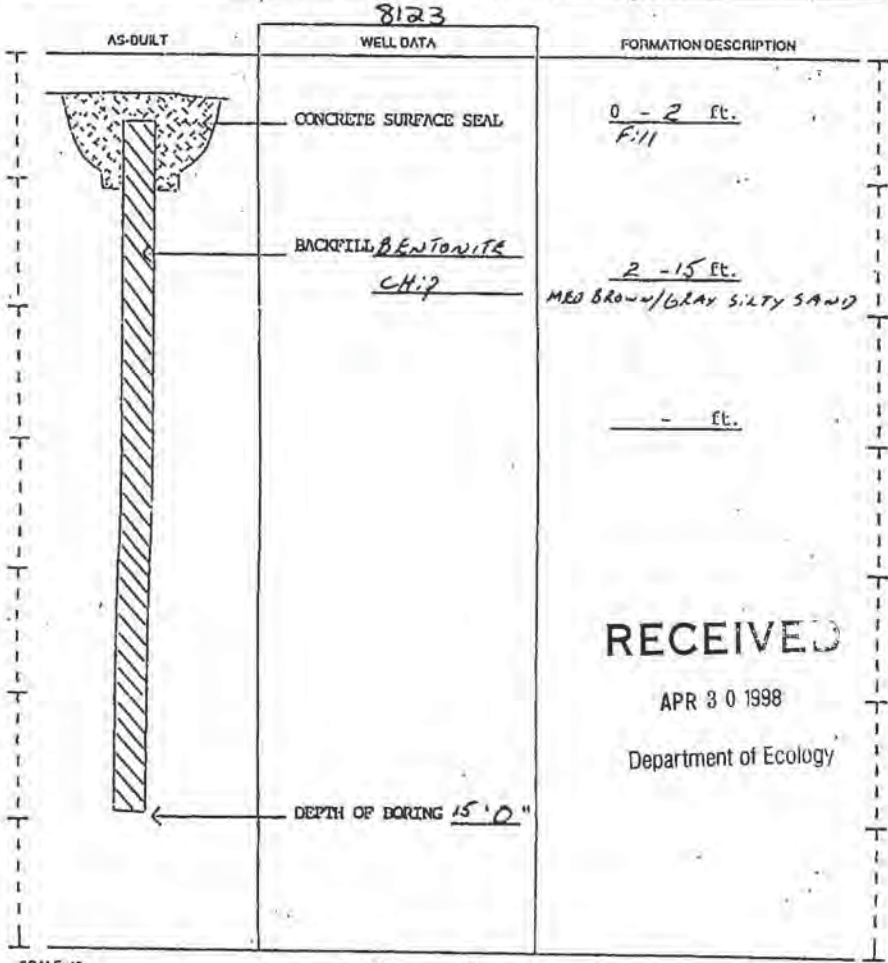
SCALE: 1" = _____ PAGE _____ OF _____

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT **22-4-1 D**
 START CARD NO. **R28673**

PROJECT NAME: Hydraulic Repair of Design
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Goble
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Lynn Goble
 CONSULTING FIRM: Landan Assoc
 REPRESENTATIVE: Christy Bell

COUNTY: King
 LOCATION: NW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL: 6942 - S. 196th St - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 3-25-98
 DEVELOPED: N/A

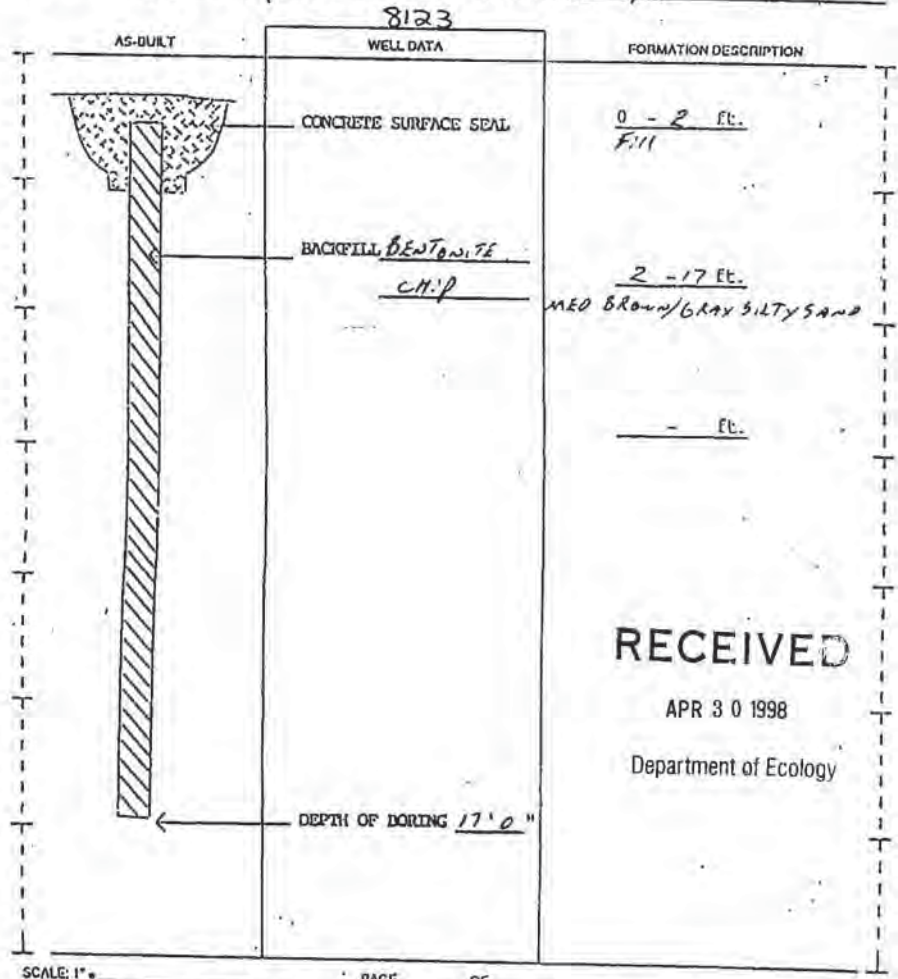


SCALE: 1" = _____ PAGE _____ OF _____

RESOURCE PROTECTION WELL REPORT
 START CARD NO. **R28673**

PROJECT NAME: Hydraulic Repair of Design
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Goble
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Lynn Goble
 CONSULTING FIRM: Landan Assoc
 REPRESENTATIVE: Christy Bell

COUNTY: King
 LOCATION: NW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL: 6942 - S. 196th St - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 3-25-98
 DEVELOPED: N/A



SCALE: 1" = _____ PAGE _____ OF _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

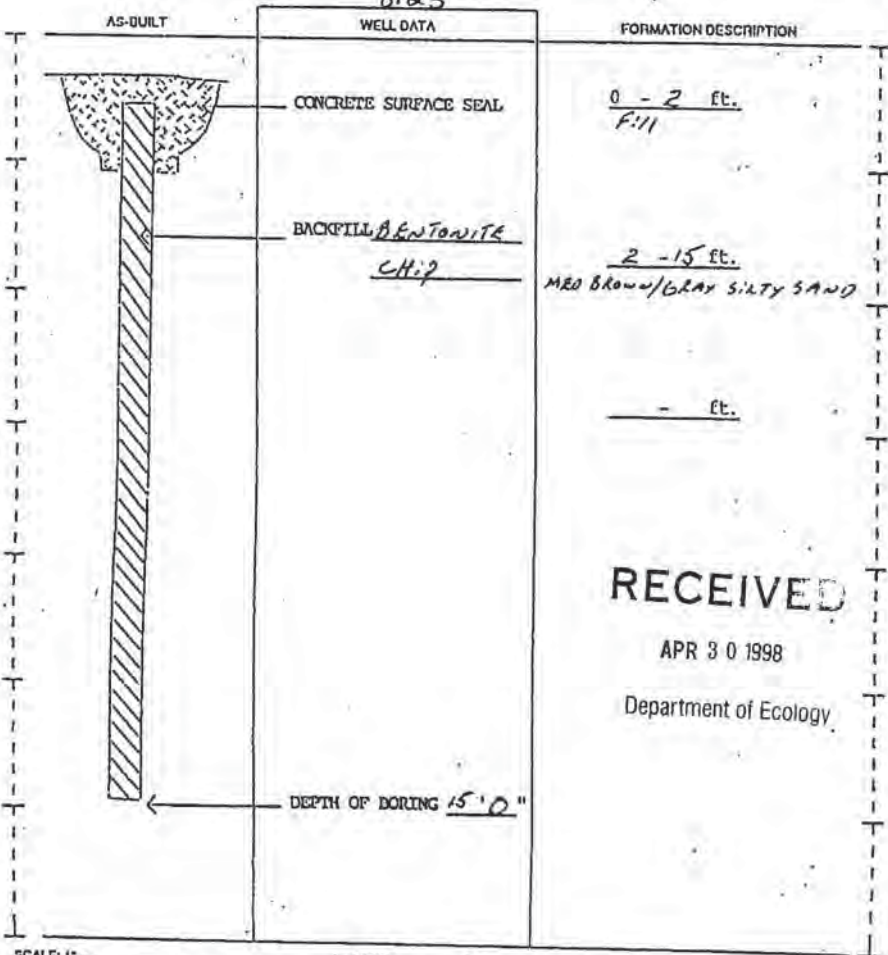
RESOURCE PROTECTION WELL REPORT

START CARD NO. R28673

PROJECT NAME: Hydraulic Repair of Design
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Goble
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Sigma Bable
 CONSULTING FIRM: Landan Assoc
 REPRESENTATIVE: Christy Bell

COUNTY: King
 LOCATION: NW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL: 6942 - S. 196th St - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 3-25-98
 DEVELOPED: N/A

8123



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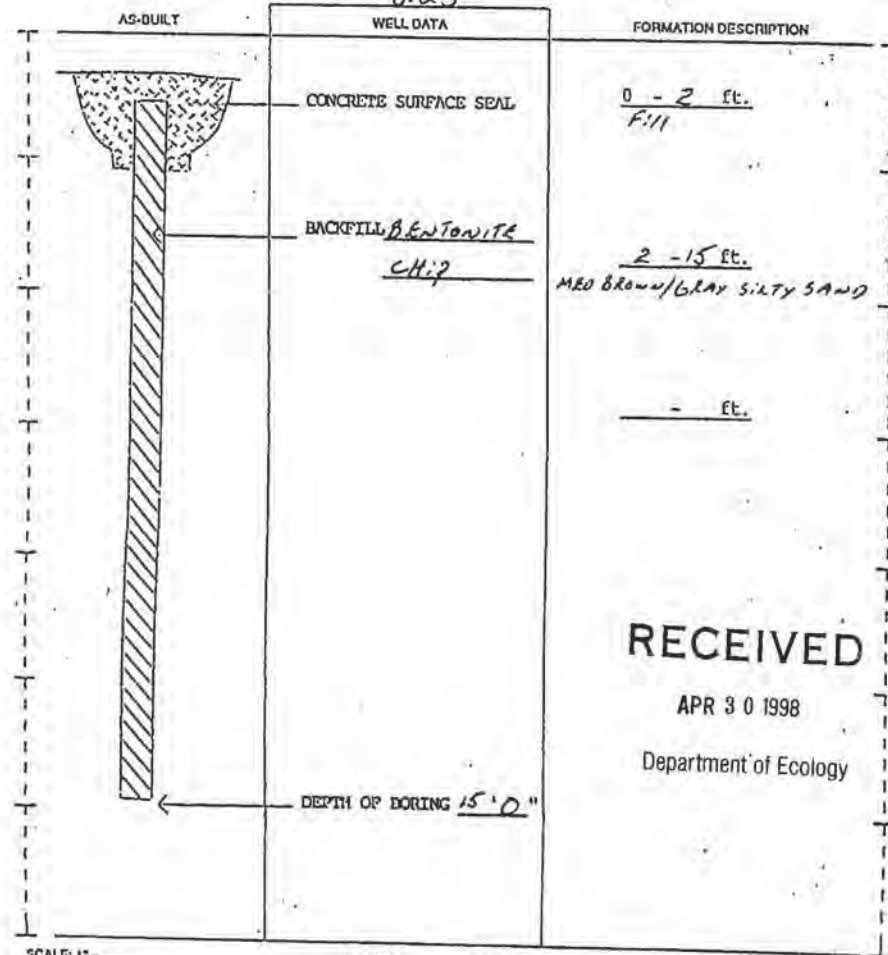
RESOURCE PROTECTION WELL REPORT

START CARD NO. R28673

PROJECT NAME: Hydraulic Repair of Design
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Goble
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Sigma Bable
 CONSULTING FIRM: Landan Assoc
 REPRESENTATIVE: Christy Bell

COUNTY: King
 LOCATION: NW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL: 6942 - S. 196th St - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 3-25-98
 DEVELOPED: N/A

8123



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 Department of Ecology

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

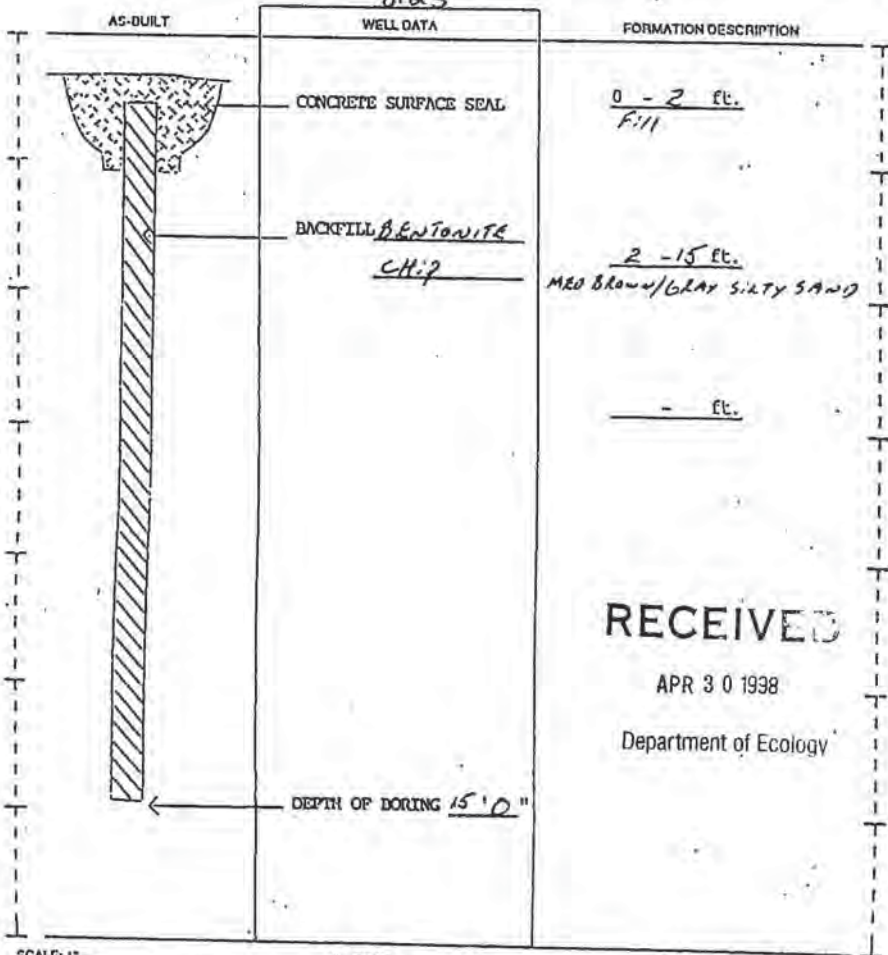
RESOURCE PROTECTION WELL REPORT

START CARD NO. R28673

PROJECT NAME: Hydraulic Repair of Design
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Golke
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Dylan Doble
 CONSULTING FIRM: Landau Assoc
 REPRESENTATIVE: Christy Bell

COUNTY: King
 LOCATION: NW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL: 6942 - S. 196th St - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 3-25-98
 DEVELOPED: N/A

8123



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 ECY 050-12 (Rev. 11/09)

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Department of Ecology

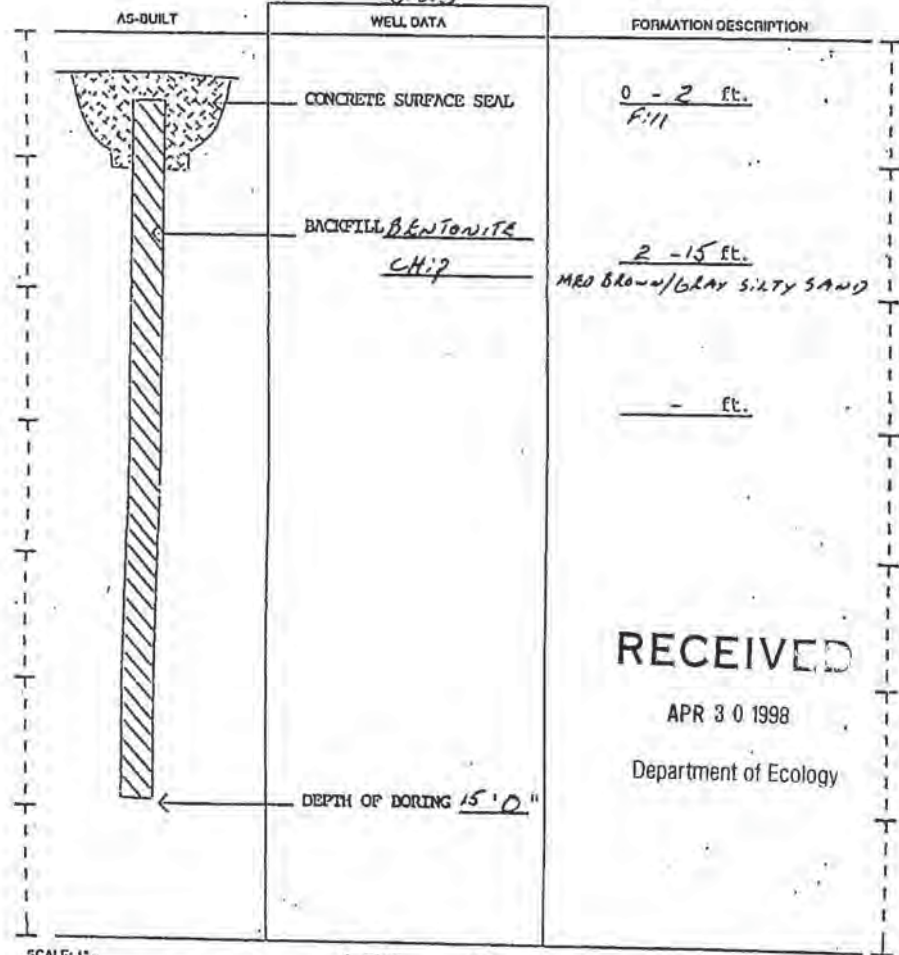
RESOURCE PROTECTION WELL REPORT

START CARD NO. R28673

PROJECT NAME: Hydraulic Repair of Design
 WELL IDENTIFICATION NO. n/a
 DRILLING METHOD: Probe / Water Sample
 DRILLER: F. Lynn Golke
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: Dylan Doble
 CONSULTING FIRM: Landau Assoc
 REPRESENTATIVE: Christy Bell

COUNTY: King
 LOCATION: NW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 STREET ADDRESS OF WELL: 6942 - S. 196th St - Kent
 WATER LEVEL ELEVATION: N/A
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 3-25-98
 DEVELOPED: N/A

8123



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 ECY 050-12 (Rev. 11/09)

PAGE _____ OF _____

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APR 30 1998

Department of Ecology

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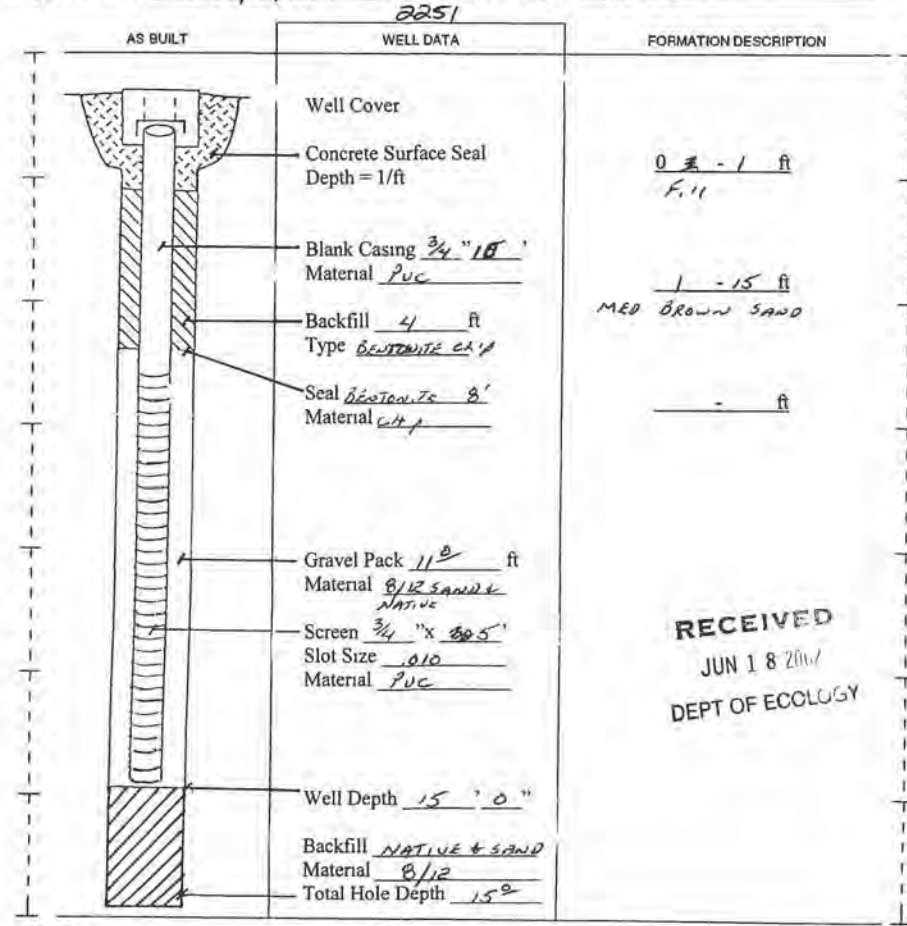
The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

114829

PIEZO

RESOURCE PROTECTION WELL REPORT

Client Well # Repair # Start Card # R 61670
 Project Name Hydraulic Design County King
 State Identification # Att 322 Location SW1/4 NW1/4 Sec 1 Twn 22N R 4E
 Drilling Method Probe Street Address of Well
 Driller F Lynn Goble 6942 S 196th St, Kent, WA
 Firm Cascade Drilling, Inc Water Level Elevation
 Signature Lynn Goble Ground Surface Elevation N/A
 Consulting Firm LAMP Assoc Date Installed 5-16-02
 Representative George Iftner Date Developed 5-16-02



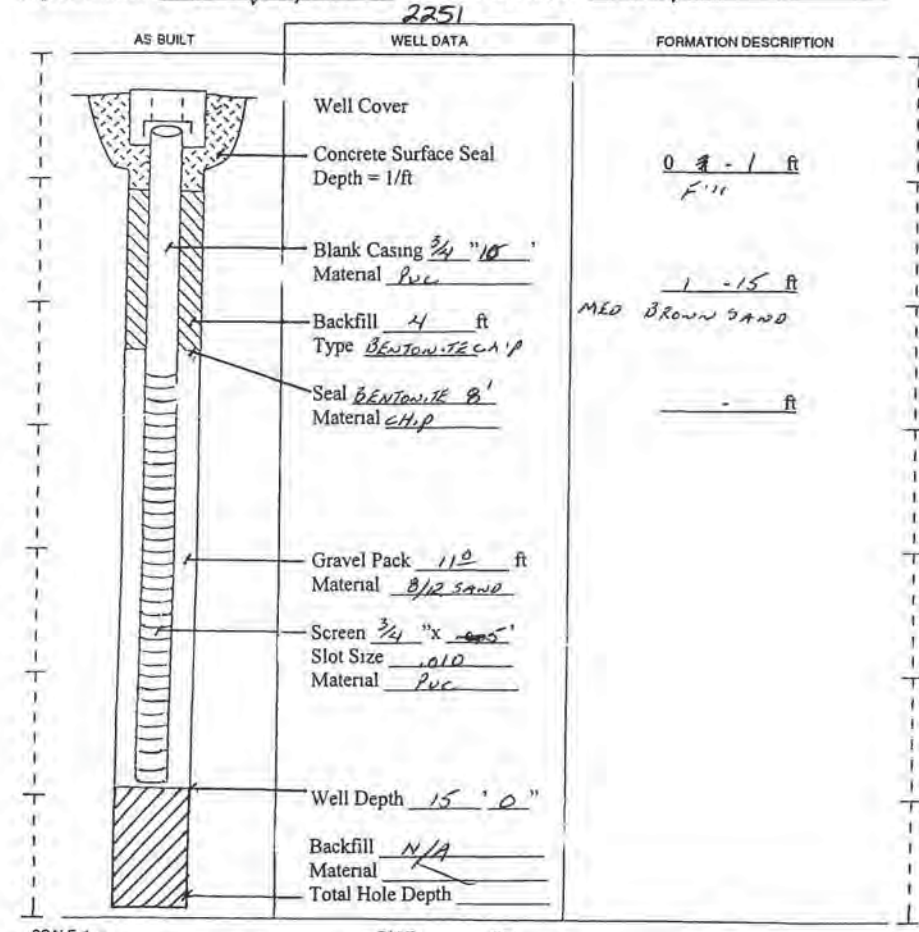
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 JUN 18 2002
 DEPT OF ECOLOGY

114930

PIEZO

RESOURCE PROTECTION WELL REPORT

Client Well # _____ Start Card # R 61670
 Project Name Hydraulic Repair Design County King
 State Identification # Att 323 Location SW1/4 NW1/4 Sec 1 Twn 22N R 4E
 Drilling Method Probe Street Address of Well
 Driller F Lynn Goble 6942 S 196th St, Kent, WA
 Firm Cascade Drilling, Inc Water Level Elevation
 Signature Lynn Goble Ground Surface Elevation N/A
 Consulting Firm LAMP Assoc Date Installed 5/16/02
 Representative George Iftner Date Developed 5/16/02



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

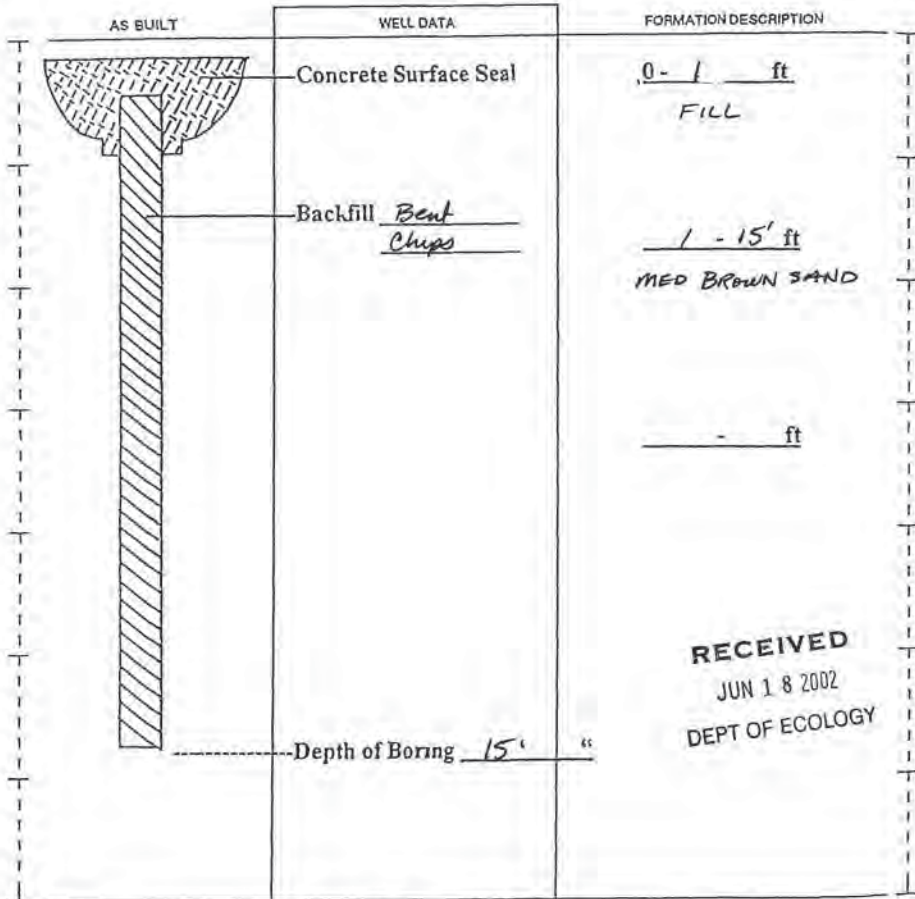
1148414

SOIL BORING REPORT

Notification # R 61670

Project Name Hydraulic Repair & Design County KING
 Drilling Method: Probe Location SW1/4NW1/4 Sec 1 T22N R4E
 Driller F Lynn Goble Street Address of Boring 6942 S. 196th St., Kent, WA
 Firm Cascade Drilling, Inc Water Level Elevation N/A
 Signature Fynn Goble Ground Surface Elevation N/A
 Consulting Firm: Landau Assoc Date of Drilling 5/16/02
 Representative George Iftner

Invoice # 2251



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505168

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number.

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner IDS Real Estate Group

Site Address 208XX 54th Pl South

City Kent County King

Location NE 1/4-1/4 NE 1/4 Sec 11 Twn 22N R 04E

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. N/A

Cased or Uncased Diameter 1.5 inch Static Level Unknown

Work/Decommission Start Date 12/10/13

Work/Decommission Completed Date 12/10/13

Consulting Firm _____

Unique Ecology Well IDTag No. No Well

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee

Name (Print Last, First Name) Genies, Charles

Driller/Engineer/Trainee Signature [Signature]

Driller or Trainee License No. 3137

If trainee, licensed driller's Signature and License Number: [Signature] 2735

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

Construction Design	Well Data	Formation Description
CPT O.D. 1.5 inch Backfilled w/ Number 8 minus benonite chip - CPT # 101	No Well	Unconsolidated Sediments
		RECEIVED DEC 19 2013 EPT OF ECOLOGY NWRO WR
		BOH 50'

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

505169

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. SE50077

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
Decommission

Type of Well ("x" in box)

- Resource Protection
Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:

Property Owner IDS Real Estate Group
Site Address 208XX 59th Pl South
City Kent County King
Location NE 1/4-1/4 NE 1/4 Sec 11 Twn 22R 04E

Consulting Firm
Unique Ecology Well IDTag No. No Well

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

- Driller
Engineer
Trainee

Name (Print Last, First Name) Gendes, Charles
Driller/Engineer/Trainee Signature
Driller or Trainee License No. 3137

If trainee, licensed driller's Signature and License Number: 2735

Table with 3 columns: Construction Design, Well Data, Formation Description. Construction Design: CPT, O.D. 1.5 inch, Backfilled w/ Number 8 minus benonite chip, CPT # 102. Well Data: No Well. Formation Description: Unconsolidated Sediments. Includes RECEIVED stamp dated DEC 19 2013 and BOH 50'.

505170

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. SE50077

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
Decommission

Type of Well ("x" in box)

- Resource Protection
Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:

Property Owner IDS Real Estate Group
Site Address 208XX 59th Pl South
City Kent County King
Location NE 1/4-1/4 NE 1/4 Sec 11 Twn 22R 04E

Consulting Firm
Unique Ecology Well IDTag No. No Well

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

- Driller
Engineer
Trainee

Name (Print Last, First Name) Gendes, Charles
Driller/Engineer/Trainee Signature
Driller or Trainee License No. 3137

If trainee, licensed driller's Signature and License Number: 2735

Table with 3 columns: Construction Design, Well Data, Formation Description. Construction Design: CPT, O.D. 1.5 inch, Backfilled w/ Number 8 minus benonite chip, CPT # 103. Well Data: No Well. Formation Description: Unconsolidated Sediments. Includes RECEIVED stamp dated DEC 19 2013 and BOH 50'.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

505171

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. SE50077

- Construction/Decommission ("x" in box)
- Construction
- Decommission

- Type of Well ("x" in box)
- Resource Protection
- Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number.

Property Owner IDS Real Estate Group
 Site Address 208XX 69th Pl South
 City Kent County King
 Location NE 1/4-1/4 NE 1/4 Sec 11 Twn 22N R 04E

Consulting Firm _____

Unique Ecology Well ID Tag No No Well

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee

Name (Print Last, First Name) Charles Clark
 Driller/Engineer/Trainee Signature _____
 Driller or Trainee License No. 3137

If trainee, licensed driller's Signature and License Number:
3137 _____

Construction Design	Well Data	Formation Description
CPT O.D. 1.5 inch Backfilled w/ Number 8 minus benonite chip CPT# 104	No Well <u>BOTH 50'</u>	Unconsolidated Sediments RECEIVED DEC 19 2013 DEPT. OF ECOLOGY NWRD WR

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
 Notice of Intent No. E002594

- Construction/Decommission 212344
- Construction
- Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well 22-4E-1E

Resource Protection

Geotechnical Soil Boring

Consulting Firm URS

Property Owner INDUSTRIAL PARK
 Site Address 7031 S 196TH ST
 City KENT County KING

Unique Ecology Well ID Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r) Lat Deg s Lat Min/Sec s
 still Required) Long Deg s Long Min/Sec s

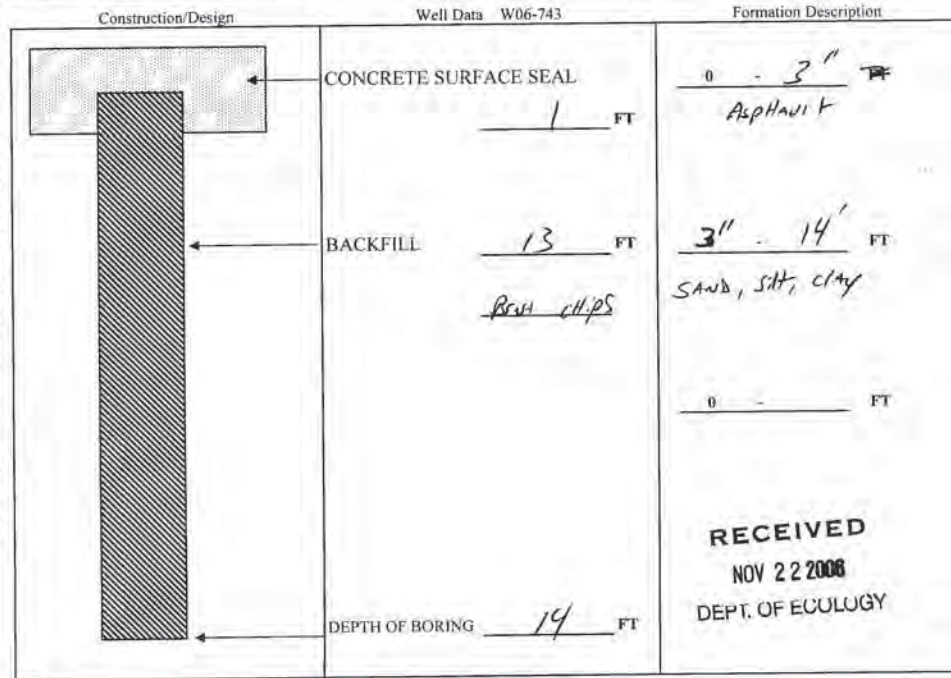
Driller Trainee Name (Print) JAYDEN LAUER
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2745

Tax Parcel No. N/A

Cased or Uncased Diameter _____ Static Level _____

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 10/31/06
 Work/Decommission Completed Date 10/31/06



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. E002594

Construction/Decommission 212345

Type of Well 22-4E-1E

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Resource Protection

Geotechnical Soil Boring

Property Owner _____
Site Address INDUSTRIAL PARK
City KENT County KING

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or _____
WWM
WWM

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____ N/A

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date 10/31/06

Work/Decommission Completed Date 10/31/06

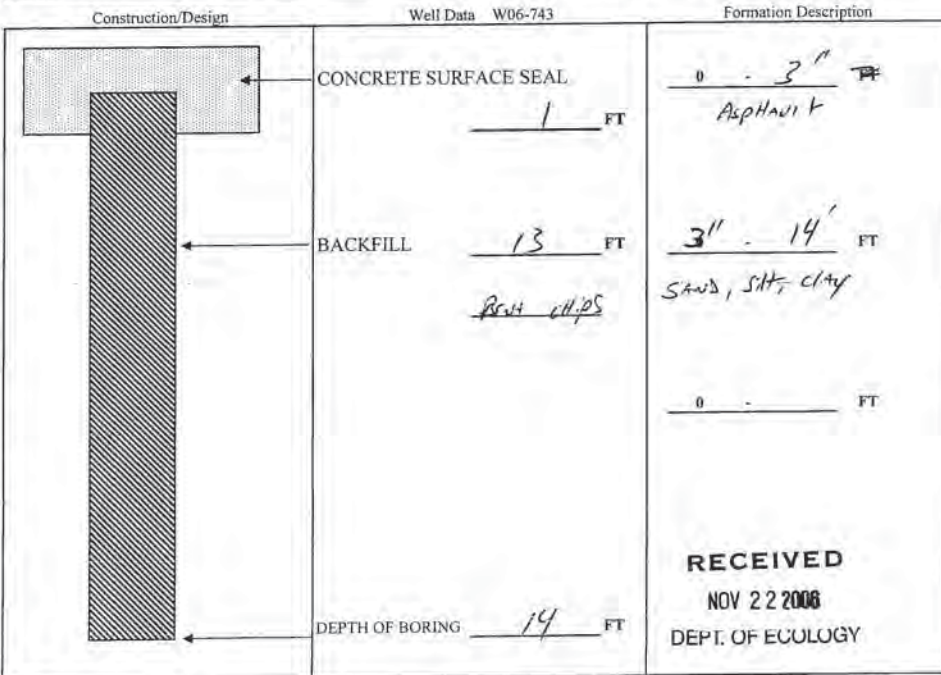
Unique Ecology Well ID _____
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Jayden Lauer
Driller/Trainee Signature JL
Driller/Trainee License No. 2745

If trainee, licensed drillers' Signature and License No. _____



Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2001)

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NOV 22 2006
DEPT. OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. E002594

Construction/Decommission 212346

Type of Well 22-4E-1E

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Resource Protection

Geotechnical Soil Boring

Property Owner _____
Site Address INDUSTRIAL PARK
City KENT County KING

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or _____
WWM
WWM

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____ N/A

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date 10/31/06

Work/Decommission Completed Date 10/31/06

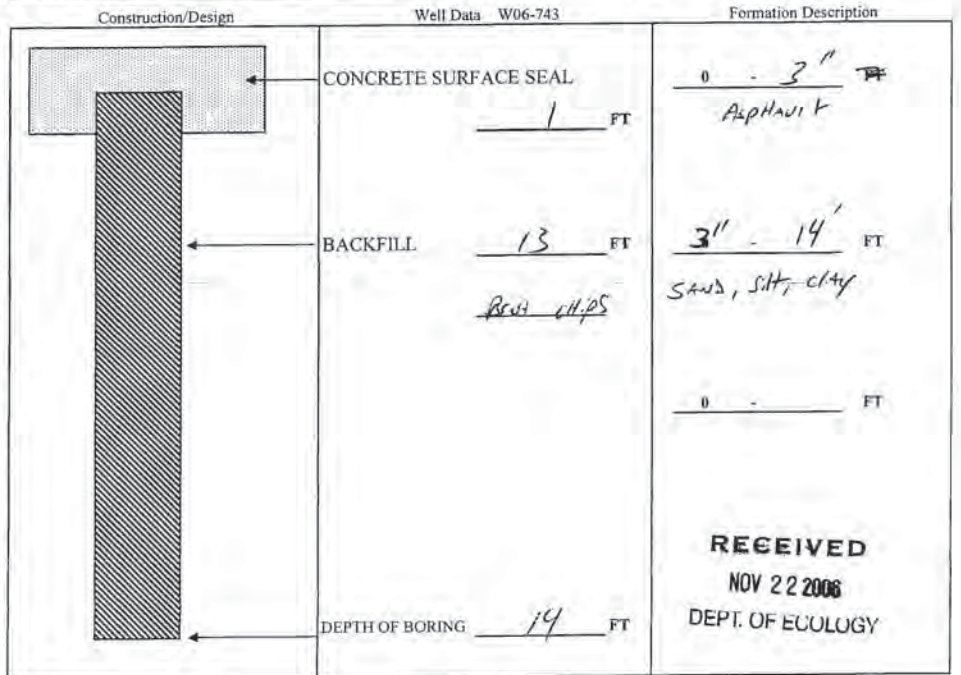
Unique Ecology Well ID _____
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Jayden Lauer
Driller/Trainee Signature JL
Driller/Trainee License No. 2745

If trainee, licensed drillers' Signature and License No. _____



Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2001)

RECEIVED
NOV 22 2006
DEPT. OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. E002594

Construction/Decommission 212347

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well 22-4E-1E

Resource Protection
 Geotechnical Soil Boring

Property Owner _____
Site Address INDUSTRIAL PARK
City KENT County KING

Consulting Firm URS

Unique Ecology Well ID
Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or _____
EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. N/A

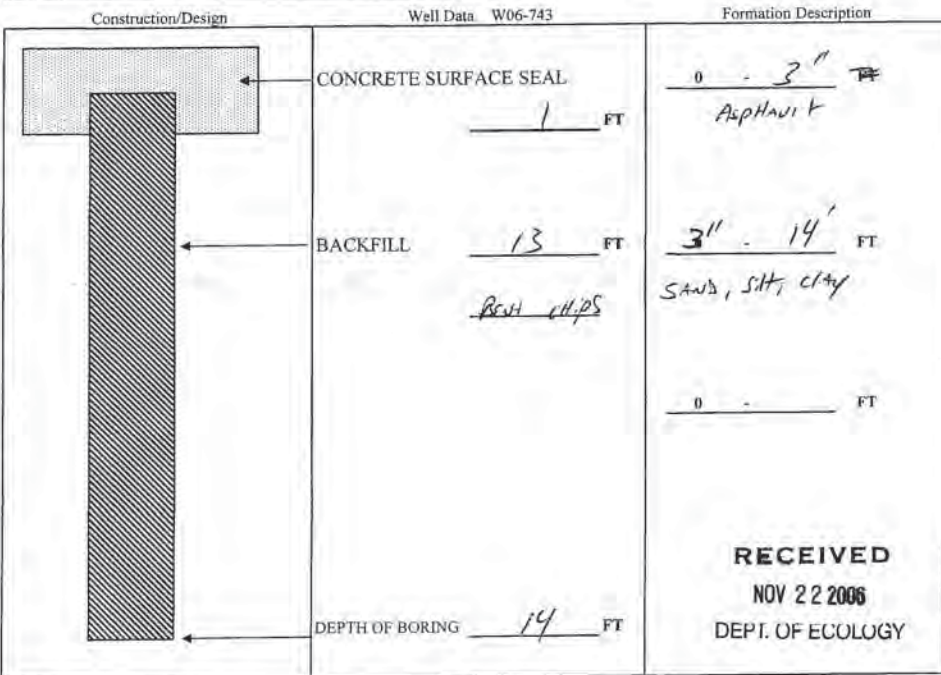
Driller Trainee Name (Print) Jayden Lausell
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2745

Cased or Uncased Diameter _____ Static Level _____

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 10/31/06

Work/Decommission Completed Date 10/31/06



Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2011)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. E002594

Construction/Decommission 212348

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well 22-4E-1E

Resource Protection
 Geotechnical Soil Boring

Property Owner _____
Site Address INDUSTRIAL PARK
City KENT County KING

Consulting Firm URS

Unique Ecology Well ID
Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or _____
EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. N/A

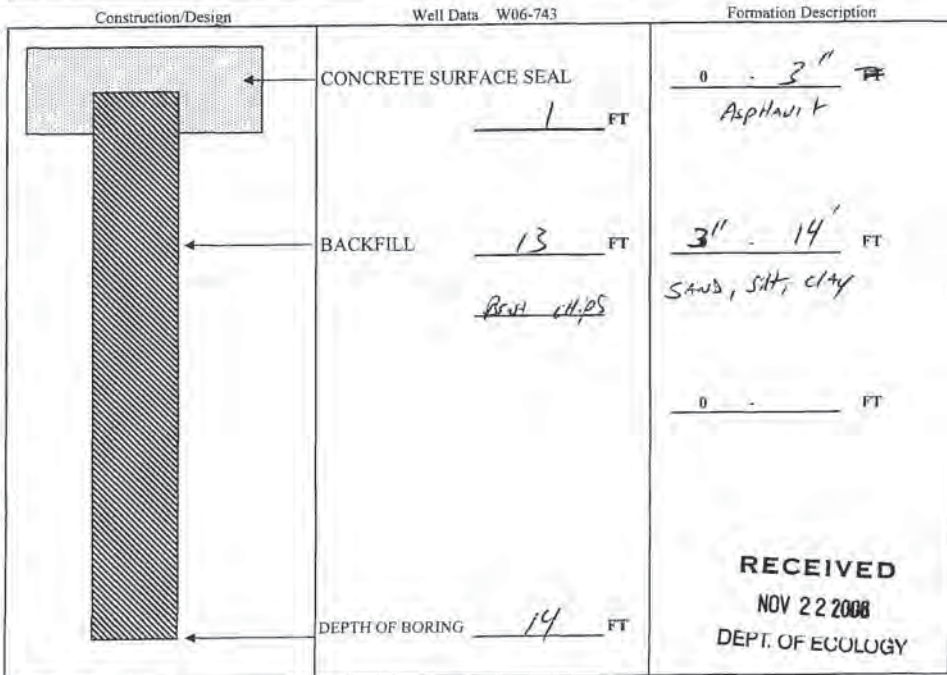
Driller Trainee Name (Print) Jayden Lausell
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2745

Cased or Uncased Diameter _____ Static Level _____

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 10/31/06

Work/Decommission Completed Date 10/31/06



Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2011)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. E002594

Construction/Decommission 212350

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well 22-4E-1E
 Resource Protection

Geotechnical Soil Boring

Property Owner _____
Site Address INDUSTRIAL PARK
City KENT County KING

Consulting Firm URS

Unique Ecology Well ID _____
Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or _____
EWM
WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (s,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief

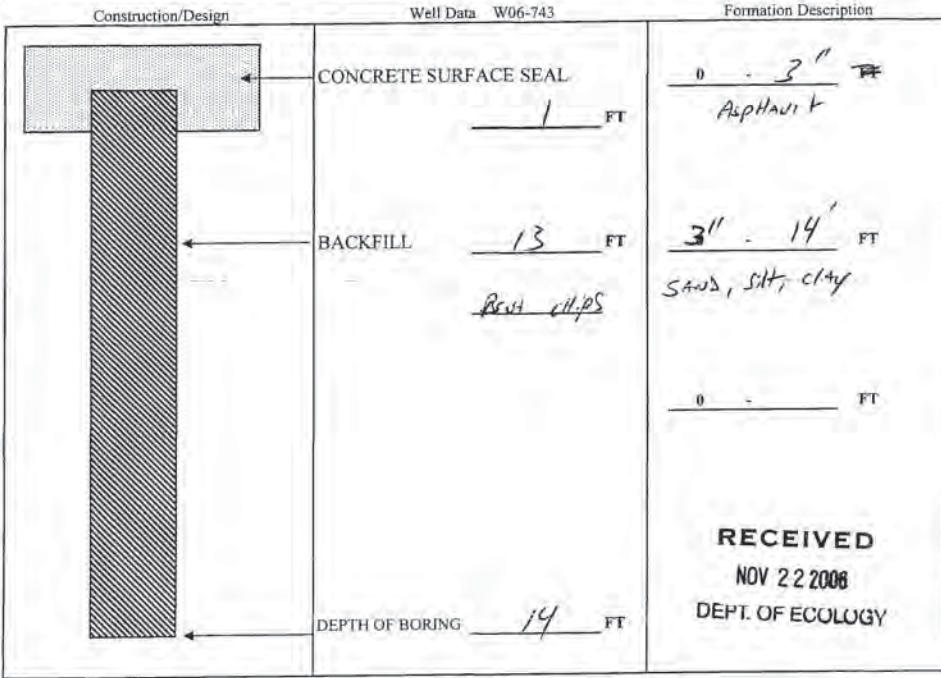
Tax Parcel No. _____ N/A

Driller Trainee Name (Print) Jaymie Lauer
Driller/Trainee Signature JL
Driller/Trainee License No. 2745

Cased or Uncased Diameter _____ Static Level _____

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 10/31/06
Work/Decommission Completed Date 10/31/06



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. A121417

Construction/Decommission 212353

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number E002594

Type of Well 22-4E-1E
 Resource Protection

Geotechnical Soil Boring

Property Owner _____
Site Address INDUSTRIAL PARK
City KENT County KING

Consulting Firm URS

Unique Ecology Well ID _____
Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or _____
EWM
WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (s,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief

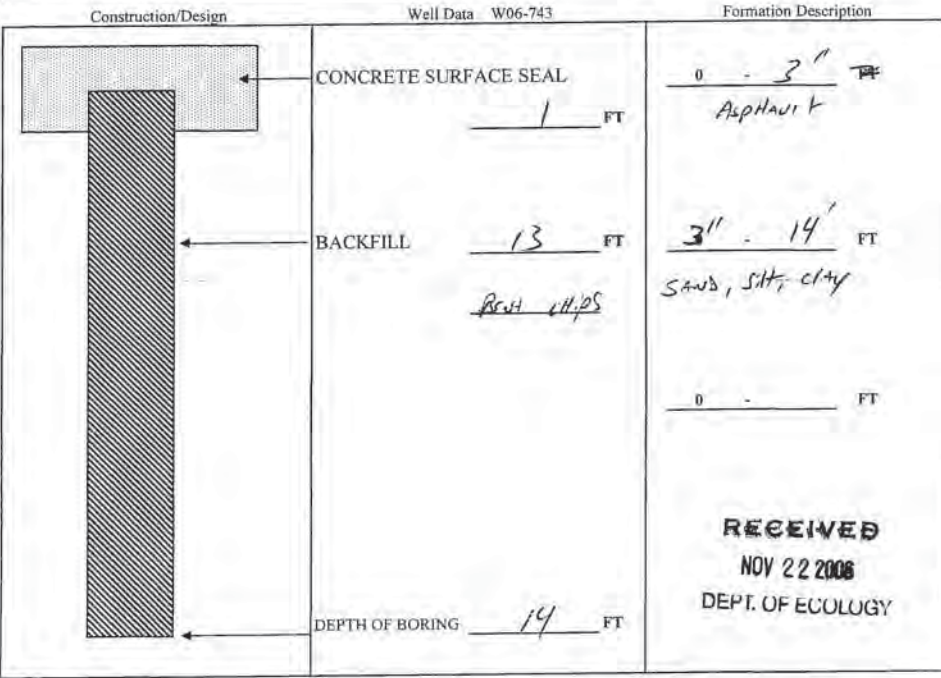
Tax Parcel No. _____ N/A

Driller Trainee Name (Print) Jaymie Lauer
Driller/Trainee Signature JL
Driller/Trainee License No. 2745

Cased or Uncased Diameter _____ Static Level _____

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 10/31/06
Work/Decommission Completed Date 10/31/06



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. A/21417

Construction/Decommission 212354

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number E002594

Type of Well 20-4E-1E
 Resource Protection

Geotechnical Soil Boring

Property Owner INDUSTRIAL PARK
Site Address 7031 S 196TH ST
City KENT County KING

Consulting Firm URS

Unique Ecology Well ID
Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief

Tax Parcel No. N/A

Driller Trainee Name (Print) JAYMES LAUSA

Cased or Uncased Diameter _____ Static Level _____

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 73 2795

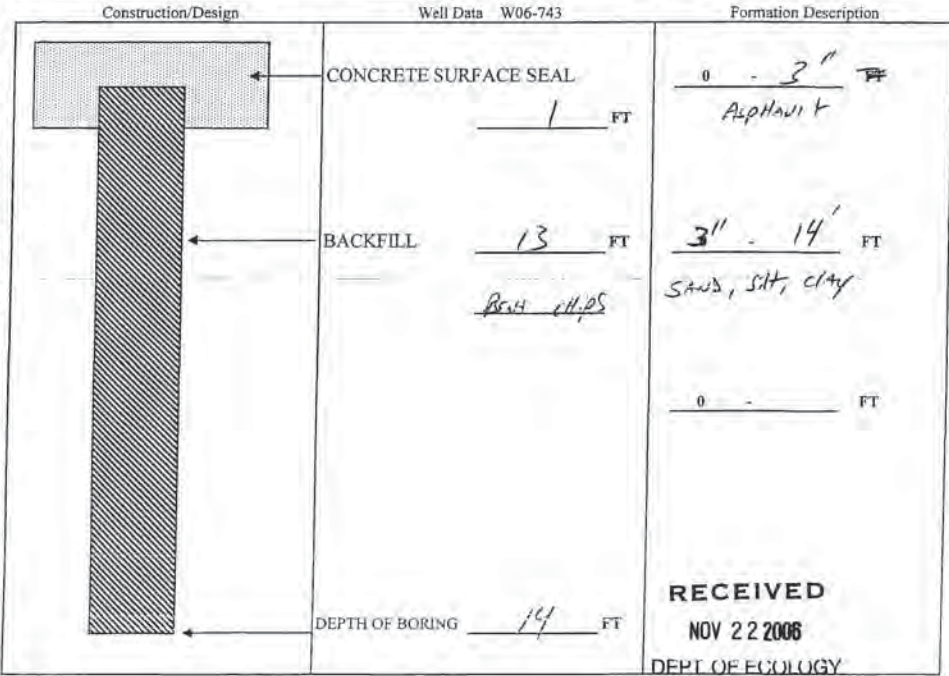
Work/Decommission Start Date 10/31/06

If trainee, licensed drillers' _____

Work/Decommission Completed Date 10/31/06

Signature and License No. _____

Signature and License No. _____



Scale 1" = _____

Page _____ of _____

ECY 050-13 (Rev. 2/01)

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. A/21417

Construction/Decommission 212355

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number E002594

Type of Well 20-4E-1E
 Resource Protection

Geotechnical Soil Boring

Property Owner INDUSTRIAL PARK
Site Address 7031 S 196TH ST
City KENT County KING

Consulting Firm URS

Unique Ecology Well ID
Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief

Tax Parcel No. N/A

Driller Trainee Name (Print) JAYMES LAUSA

Cased or Uncased Diameter _____ Static Level _____

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 73 2795

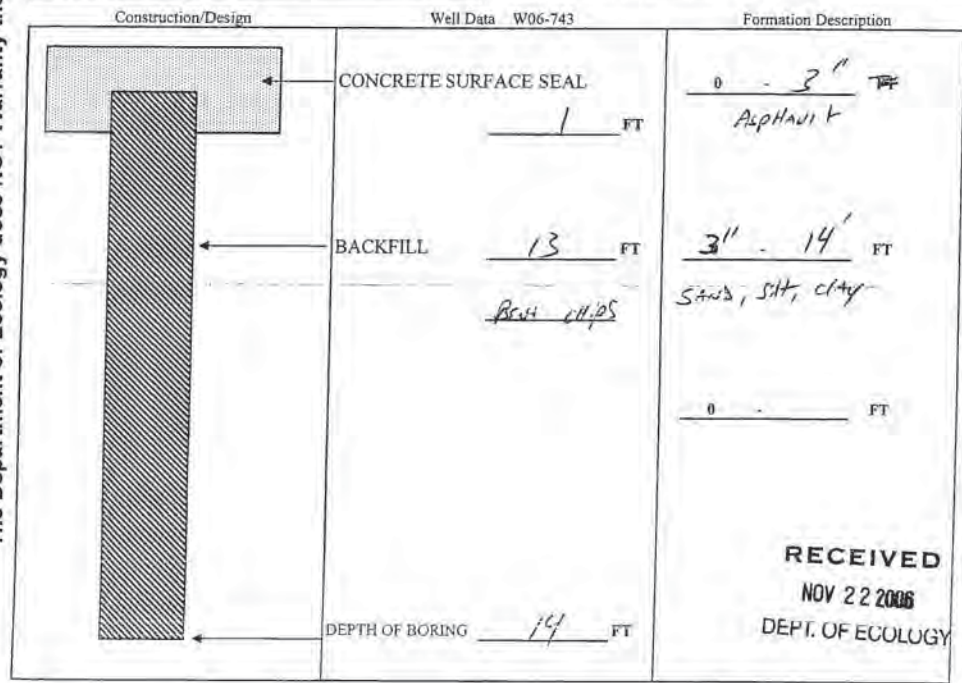
Work/Decommission Start Date 10/31/06

If trainee, licensed drillers' _____

Work/Decommission Completed Date 10/31/06

Signature and License No. _____

Signature and License No. _____



Scale 1" = _____

Page _____ of _____

ECY 050-13 (Rev. 2/01)

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. A/21417

Construction/Decommission 212356

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number E002594

Type of Well 02-4E-1E

Resource Protection

Geotechnical Soil Boring

Property Owner INDUSTRIAL PARK

Site Address 7031 S 196TH ST

City KENT County KING

Consulting Firm URS

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x

still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief

Tax Parcel No. N/A

Driller Trainee Name (Print) Jayward Laus

Driller/Trainee Signature J. Laus

Driller/Trainee License No. 73 2745

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date 10/31/06

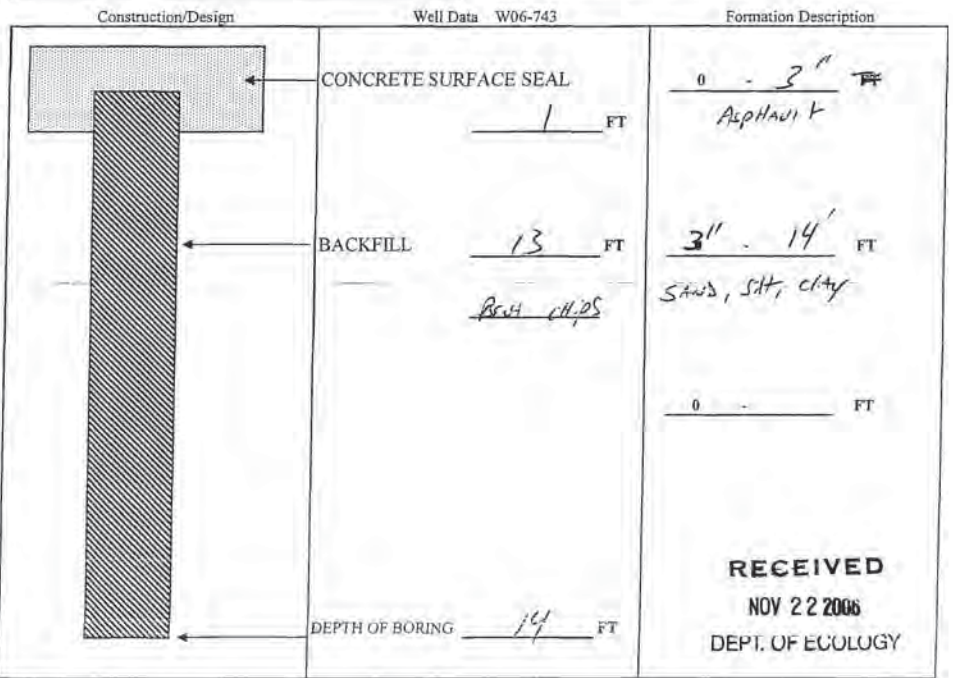
If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Completed Date 10/31/06

Signature and License No. _____

Signature and License No. _____

Signature and License No. _____



Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. A/21417

Construction/Decommission 212359

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number E002594

Type of Well 02-4E-1E

Resource Protection

Geotechnical Soil Boring

Property Owner INDUSTRIAL PARK

Site Address 7031 S 196TH ST

City KENT County KING

Consulting Firm URS

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief

still Required) Long Deg x Long Min/Sec x

Tax Parcel No. N/A

Tax Parcel No. N/A

Driller Trainee Name (Print) Jayward Laus

Driller/Trainee Signature J. Laus

Driller/Trainee License No. 73 2745

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date 10/31/06

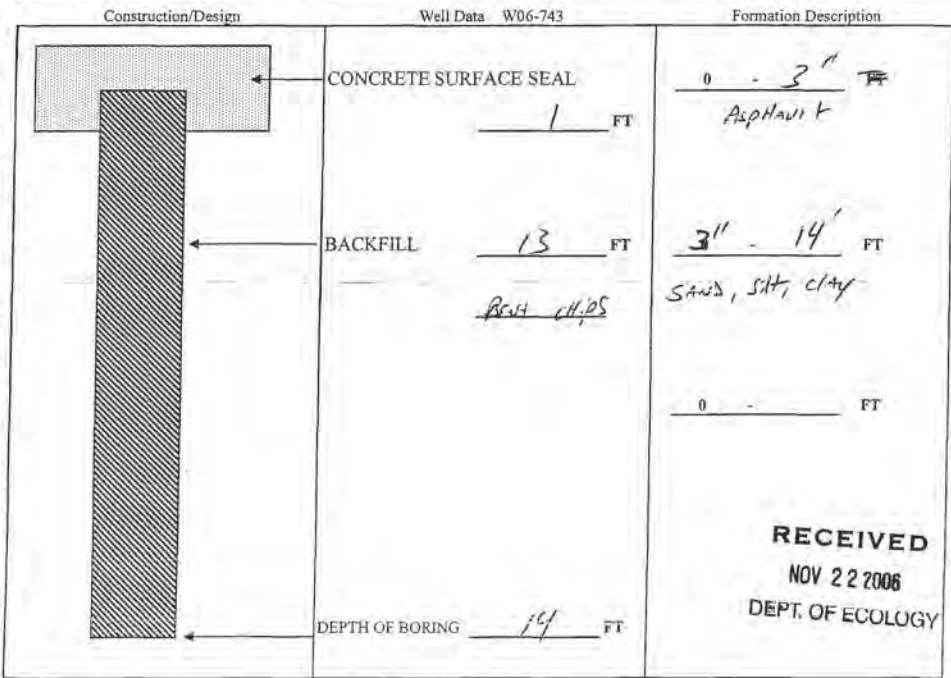
If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Completed Date 10/31/06

Signature and License No. _____

Signature and License No. _____

Signature and License No. _____



Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. A 121417

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice

of Intent Number E022594

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm URS

Property Owner INDUSTRIAL PARK

Site Address 7031 S 196TH ST

City KENT County KING

Unique Ecology Well ID

Location 1/4 SW 1/4 NW Sec 1 Twr 22N R 4E or

Tag No.

EWM

WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print)

Driller/Trainee Signature John Ranish

Driller/Trainee License No. 1805

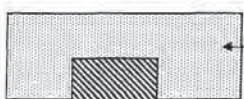
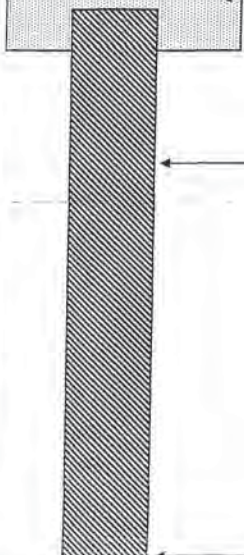
If trainee, licensed drillers'

Signature and License No.

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date 10/31/06

Work/Decommission Completed Date 10/31/06

Construction/Design	Well Data W06-743	Formation Description
	CONCRETE SURFACE SEAL _____ FT	<u>0 - 3" Asphalt</u>
	BACKFILL <u>13</u> FT <u>Best ch. DS</u>	<u>3" - 14' Sand, silt, clay</u>
	DEPTH OF BORING <u>14</u> FT	<u>0</u> FT

RECEIVED
NOV 22 2006
DEPT. OF ECOLOGY

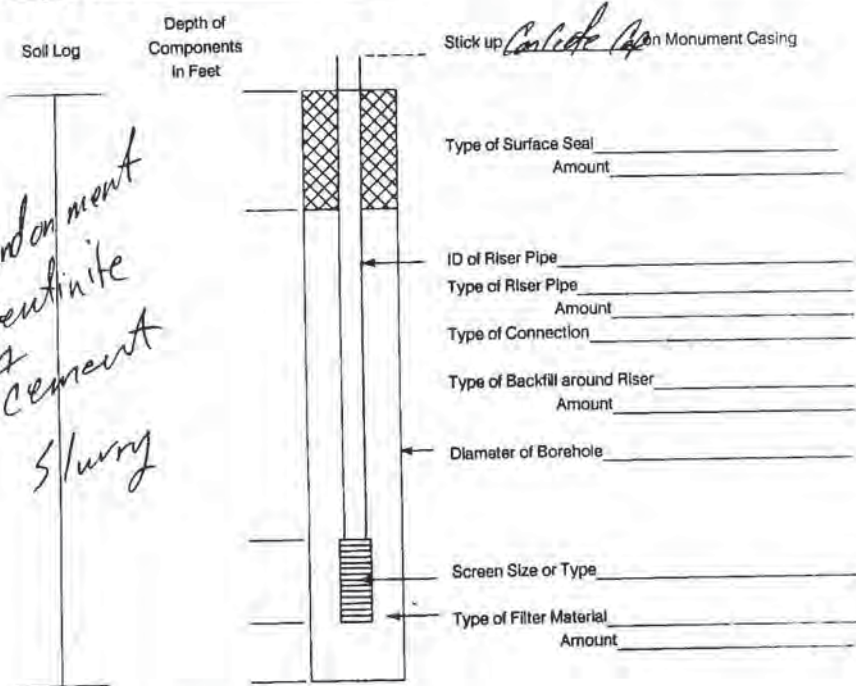
Geoboring & Development, Inc.

22/4E/12 D

Resource Protection Well Report

Project Name Kent Corp. PK 72
Well Identification # mw1-3
Drilling Method grout pack
Driller John Ranish
License # 1805
Job # 326-7

Date 4-9-91 3 Wells
County King NW 1/4 NW 1/4
Section 12 T. 22N R. 4E
Start Card 038937
Consulting Firm Dames & Moore



Abandonment
Bentonite
&
Cement
Slurry

Remarks: mw1-3

RECEIVED Signature John Ranish
APR 10 1991
DEPT. OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

Consulting Firm Boeing / DOF
 Unique Ecology Well ID Tag No. N/A

Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and for compliance with all Washington well construction standards.

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x WWM
 Long Deg x Long Min/Sec x

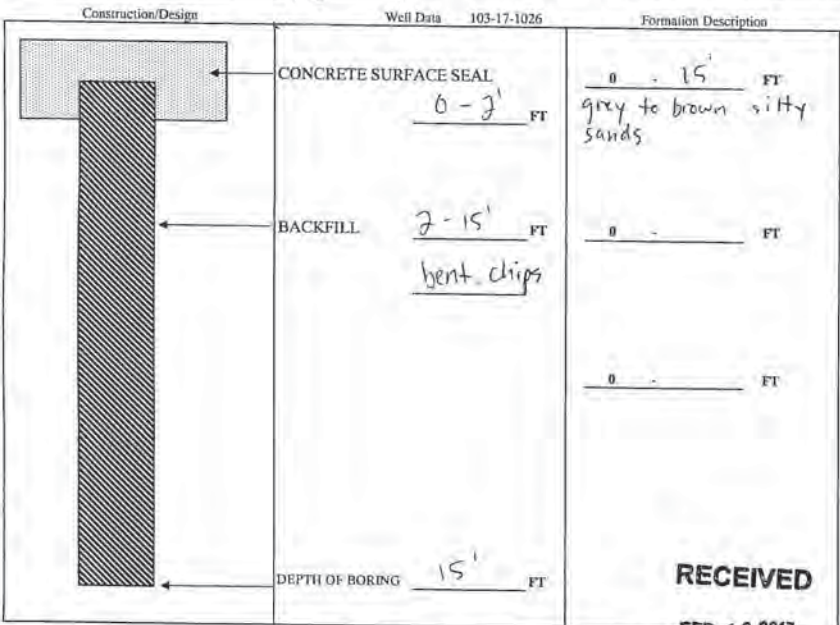
Materials used and the information reported above are true in my best knowledge and belief.

Driller Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2114

Tax Parcel No. 0
 Cased or Uncased Diameter 2'14" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 1-24-17
 Work/Decommission Completed Date 1-24-17



Scale 1" = _____

Page _____ of _____

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 DEPT OF ECOLOGY
 NWRO - WR

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

Consulting Firm Boeing / DOF
 Unique Ecology Well ID Tag No. N/A

Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

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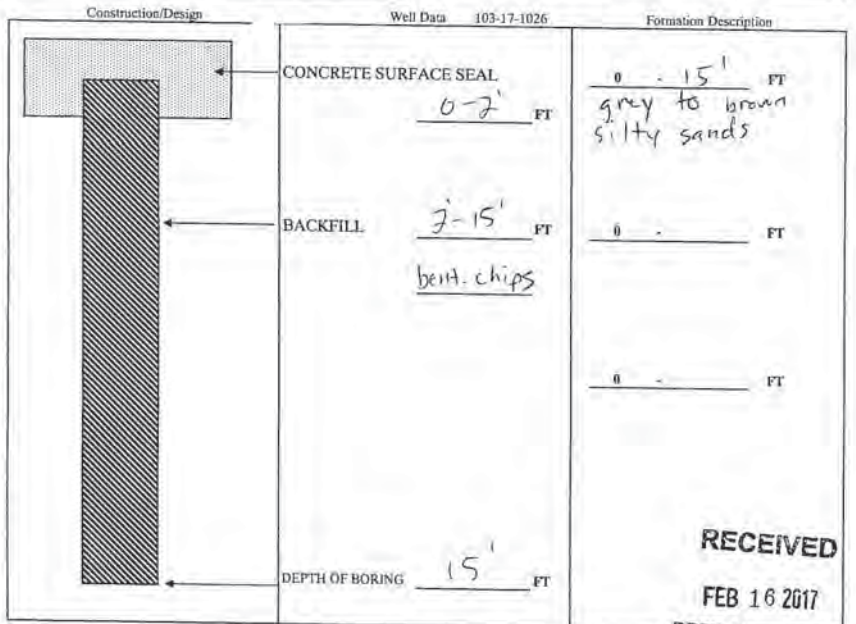
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Work/Decommission Start Date 1-25-17
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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

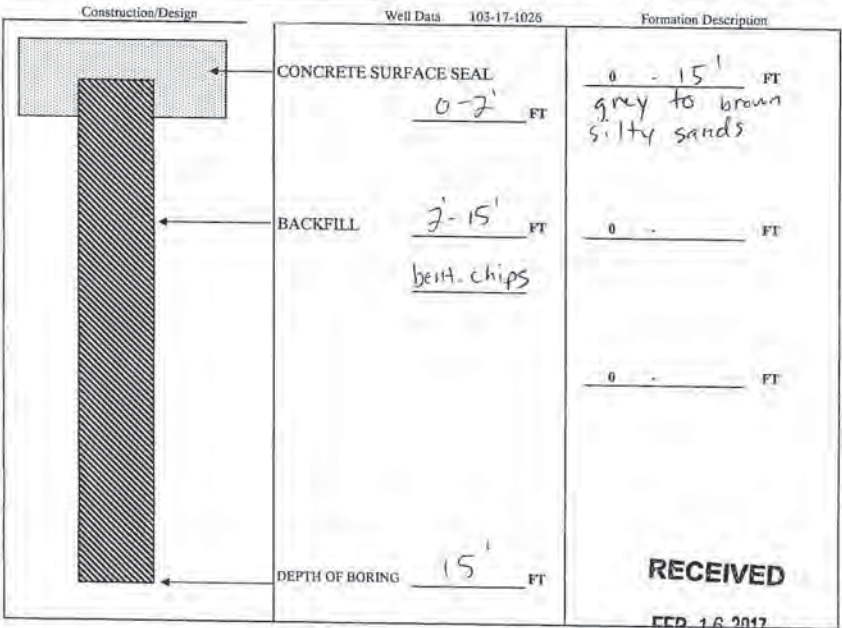
Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King EWN

Consulting Firm Boeing / DOF
 Unique Ecology Well ID N/A
 Tag No. _____
 Location 1/4 SE 1/4 NE Sec 2 T2N R 4E WWM

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 Work/Decommission Completed Date 1-25-17



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(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

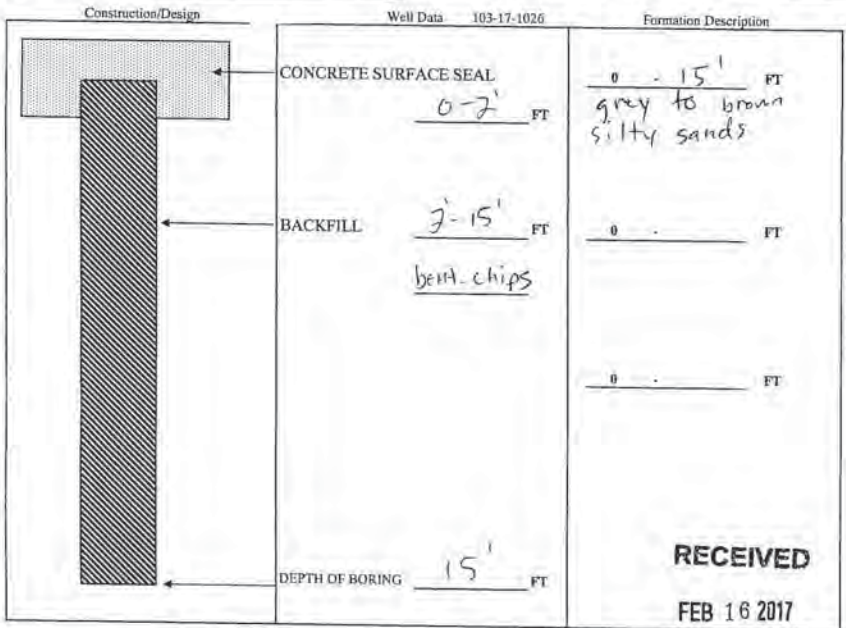
Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King EWN

Consulting Firm Boeing / DOF
 Unique Ecology Well ID N/A
 Tag No. _____
 Location 1/4 SE 1/4 NE Sec 2 T2N R 4E WWM

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Consulting Firm Boeing / DOF

Unique Ecology Well ID

Tag No. N/A

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Signature and License No. _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center

Site Address 20403 68th Ave South

City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

WWM _____

Lat/Long (S,L): Lat Deg x Lat Min/Sec x

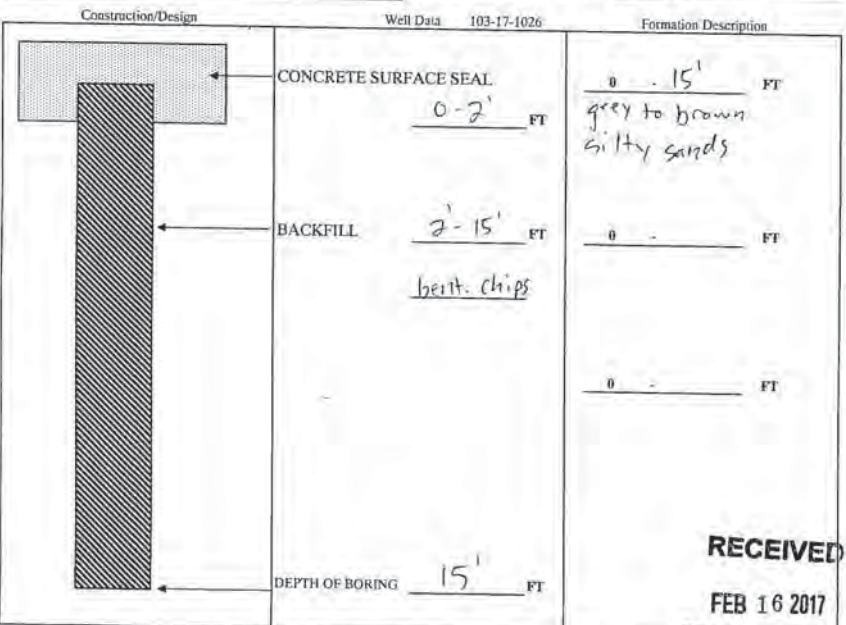
Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 2'14" Static Level 8'

Work/Decommission Start Date 1-26-17

Work/Decommission Completed Date 1-26-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

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 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Boeing / DOF

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Signature and License No. _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center

Site Address 20403 68th Ave South

City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

WWM _____

Lat/Long (S,L): Lat Deg x Lat Min/Sec x

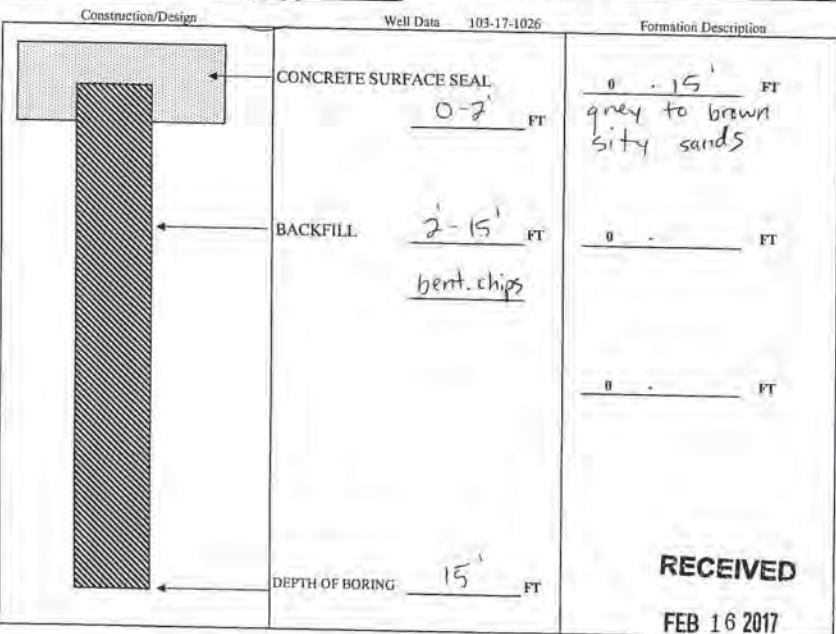
Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 2'14" Static Level 8'

Work/Decommission Start Date 1-27-17

Work/Decommission Completed Date 1-27-17



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FEB 16 2017

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EED0444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF
Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

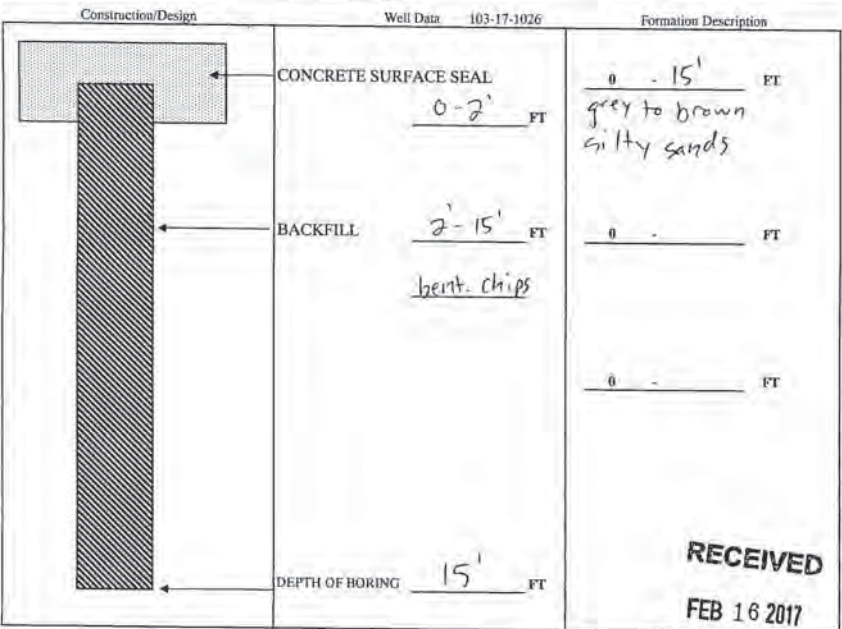
Unique Ecology Well ID N/A
Tag No. N/A
Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

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Driller/Trainee Signature [Signature]
Driller/Trainee License No. 3114

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Lat/Long (S, L, R) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x
Tax Parcel No. 0
Cased or Uncased Diameter 2 1/4" Static Level 8'
Work/Decommission Start Date 1-26-17
Work/Decommission Completed Date 1-26-17



Scale 1" = _____ Page _____ of _____

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FEB 16 2017
DEPT OF ECOLOGY
NWRC (MIR 2017)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EED0444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF
Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

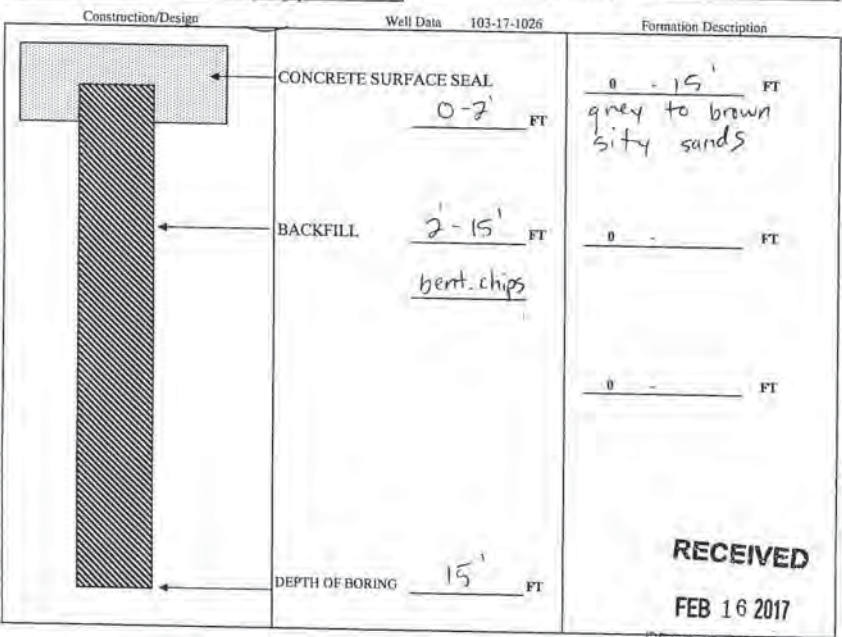
Unique Ecology Well ID N/A
Tag No. N/A
Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

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Work/Decommission Start Date 1-27-17
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NWRC (MIR 2017)

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE06444

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

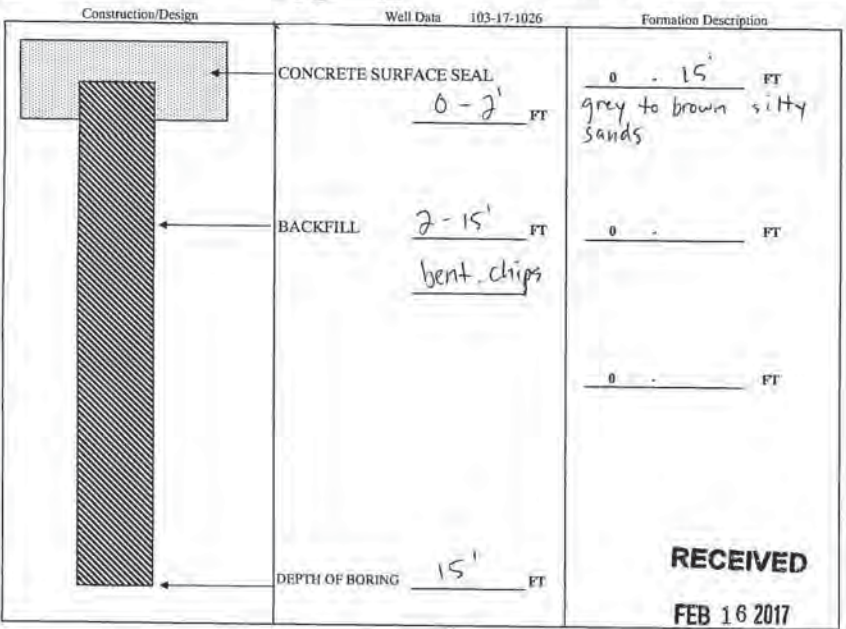
Unique Ecology Well ID Tag No. N/A Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

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Lat/Long (S,L,R) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No. 0
 Cased or Uncased Diameter 2 1/4" Static Level 8'
 Driller/Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3114

Work/Decommission Start Date 1-24-17
 Work/Decommission Completed Date 1-24-17



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE06444

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

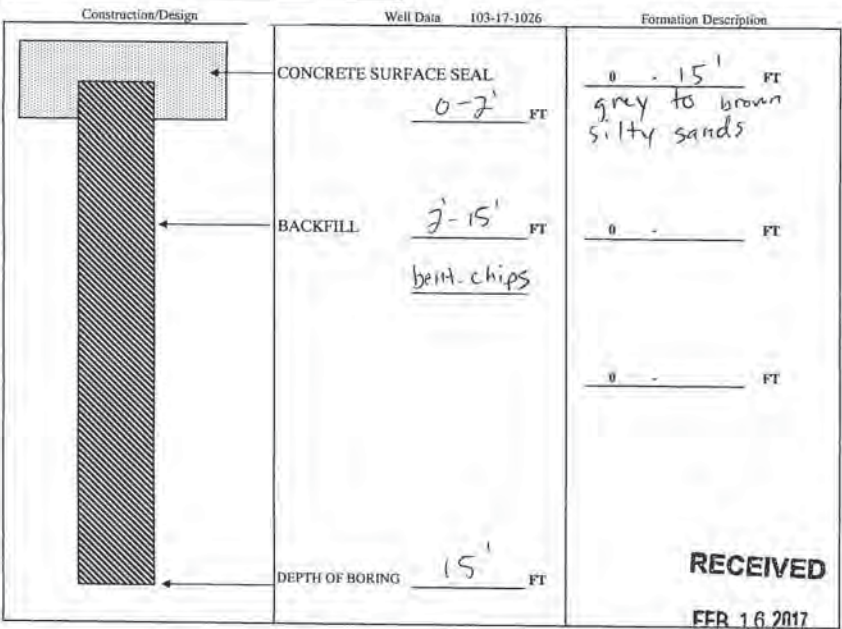
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 Long Deg x Long Min/Sec x

Tax Parcel No. 0
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 Driller/Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3114

Work/Decommission Start Date 1-25-17
 Work/Decommission Completed Date 1-25-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

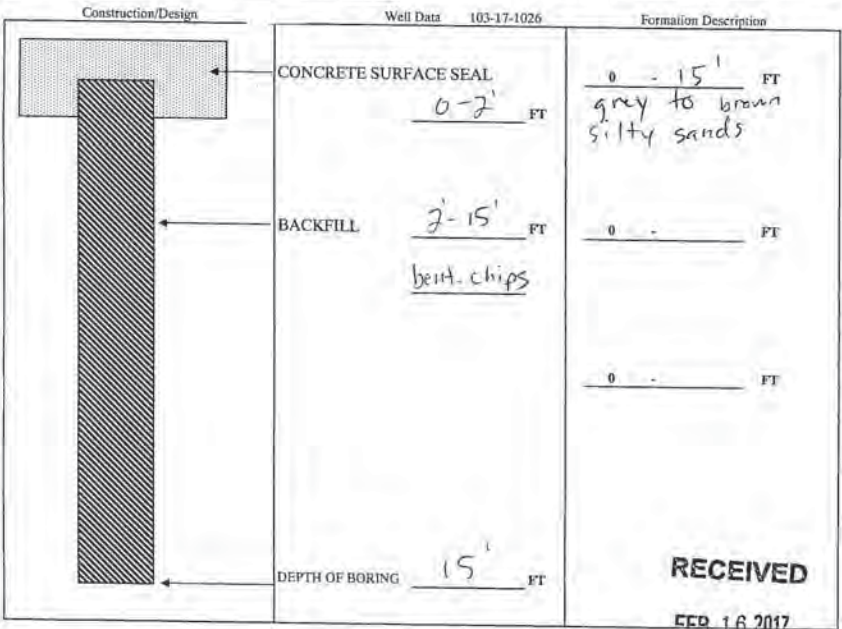
Consulting Firm Boeing / DOF

Unique Ecology Well ID Tag No. N/A
 Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E EWM

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Driller Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3114
 Cased or Uncased Diameter 2'14" Static Level 8'
 Work/Decommission Start Date: 1-25-17
 Work/Decommission Completed Date: 1-25-17



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

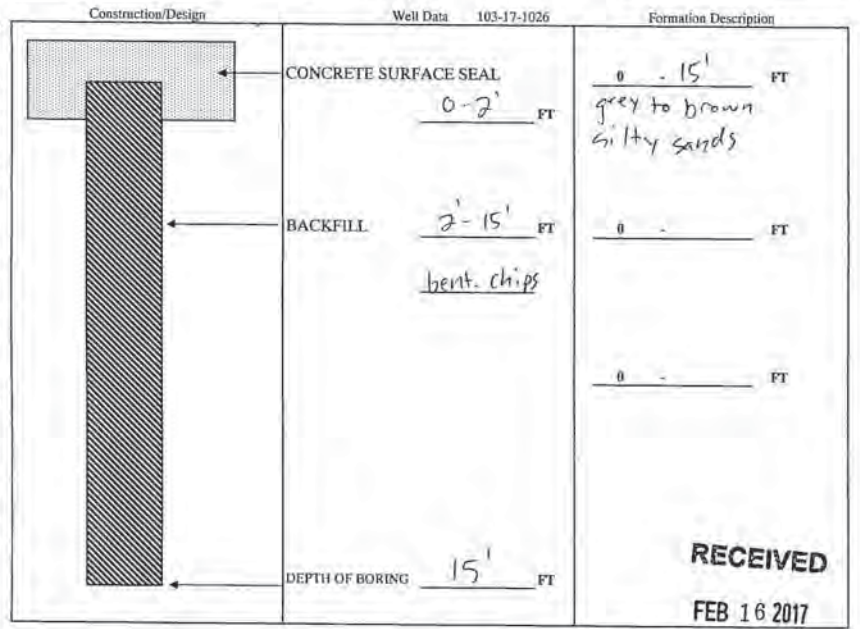
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Unique Ecology Well ID Tag No. N/A
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RESOURCE PROTECTION WELL REPORT
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CURRENT
 Notice of Intent No. EE06444

Construction/Decommission

Construction
 Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

Resource Protection
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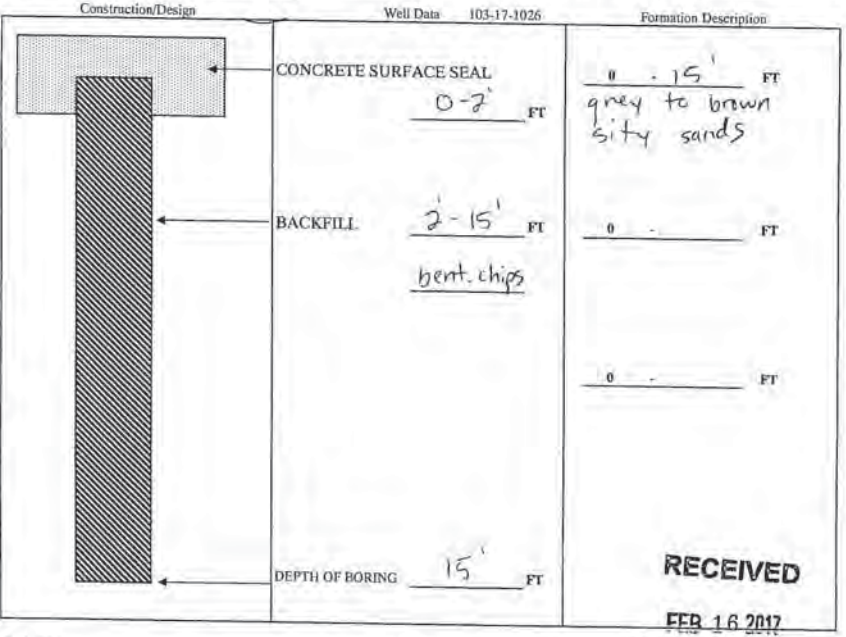
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Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM
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Tax Parcel No. 0
 Cased or Uncased Diameter 2'14" Static Level 8'

Work/Decommission Start Date 1-27-17

Work/Decommission Completed Date 1-27-17



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RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
 Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission *ORIGINAL INSTALLATION Notice of Intent Number* EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

Consulting Firm Boeing / DOF
 Unique Ecology Well ID Tag No. N/A

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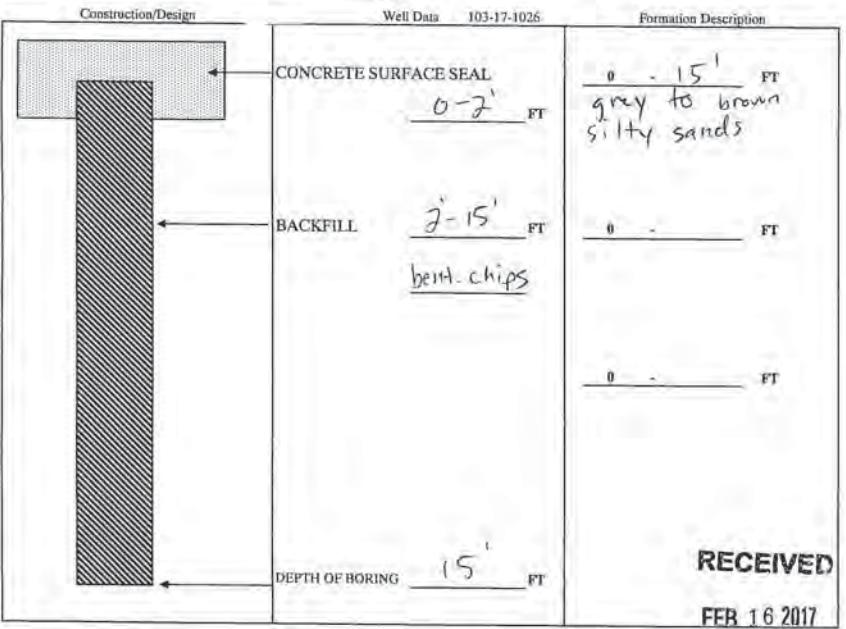
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Work/Decommission Start Date 1-25-17

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission *ORIGINAL INSTALLATION Notice*
of Intent Number EEO6444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF

Property Owner Kent Space Center
Site Address 20403 68th Ave South
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Unique Ecology Well ID Tag No. N/A

Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E EWM

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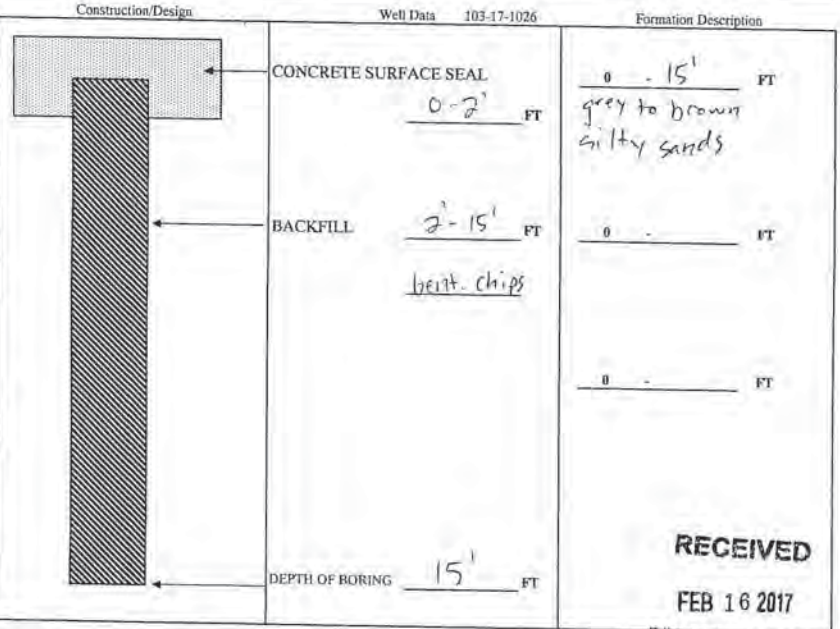
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Work/Decommission Start Date 1-26-17
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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE41184

Construction/Decommission

Construction
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of Intent Number EEO6444

Type of Well

Resource Protection
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Consulting Firm Boeing / DOF

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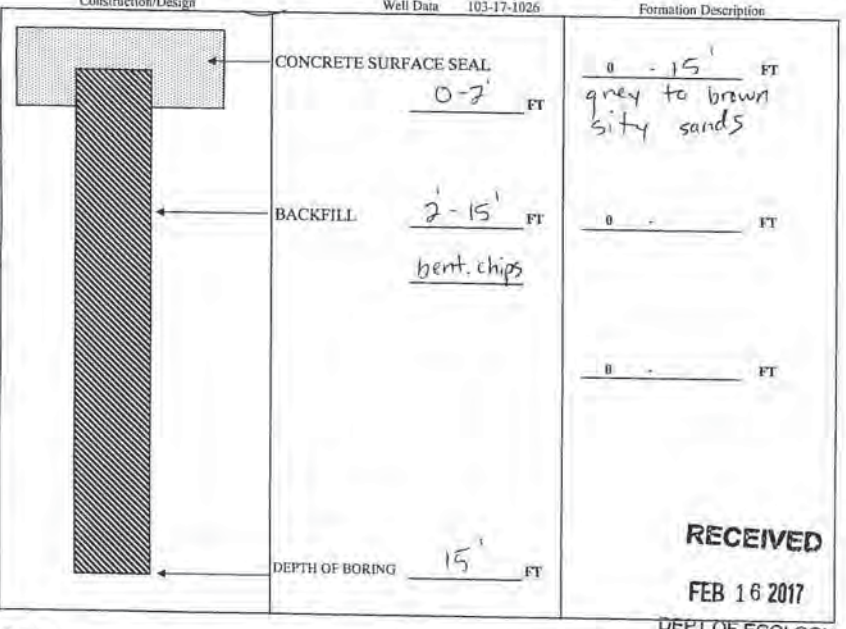
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Work/Decommission Completed Date 1-27-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission *ORIGINAL INSTALLATION Notice*
of Intent Number EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Consulting Firm Boeing / DOF

Unique Ecology Well ID

Tag No. N/A

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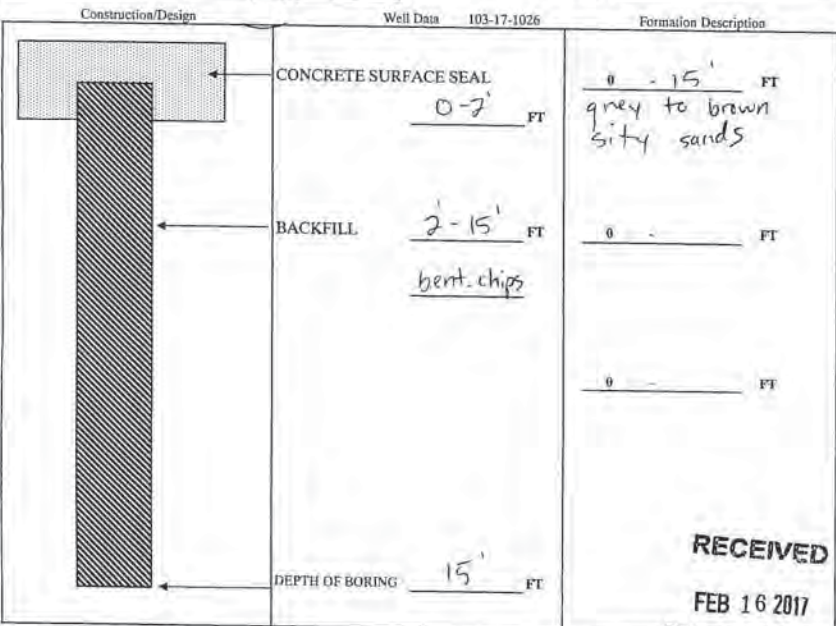
Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
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Work/Decommission Completed Date 1-27-17



Scale 1" = _____ Page _____ of _____

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FEB 16 2017
DEPT OF ECOLOGY
NWRQ (Rev. 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

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Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission *ORIGINAL INSTALLATION Notice*
of Intent Number EE06444

Type of Well

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Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

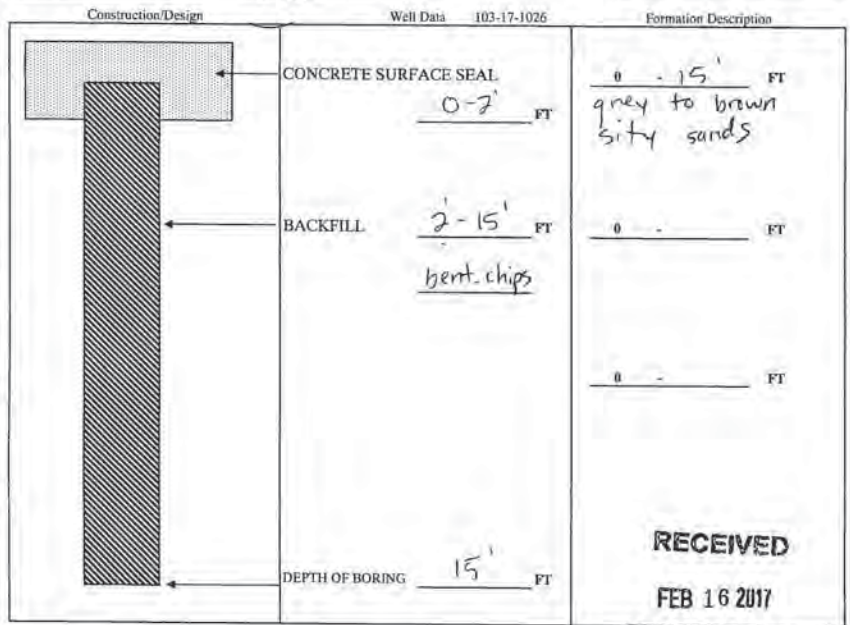
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Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 2 1/4" Static Level 8'

Work/Decommission Start Date 1-27-17

Work/Decommission Completed Date 1-27-17



Scale 1" = _____ Page _____ of _____

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The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EED06444

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF
Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Unique Ecology Well ID Tag No. N/A
Location 1/4 SE 1/4 NE Sec 2 T2N R 4E BWM

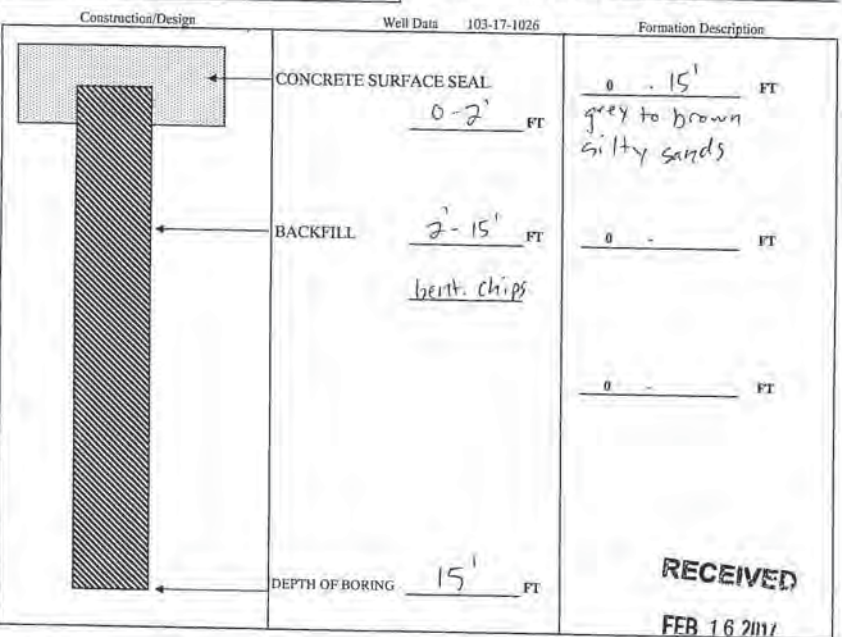
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.
Lat/Long (S,L,T) Lat Deg x Lat Min/Sec x WWM
Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.
Tax Parcel No. 0

Driller Trainee Name (Print) Jeremiah Jenkins
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 3114

Cased or Uncased Diameter 2'14" Static Level 8'
Work/Decommission Start Date 1-26-17
Work/Decommission Completed Date 1-26-17

If trainee, licensed drillers' Signature and License No. _____



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RESOURCE PROTECTION WELL REPORT

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CURRENT
Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EED06444

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF
Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Unique Ecology Well ID Tag No. N/A
Location 1/4 SE 1/4 NE Sec 2 T2N R 4E BWM

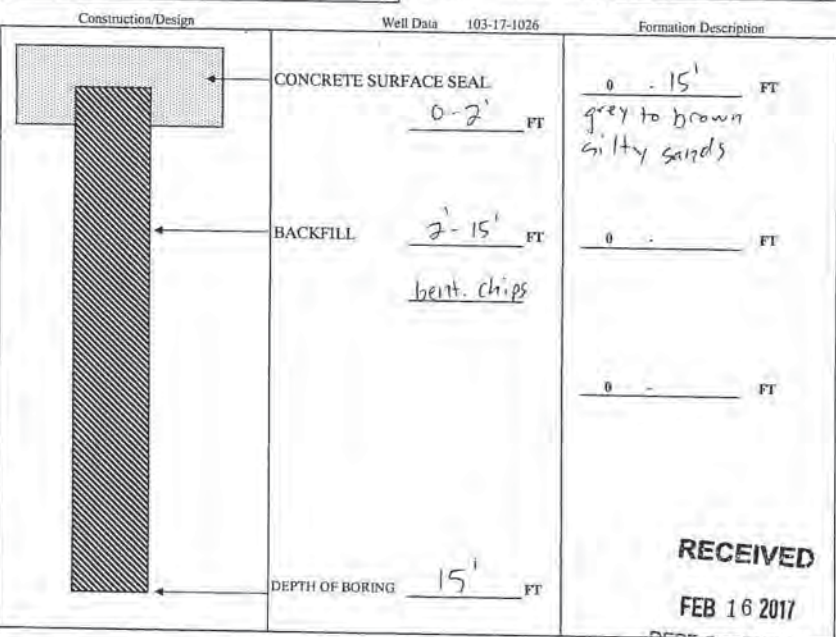
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Notice of Intent No. EE06444

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Consulting Firm Boeing / DOF
Unique Ecology Well ID Tag No. N/A

Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E EWM

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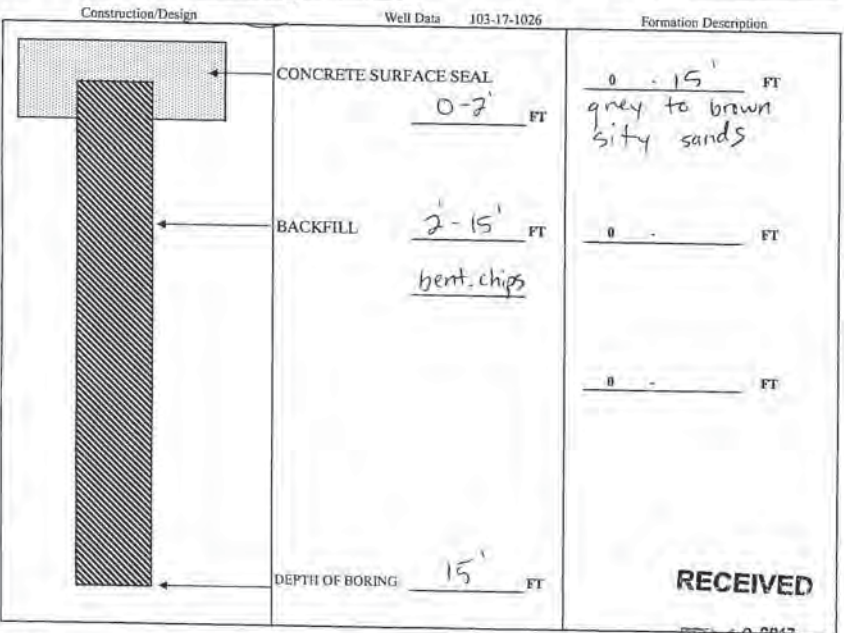
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Cased or Uncased Diameter 2 1/4" Static Level 8'

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Work/Decommission Start Date 1-27-17
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RESOURCE PROTECTION WELL REPORT

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CURRENT
Notice of Intent No. AE41184

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Consulting Firm Boeing / DOF
Unique Ecology Well ID Tag No. N/A

Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E EWM

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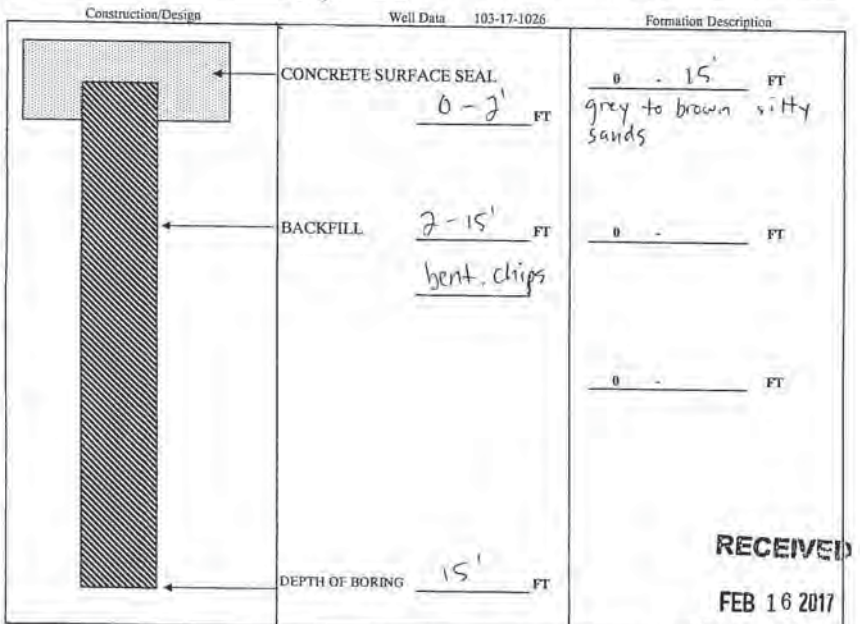
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Cased or Uncased Diameter 2 1/4" Static Level 8'

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Work/Decommission Start Date 1-24-17
Work/Decommission Completed Date 1-24-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 7 AE41184

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

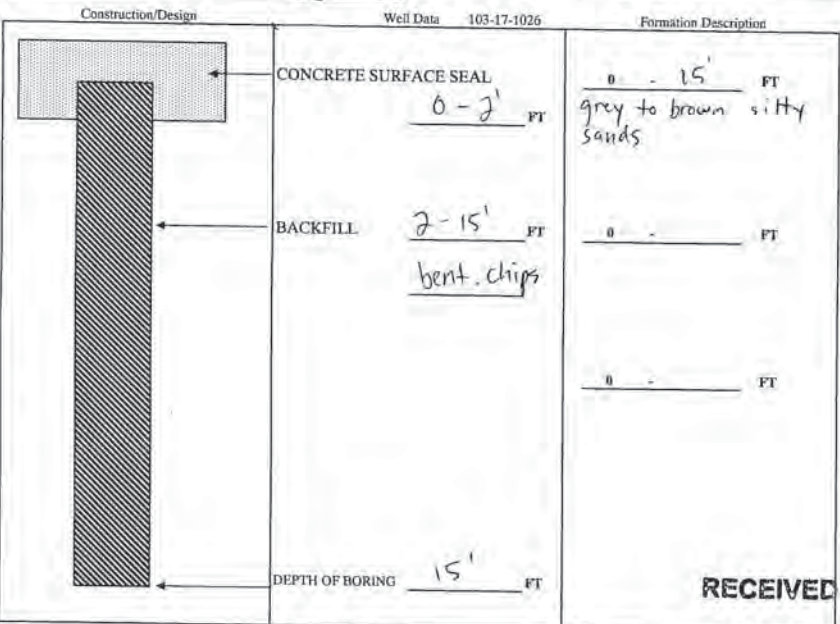
Consulting Firm Boeing / DOF
Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Unique Ecology Well ID Tag No. N/A
Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E EWM

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Driller/Trainee License No. 3114

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Work/Decommission Completed Date 1-24-17



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FEB 16 2017
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CURRENT

Notice of Intent No. EE06444

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

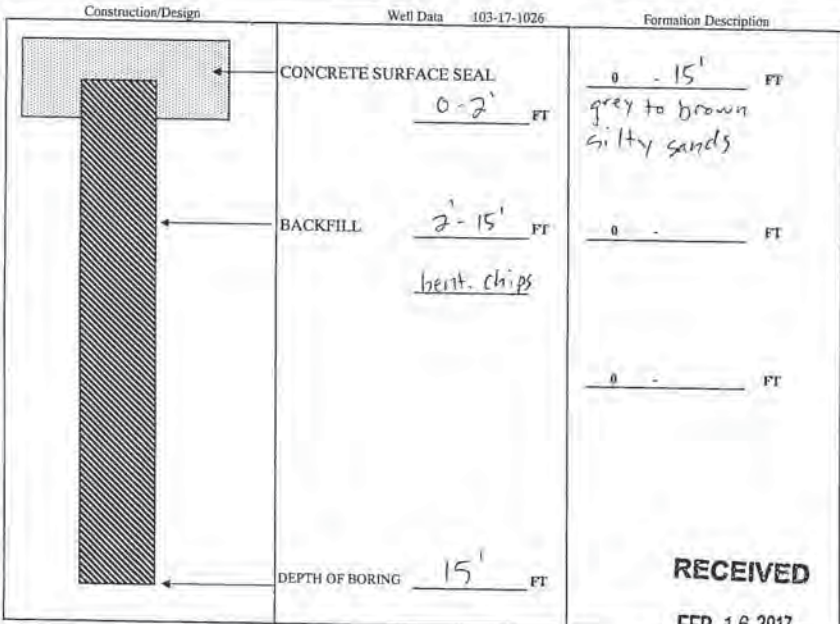
Consulting Firm Boeing / DOF
Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Unique Ecology Well ID Tag No. N/A
Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E EWM

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE06444

Consulting Firm Boeing / DOF

Unique Ecology Well ID
Tag No. N/A

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Notice of Intent No. AE41184

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

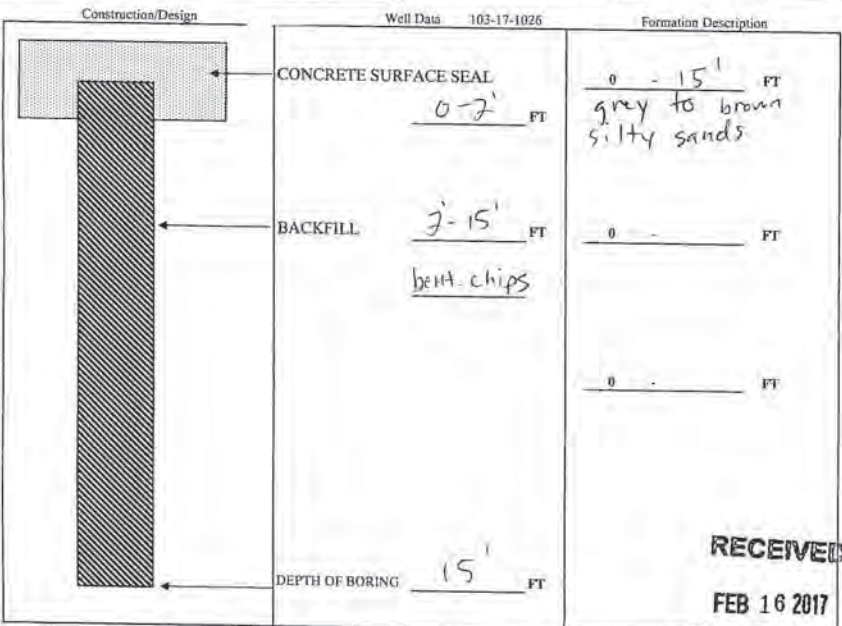
Lat/Long (s,t,r) Lat Deg x Lat Min/Sec s
Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 2'14" Static Level 8'

Work/Decommission Start Date 1-25-17

Work/Decommission Completed Date 1-25-17



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RESOURCE PROTECTION WELL REPORT

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Construction
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Consulting Firm Boeing / DOF

Unique Ecology Well ID
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Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

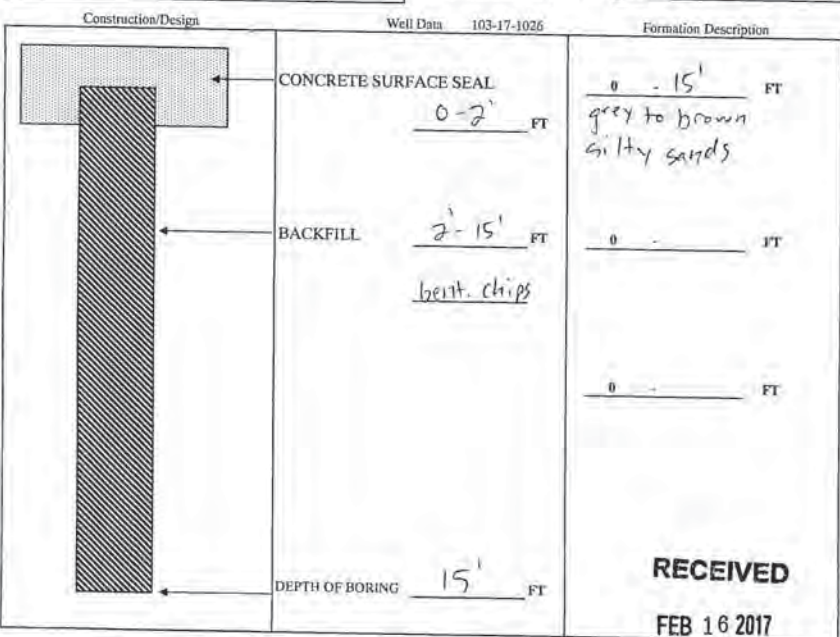
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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE00444

Consulting Firm Boeing / DOF

Unique Ecology Well ID
Tag No. N/A

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Driller/Trainee Signature [Signature]
Driller/Trainee License No. 3114

If trainee, licensed drillers' Signature and License No. _____

CURRENT
Notice of Intent No. AE41184

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

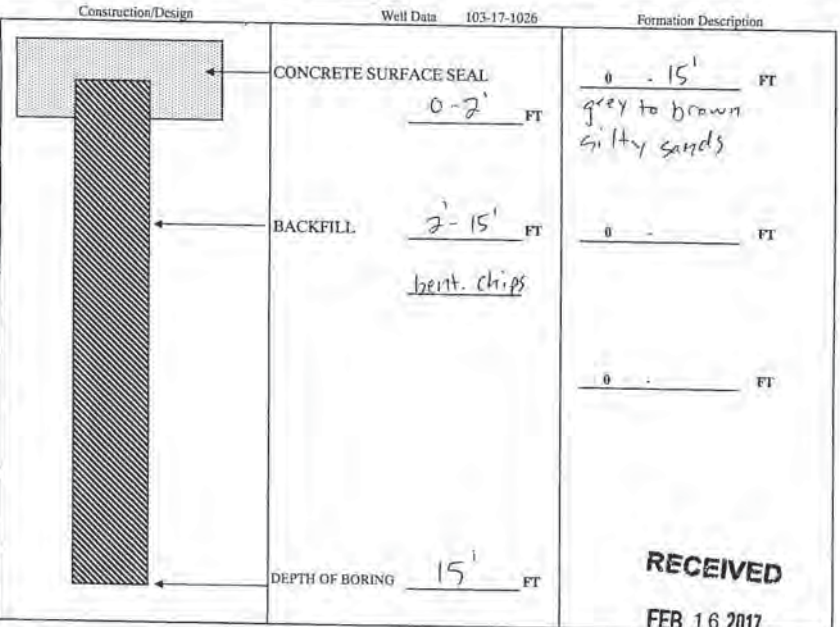
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Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 2 1/4" Static Level 8'

Work/Decommission Start Date 1-26-17

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Consulting Firm Boeing / DOF

Unique Ecology Well ID
Tag No. N/A

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Driller Trainee Name (Print) Jeremiah Jenkins
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 3114

If trainee, licensed drillers' Signature and License No. _____

CURRENT
Notice of Intent No. EE06444

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

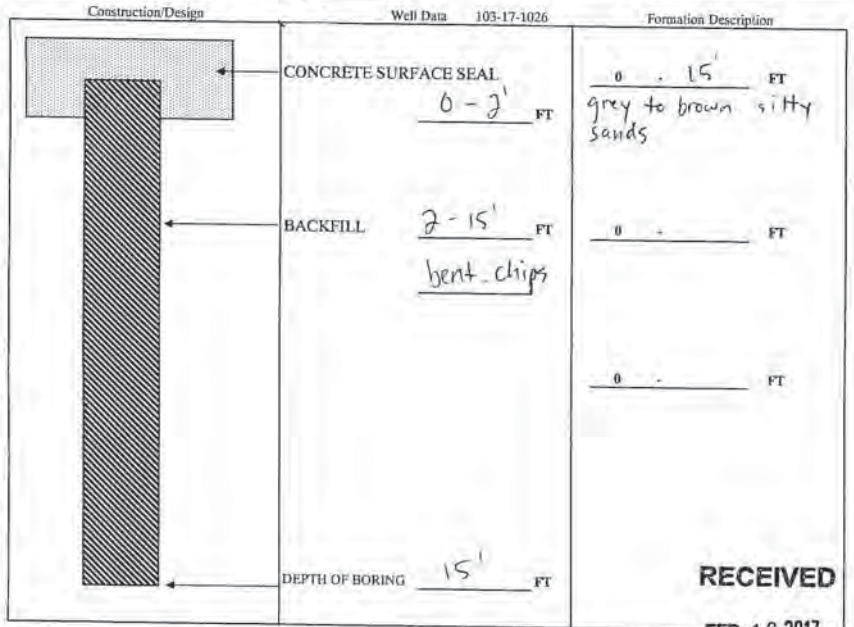
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Cased or Uncased Diameter 2 1/4" Static Level 8'

Work/Decommission Start Date 1-24-17

Work/Decommission Completed Date 1-24-17



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RESOURCE PROTECTION WELL REPORT

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Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Unique Ecology Well ID Tag No. N/A Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

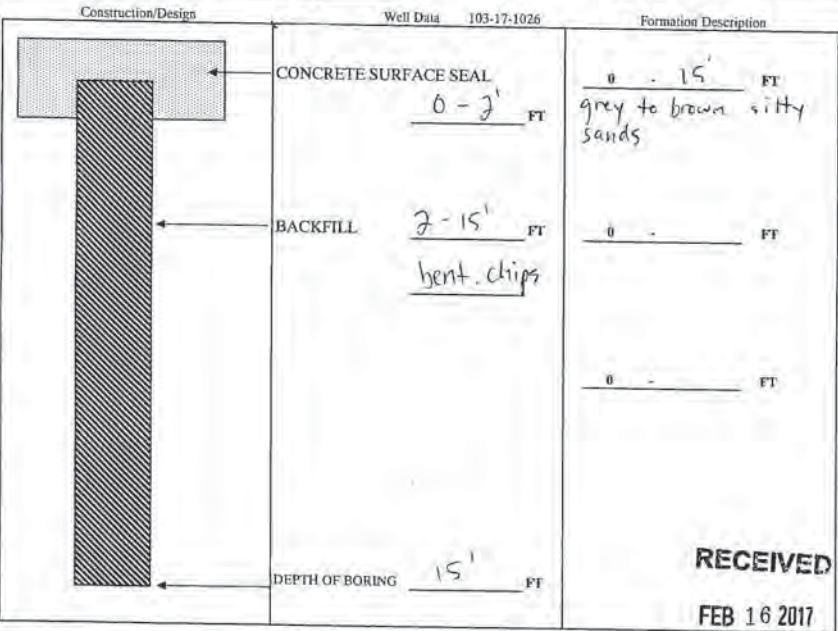
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Driller Trainee Name (Print) Jeremiah Jenkins
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 3414

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Work/Decommission Start Date 1-24-17
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Construction
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Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Unique Ecology Well ID Tag No. N/A Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

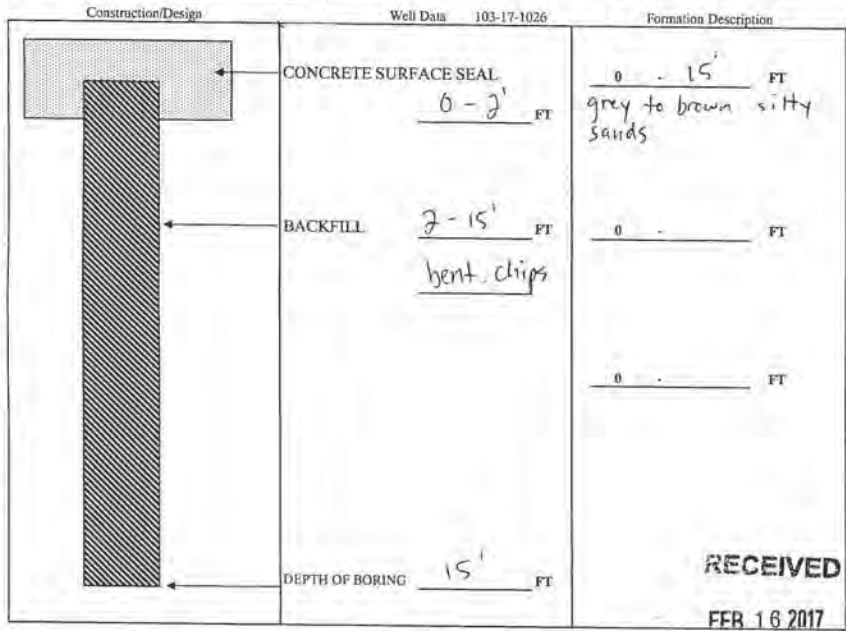
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Notice of Intent No. EE06444

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Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Kent Space Center

Site Address 20403 68th Ave South

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Unique Ecology Well ID

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Driller Trainee Name (Print)

Jeremiah Jenkins

Driller/Trainee Signature

[Signature]

Driller/Trainee License No.

3114

Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E

Lat/Long (s,r) Lat Deg x Lat Min/Sec x

Long Deg x Long Min/Sec x

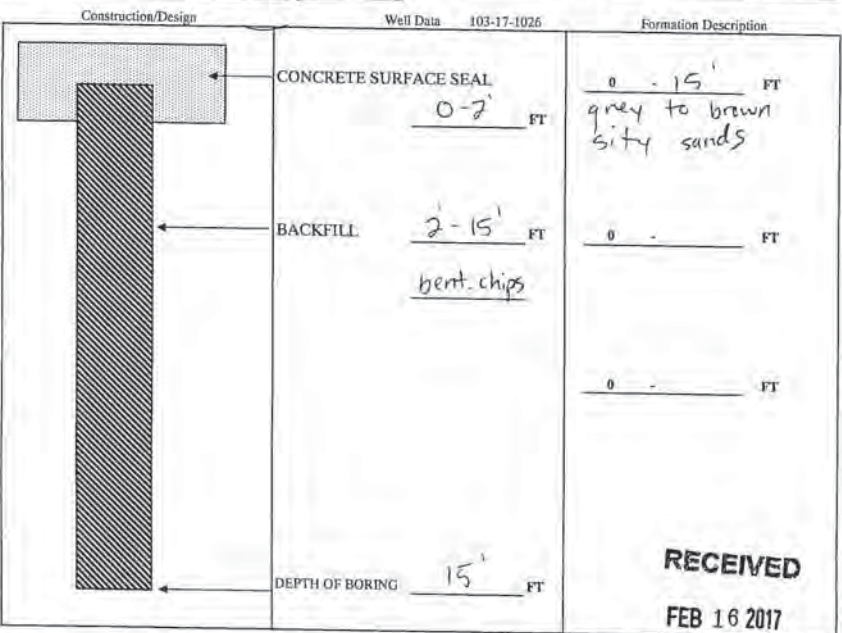
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Construction/Decommission

Construction

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Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Kent Space Center

Site Address 20403 68th Ave South

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[Signature]

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Location 1/4 SE 1/4 NE Sec 2 TWN 22N R 4E

Lat/Long (s,r) Lat Deg x Lat Min/Sec x

Long Deg x Long Min/Sec x

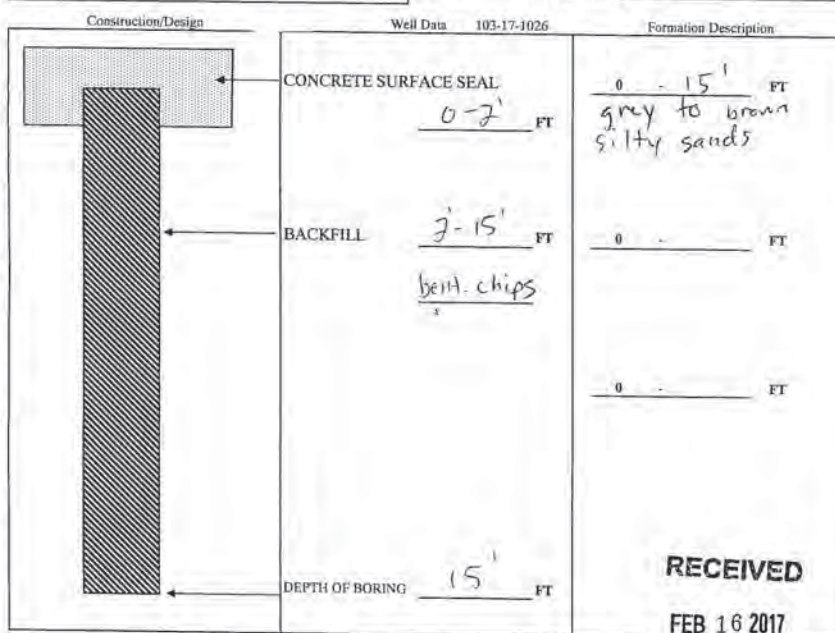
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Construction
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Type of Well
 Resource Protection
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Consulting Firm Boeing / DOF

Property Owner Kent Space Center
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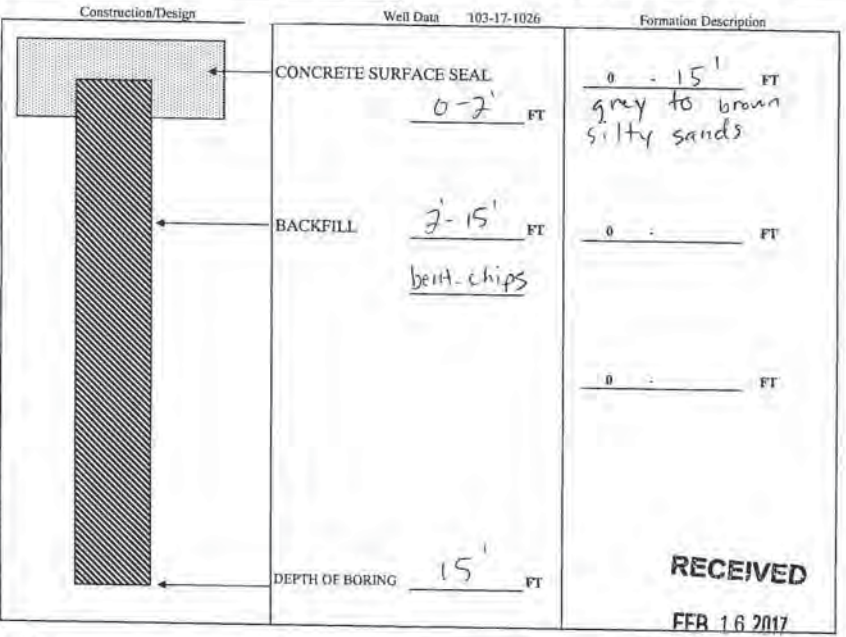
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Construction
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Type of Well
 Resource Protection
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Consulting Firm Boeing / DOF

Property Owner Kent Space Center
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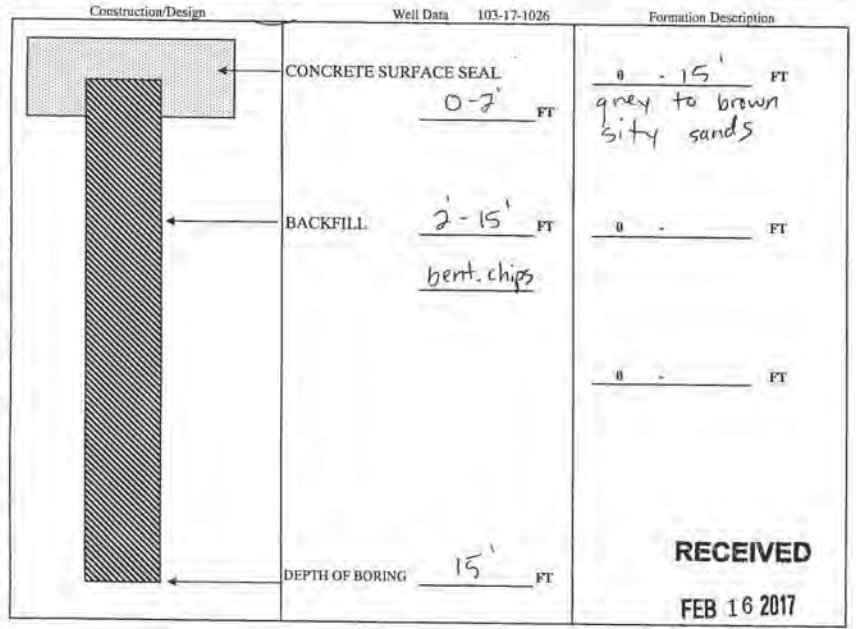
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Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

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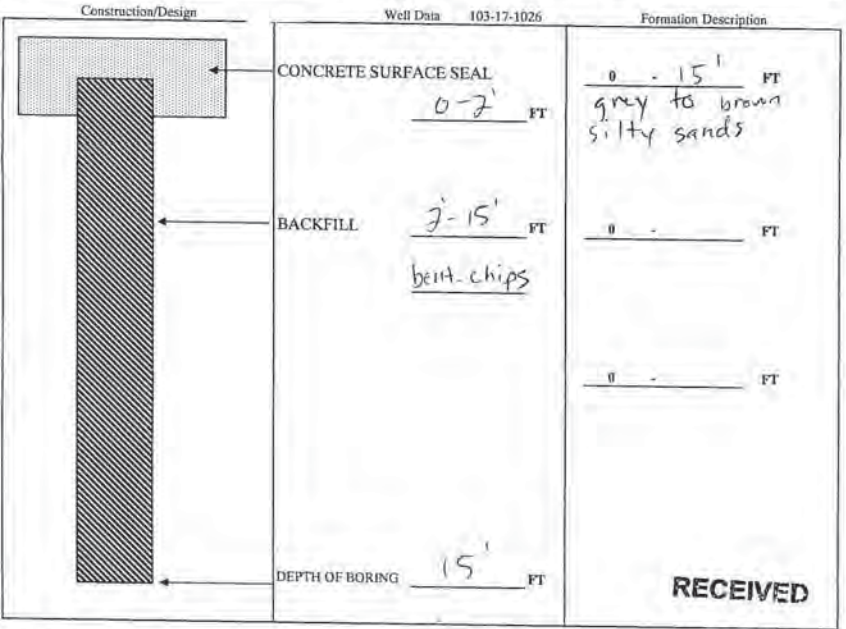
Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Jeremiah Jenkins
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 3114

Tax Parcel No. 0
Cased or Uncased Diameter 2 1/4" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 1-25-17
Work/Decommission Completed Date 1-25-17



Scale 1" = _____ Page _____ of _____

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE41184

Construction/Decommission
 Construction
 Decommission *ORIGINAL INSTALLATION Notice*
of Intent Number EED6444

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Boeing / DOF

Property Owner Kent Space Center
Site Address 20403 68th Ave South
City Kent County King

Unique Ecology Well ID
Tag No. N/A

Location 1/4 SE 1/4 NE Sec 2 T2N R 4E EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

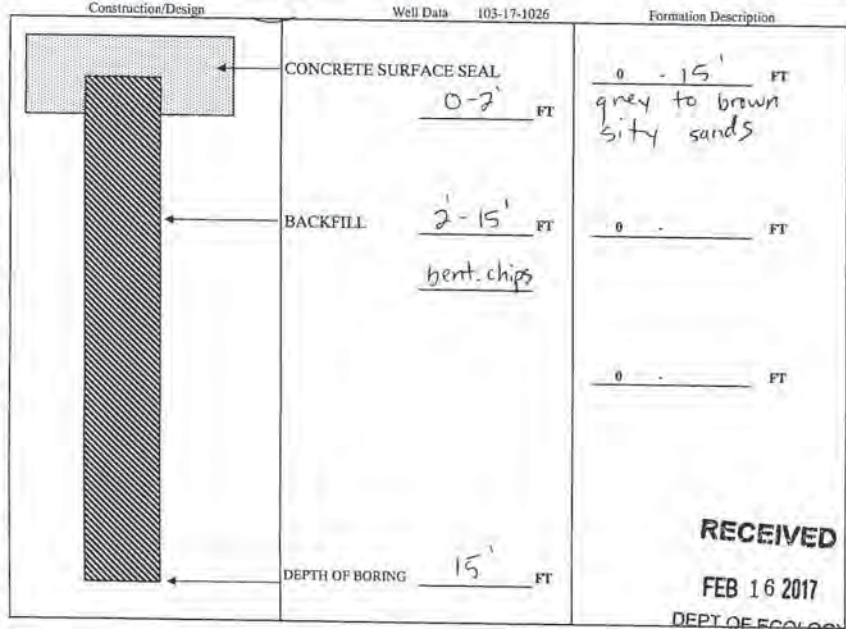
Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Jeremiah Jenkins
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 3114

Tax Parcel No. 0
Cased or Uncased Diameter 2 1/4" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 1-27-17
Work/Decommission Completed Date 1-27-17



Scale 1" = _____ Page _____ of _____

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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EE06444

Consulting Firm Boeing / DOF

Unique Ecology Well ID Tag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3414

If trainee, licensed drillers' Signature and License No. _____

CURRENT

Notice of Intent No. AE41184

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

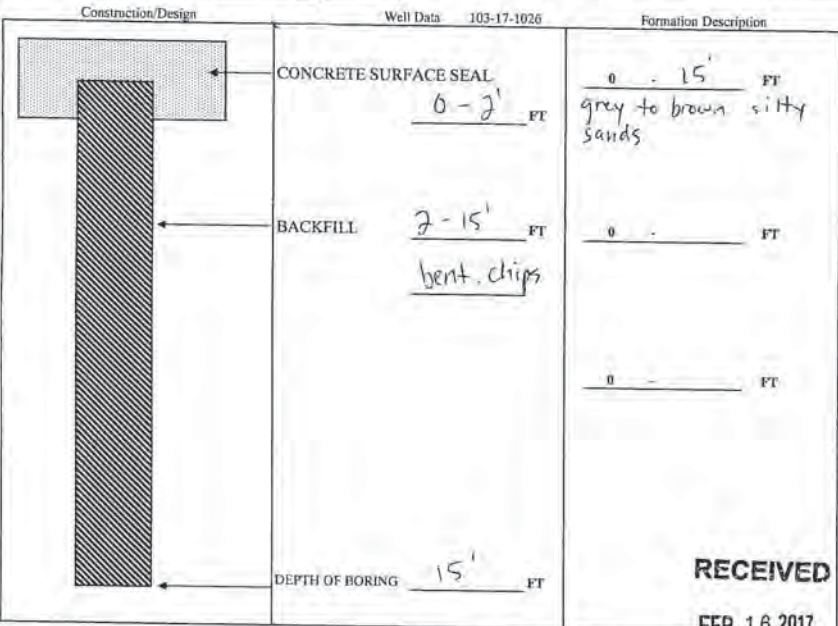
Lat/Long (s,l,r) Lat Deg x Lat Min/Sec x WWM
 Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 2 1/4" Static Level 8'

Work/Decommission Start Date 1-24-17

Work/Decommission Completed Date 1-24-17



Scale 1" = _____

Page _____ of _____

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Boeing / DOF

Unique Ecology Well ID Tag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3414

If trainee, licensed drillers' Signature and License No. _____

CURRENT

Notice of Intent No. EE06444

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

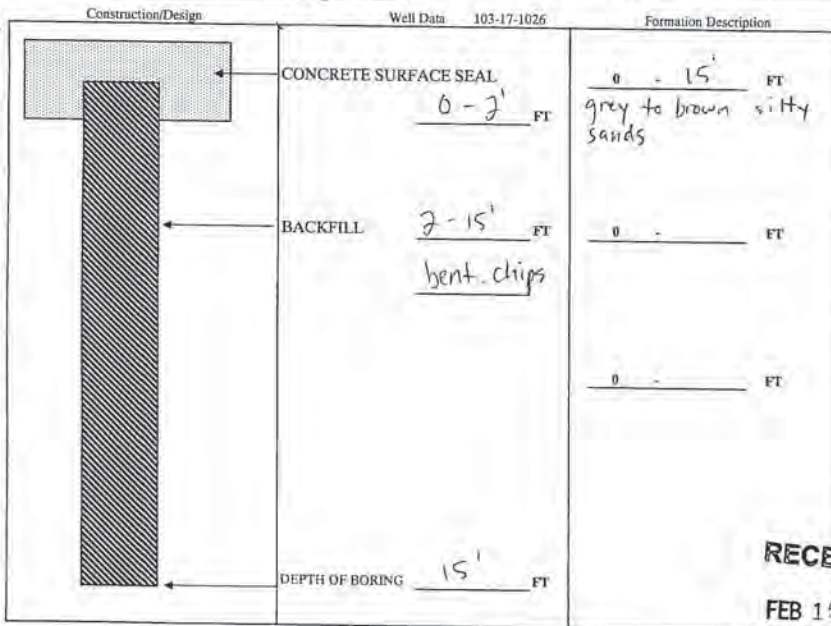
Lat/Long (s,l,r) Lat Deg x Lat Min/Sec x WWM
 Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 2 1/4" Static Level 8'

Work/Decommission Start Date 1-24-17

Work/Decommission Completed Date 1-24-17



Scale 1" = _____

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE06444

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

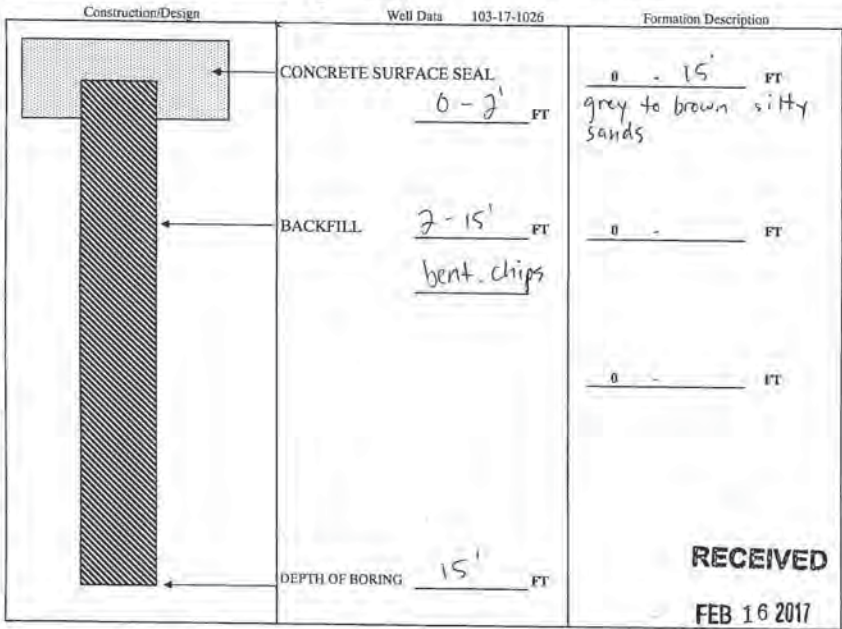
Consulting Firm Boeing / DOF
 Unique Ecology Well ID Tag No. N/A
 Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3114

If trainee, licensed drillers' Signature and License No. _____
 Work/Decommission Start Date 1-24-17
 Work/Decommission Completed Date 1-24-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EE06444

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Kent Space Center
 Site Address 20403 68th Ave South
 City Kent County King

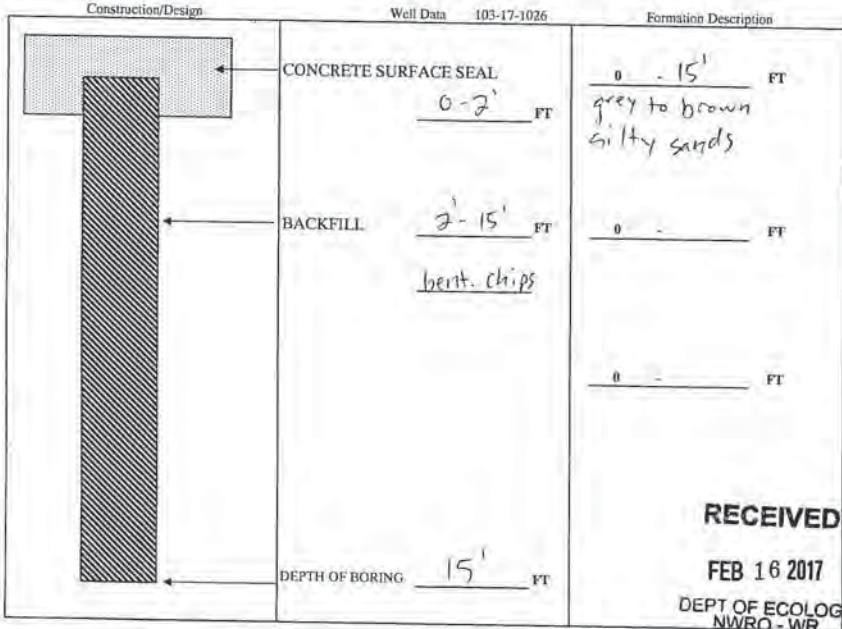
Consulting Firm Boeing / DOF
 Unique Ecology Well ID Tag No. N/A
 Location 1/4 SE 1/4 NE Sec 2 T2N 22N R 4E EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Jeremiah Jenkins
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3114

If trainee, licensed drillers' Signature and License No. _____
 Work/Decommission Start Date 1-26-17
 Work/Decommission Completed Date 1-26-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Consulting Firm Boeing

Unique Ecology Well ID
Tag No. Bka-087

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) James Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 3131

If trainee, licensed driller's
Signature and License No. _____

CURRENT

Notice of Intent No. RE14185

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 SE 1/4 NE Sec. 2 TWN 22N R. 4E or WWM

Lat/Long (s,t,r) Lat Deg. s Lat Min/Sec. s
still Required) Long Deg. s Long Min/Sec. s

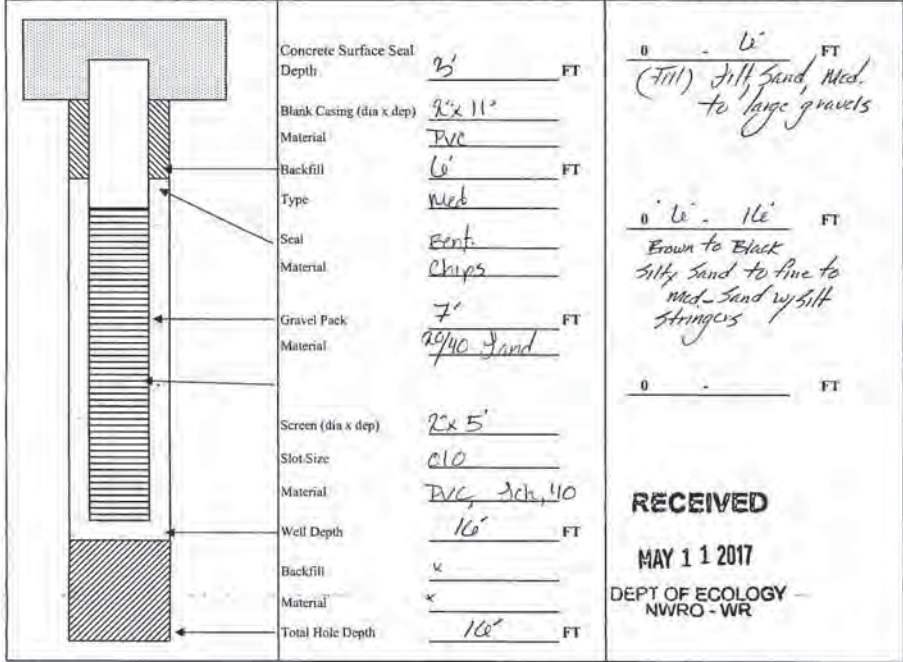
Tax Parcel No. 0

Cased or Uncased Diameter 8" Static Level 10'

Work/Decommission Start Date 4-13-17

Work/Decommission End Date 4-13-17

Construction/Design Well Data 103-17-1148 Formation Description



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Consulting Firm Boeing

Unique Ecology Well ID
Tag No. 3ka-088

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) James Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 3131

If trainee, licensed driller's
Signature and License No. _____

CURRENT

Notice of Intent No. RE14185

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 SE 1/4 NE Sec. 2 TWN 22N R. 4E or WWM

Lat/Long (s,t,r) Lat Deg. s Lat Min/Sec. s
still Required) Long Deg. s Long Min/Sec. s

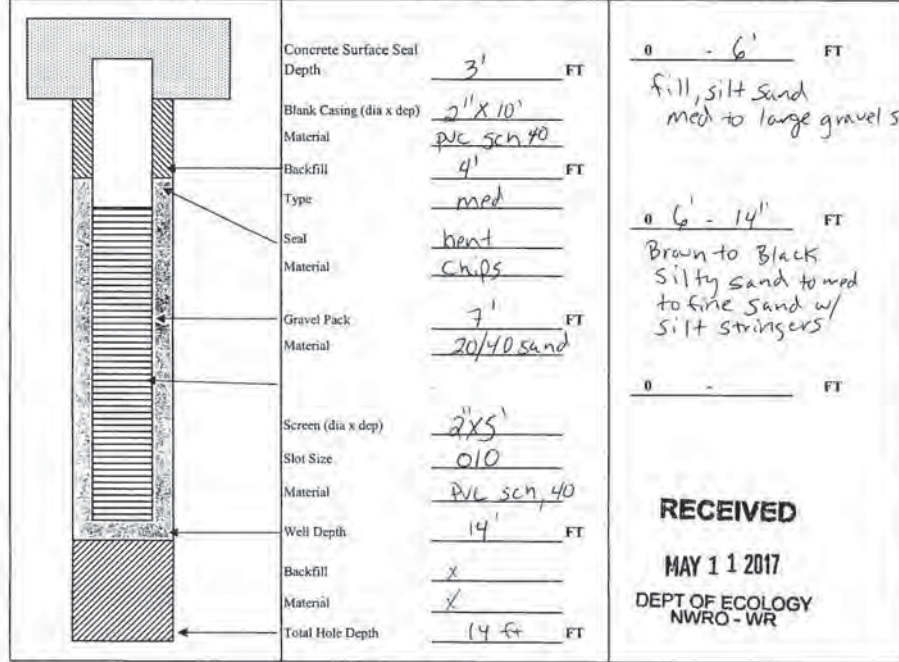
Tax Parcel No. 0

Cased or Uncased Diameter 8" Static Level 8'

Work/Decommission Start Date 4-13-17

Work/Decommission End Date 4-13-17

Construction/Design Well Data 103-17-1148 Formation Description



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Consulting Firm Boeing

Unique Ecology Well ID Tag No. BKA-091

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) James Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 3131

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. RE14185

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 SE 1/4 NE Sec. 2 TWN 22N R. 4E or WWM

Lat/Long (s,t,r) Lat Deg s Lat Min/Sec x
still Required) Long Deg s Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 8" Static Level 8'

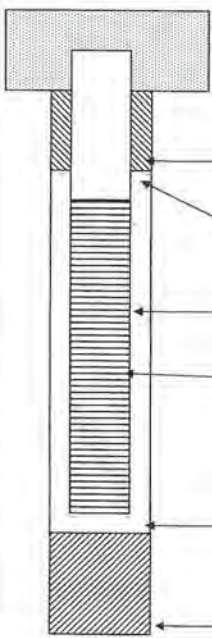
Work/Decommission Start Date 4-14-17

Work/Decommission End Date 4-14-17

Construction/Design

Well Data 103-17-1148

Formation Description



Concrete Surface Seal Depth 2' FT
Blank Casing (dia x dep) 2" x 8'
Material PVC, Sch. 40
Backfill 2' FT
Type Med.
Seal Bent.
Material Chips
Gravel Pack 7' FT
Material 20/40 Sand
Screen (dia x dep) 2" x 5'
Slot Size 010
Material PVC, Sch. 40
Well Depth 13' FT
Backfill 1'
Material 20/40 Sand
Total Hole Depth 14' FT

0 - 6' FT
Silt, sand, gravel.
Mostly sand & gravel
0 - 6' - 14' FT
Dark brown to light
black fine to med.
Sand to Silty Sand
to Silt Stringers
0 - _____ FT

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Consulting Firm Boeing

Unique Ecology Well ID Tag No. BKA-086

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) James Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 3131

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. RE14185

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 SE 1/4 NE Sec. 2 TWN 22N R. 4E or WWM

Lat/Long (s,t,r) Lat Deg s Lat Min/Sec x
still Required) Long Deg s Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 8" Static Level 8'

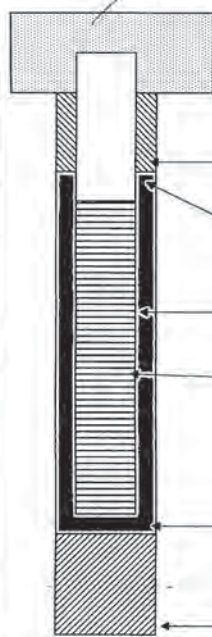
Work/Decommission Start Date 4-13-17

Work/Decommission End Date 4-13-17

Construction/Design

Well Data 103-17-1148

Formation Description



Concrete Surface Seal Depth 2' FT
Blank Casing (dia x dep) 2" x 10'
Material PVC, Sch 40
Backfill 4' FT
Type Med.
Seal Bent.
Material Chips
Gravel Pack 7' FT
Material 20/40 Sand
Screen (dia x dep) 2" x 5'
Slot Size 010
Material PVC, Sch. 40
Well Depth 14' FT
Backfill x
Material x
Total Hole Depth 14' FT

0 - 6' FT
Fill with Sand,
Med to large gravel's
0 - 6' - 14' FT
Brown to Black
Silty Sand to med.
to Fine Sand w/
Silt Stringers
0 - _____ FT

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ECY 059-12 (Rev= 2/01)

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Consulting Firm Boeing

Unique Ecology Well ID Tag No. BKA-090

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) James Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 3131

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. RE14185

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing
Site Address 20403 68th Ave S
City Kent County King

Location $\frac{1}{4}$ SE $\frac{1}{4}$ NE Sec. 2 TWN 22N R. 4E of WWM

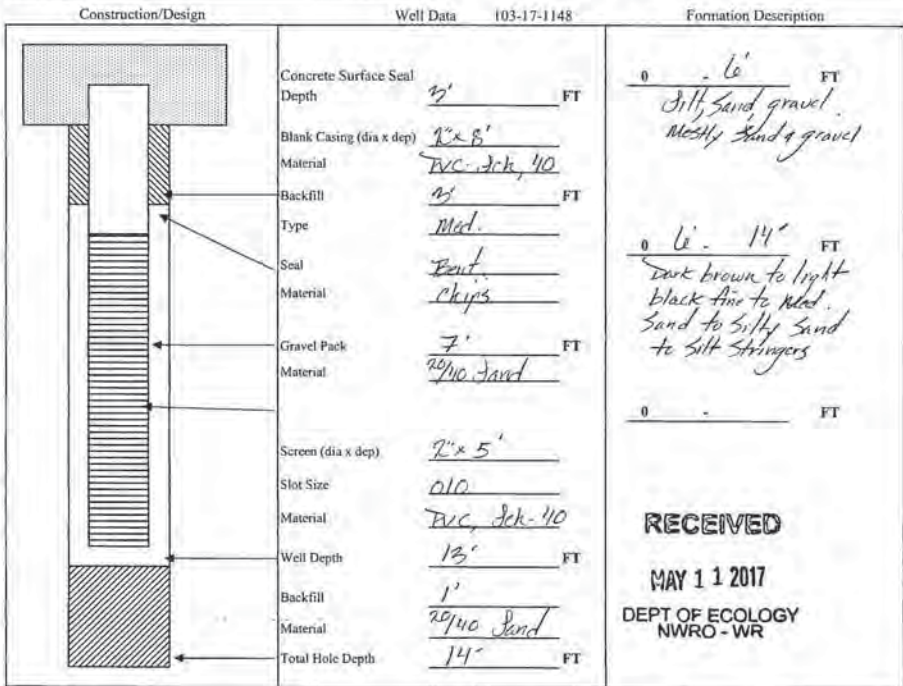
Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 8" Static Level 8'

Work/Decommission Start Date 4-11-17

Work/Decommission End Date 4-14-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Consulting Firm Boeing

Unique Ecology Well ID Tag No. BKA-089

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) James Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 3131

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. RE14185

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Boeing
Site Address 20403 68th Ave S
City Kent County King

Location $\frac{1}{4}$ SE $\frac{1}{4}$ NE Sec. 2 TWN 22N R. 4E of WWM

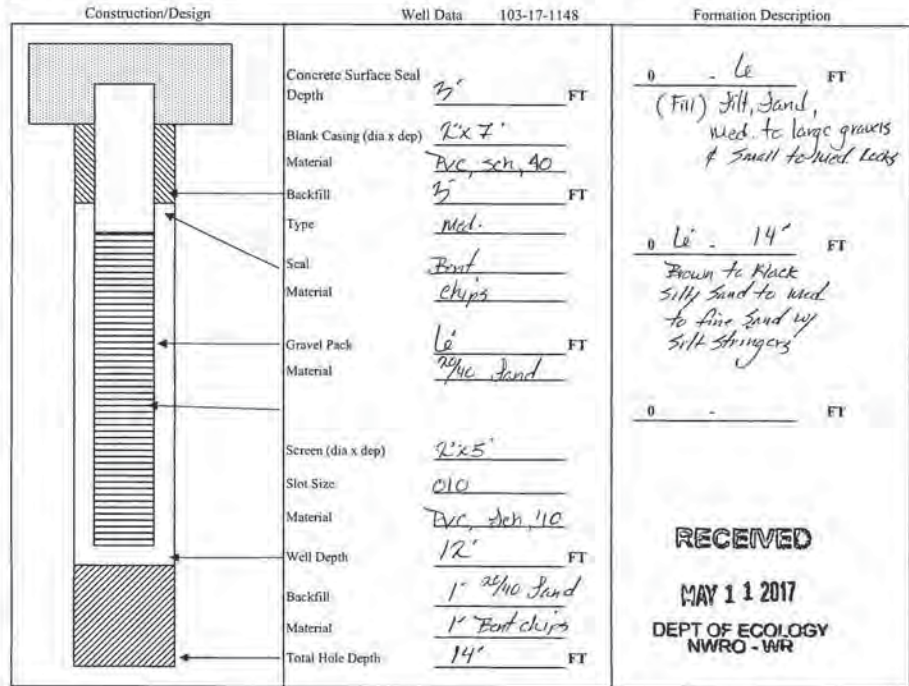
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Long Deg x Long Min/Sec x

Tax Parcel No. 0

Cased or Uncased Diameter 8" Static Level 7'

Work/Decommission Start Date 4-14-17

Work/Decommission End Date 4-14-17



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm **Boeing**

Unique Ecology Well ID Tag No. **BKG-092**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) **James Goble**

Driller/Trainee Signature _____

Driller/Trainee License No. **3131**

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. **RE14185**

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner **Boeing**
 Site Address **20403 68th Ave S**
 City **Kent** County **King**

Location 1/4 **SE** 1/4 **NE** Sec. **2** TWN **22N** R. **4E** or **EWM** WWM

Lat/Long (s, l, r) Lat Deg **x** Lat Min/Sec **x**
 still Required) Long Deg **x** Long Min/Sec **s**

Tax Parcel No. **0**

Cased or Uncased Diameter **8"** Static Level **9'**

Work/Decommission Start Date **4-14-17**

Work/Decommission End Date **4-14-17**

Construction/Design	Well Data 103-17-1148	Formation Description
Concrete Surface Seal Depth 5' FT		0 - 6' FT (fill) silt sand gravel w/ med to large rocks
Blank Casing (dia x dep) 2" x 10'		
Material PVC Sch 40		
Backfill 5' FT		
Type Med		
Seal Best		
Material clays		0 - 15' FT Dark Brown to light Black med. texture sand to silty sand w/ silt stringers
Gravel Pack 7' FT		
Material 20/40 sand		
Screen (dia x dep) 2" x 5'		
Slot Size 0.10		
Material PVC Sch 40		
Well Depth 15' FT		
Backfill x		
Material x		
Total Hole Depth 15' FT		

MONITORING WELL REPORT

Well ID# **Soil Boring**
 Start Card # **SE49812**

OWNER/PROJECT **KV Industrial LLC** WELL NO. _____
 Address **20403 68th Ave S**
Seattle State **WA** Zip **98032**

(6) LOCATION OF WELL By legal description:
 County **King** Latitude _____ Longitude _____
 Township **22N** (N or S) Range **4E** (E or W) Section **2**
NE 1/4 of **SE** 1/4 of above section.
 Street address of well location **Seattle WA 98032**
 Tax lot number of well location _____

TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stem Auger Other _____

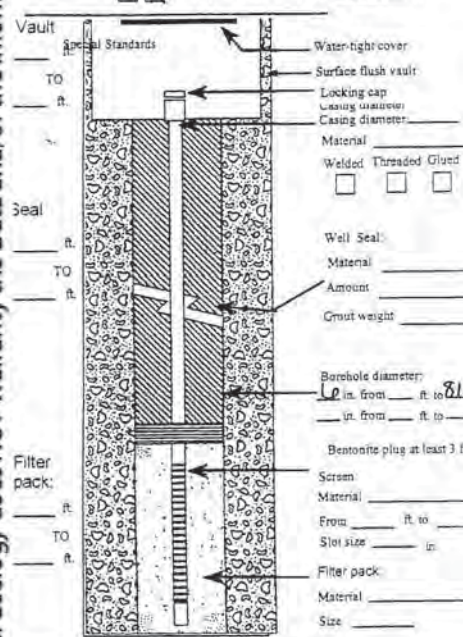
(7) STATIC WATER LEVEL:
 Ft. below land surface _____ Date _____
 Annual Pressure _____ lb/sq. in. Date _____

BORE HOLE CONSTRUCTION:
 Meet Standards Yes No
 Depth of Completed Well **81.5** ft.

(8) WATER BEARING ZONES:

Depth at which water was first found _____

From	To	Est. Flow Rate	SWL



(9) WELL LOG:
 Ground Elevation _____
 Material _____ From _____ To _____ SWL _____

Well Seal:
 Material _____
 Amount _____
 Grout weight _____

Borehole diameter:
 6 in. from 0 ft to 81.5 ft
 in. from _____ ft to _____ ft

Beentonite plug at least 3 ft. thick

Screen Material _____
 From _____ ft. to _____ ft.
 Slot size _____ in.

Filter pack Material _____
 Size _____

WELL TESTS:
 Pump Boiler Air Flowing Artesian
 Permeability _____ Yield _____ GPM
 Conductivity _____ PH _____
 Temperature of water _____ OF/°C Depth artesian flow found _____ ft.
 Was water analysis done? Yes No
 By whom? _____
 Depth of strata to be analyzed: From _____ ft. to _____ ft.
 Remarks: _____
 Name Of Supervising Geologist/Engineer **Kluinfelder**

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 JUN 28 2016 DEPT OF ECOLOGY
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 DEPT OF ECOLOGY
 Date started **11/3/2013** Completed **11/3/2013**

WELL CONSTRUCTION CERTIFICATION
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name **Roddy Gilseth** License No. **3119**
 Title Name _____ License No. _____
 Company Name **Holocore Drilling Inc** License No. **3119**
 (Signed) **Roddy Gilseth** License No. **3119**
 Address **11418 62nd Ave E Puyallup WA 98373**
 Registration No. **HOLCORS04KH** Date **1/20/2014**

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report

MONITORING WELL REPORT

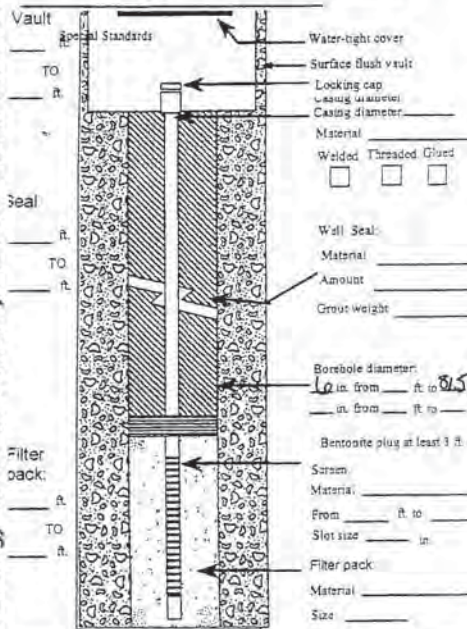
Well ID# Soil Borings
Start Card # SE49812

1) OWNER/PROJECT WELL NO. _____
Address: KV Industrial LLC
40403 168th Ave S
Seattle State WA Zip 98032

2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stein Auger Other

4) BORE HOLE CONSTRUCTION:
Special Standards Yes No Depth of Completed Well 81.5 ft



5) WELL TESTS:
 Pump Bailor Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ OP/D Depth artesian flow found _____
Was water analysis done? Yes No
By whom? _____
Depth of strata to be analyzed: From _____ ft to _____ ft
Remarks: _____
Name Of Supervising Geologist/Engineer: Kluinfelder

6) LOCATION OF WELL By legal description:
County King Latitude _____ Longitude _____
Township 32N (N or S) Range 4E (E or W) Section 3
NE 1/4 of SE 1/4 of above section.
Street address of well location: 40403 168th Ave S
Seattle WA 98032
Tax lot number of well location: _____

7) STATIC WATER LEVEL:
____ ft below land surface Date _____
Atmospheric Pressure _____ lb/sq in. Date _____

8) WATER BEARING ZONES:
Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

9) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
<u>silty sand</u>	<u>0</u>	<u>81.5</u>	

WELL CONSTRUCTION CERTIFICATION:
I, the undersigned, accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type of Print Name: Roddy Gilseth License No. 3119
Firm Name: _____ License No. _____
Company: Holocore Drilling Inc
Address: 11412 Grand Ave E Puyallup WA 98373
Registration No. HolocoreDrilling Date 1/20/2014

MONITORING WELL REPORT

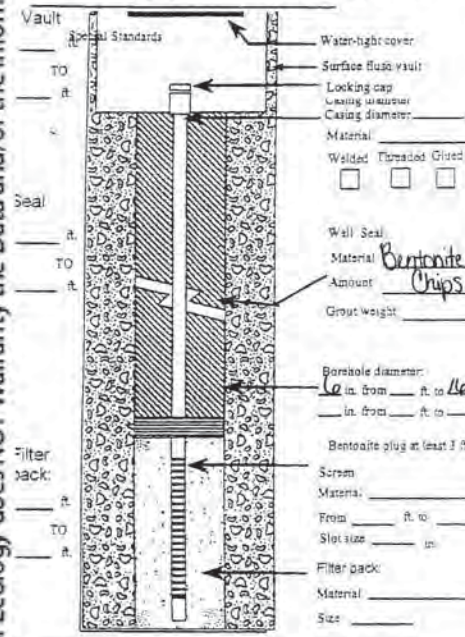
Well ID# Soil Borings
Start Card # AE24423

1) OWNER/PROJECT WELL NO. _____
Address: KV Industrial LLC
40403 168th Ave S
Seattle State WA Zip 98032

2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stein Auger Other

4) BORE HOLE CONSTRUCTION:
Special Standards Yes No Depth of Completed Well 16 ft



5) WELL TESTS:
 Pump Bailor Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ OP/D Depth artesian flow found _____
Was water analysis done? Yes No
By whom? _____
Depth of strata to be analyzed: From _____ ft to _____ ft
Remarks: _____
Name Of Supervising Geologist/Engineer: Kluinfelder

6) LOCATION OF WELL By legal description:
County King Latitude _____ Longitude _____
Township 32N (N or S) Range 4E (E or W) Section 3
NE 1/4 of SE 1/4 of above section.
Street address of well location: 40403 168th Ave S
Seattle WA 98032
Tax lot number of well location: _____

7) STATIC WATER LEVEL:
____ ft below land surface Date _____
Atmospheric Pressure _____ lb/sq in. Date _____

8) WATER BEARING ZONES:
Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

9) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
<u>Backfilled from bottom to top with Bentonite Chips</u>	<u>0</u>	<u>16</u>	

WELL CONSTRUCTION CERTIFICATION:
I, the undersigned, accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type of Print Name: Roddy Gilseth License No. 3119
Firm Name: _____ License No. _____
Company: Holocore Drilling Inc
Address: 11412 Grand Ave E Puyallup WA 98373
Registration No. HolocoreDrilling Date 1/20/2014

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JUN 26 2014 JAN 23 2014

DEPT OF ECOLOGY DEPT OF ECOLOGY
NWRO - WR NWRO - WR

Date issued 11/6/2013 Completed 11/6/2013

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

MONITORING WELL REPORT

Well ID# Soil Borings
 Start Card # AE2442

OWNER/PROJECT WELL NO.
KV Industrial LLC
 Address 40403 168th Ave S
Seattle State WA Zip 98032

LOCATION OF WELL By legal description:
 County King Longitude
 Township 82N Range 4E Section 9
 NE SE
 Section address of well location 40403 168th Ave S
Seattle WA 98032
 Tax parcel number of well location

TYPE OF WORK
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

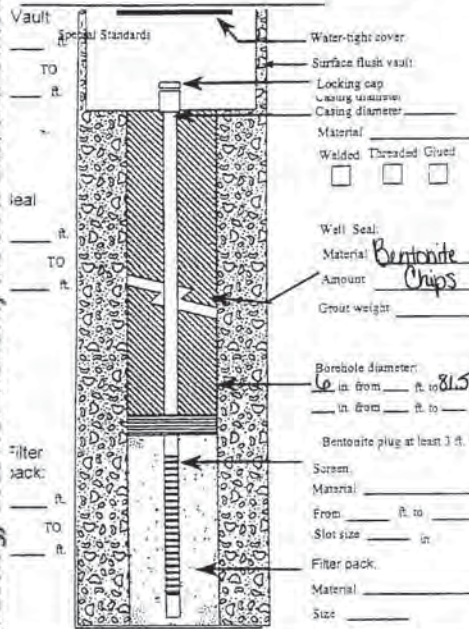
STATIC WATER LEVEL:
 Ft. below land surface _____ Date _____
 Artesian Pressure _____ lb/sq. in. _____ Date _____

DRILLING METHOD
 Rotary Air
 Rotary Mud
 Cable
 Hollow Stem Auger
 Other

WATER BEARING ZONES:
 Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

BORE HOLE CONSTRUCTION:
 Meet Standards Yes No
 Depth of Completed Well 81.5 ft.



WELL LOG
 Ground Elevation _____

Material	From	To	SWL
Brickfilled from bottom to top with Bentonite Chips	0	81.5	

 Date started 11/5/2013 Completed 11/5/2013

WELL TESTS
 Pump
 Bailor
 Air
 Flowing Artesian
 Permeability _____ Yield _____ GPM
 Conductivity _____ FH _____
 Temperature of water _____ OF/ID Depth artesian flow found _____
 Was water analysis done? Yes No
 By whom? _____
 Depth of strata to be analyzed From _____ ft. to _____ ft.
 Remarks _____
 Name of Supervising Geologist/Engineer Kluinfelder

WELL CONSTRUCTION CERTIFICATION
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Type of Well Name Roddy Gilseth License No. 3119
 The Well Name _____ License No. _____
 Drilling Company Holocore Drilling Inc
 License No. 3119
 Address 11418 62nd Ave E Puyallup WA 98373
HolocoreDrilling.com Date 1/20/2014
 Registration No. _____
 Name of Supervising Geologist/Engineer Kluinfelder

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

MONITORING WELL REPORT

Well ID# Soil Borings
 Start Card # AE2442

OWNER/PROJECT WELL NO.
KV Industrial LLC
 Address 40403 168th Ave S
Seattle State WA Zip 98032

LOCATION OF WELL By legal description:
 County King Longitude
 Township 82N Range 4E Section 9
 NE SE
 Section address of well location 40403 168th Ave S
Seattle WA 98032
 Tax parcel number of well location

TYPE OF WORK
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

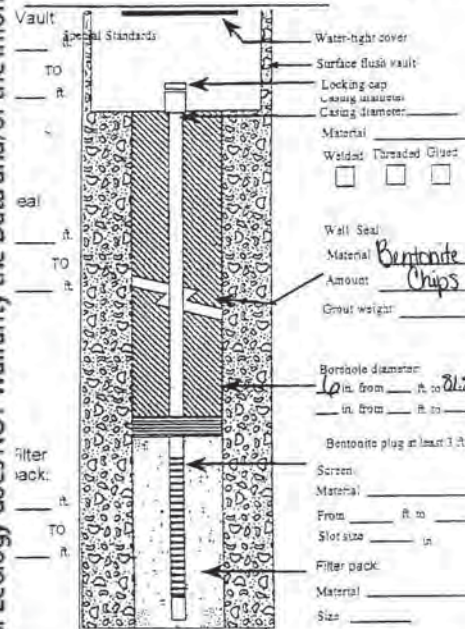
STATIC WATER LEVEL:
 Ft. below land surface _____ Date _____
 Artesian Pressure _____ lb/sq. in. _____ Date _____

DRILLING METHOD
 Rotary Air
 Rotary Mud
 Cable
 Hollow Stem Auger
 Other

WATER BEARING ZONES:
 Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

BORE HOLE CONSTRUCTION:
 Meet Standards Yes No
 Depth of Completed Well 81.5 ft.



WELL LOG
 Ground Elevation _____

Material	From	To	SWL
Brickfilled from bottom to top with Bentonite Chips	0	81.5	

 Date started 11/6/2013 Completed 11/6/2013

WELL TESTS
 Pump
 Bailor
 Air
 Flowing Artesian
 Permeability _____ Yield _____ GPM
 Conductivity _____ FH _____
 Temperature of water _____ OF/ID Depth artesian flow found _____
 Was water analysis done? Yes No
 By whom? _____
 Depth of strata to be analyzed From _____ ft. to _____ ft.
 Remarks _____
 Name of Supervising Geologist/Engineer Kluinfelder

WELL CONSTRUCTION CERTIFICATION
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Type of Well Name Roddy Gilseth License No. 3119
 The Well Name _____ License No. _____
 Drilling Company Holocore Drilling Inc
 License No. 3119
 Address 11418 62nd Ave E Puyallup WA 98373
HolocoreDrilling.com Date 1/20/2014
 Registration No. _____
 Name of Supervising Geologist/Engineer Kluinfelder

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 JUN 26 2014
 JAN 23 2014
 DEPT OF ECOLOGY
 NATURAL RESOURCES
 WATER
 Date started 11/6/2013 Completed 11/6/2013

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

MONITORING WELL REPORT

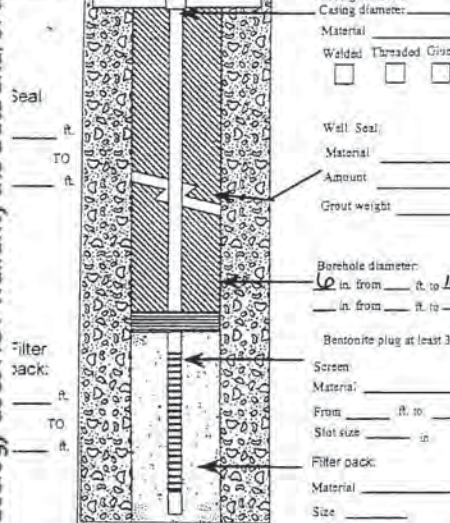
Well ID# Soil Boring
Start Card # SE49812

1) OWNER/PROJECT
Name: KV Industrial LLC WELL NO: _____
Address: d0403 168th Ave S
Seattle State WA Zip 98032

2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stem Auger Other _____

4) BORE HOLE CONSTRUCTION:
Special Standards Yes No
 Depth of Completed Well 16 ft.



WELL TESTS:
 Pump Baller Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ OFSD Depth Artesian flow found _____ ft.
Was water analyzed done? Yes No
By whom? _____
Depth of strata to be analyzed From _____ ft. to _____ ft.
Remarks _____
Name of Supervising Geologist/Engineer Kluinfelder

5) LOCATION OF WELL By legal description:
Township King Latitude _____ Longitude _____
Range 4E (E or W) Section 8
NE 1/4 of SE 1/4 of above section.
Special address (if well location) d0403 168th Ave S
Seattle WA 98032
Nearest number of well location _____

6) STATIC WATER LEVEL:
_____ Ft. below land surface Date _____
Atmospheric Pressure _____ lb/in. sq. Date _____

(8) WATER BEARING ZONES:
Depth at which water was first found _____

From	To	Est. Flow Rate	SWL
_____	_____	_____	_____

WELL LOG
Ground Elevations _____
Material _____ From To 3/4 L
silty sand 0 16
2.0 zone
_____ 23
Date started 11/16/2013 Completed 11/16/2013

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type or Print Name Roddy Gilseth License No. 3119
Title Name _____ License No. _____
Drilling Company Holocore Drilling Inc
Address 11412 Ward Ave E Ruydall WA 98073 License No. 3119
Registration No. HOLOCO0244 KH Date 1/20/2014

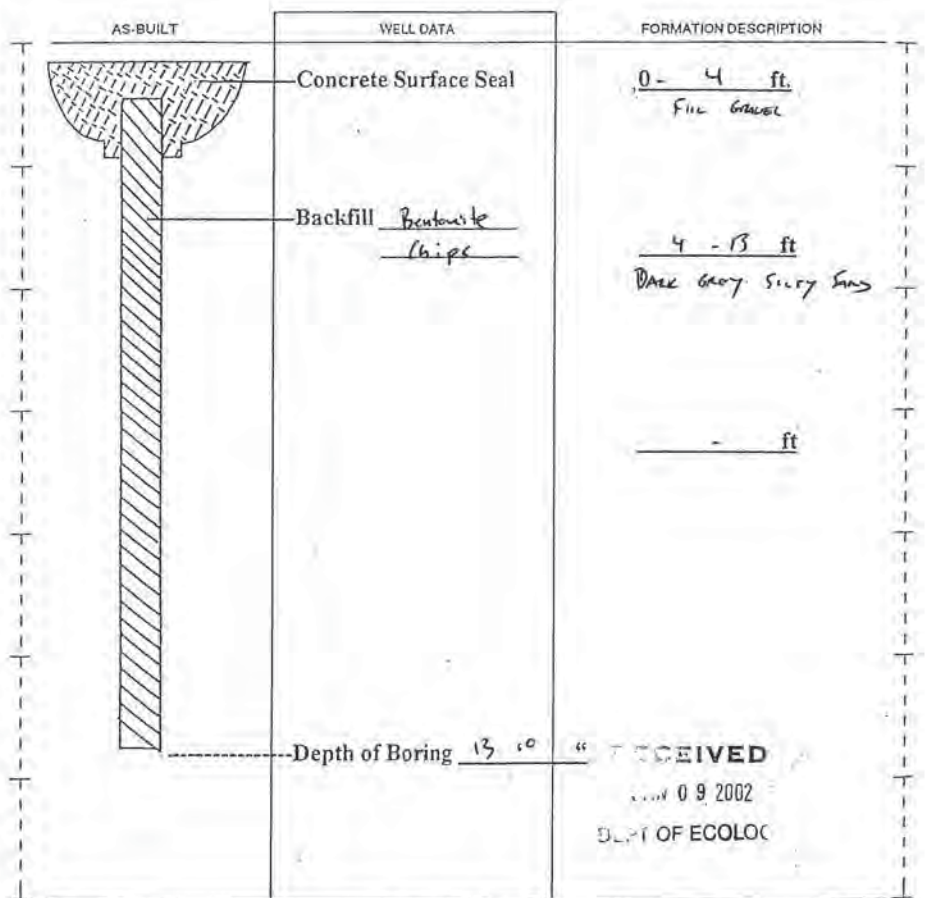
SOIL BORING REPORT

106758

Notification # S14025

Project Name: BOEING SPACE CNTR County: KING 22-4E-2J
Drilling Method: Probe Location: NE 1/4 SE 1/4 Sec 2 T 22N R 4E
Driller: Kasey S. Goble Street Address of Boring: _____
Firm: Cascade Drilling, Inc. 20403-68th Ave S -Kent
Signature: [Signature] Water Level Elevation: N/A
Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
Representative: T. Syrverson Date of Drilling: 12/17-18/01

Invoice # 1829



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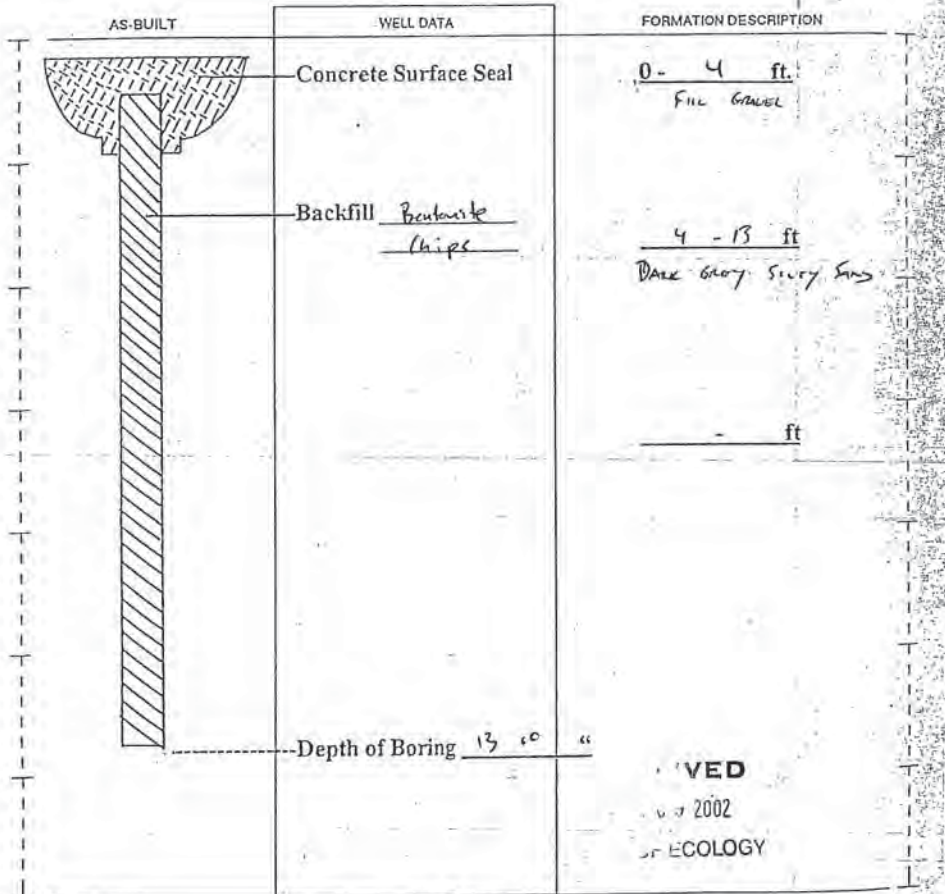
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

106757 SOIL BORING REPORT

Notification # S14025

Project Name: BOEING SPACE CNTR County: KING 22-4E-2J
 Drilling Method: Probe Location: N $\frac{1}{4}$ SE $\frac{1}{4}$ Sec 2 T22N R4E
 Driller: Kasey S. Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S - Kent
 Signature: [Signature] Water Level Elevation: N/A
 Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
 Representative: T. Syverson Date of Drilling: 12/17-18/01

Invoice # 1829

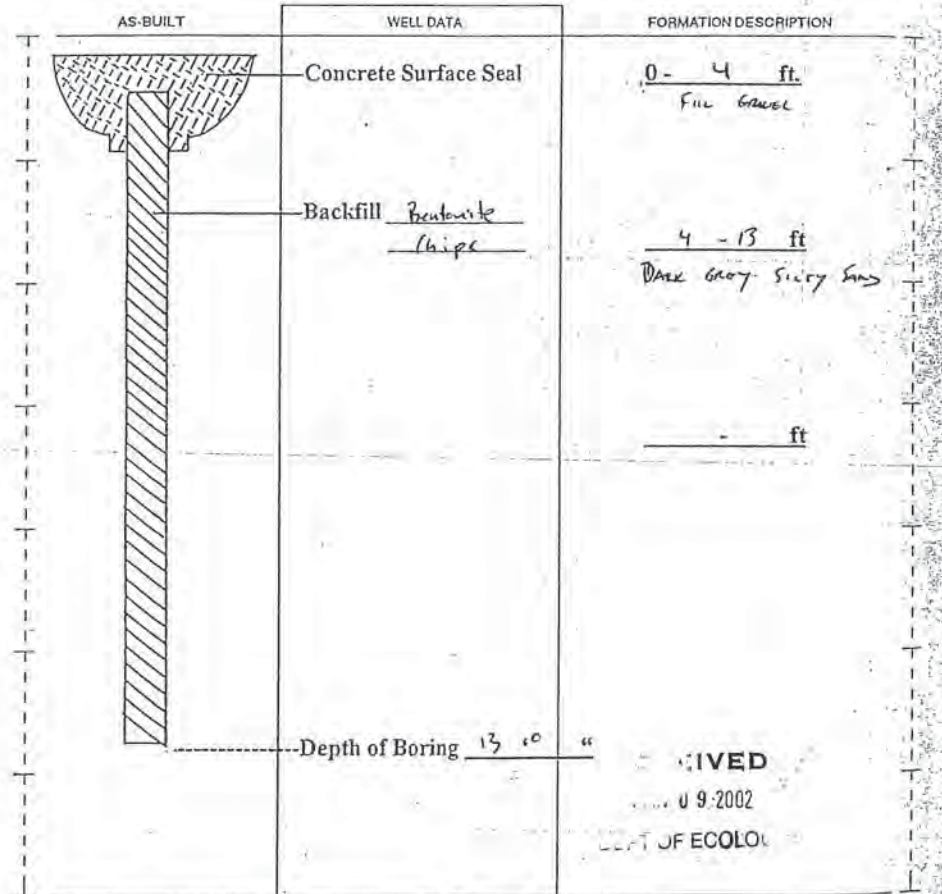


106754 SOIL BORING REPORT

Notification # S14025

Project Name: BOEING SPACE CNTR County: KING 22-4E-2J
 Drilling Method: Probe Location: N $\frac{1}{4}$ SE $\frac{1}{4}$ Sec 2 T22N R4E
 Driller: Kasey S. Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S - Kent
 Signature: [Signature] Water Level Elevation: N/A
 Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
 Representative: T. Syverson Date of Drilling: 12/17 & 18/01

Invoice # 1829



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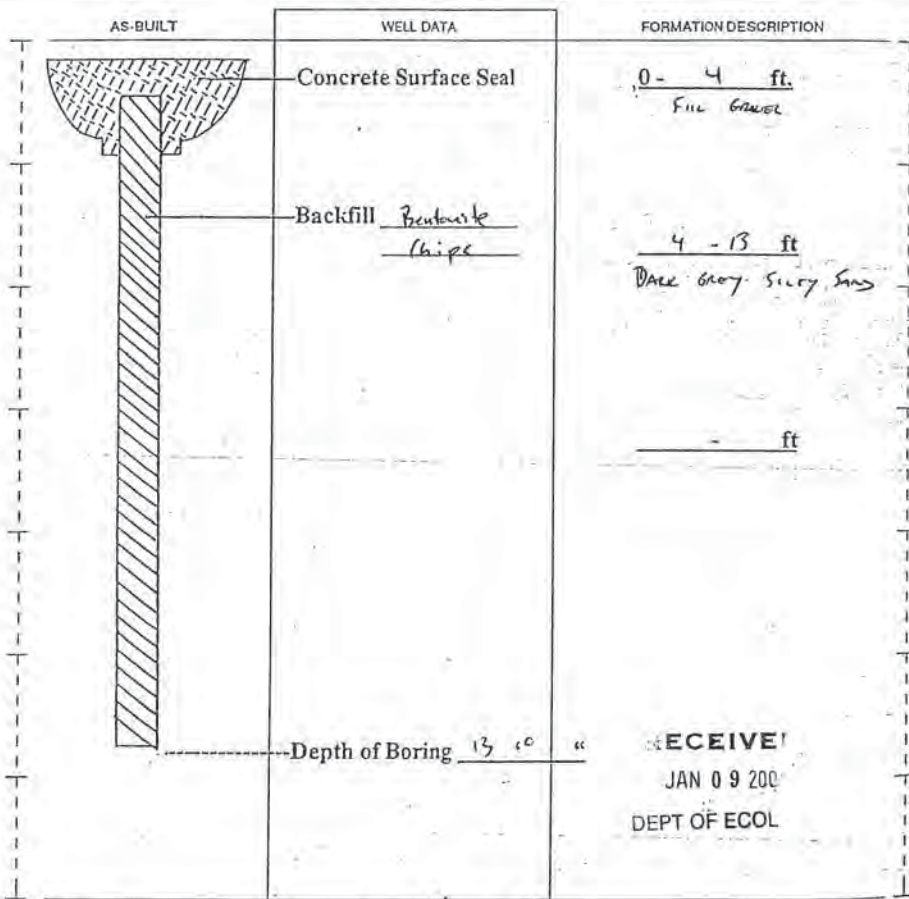
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

106755 SOIL BORING REPORT

Notification # S14025

Project Name: BOEING SPACE CNTR County: KING 22-4E-2J
 Drilling Method: Probe Location: N/4 SE1/4 Sec 2 T22N R4E
 Driller: Kasey S. Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S - Kent
 Signature: [Signature] Water Level Elevation: N/A
 Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
 Representative: T. Syverson Date of Drilling: 12/17-18/01

Invoice # 1829



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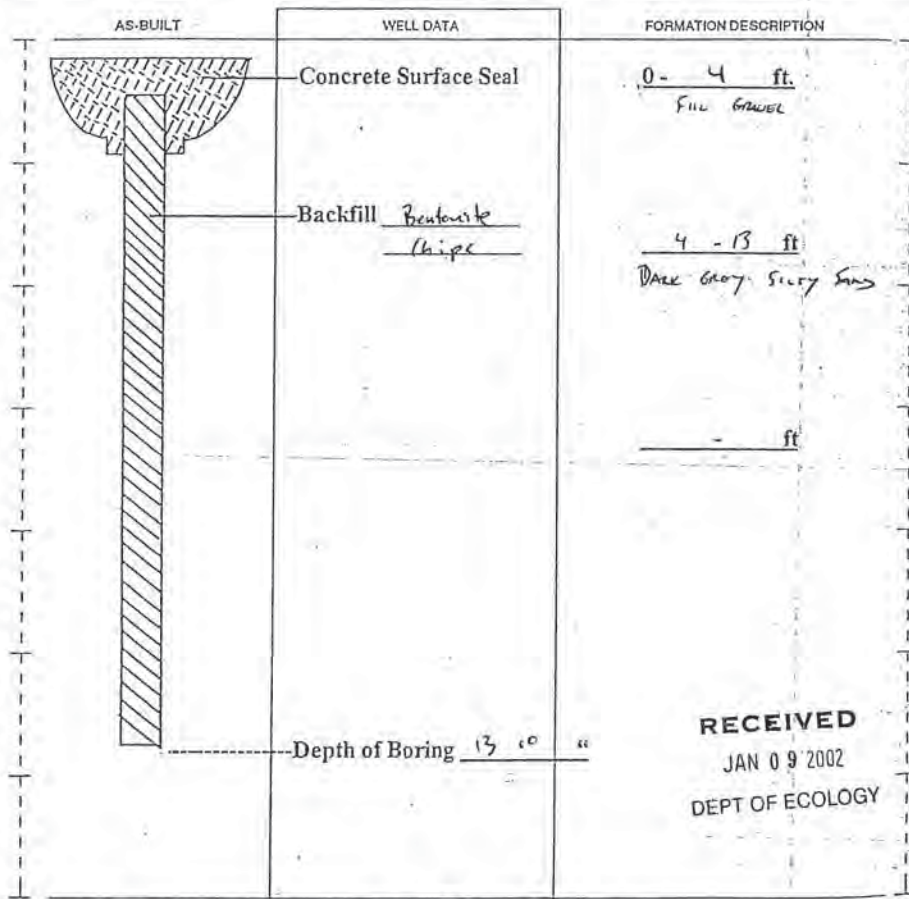
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

106754 SOIL BORING REPORT

Notification # S14025

Project Name: BOEING SPACE CNTR County: KING 22-4E-2J
 Drilling Method: Probe Location: N/4 SE1/4 Sec 2 T22N R4E
 Driller: Kasey S. Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S - Kent
 Signature: [Signature] Water Level Elevation: N/A
 Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
 Representative: T. Syverson Date of Drilling: 12/17-18/01

Invoice # 1829



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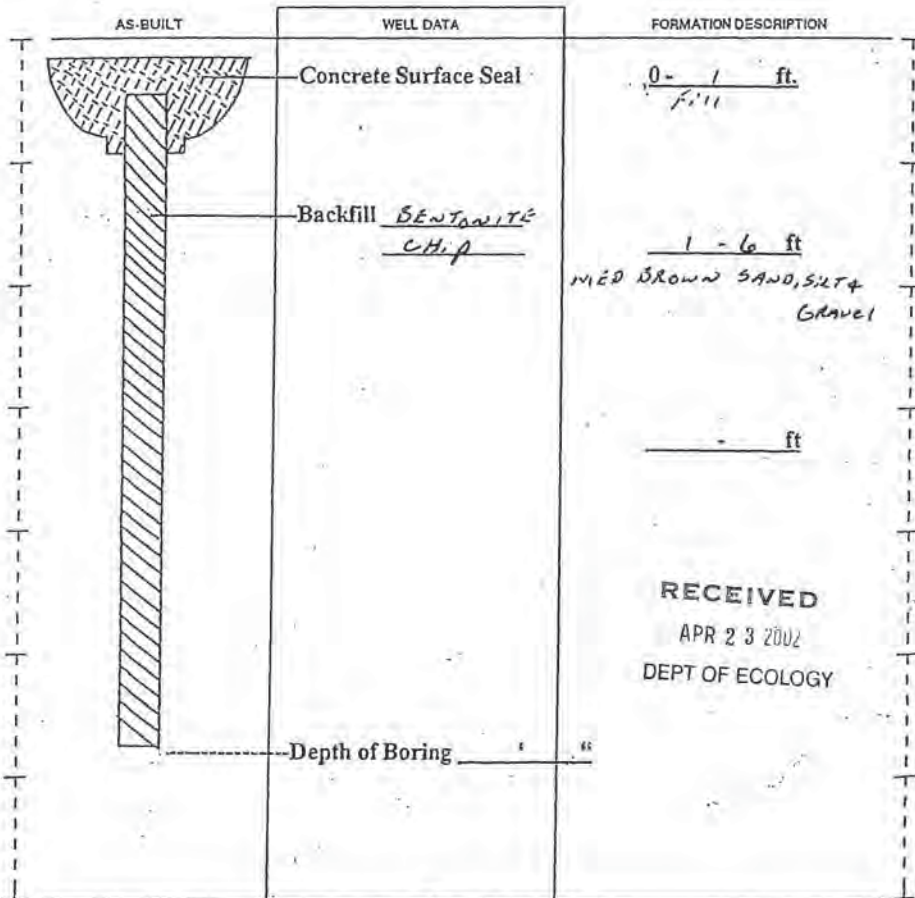
112012

SOIL BORING REPORT

Notification # S15577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec2 T 22N R 4E
 Driller: F. Lynn Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S, Kent, WA
 Signature: Lynn Goble Water Level Elevation: N/A
 Consulting Firm: Landau Ground Surface Elevation: N/A
 Representative: Tim Siverson Date of Drilling: 4-10-02

Invoice # 2181



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 DEPT OF ECOLOGY

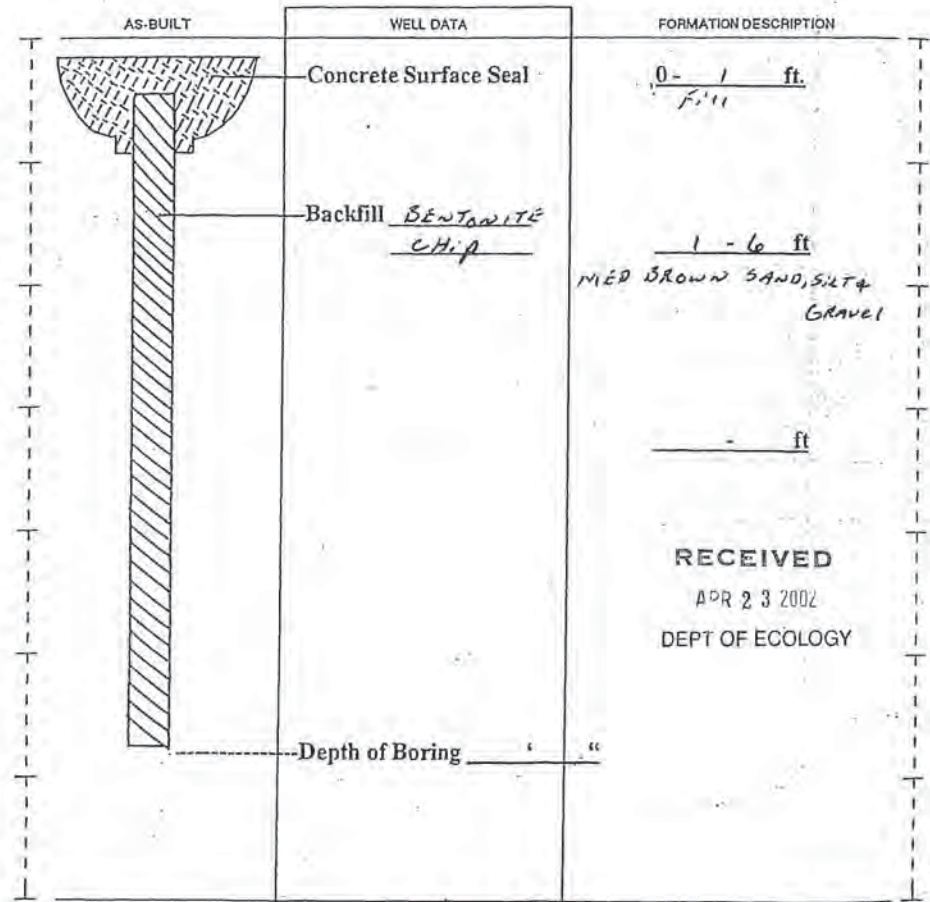
112013

SOIL BORING REPORT

Notification # S15577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec2 T 22N R 4E
 Driller: F. Lynn Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S, Kent, WA
 Signature: Lynn Goble Water Level Elevation: N/A
 Consulting Firm: Landau Ground Surface Elevation: N/A
 Representative: Tim Siverson Date of Drilling: 4-10-02

Invoice # 2181



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 APR 23 2002
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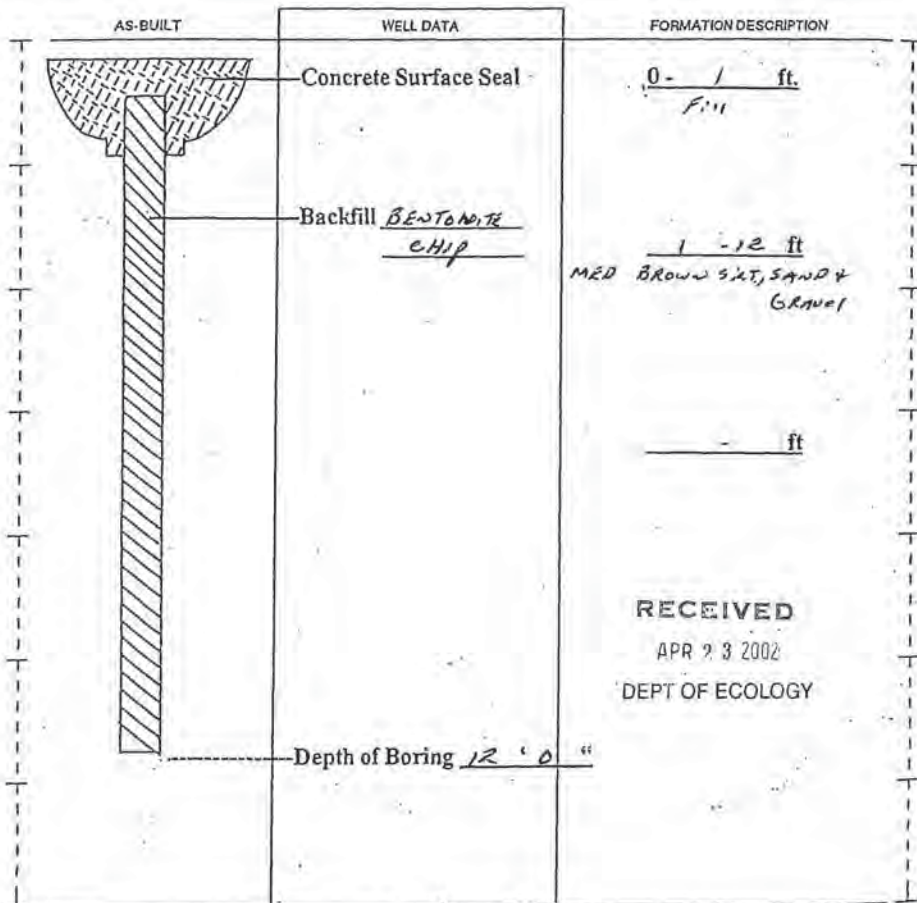
112014

SOIL BORING REPORT

Notification # 515577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22NR4E
 Driller: F. Lynn Gable Street Address of Boring: 20403-68th Ave S, Kent, WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: N/A
 Signature: Lynn Gable Ground Surface Elevation: N/A
 Consulting Firm: Landau Date of Drilling: 4-9-02
 Representative: Tim Syverson

Invoice # 2181 -



SCALE: 1" = _____
ECY 050-12 (Rev. 11/89)

PAGE 6 OF 6

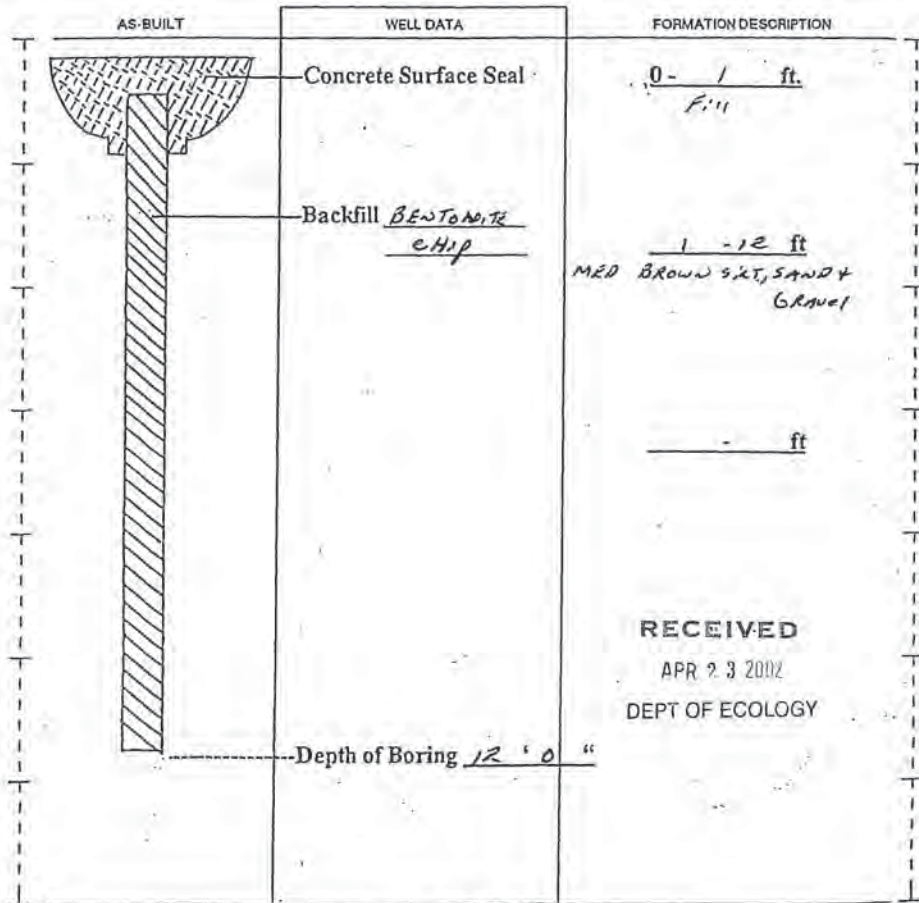
112015

SOIL BORING REPORT

Notification # 515577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22NR4E
 Driller: F. Lynn Gable Street Address of Boring: 20403-68th Ave S, Kent, WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: N/A
 Signature: Lynn Gable Ground Surface Elevation: N/A
 Consulting Firm: Landau Date of Drilling: 4-9-02
 Representative: Tim Syverson

Invoice # 2181 -



SCALE: 1" = _____
ECY 050-12 (Rev. 11/89)

PAGE 5 OF 6

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

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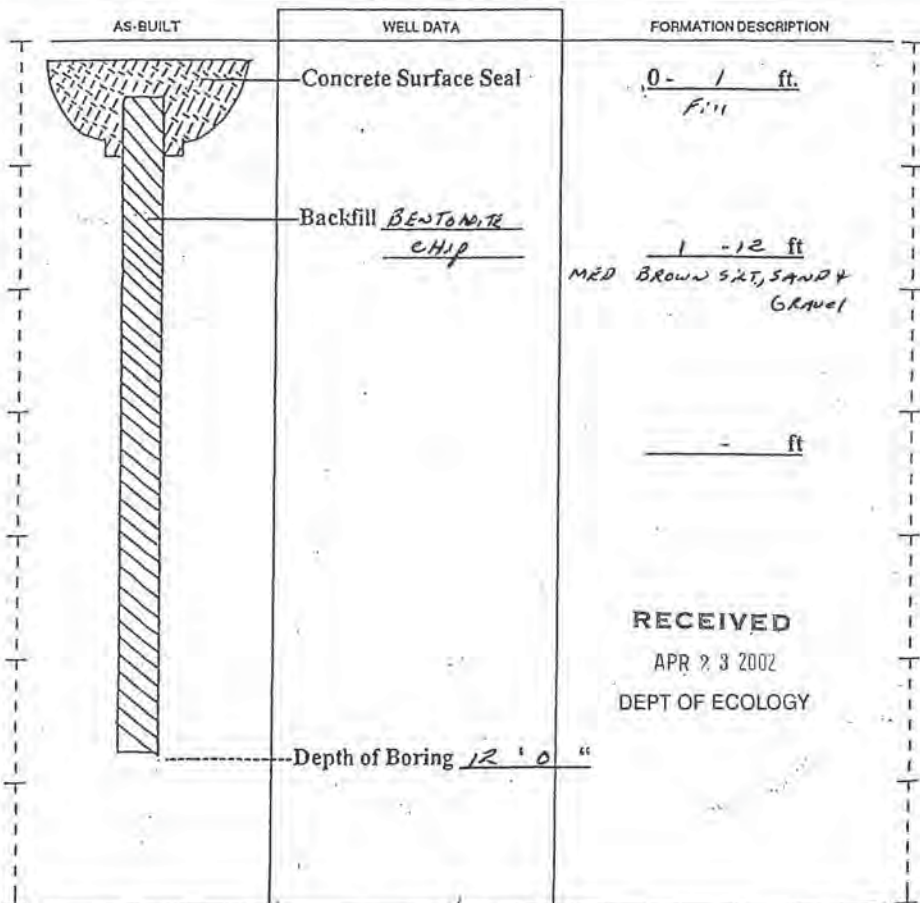
SOIL BORING REPORT

112016

Notification # 515577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22NR4E
 Driller: F. Lynn Goble Street Address of Boring:
 Firm: Cascade Drilling, Inc. 20403-68th Ave S, Kent, WA
 Signature: F. Lynn Goble Water Level Elevation: N/A
 Consulting Firm: Landau Ground Surface Elevation: N/A
 Representative: Tim Syverson Date of Drilling: 4-9-02

Invoice # 2181 -



SCALE: 1" = _____
 ECY 050-12 (Rev. 11/89)

PAGE 4 OF 6

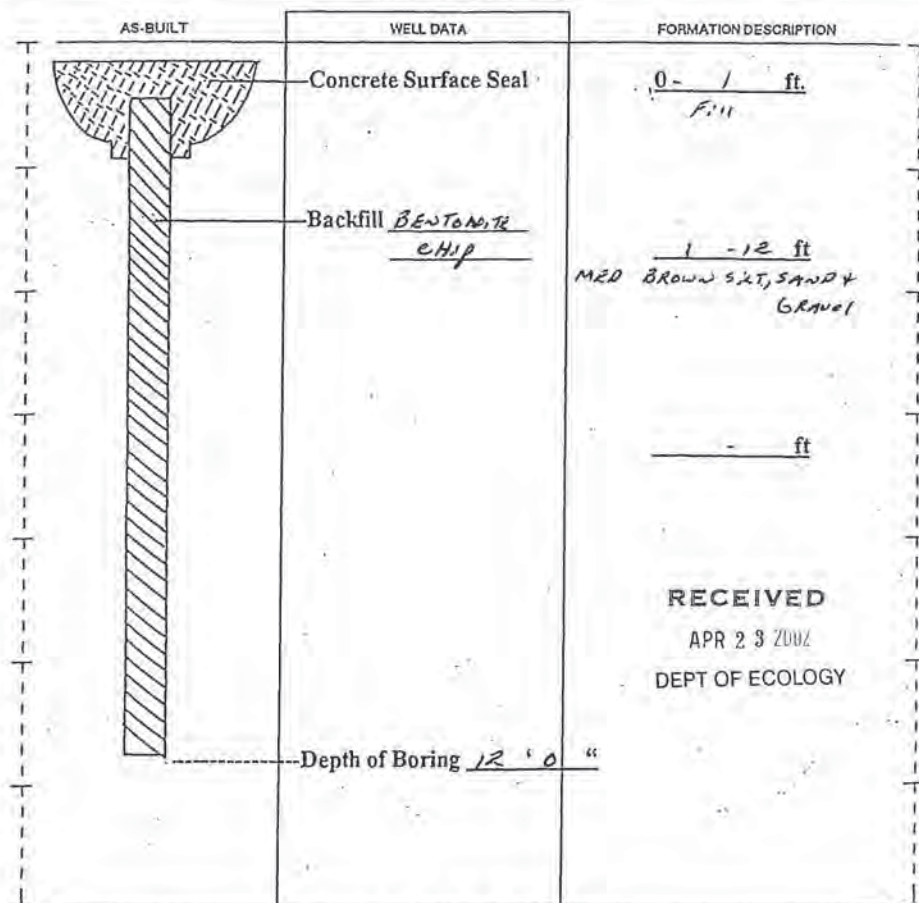
SOIL BORING REPORT

112017

Notification # 515577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22NR4E
 Driller: F. Lynn Goble Street Address of Boring:
 Firm: Cascade Drilling, Inc. 20403-68th Ave S, Kent, WA
 Signature: F. Lynn Goble Water Level Elevation: N/A
 Consulting Firm: Landau Ground Surface Elevation: N/A
 Representative: Tim Syverson Date of Drilling: 4-9-02

Invoice # 2181 -



SCALE: 1" = _____
 ECY 050-12 (Rev. 11/89)

PAGE 3 OF 6

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

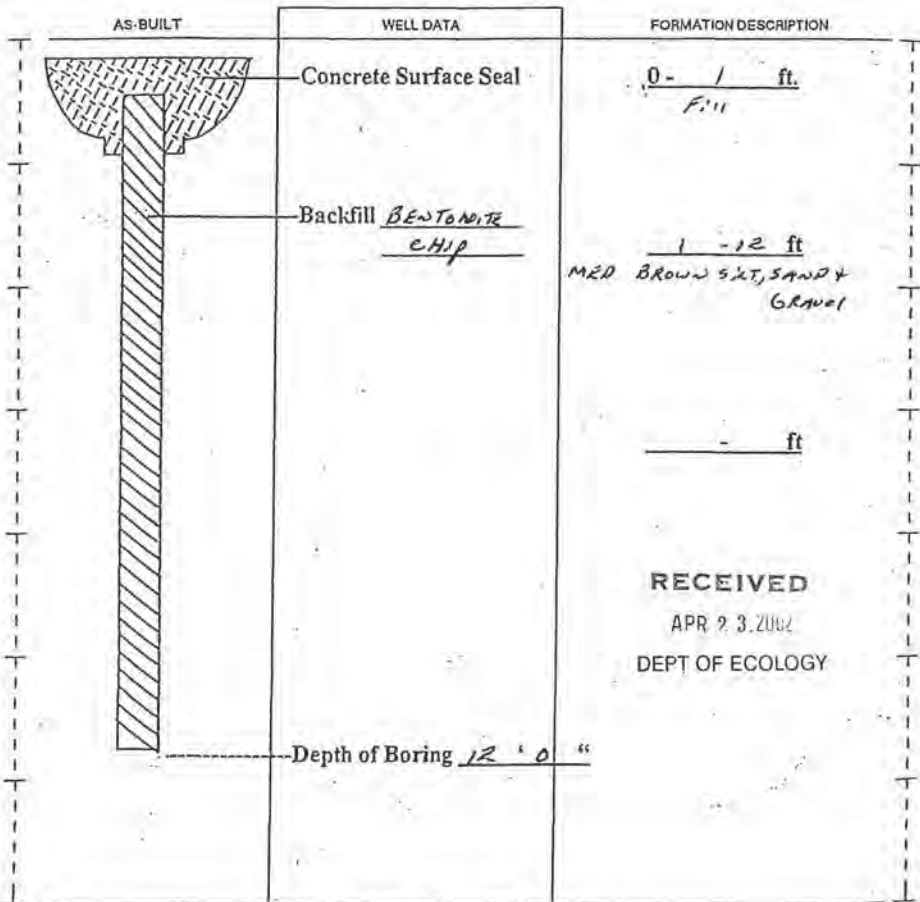
SOIL BORING REPORT

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Notification # S15577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22NR4E
 Driller: F. Lynn Gable Street Address of Boring:
 Firm: Cascade Drilling, Inc. 20403-68th Ave S, Kent, WA
 Signature: F. Lynn Gable Water Level Elevation: N/A
 Consulting Firm: Landau Ground Surface Elevation: N/A
 Representative: Tim Syverson Date of Drilling: 4-9-02

Invoice # 2181



SCALE: 1" = _____
 ECY 050-12 (Rev. 11/89)

PAGE 2 OF 6

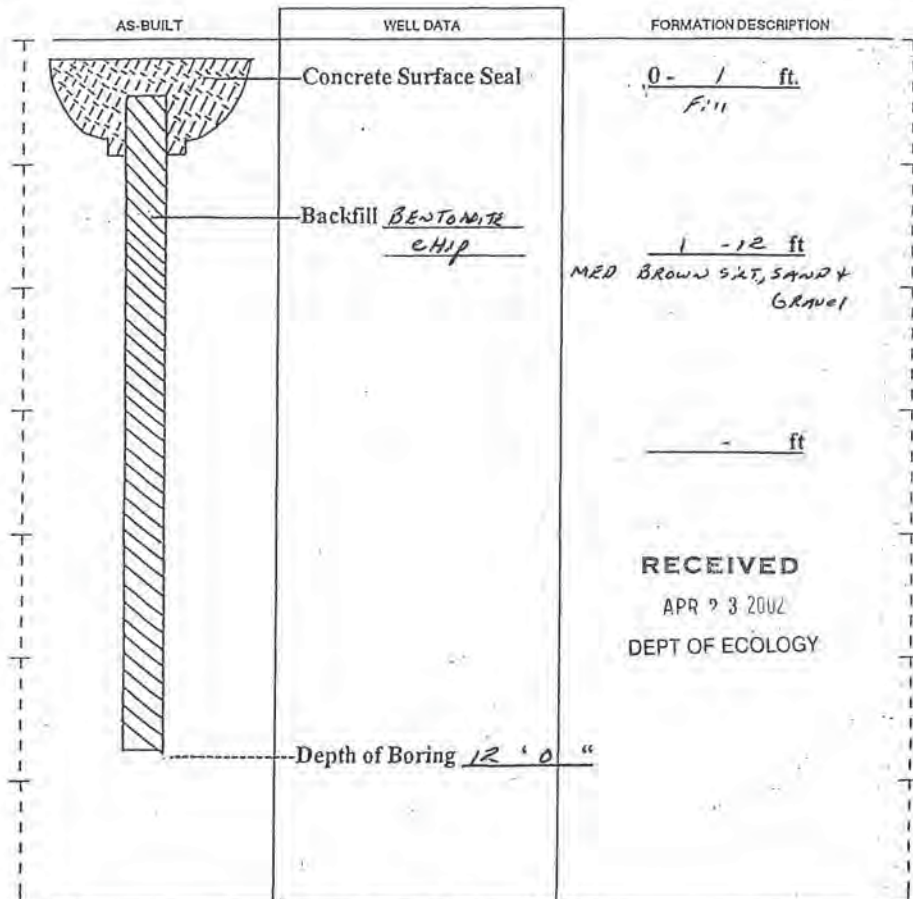
SOIL BORING REPORT

112019

Notification # S15577

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22NR4E
 Driller: F. Lynn Gable Street Address of Boring:
 Firm: Cascade Drilling, Inc. 20403-68th Ave S, Kent, WA
 Signature: F. Lynn Gable Water Level Elevation: N/A
 Consulting Firm: Landau Ground Surface Elevation: N/A
 Representative: Tim Syverson Date of Drilling: 4-9-02

Invoice # 2181



SCALE: 1" = _____
 ECY 050-12 (Rev. 11/89)

PAGE 1 OF 6

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

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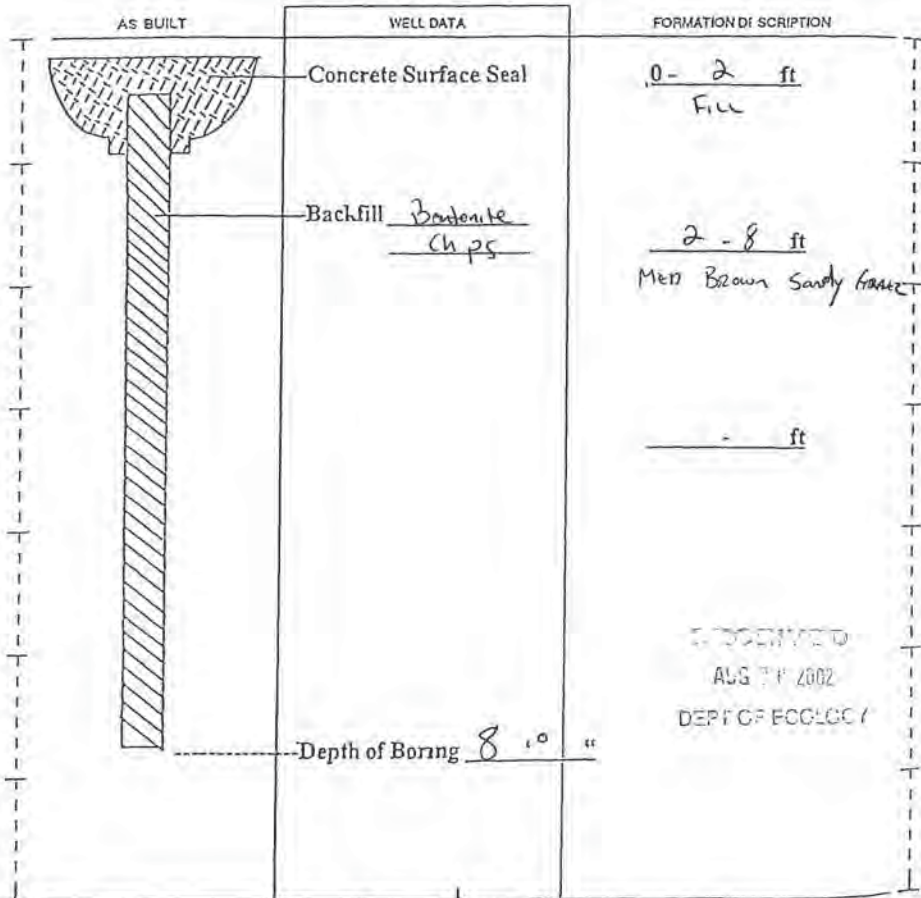
119257

SOIL BORING REPORT

Notification # S 16157

Project Name Boeing Space Center County King 22-4E 2J
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T20N R4E
 Driller Kasey Goble Street Address of Boring
 Firm Cascade Drilling, Inc 20403 168th AVE, Kent WA
 Signature [Signature] Water Level Elevation N/A
 Consulting Firm Landau Ground Surface Elevation N/A
 Representative Tim Syverson Date of Drilling 8/20/02

Invoice # 2457



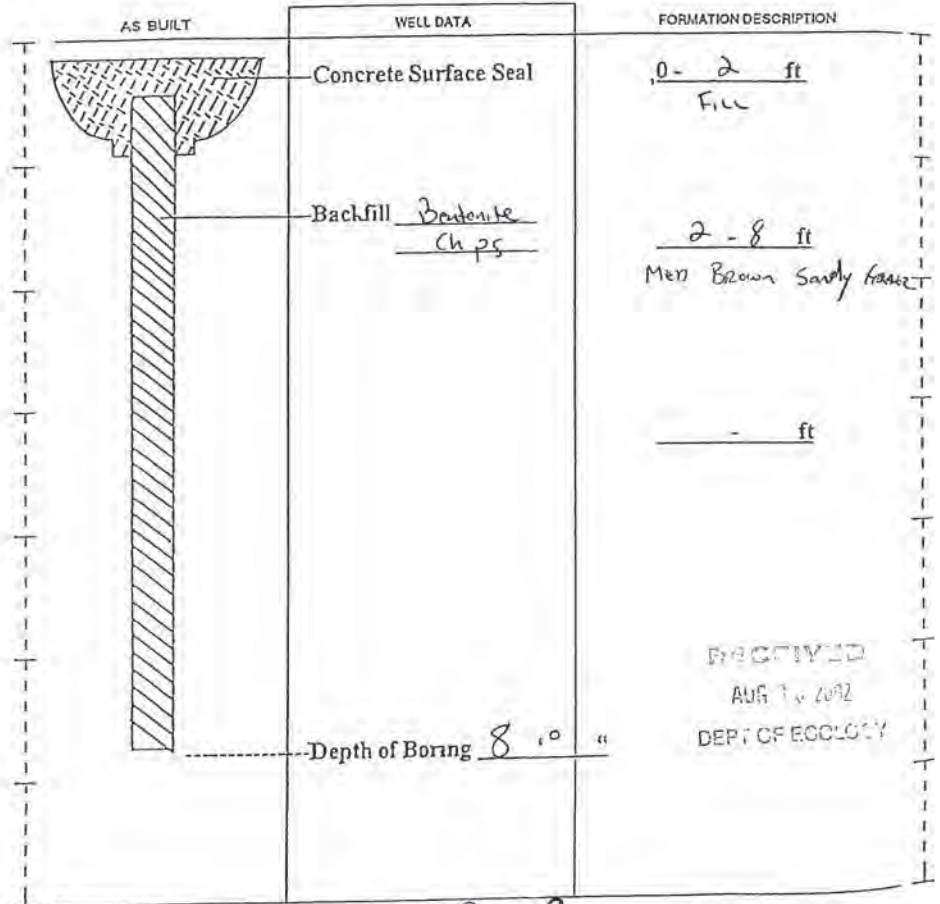
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SOIL BORING REPORT

Notification # S 16157

Project Name Boeing Space Center County King 22-4E-2J
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T20N R4E
 Driller Kasey Goble Street Address of Boring
 Firm Cascade Drilling, Inc 20403 168th AVE, Kent WA
 Signature [Signature] Water Level Elevation N/A
 Consulting Firm Landau Ground Surface Elevation N/A
 Representative Tim Syverson Date of Drilling 8/20/02

Invoice # 2457



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

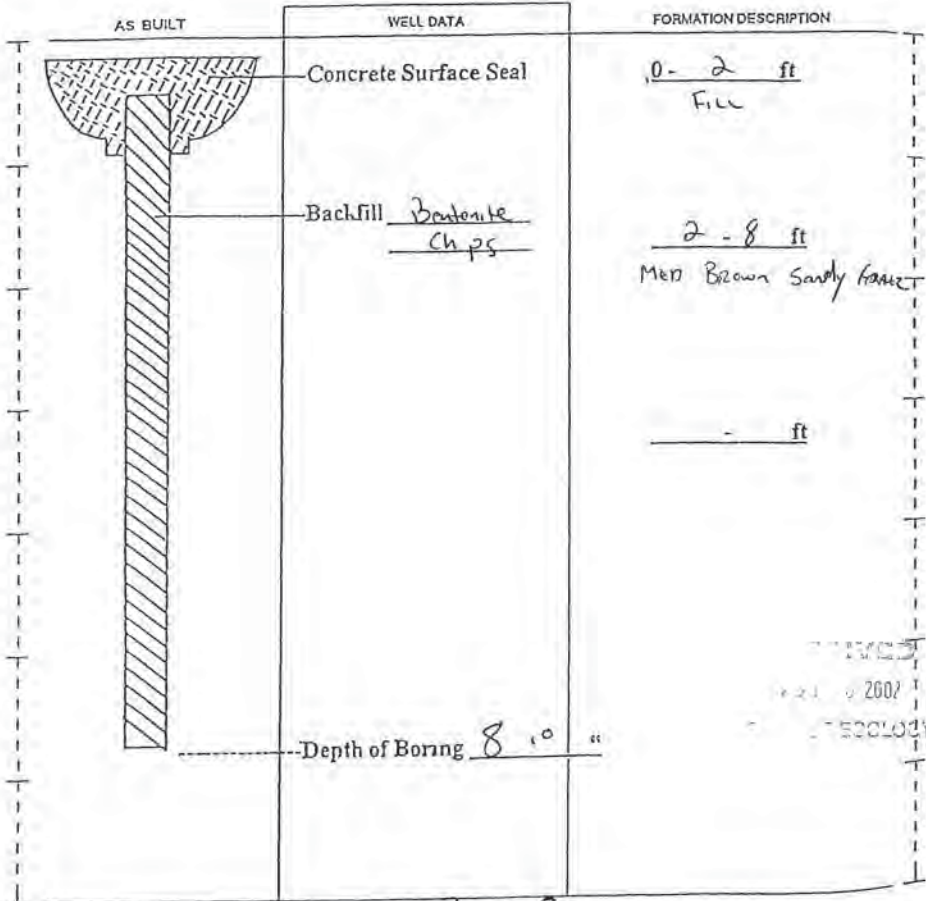
119254

SOIL BORING REPORT

Notification # S 116157

Project Name Boeing Space Center County King 22-4E-2T
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T20N R4E
 Driller Kasey Goble Street Address of Boring _____
 Firm Cascade Drilling, Inc 20403 160th AVE, Kent WA
 Signature [Signature] Water Level Elevation N/A
 Consulting Firm Landau Ground Surface Elevation N/A
 Representative Tim Syverson Date of Drilling 8/20/02

Invoice # 2457



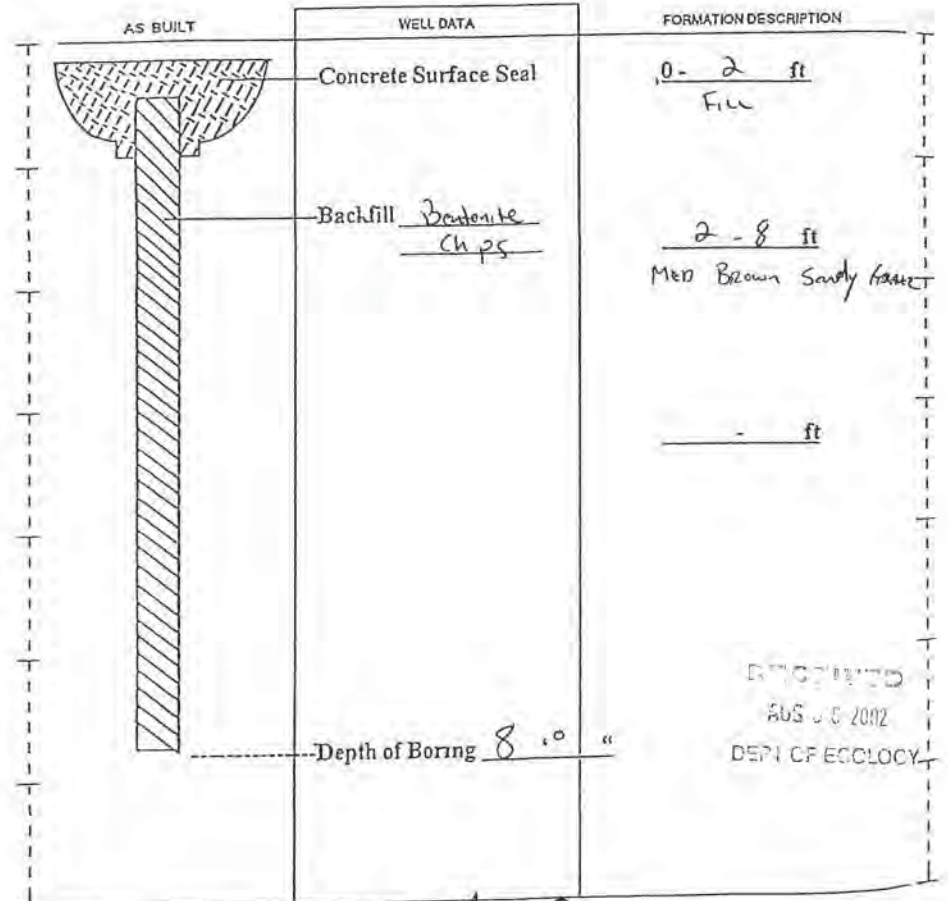
119260

SOIL BORING REPORT

Notification # S 116157

Project Name Boeing Space Center County King 22-4E-2T
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T20N R4E
 Driller Kasey Goble Street Address of Boring _____
 Firm Cascade Drilling, Inc 20403 160th AVE, Kent WA
 Signature [Signature] Water Level Elevation N/A
 Consulting Firm Landau Ground Surface Elevation N/A
 Representative Tim Syverson Date of Drilling 8/20/02

Invoice # 2457



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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

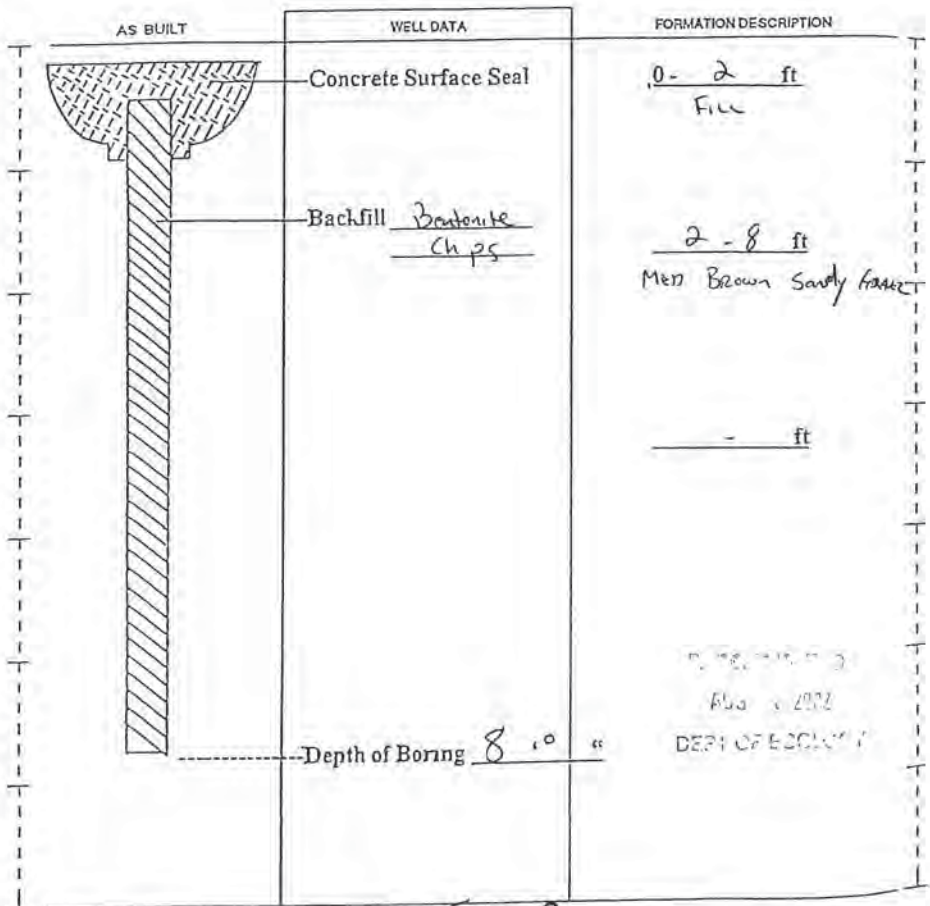
11/20/02

SOIL BORING REPORT

Notification # S 16157

Project Name Boeing Space Center County King 22-4E-2J
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T20N R4E
 Driller Kasey Goble Street Address of Boring 20403 168th Aves, Kent WA
 Firm Cascade Drilling, Inc Water Level Elevation N/A
 Signature [Signature] Ground Surface Elevation N/A
 Consulting Firm Landau Date of Drilling 8/20/02
 Representative Tim Syverson

Invoice # 2457



PAGE 5 OF 8

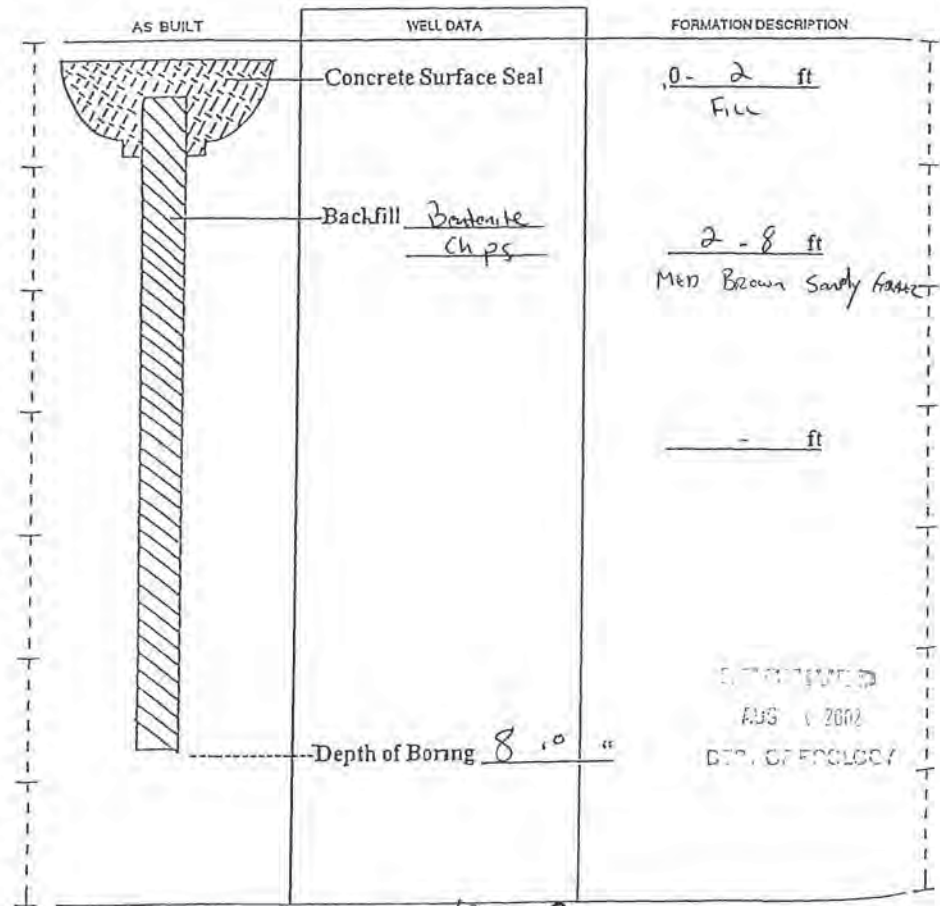
11/20/02

SOIL BORING REPORT

Notification # S 16157

Project Name Boeing Space Center County King 22-4E-2J
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T20N R4E
 Driller Kasey Goble Street Address of Boring 20403 168th Aves, Kent WA
 Firm Cascade Drilling, Inc Water Level Elevation N/A
 Signature [Signature] Ground Surface Elevation N/A
 Consulting Firm Landau Date of Drilling 8/20/02
 Representative Tim Syverson

Invoice # 2457



PAGE 6 OF 8

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

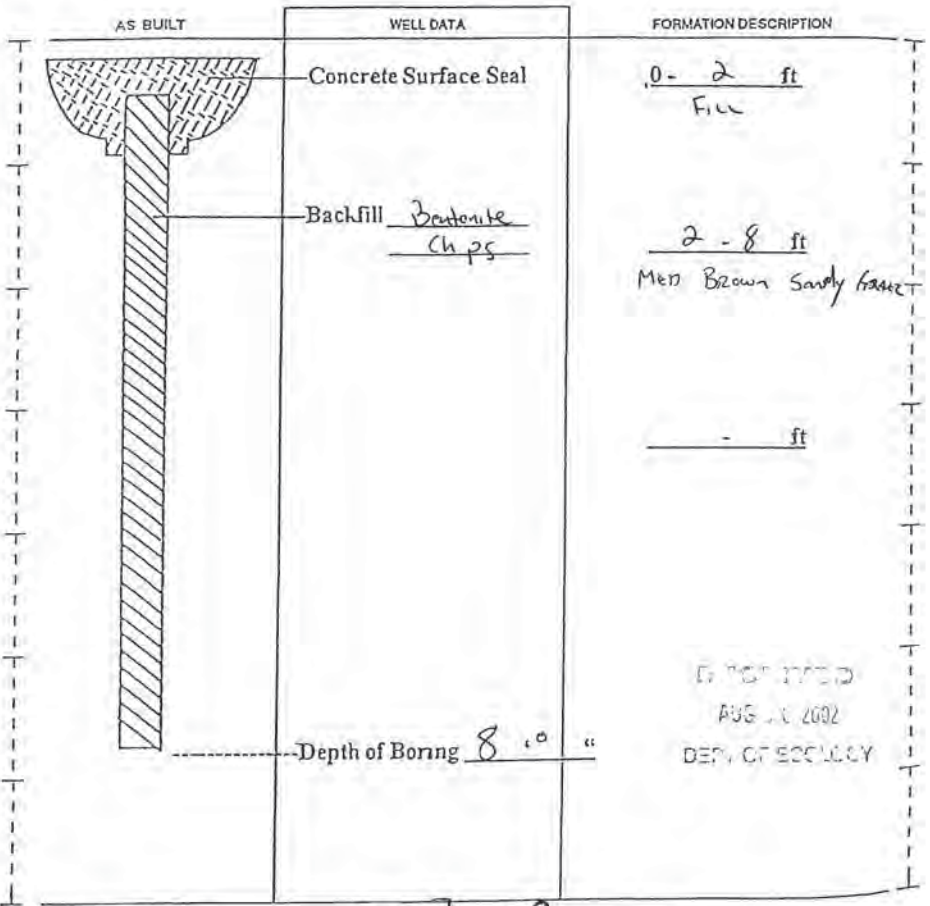
119363

SOIL BORING REPORT

Notification # S 16157

Project Name Boeing Space Center County King 22-4E-2J
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T22N R4E
 Driller Kasey Goble Street Address of Boring 20403 168th AVE S, Kent WA
 Firm Cascade Drilling, Inc Water Level Elevation N/A
 Signature [Signature] Ground Surface Elevation N/A
 Consulting Firm Landau Date of Drilling 8/20/02
 Representative Tim Syverson

Invoice # 2457



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

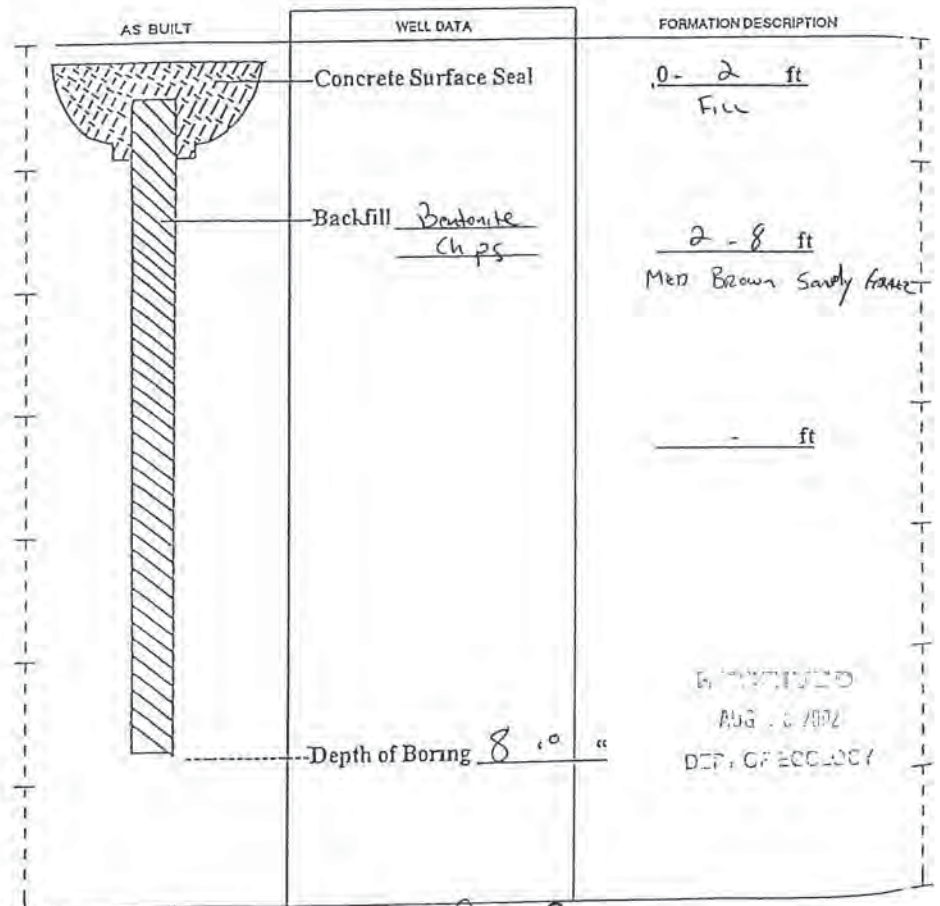
119264

SOIL BORING REPORT

Notification # S 16157

Project Name Boeing Space Center County King 22-4E-2J
 Drilling Method Probe Location NE1/4SE1/4 Sec 2 T22N R4E
 Driller Kasey Goble Street Address of Boring 20403 168th AVE S, Kent WA
 Firm Cascade Drilling, Inc Water Level Elevation N/A
 Signature [Signature] Ground Surface Elevation N/A
 Consulting Firm Landau Date of Drilling 8/20/02
 Representative Tim Syverson

Invoice # 2457



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

119263

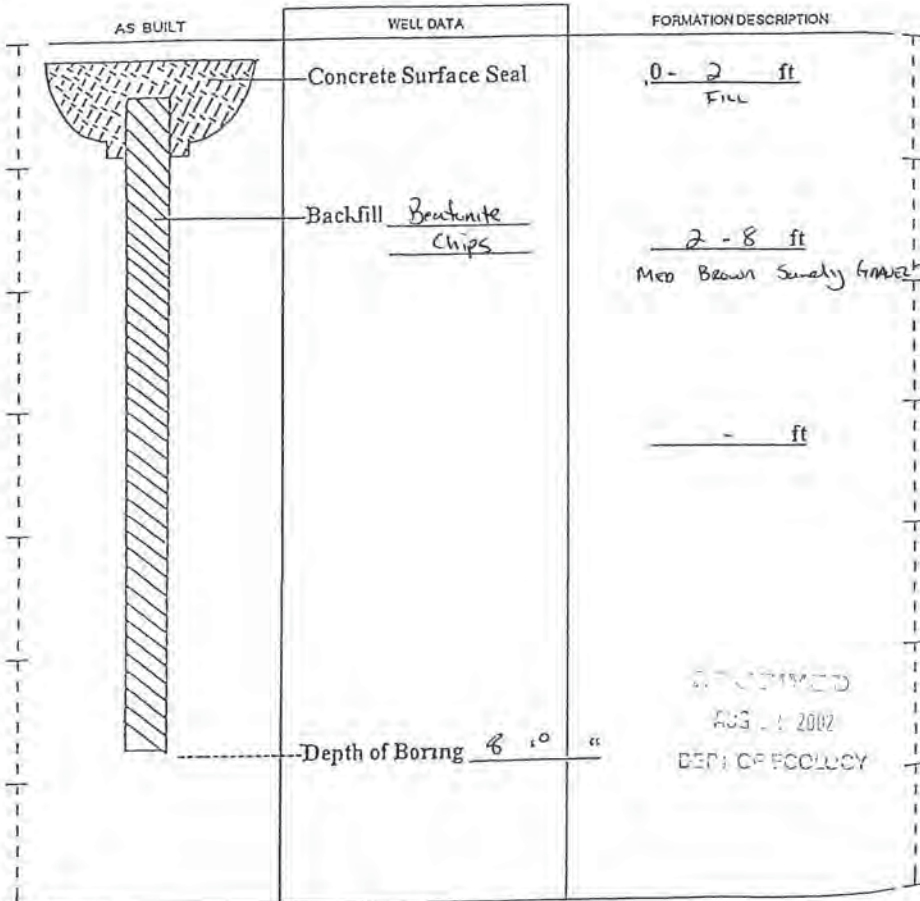
SOIL BORING REPORT

Notification # R 58073

Project Name Boeing Space Center
Drilling Method Probe
Driller Kasey Goble
Firm Cascade Drilling, Inc
Signature [Signature]
Consulting Firm Landau
Representative Tim Syverson

County King
Location NE1/4 SE1/4 Sec 2 T22N R4E
Street Address of Boring 20403 16th Aves, Kent WA
Water Level Elevation N/A
Ground Surface Elevation N/A
Date of Drilling 8/20/02

Invoice # 2457



SCALE 1" = 10'
ECY 050-12 (Rev 11/89)

PAGE OF

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

SOIL BORING REPORT

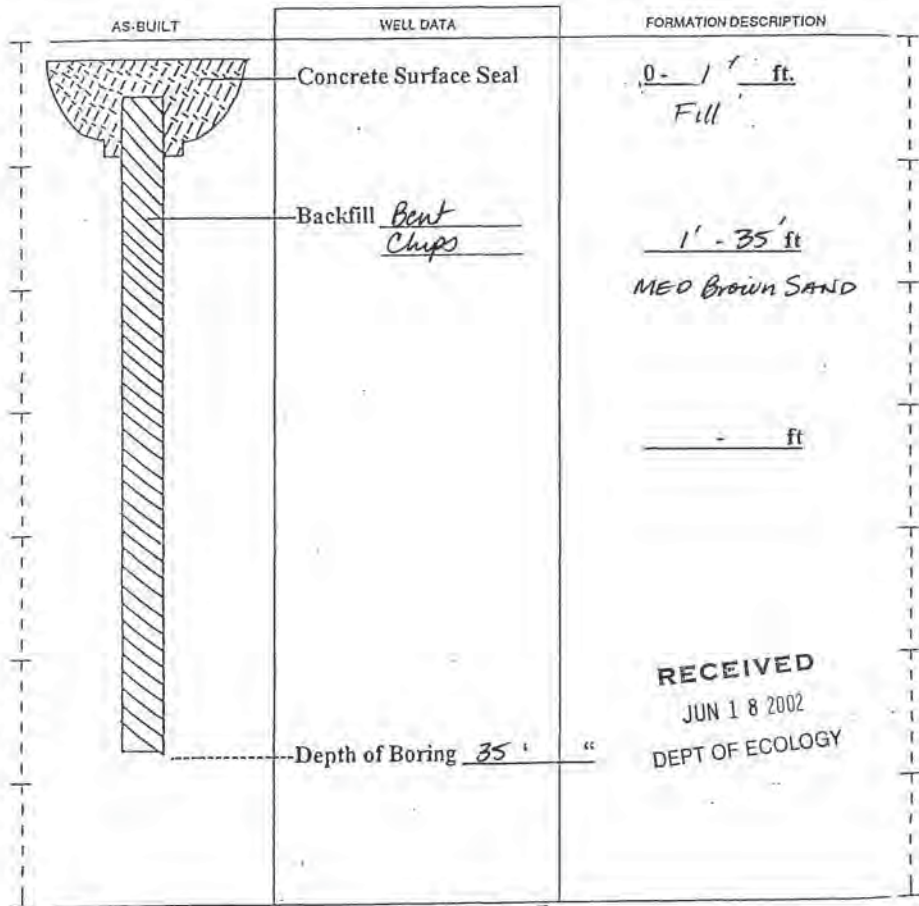
Notification # S 15472

120233

Project Name Hydraulic Repair & Design
Drilling Method: Probe
Driller: F. Lynn Goble
Firm: Cascade Drilling, Inc.
Signature: [Signature]
Consulting Firm: Landau Assoc.
Representative: George Iftner

County: King
Location: SW1/4 NW1/4 Sec 1 T22N R4E
Street Address of Boring: 16942 S. 196th St, Kent, WA
Water Level Elevation: N/A
Ground Surface Elevation: N/A
Date of Drilling: 5/16/02

Invoice # 2251



SCALE: 1" = 10'
ECY 050-12 (Rev. 11/89)

PAGE 1 OF 3

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JUN 18 2002
DEPT OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

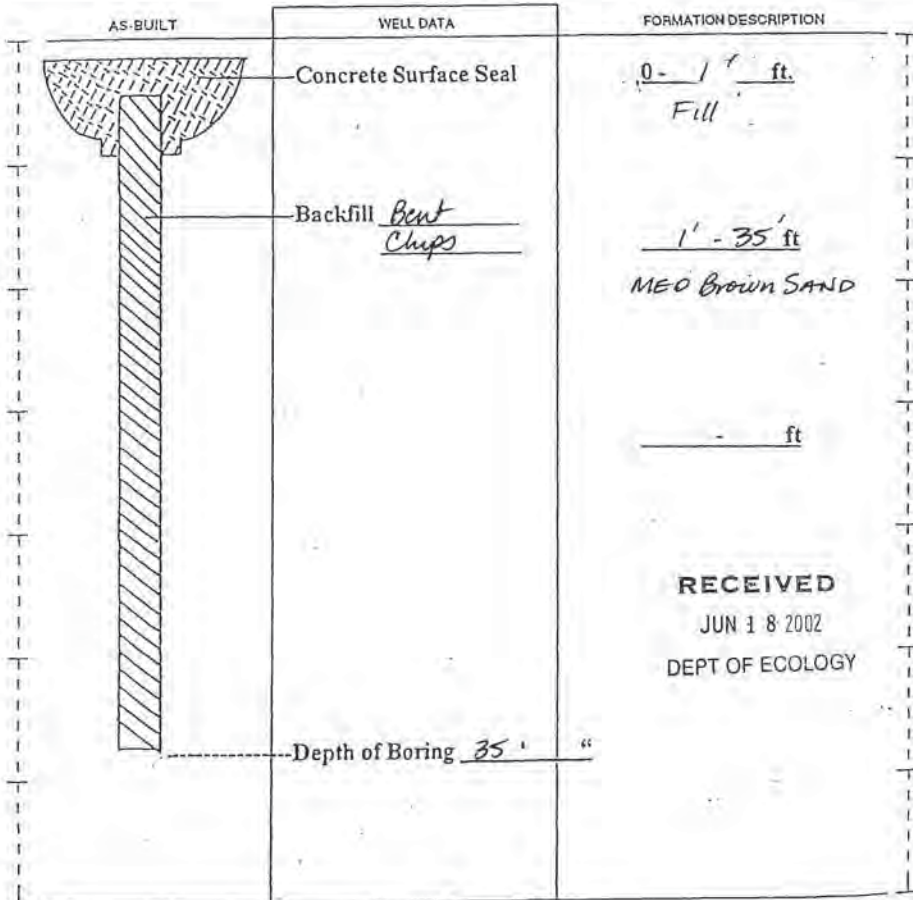
SOIL BORING REPORT

120234

Notification # S 15472

Project Name: Hydraulic Repair & Design County: King
 Drilling Method: Probe Location: SW1/4 NW1/4 Sec 1 T22N R4E
 Driller: F. Lynn Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 6942 S. 196th St, Kent, WA
 Signature: F. Lynn Goble Water Level Elevation: N/A
 Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
 Representative: George Iftner Date of Drilling: 5/16/02

Invoice # 2251



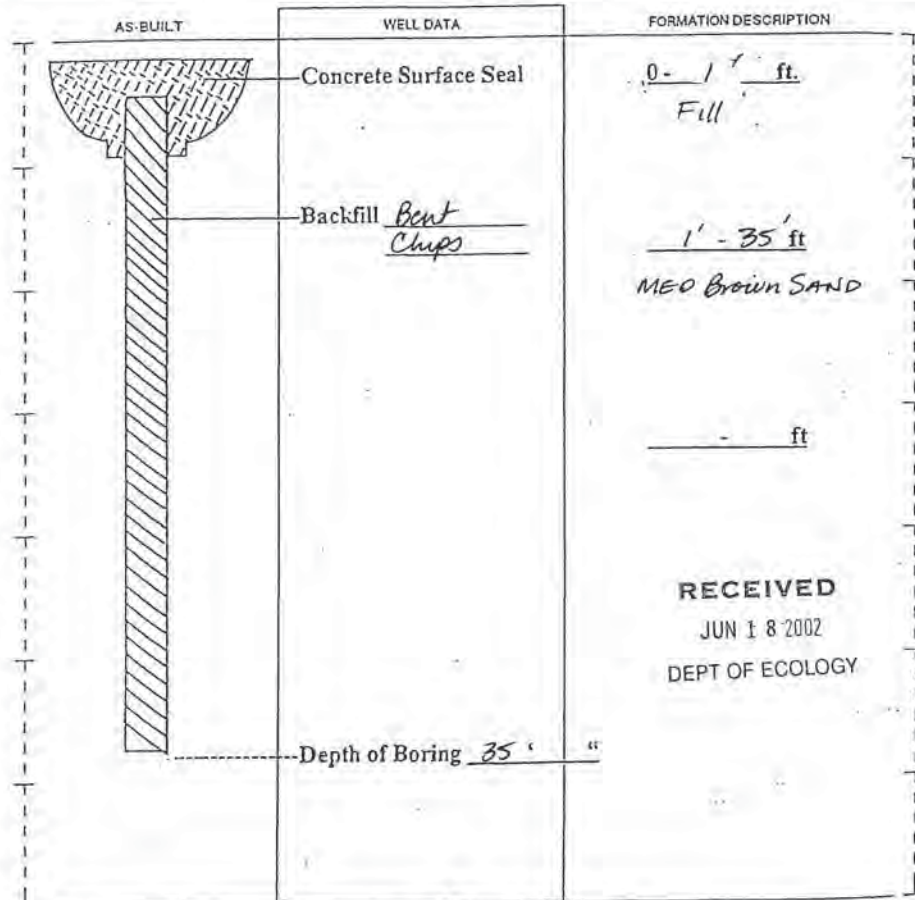
SOIL BORING REPORT

120235

Notification # S 15472

Project Name: Hydraulic Repair & Design County: King
 Drilling Method: Probe Location: SW1/4 NW1/4 Sec 1 T22N R4E
 Driller: F. Lynn Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 6942 S. 196th St, Kent, WA
 Signature: F. Lynn Goble Water Level Elevation: N/A
 Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
 Representative: George Iftner Date of Drilling: 5/16/02

Invoice # 2251



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

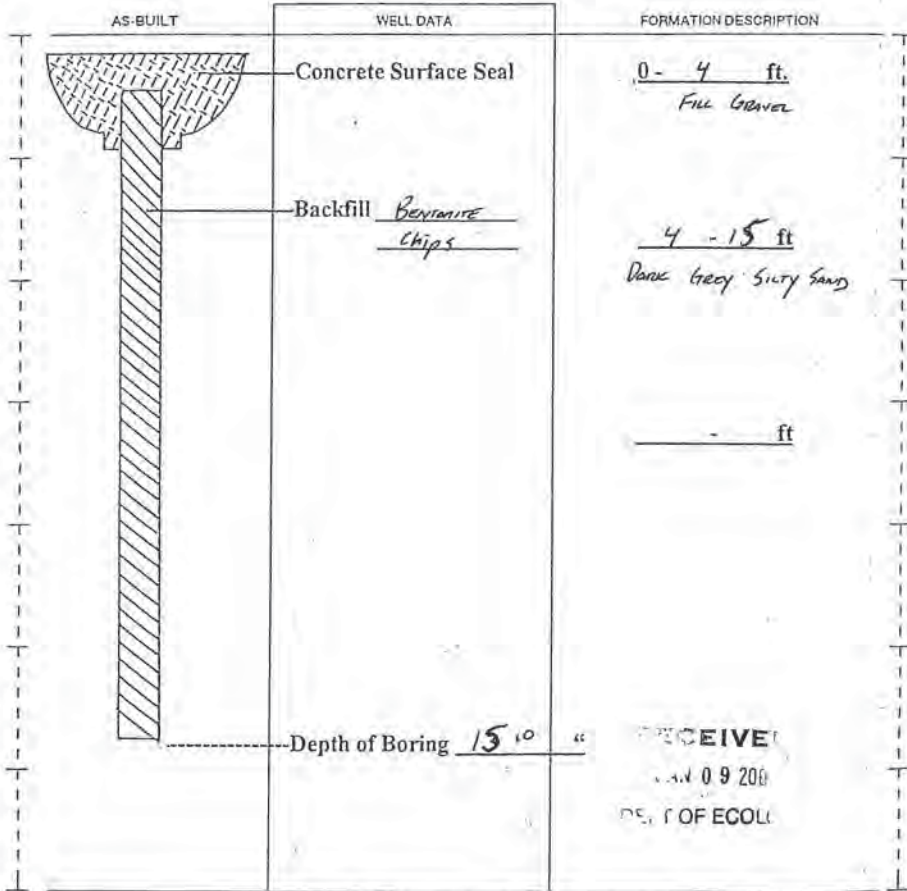
106759

SOIL BORING REPORT

Notification # R58287

Project Name: BOEING SPACE CNTR County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22N R4E
 Driller: Kasey S. Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S - Kent
 Signature: [Signature] Water Level Elevation: N/A
 Consulting Firm: Landau Assoc. Ground Surface Elevation: N/A
 Representative: T. Syverson Date of Drilling: 12-17-01

Invoice # 1829



RECEIVED
 APR 09 2002
 DEPT OF ECOLOGY

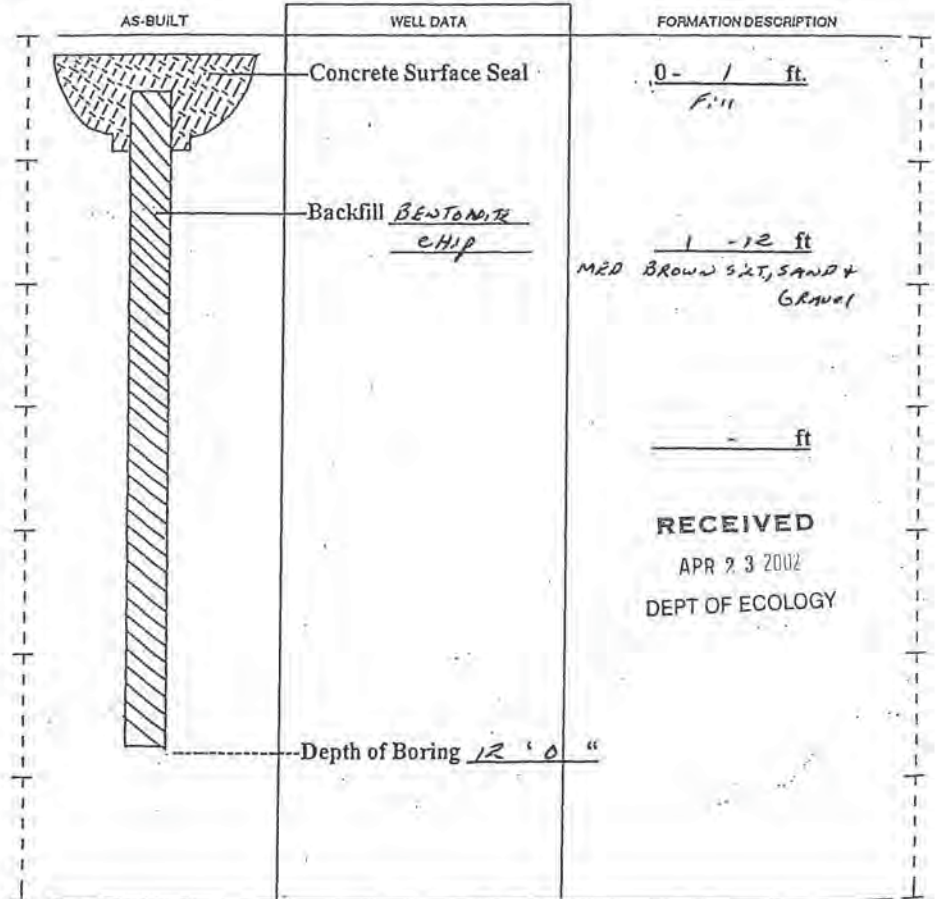
112021

SOIL BORING REPORT

Notification # R61589

Project Name: BOEING SPACE CENTER County: KING 22-4E-2J
 Drilling Method: Probe Location: NE1/4SE1/4 Sec 2 T22N R4E
 Driller: F. Lynn Goble Street Address of Boring: _____
 Firm: Cascade Drilling, Inc. 20403-68th Ave S, Kent, WA
 Signature: [Signature] Water Level Elevation: N/A
 Consulting Firm: Landau Ground Surface Elevation: N/A
 Representative: Tim Syverson Date of Drilling: 4-9-02

Invoice # 2181



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 APR 23 2002
 DEPT OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

MONITORING WELL REPORT

1 of 1

Well ID# _____
Start Card # SE 53 B 22

(1) OWNER/PROJECT WELL NO. 1B-1
Name Marcina Baker
Address 1943 1 Ave S
City Seattle State WA Zip 98134

(6) LOCATION OF WELL By legal description:
County King Latitude _____ Longitude _____
Township 32 (N or S) Range 4 (E or W) Section 2
NE 1/4 of NE 1/4 of above section.
Street address of well location 19215 66th Ave S
Neat
Tax lot number of well location _____

(2) TYPE OF WORK
 New construction Alteration (Repair/Recondition) -
 Conversion Deepening Abandonment

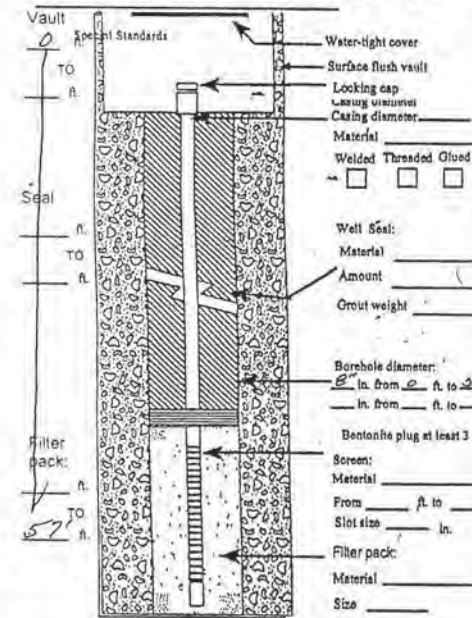
(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stein Auger Other _____

(7) STATIC WATER LEVEL:
_____ Ft. below land surface. Date _____
Artesian Pressure _____ lb/sq. in. Date _____

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes No Depth of Completed Well 57' ft.

(8) WATER BEARING ZONES:
Depth at which water was first found -6'

From	To	Est. Flow Rate	SWL



(9) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Drill	0	57'	
Fill	0	4'	
Interbedded Sand & Silt	4'	57'	

Material	From	To	SWL
Drill	0	57'	
Fill	0	4'	
Interbedded Sand & Silt	4'	57'	

Date started 9-8-15 Completed 9-8-15

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Thomas J. Adams License No. 2684
Trainee Name _____ License No. _____
Drilling Company ENVIRONMENTAL DRILLING INC.
(Signed) Thomas J. Adams License No. 2684
Address 10718 159th Ave SE Sno. WA.
Registration No. ENVRI21093M6 Date 9-19-15

(5) WELL TESTS:
 Pump Bailer Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ FH _____
Temperature of water _____ OP/C Depth artesian flow found _____ ft.
Was water analysis done? Yes No
By whom? _____
Depth of strata to be analyzed. From _____ ft. to _____ ft.
Remarks: _____
Name of Supervising Geologist/Engineer _____

MONITORING WELL REPORT

1 of 1

Well ID# _____
Start Card # AE 33711

(1) OWNER/PROJECT WELL NO. A-1
Name Marcina Baker
Address 1943 1 Ave S
City Seattle State WA Zip 98134

(6) LOCATION OF WELL By legal description:
County King Latitude _____ Longitude _____
Township 32 (N or S) Range 4 (E or W) Section 2
NE 1/4 of NE 1/4 of above section.
Street address of well location 19215 66th Ave S
Neat
Tax lot number of well location _____

(2) TYPE OF WORK
 New construction Alteration (Repair/Recondition) -
 Conversion Deepening Abandonment

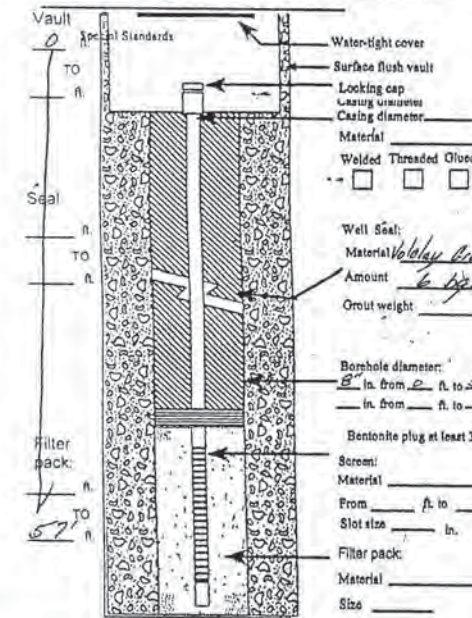
(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stein Auger Other _____

(7) STATIC WATER LEVEL:
_____ Ft. below land surface. Date _____
Artesian Pressure _____ lb/sq. in. Date _____

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes No Depth of Completed Well 57' ft.

(8) WATER BEARING ZONES:
Depth at which water was first found -6'

From	To	Est. Flow Rate	SWL



(9) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Abandon	0	57'	
Cement	0	2'	
Grout	2	57'	

Material	From	To	SWL
Abandon	0	57'	
Cement	0	2'	
Grout	2	57'	

Date started 9-8-15 Completed 9-8-15

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Thomas J. Adams License No. 2684
Trainee Name _____ License No. _____
Drilling Company ENVIRONMENTAL DRILLING INC.
(Signed) Thomas J. Adams License No. 2684
Address 10718 159th Ave SE Sno. WA.
Registration No. ENVRI21093M6 Date 9-19-15

(5) WELL TESTS:
 Pump Bailer Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ FH _____
Temperature of water _____ OP/C Depth artesian flow found _____ ft.
Was water analysis done? Yes No
By whom? _____
Depth of strata to be analyzed. From _____ ft. to _____ ft.
Remarks: _____
Name of Supervising Geologist/Engineer _____

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report

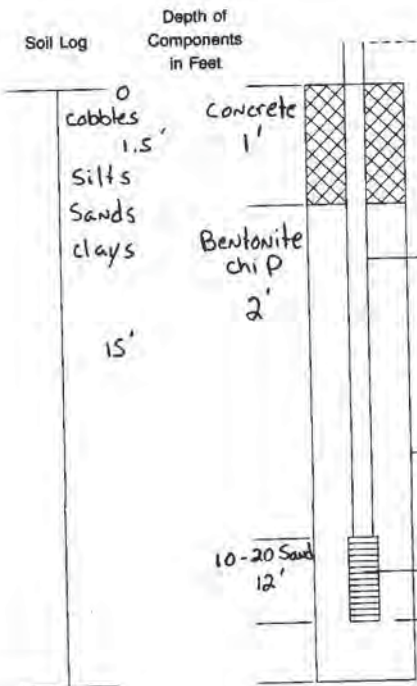
HOLT DRILLING, INC.

Resource Protection Well Report

22/4/20

Project Name Northward Business Park Date 10-6-92
 Well Identification # MW-1 MW-2 MW-3 County King SW 1/4 SE 1/4
 Drilling Method 4" HSA Section 2 T. 22N R. 4E
 Driller Jim Niederkorn Start Card [REDACTED]
 License # 1462 Consulting Firm ESE

Stick up 0' on Monument Casing



Type of Surface Seal Concrete
 Amount 1'

ID of Riser Pipe 2"
 Type of Riser Pipe PVC
 Amount 4'

Type of Connection Threaded
 Type of Backfill around Riser Bentonite chip
 Amount 2'

Diameter of Borehole 8"

Screen Size or Type 2" 20 11'

Type of Filter Material 10-20 Sand
 Amount 12'

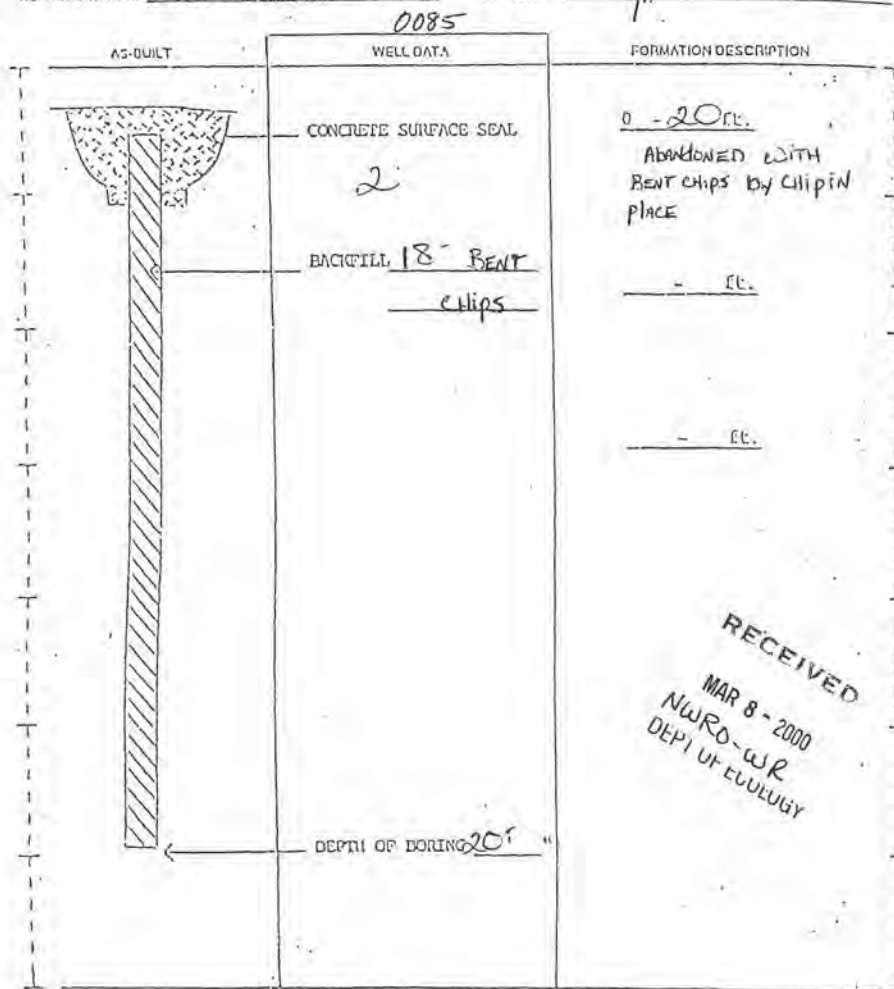
Remarks:

Signature [Signature]

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

PROJECT NAME: Northward Business Park COUNTY: King 22-4E-1D
 WELL IDENTIFICATION NO. n/a LOCATION: NW 1/4 NW 1/4 Sec 1 T22N R 4E
 DRILLING METHOD: Abandon STREET ADDRESS OF WELL: 19204-19406 68th Ave S - Kent
 DRILLER: James M. Goble WATER LEVEL ELEVATION: N/A
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: [Signature] INSTALLED: 2/15/00
 CONSULTING FIRM: ATC Environmental DEVELOPED: N/A
 REPRESENTATIVE: Neil Gilham



SCALE: 1" = _____ PAGE _____ OF _____

5430
 ENTERED
 START CARD NO. 7417560

RECEIVED
 MAR 8 - 2000
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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

85148

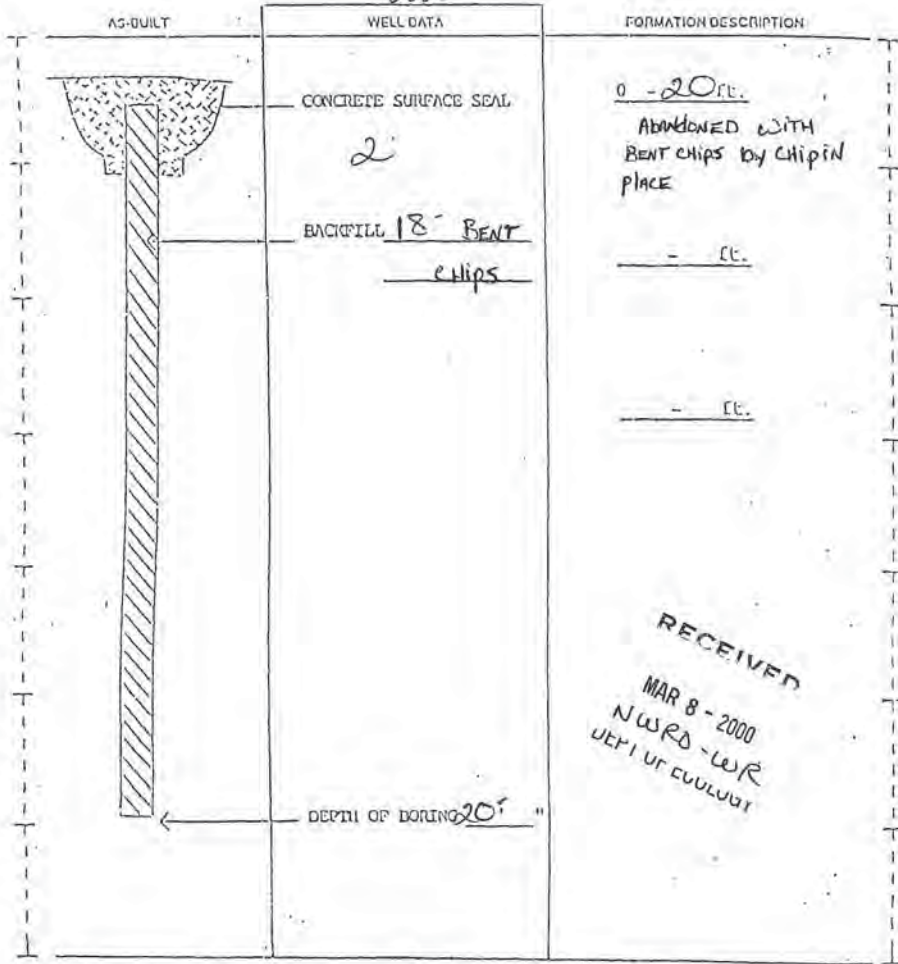
RESOURCE PROTECTION WELL REPORT

ENTERED

START CASE NO. 447560

PROJECT NAME: Northward Business Park COUNTY: King 22-4E-1D
 WELL IDENTIFICATION NO. n/a LOCATION: NW 1/4 NW 1/4 Sec 1 T21N R 4E
 DRILLING METHOD: Abandon STREET ADDRESS OF WELL: 19204-19406 68th Ave S - Kent
 DRILLER: James M. Goble WATER LEVEL ELEVATION: N/A
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: James M. Goble INSTALLED: 2/15/00
 CONSULTING FIRM: ATC Environmental DEVELOPED: N/A
 REPRESENTATIVE: Neil Gilham

0085



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 MAR 8 - 2000
 NWRD-WR
 DEPT OF ECOLOGY

SCALE: 1" = _____ PAGE _____ OF _____

83947

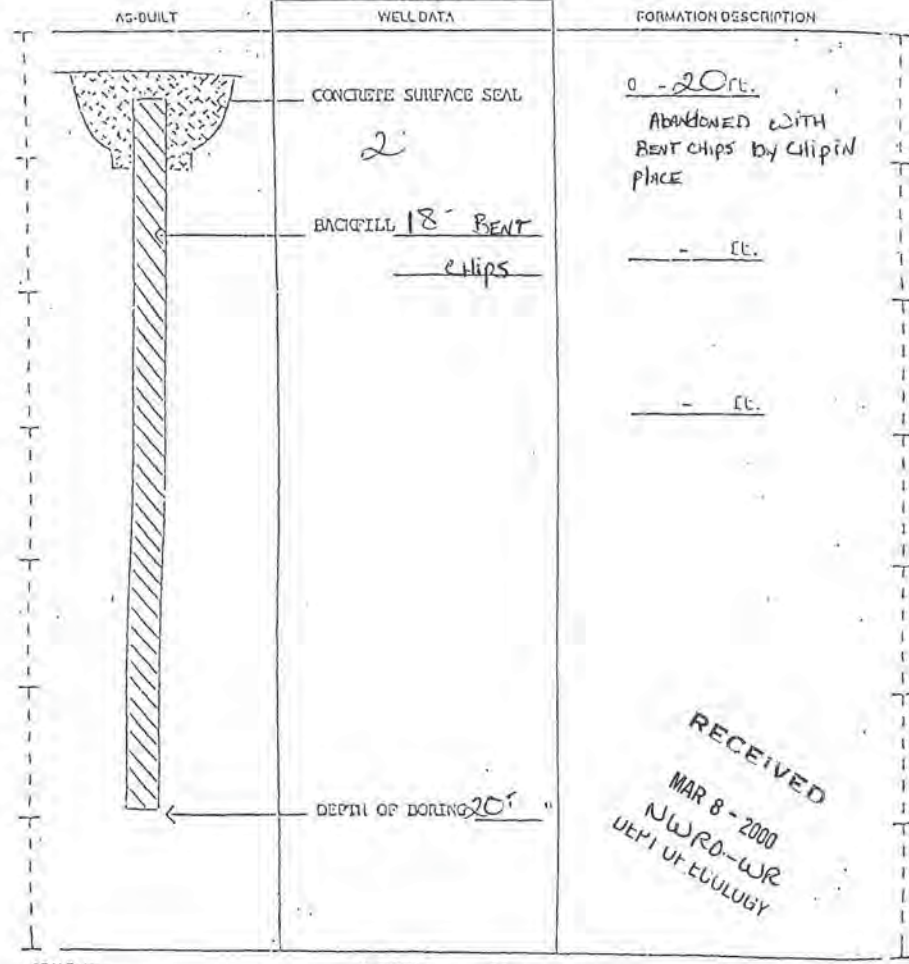
RESOURCE PROTECTION WELL REPORT

ENTERED

START CASE NO. 447560

PROJECT NAME: Northward Business Park COUNTY: King 22-4E-1D
 WELL IDENTIFICATION NO. n/a LOCATION: NW 1/4 NW 1/4 Sec 1 T21N R 4E
 DRILLING METHOD: Abandon STREET ADDRESS OF WELL: 19204-19406 68th Ave S - Kent
 DRILLER: James M. Goble WATER LEVEL ELEVATION: N/A
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: James M. Goble INSTALLED: 2/15/00
 CONSULTING FIRM: ATC Environmental DEVELOPED: N/A
 REPRESENTATIVE: Neil Gilham

0085



RECEIVED
 MAR 8 - 2000
 NWRD-WR
 DEPT OF ECOLOGY

SCALE: 1" = _____ PAGE _____ OF _____

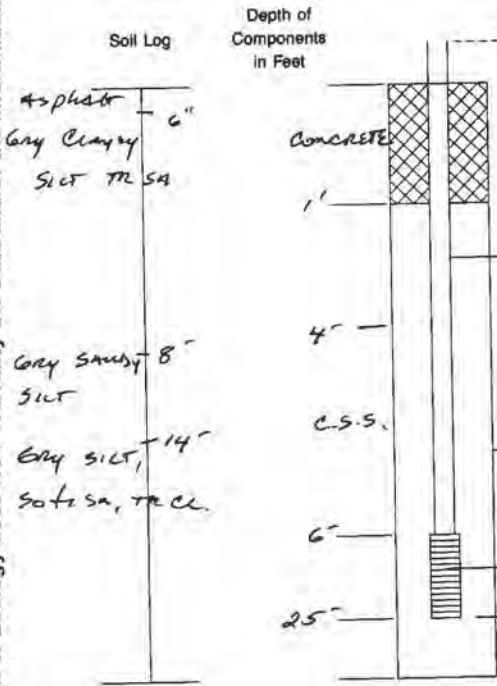
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

ENTERED

HOLT DRILLING, INC. 22/4E/2 R
Resource Protection Well Report

Project Name Proposed Scale Date 10-18-96
 Well Identification # B-1 County KING SE 1/4 SE 1/4
 Drilling Method 4" HSA Section 2 T. 22N R. 4E
 Driller MIKE CYRER Start Card R 27 831
 License # 2081 Consulting Firm Soils & Env. Eng.



Stick up CO on Monument Casing
 Type of Surface Seal CONCRETE
 Amount 1'
 ID of Riser Pipe 1"
 Type of Riser Pipe SCH 40 PVC
 Amount 6'
 Type of Connection Bush coupling
 Type of Backfill around Riser holeplus
 Amount 3'
 Diameter of Borehole 5"
 Screen Size or Type .020 PVC
 Type of Filter Material 10-20 C.S.S.
 Amount 21'

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Signature [Handwritten Signature]

RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. RE03322

Construction/Decommission 339386
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well
 Resource Protection
 Geotechnical Soil Boring
 Property Owner PSE Substation
 Site Address S. 204th St. & Boeing Access Rd.
 City Kent County 17-King

Consulting Firm GeoEngineers-Redmond
 Unique Ecology Well ID Tag No. RBL-857
 WELL CONSTRUCTION CERTIFICATION: I warrant and accept responsibility for construction of this well in accordance with all Washington well construction standards. Materials used and the installation of this well are true to my best knowledge and belief.

Location 1/4 NW 1/4 SE Sec 2 Twp 22N R 4E or WWM
 Lat/Long (s.t.r. Lat Deg Lat Min/Sec still Required) Long Deg Long Min/Sec

Driller Trainee Name (Print) Steve Chabate
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2682
 If trainee, licensed driller's Signature and License No.

Tax Parcel No.
 Cased or Uncased Diameter 8" Static Level 6'
 Work/Decommission Start Date 4/24/2009
 Work/Decommission End Date 4-24-09

Construction/Design	Well Data	Formation Description
Concrete Surface Seal	Depth <u>1.5</u> FT	<u>0 - 70</u> FT <u>Silty Sand</u>
Blank Casing (dia x dep)	<u>2" x 5"</u>	
Material	<u>PVC</u>	
Backfill	Depth <u>1.5</u> FT	
Type	<u>Best</u>	
Seal		<u>0 -</u> FT
Material		
Gravel Pack	Depth <u>17</u> FT	
Material	<u>Sand</u>	
Screen (dia x dep)	<u>2" x 15"</u>	<u>0 -</u> FT
Slot Size	<u>0.10</u>	
Material	<u>PVC</u>	
Well Depth	<u>20</u> FT	
Backfill		
Material		
Total Hole Depth	<u>20</u> FT	

Scale 1" = _____ Page _____ of _____

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 MAY 05 2009
 Dept. of Ecology
 WR-NWRO (Rev. 201)

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE03322

Construction/Decommission 339387
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner PSE Substation
 Site Address S. 204th St. & Boeing Access Rd.
 Consulting Firm GeoEngineers-Redmond
 City Kent County 17-King

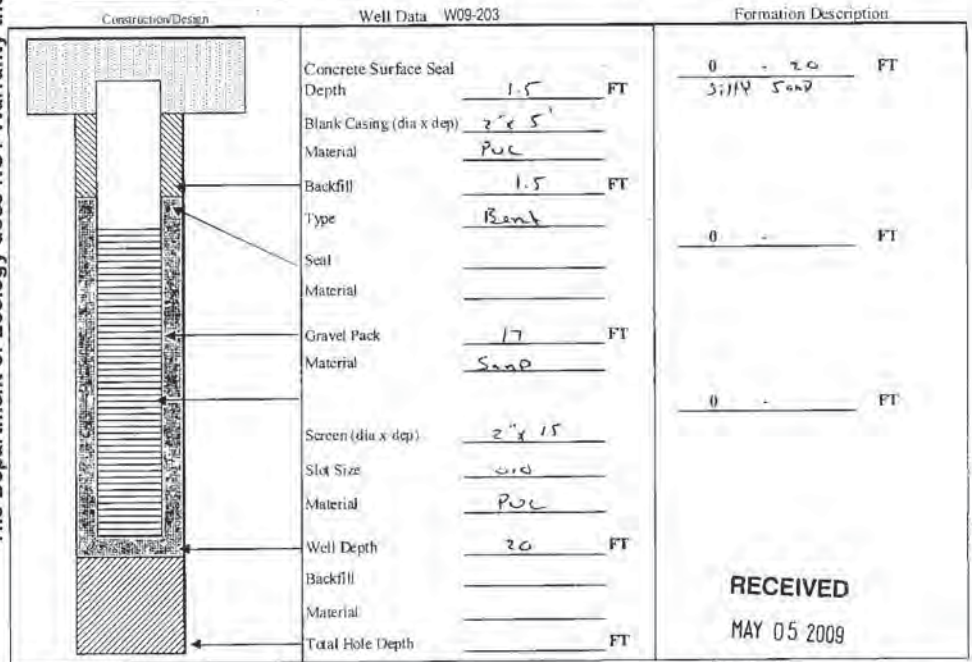
Unique Ecology Well ID Tag No. BBL-85C
 Location 1/4 NW 1/4 SE Sec 2 Twn 22N R 4E of EWM or WWM
 Lat/Long (s,t,r Lat Deg _____ Lat Min/Sec _____ still Required) Long Deg _____ Long Min/Sec _____

WELL CONSTRUCTION CERTIFICATION: I am a licensed well driller and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I warrant that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Choate
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2682

If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. _____
 Cased or Uncased Diameter 8" Static Level 6'
 Work/Decommission Start Date 4/24/2009
 Work/Decommission End Date 4-24-09



Scale 1" = _____ Page _____ of _____

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE03322

Construction/Decommission 339388
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner PSE Substation
 Site Address S. 204th St. & Boeing Access Rd.
 Consulting Firm GeoEngineers-Redmond
 City Kent County 17-King

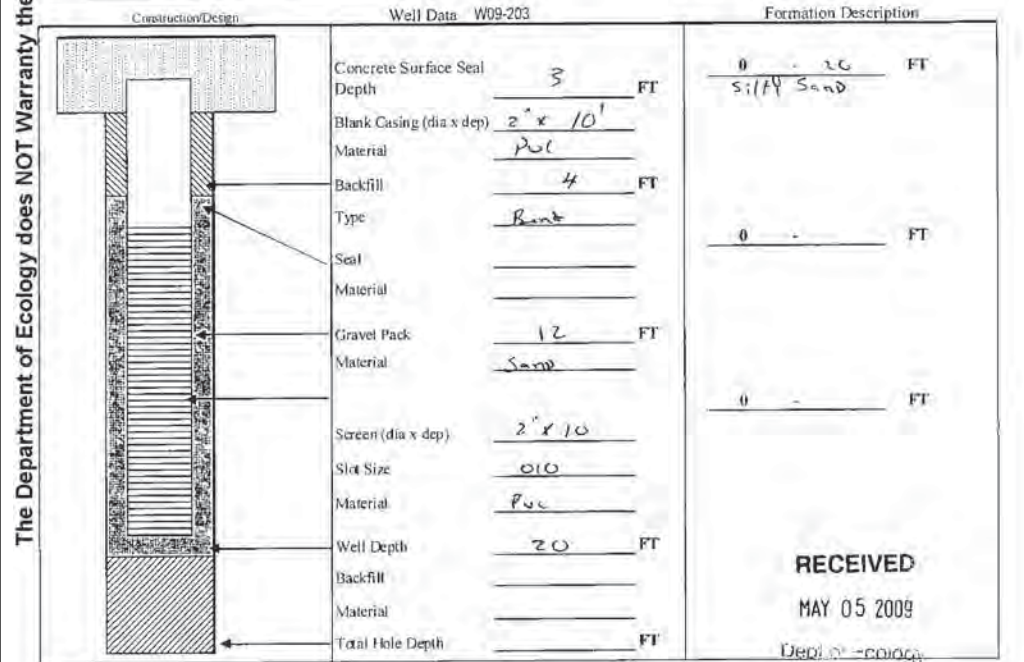
Unique Ecology Well ID Tag No. BBL-853
 Location 1/4 NW 1/4 SE Sec 2 Twn 22N R 4E of EWM or WWM
 Lat/Long (s,t,r Lat Deg _____ Lat Min/Sec _____ still Required) Long Deg _____ Long Min/Sec _____

WELL CONSTRUCTION CERTIFICATION: I am a licensed well driller and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I warrant that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Choate
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2682

If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. _____
 Cased or Uncased Diameter 8" Static Level 7'
 Work/Decommission Start Date 4/24/2009
 Work/Decommission End Date 4-24-09

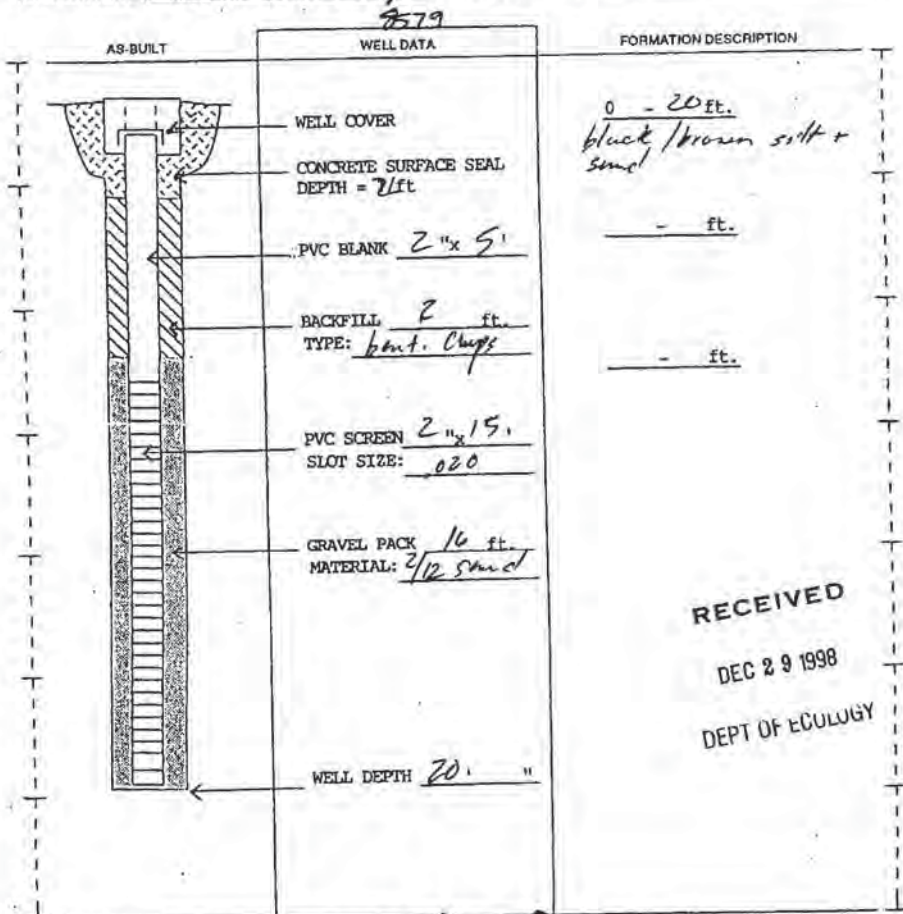


Scale 1" = _____ Page _____ of _____

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MAY 05 2009
Dept. of Ecology
WR-NWRO

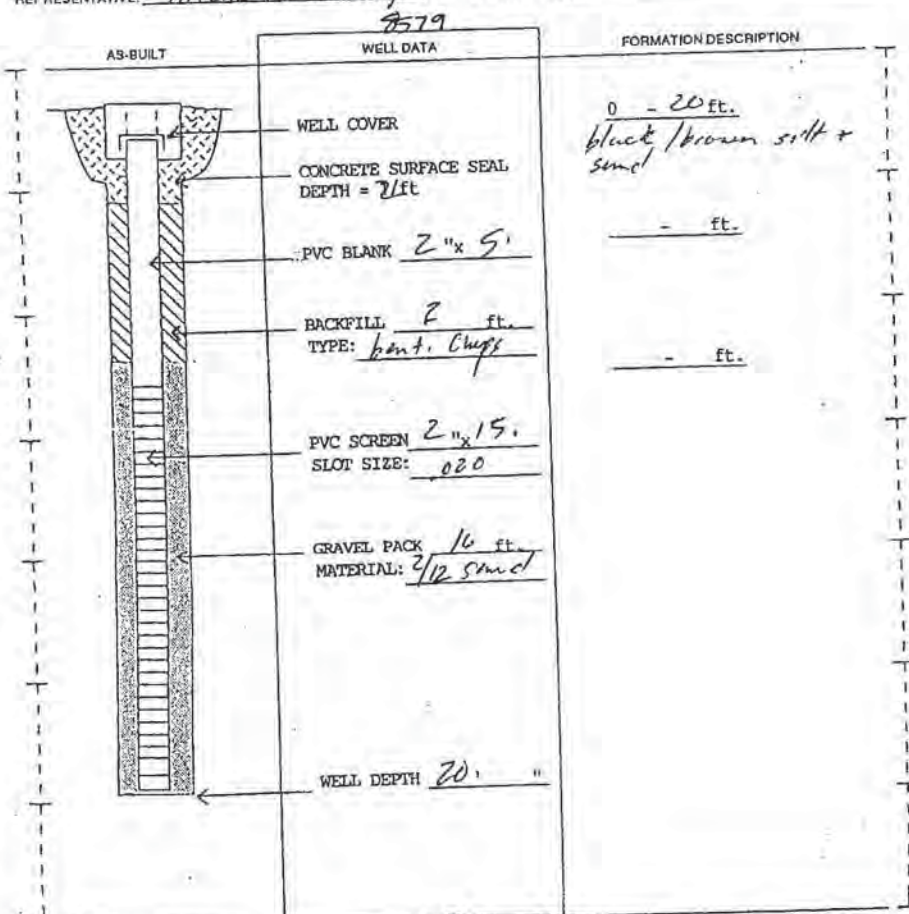
RESOURCE PROTECTION WELL REPORT **22-4-2A**
 START CARD NO. R039878

PROJECT NAME: Searsella (Equipment Cont.) COUNTY: King
 WELL IDENTIFICATION NO. AEM 220 LOCATION: NE 1/4 NE 1/4 Sec 2 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL: 19440-84th St, Kent WA
 DRILLER: Brian G. Coose WATER LEVEL ELEVATION: 6
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: Brian INSTALLED: 11/19/98
 CONSULTING FIRM: Newick & Assoc. DEVELOPED: No
 REPRESENTATIVE: Arlene Vandeweghe



RESOURCE PROTECTION WELL REPORT
 START CARD NO. R039878

PROJECT NAME: Searsella (Equipment Cont.) COUNTY: King
 WELL IDENTIFICATION NO. AEM 221 LOCATION: NE 1/4 NE 1/4 Sec 2 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL: 19440-84th St, Kent WA
 DRILLER: Brian G. Coose WATER LEVEL ELEVATION: 6
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: Brian INSTALLED: 11/19/98
 CONSULTING FIRM: Newick & Assoc. DEVELOPED: No
 REPRESENTATIVE: Arlene Vandeweghe



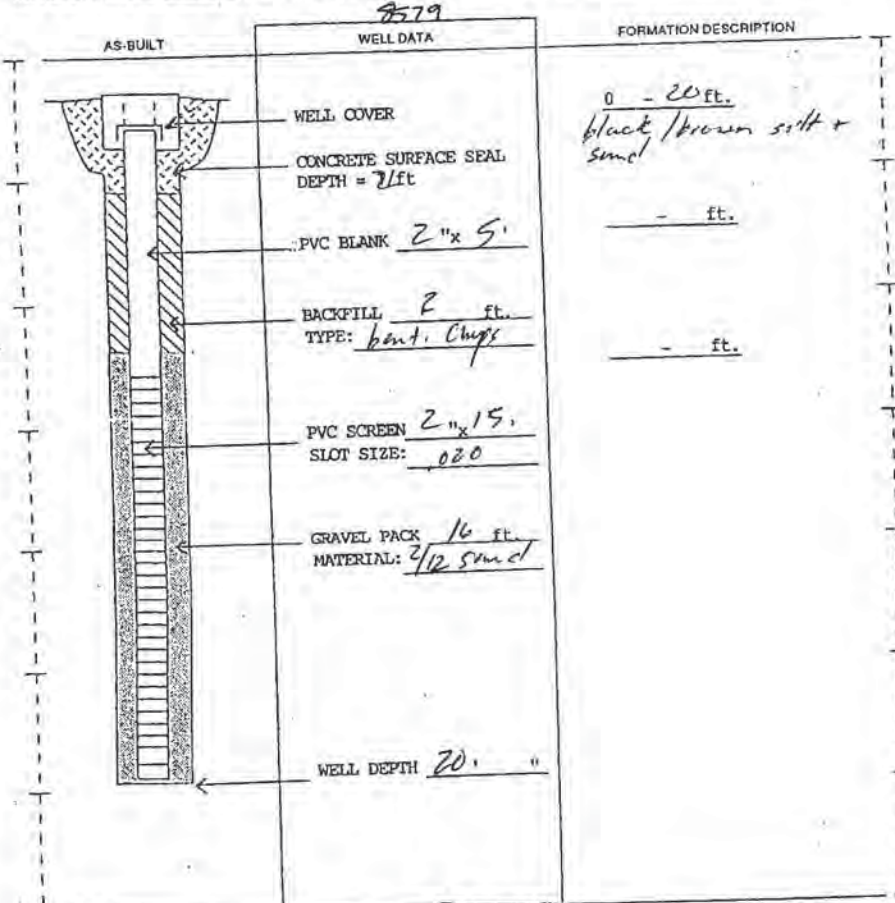
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

START CARD NO. R039878

PROJECT NAME: Searsella (Equipment Cont.) COUNTY: King
 WELL IDENTIFICATION NO. AEM 222 LOCATION: NE 1/4 NE 1/4 Sec 2 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL: 19440-84th St, Kent WA
 DRILLER: Brian G. Gease WATER LEVEL ELEVATION: 6
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: Brian G. Gease INSTALLED: 11/19/78
 CONSULTING FIRM: Newick & Assoc. DEVELOPED: No
 REPRESENTATIVE: Arlene Vandellage



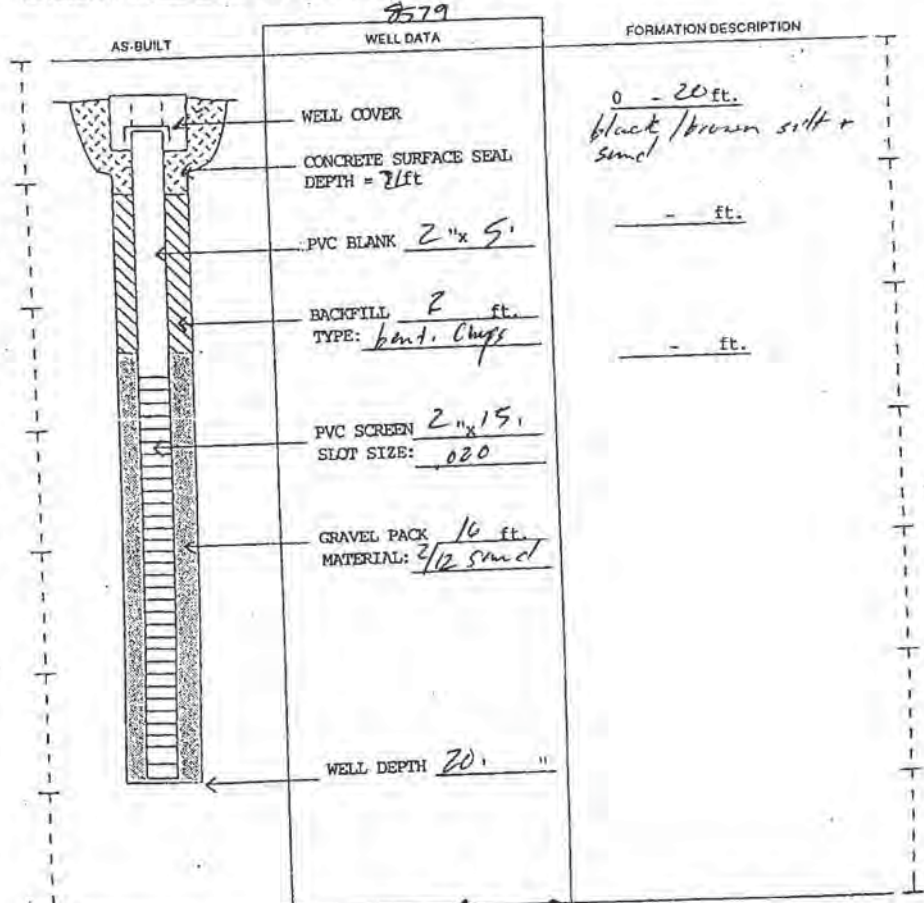
SCALE: 1" =

PAGE 3 OF 4

RESOURCE PROTECTION WELL REPORT

START CARD NO. R039878

PROJECT NAME: Searsella (Equipment Cont.) COUNTY: King
 WELL IDENTIFICATION NO. AEM 223 LOCATION: NE 1/4 NE 1/4 Sec 2 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL: 19440-84th St, Kent WA
 DRILLER: Brian G. Gease WATER LEVEL ELEVATION: 6
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: Brian G. Gease INSTALLED: 11/19/78
 CONSULTING FIRM: Newick & Assoc. DEVELOPED: No
 REPRESENTATIVE: Arlene Vandellage



SCALE: 1" =

PAGE 4 OF 4

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WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

DEPARTMENT OF ECOLOGY
State of Washington

Construction/Decommission ("x" in circle)
 Construction
 Decommission ORIGINAL INSTALLATION
 Notice of Intent Number

PROPOSED USE: Domestic Industrial Municipal
 DeWater Irrigation Tear Well Other

TYPE OF WORK: Owner's number of well (if more than one)
 New well Reconditioned Method Dug Bored Driven
 Deepened Cable Rotary Jetted

DIMENSIONS: Diameter of well 12 inches, drilled 40 ft.
 Depth of completed well 40 ft.

CONSTRUCTION DETAILS
 Casing Welded 12" Diam. from 0 ft to 40 ft.
 Installed: Liner installed " Diam. from ft to ft.
 Threaded " Diam. from ft to ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perfs in by in. and no. of perfs from ft to ft
 Screens: Yes No K-Pac Location 20-40
 Manufacturer's Name _____
 Type PVC Model No _____
 Diam 12 Slot size 20 from 20 ft to 40 ft.
 Diam Slot size from ft to ft

Gravel/Filter packed: Yes No Size of gravel/sand 3/8"
 Materials placed from 5 ft to 40 ft.

Surface Seal: Yes No To what depth? 5 ft.
 Material used in seal Bentonite
 Did any strata contain unstable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacturer's Name _____
 Type: H.P.

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
 Static level 7 ft. below top of well Date 5-2-2013
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom?
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
 Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian _____ gal./min. with stem set at _____ ft. for _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Daniel Carpenter
 Driller/Engineer/Trainee Signature Daniel Carpenter
 Driller or trainee License No. 2677
 IF TRAINEE: Driller's License No. _____
 Driller's Signature: _____

Drilling Company Slead Construction, Inc.
 Address 9021 Waller Rd. E.
 City, State, Zip Tacoma, WA, 98446
 Contractor's Registration No. SLEADC*325KO Date _____

ECY 850-1-20 (Rev 06/08) If you need this document in an alternate format, please call the Water Resources Program at 360-407-6600.
 Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341

CURRENT

Notice of Intent No. ~~DE01253~~ DE01253
 Unique Ecology Well ID Tag No. 670 CDB126
 Water Right Permit No. N/A
 Property Owner Name SEAGALE PROPERTIES
 Well Street Address S 200TH ST
 City TUKWILA WA County KING
 Location SE1/4-1/4 NW1/4 Sec 2 Twn 22N R 4E EWN
 (s, t, r Still REQUIRED) Or WWM

Lat/Long Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. (Required) _____

CONSTRUCTION OR DECOMMISSION PROCEDURE
 Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Fill	Brown 0	2
Sandy loam	Brown 2	7
Sand & silt	Brown 7	40

DEPT. OF ECOLOGY
 FISCAL YEAR REPORT
 13 MAY 21 11:59 AM
 4/29/2013
 5-2-2013
 Start Date 5-2-2013 Completed Date 5-2-2013

WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

DEPARTMENT OF ECOLOGY
State of Washington

Construction/Decommission ("x" in circle)
 Construction
 Decommission ORIGINAL INSTALLATION
 Notice of Intent Number

PROPOSED USE: Domestic Industrial Municipal
 DeWater Irrigation Test Well Other

TYPE OF WORK: Owner's number of well (if more than one)
 New well Reconditioned Method Dug Bored Driven
 Deepened Cable Rotary Jetted

DIMENSIONS: Diameter of well 12 inches, drilled 40 ft.
 Depth of completed well 40 ft.

CONSTRUCTION DETAILS
 Casing Welded 12" Diam. from 0 ft to 40 ft.
 Installed: Liner installed " Diam. from ft to ft.
 Threaded " Diam. from ft to ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perfs in by in. and no. of perfs from ft to ft
 Screens: Yes No K-Pac Location 20-40
 Manufacturer's Name _____
 Type PVC Model No _____
 Diam 12 Slot size 20 from 20 ft to 40 ft.
 Diam Slot size from ft to ft

Gravel/Filter packed: Yes No Size of gravel/sand 3/8"
 Materials placed from 5 ft to 40 ft.

Surface Seal: Yes No To what depth? 5 ft.
 Material used in seal Bentonite
 Did any strata contain unstable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacturer's Name _____
 Type: H.P.

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
 Static level 7 ft. below top of well Date 4-29-2013
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom?
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
 Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian _____ gal./min. with stem set at _____ ft. for _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Daniel Carpenter
 Driller/Engineer/Trainee Signature Daniel Carpenter
 Driller or trainee License No. 2677
 IF TRAINEE: Driller's License No. _____
 Driller's Signature: _____

Drilling Company Slead Construction, Inc.
 Address 9021 Waller Rd. E.
 City, State, Zip Tacoma, WA, 98446
 Contractor's Registration No. SLEADC*325KO Date _____

ECY 050-1-20 (Rev 06/08) If you need this document in an alternate format, please call the Water Resources Program at 360-407-6600.
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CURRENT

Notice of Intent No. ~~DE01253~~ DE01253
 Unique Ecology Well ID Tag No. 670 119
 Water Right Permit No. N/A
 Property Owner Name SEAGALE PROPERTIES
 Well Street Address S 200TH ST
 City TUKWILA WA County KING
 Location SE1/4-1/4 NW1/4 Sec 2 Twn 22N R 4E EWN
 (s, t, r Still REQUIRED) Or WWM

Lat/Long Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____
 Tax Parcel No. (Required) _____

CONSTRUCTION OR DECOMMISSION PROCEDURE
 Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Fill	Brown 0	2
Sandy loam	Brown 2	7
Sand & silt	Brown 7	40

DEPT. OF ECOLOGY
 FISCAL YEAR REPORT
 13 MAY 21 11:59 AM
 4-29-2013
 4-29-2013
 Start Date 4-29-2013 Completed Date 4-29-2013

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

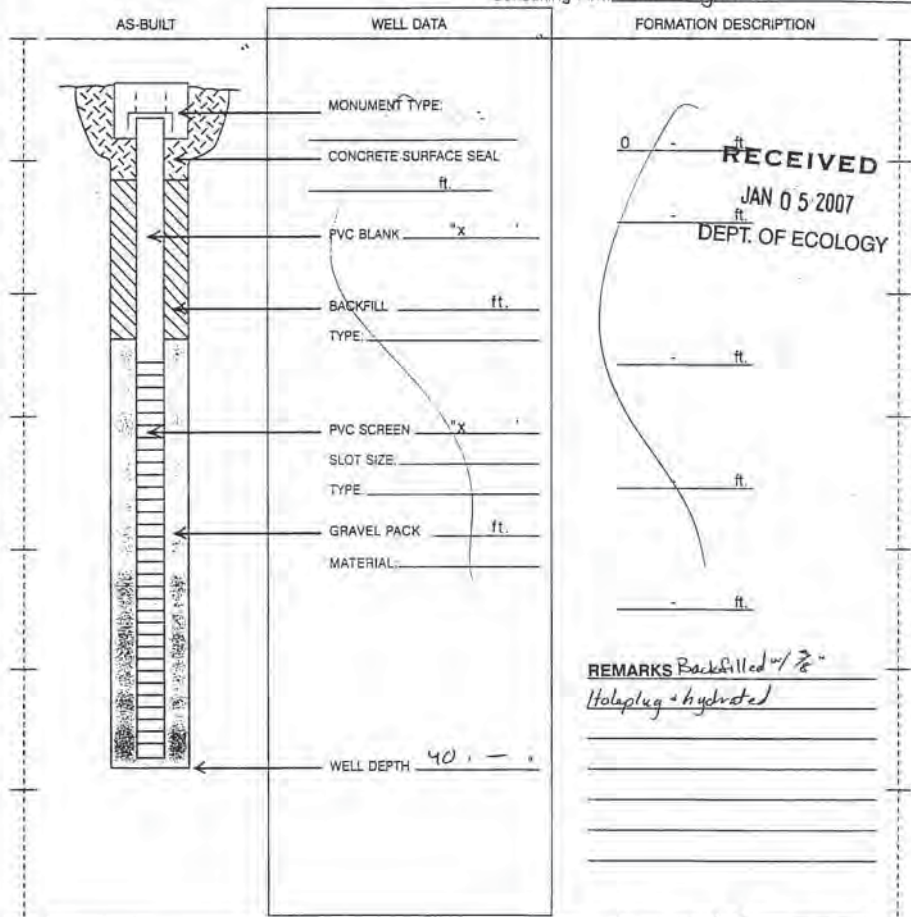
213955

HOLT DRILLING, INC.

Resource Protection Well Report

224E 2J

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-6 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card A118247
 Consulting Firm Geo-Engineers



Signature Michael Reynolds

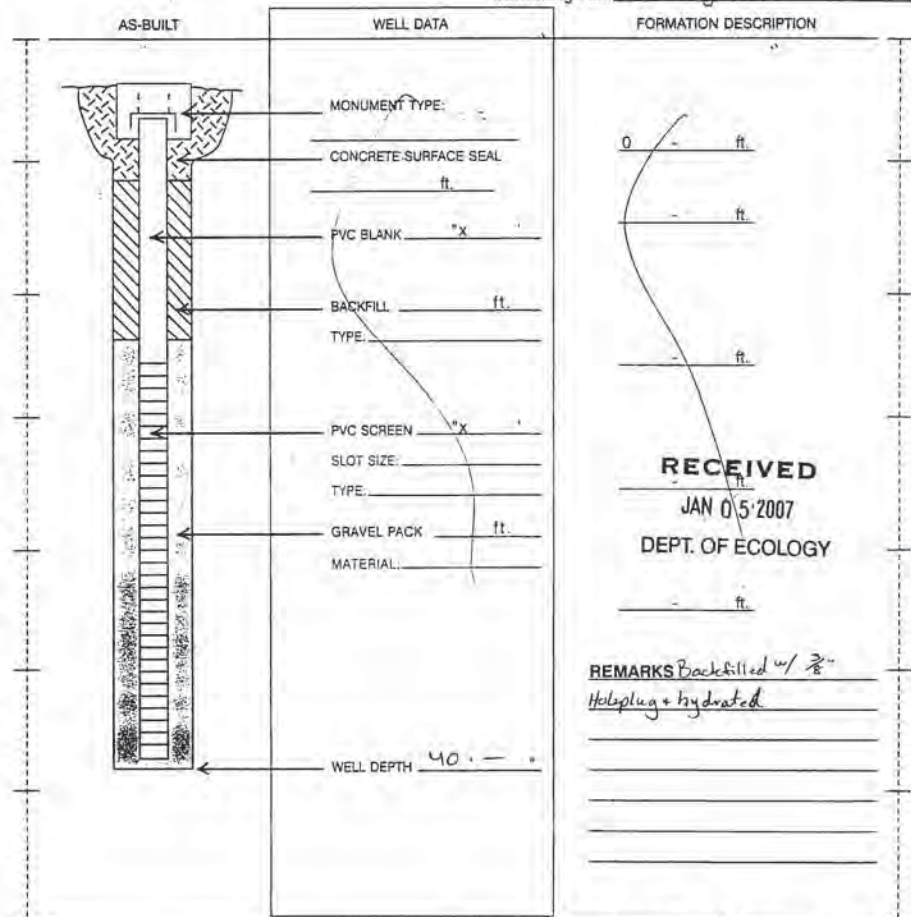
213956

HOLT DRILLING, INC.

Resource Protection Well Report

224E 2J

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-5 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card A118247
 Consulting Firm Geo-Engineers



Signature Michael Reynolds

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HOLT DRILLING, INC.

Resource Protection Well Report

213957

22-4E-2J

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-4 County King NE 1/4 SE 1/4
 Drilling Method 4" HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028 A118247
 Consulting Firm Geo-Engineers

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	MONUMENT TYPE: _____	<p>0 - ft.</p> <p>- ft.</p> <p>- ft.</p> <p>RECEIVED JAN 05 2007 DEPT. OF ECOLOGY</p> <p>REMARKS <u>Backfilled w/ 3/8" Holeplug + hydrated.</u></p> <p>_____</p> <p>_____</p> <p>_____</p>
	CONCRETE SURFACE SEAL _____ ft.	
	PVC BLANK "X" _____ ft.	
	BACKFILL _____ ft.	
	TYPE: _____	
	PVC SCREEN "X" _____ ft.	
	SLOT SIZE: _____	
	TYPE: _____	
	GRAVEL PACK _____ ft.	
	MATERIAL: _____	
WELL DEPTH <u>40. -</u>		

Signature Michael Reynolds

HOLT DRILLING, INC.

Resource Protection Well Report

213958

22-4E-2J

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-3 County King NE 1/4 SE 1/4
 Drilling Method 4" HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028 A118247
 Consulting Firm Geo-Engineers

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	MONUMENT TYPE: _____	<p>0 - ft.</p> <p>- ft.</p> <p>- ft.</p> <p>RECEIVED JAN 05 2007 DEPT. OF ECOLOGY</p> <p>REMARKS <u>Backfilled w/ 3/8" Holeplug + hydrated.</u></p> <p>_____</p> <p>_____</p> <p>_____</p>
	CONCRETE SURFACE SEAL _____ ft.	
	PVC BLANK "X" _____ ft.	
	BACKFILL _____ ft.	
	TYPE: _____	
	PVC SCREEN "X" _____ ft.	
	SLOT SIZE: _____	
	TYPE: _____	
	GRAVEL PACK _____ ft.	
	MATERIAL: _____	
WELL DEPTH <u>40. -</u>		

Signature Michael Reynolds

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213959

HOLT DRILLING, INC.

Resource Protection Well Report

22-4E-2J

Project Name Segale - Tukwila Date 12-19-06
 Well Identification # B-2 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card A118247
 Consulting Firm Geo-Engineers

AS-BUILT	WELL DATA	FORMATION DESCRIPTION	
	MONUMENT TYPE: _____		
	CONCRETE SURFACE SEAL _____ ft.		
	PVC BLANK "X" _____ ft.		
	BACKFILL TYPE _____ ft.		
	PVC SCREEN "X" _____ ft.		
	SLOT SIZE TYPE _____ ft.		
	GRAVEL PACK MATERIAL _____ ft.		
	WELL DEPTH <u>40</u> ft.		
	RECEIVED JAN 05 2007 DEPT. OF ECOLOGY		
	REMARKS <u>Backfilled w/ 3/4" Holeplug + hydrated.</u>		

Signature Michael Reynolds

213960

HOLT DRILLING, INC.

Resource Protection Well Report

22-4E-2J

Project Name Segale - Tukwila Date 12-19-06
 Well Identification # B-1 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card A118247
 Consulting Firm Geo-Engineers

AS-BUILT	WELL DATA	FORMATION DESCRIPTION	
	MONUMENT TYPE: _____		
	CONCRETE SURFACE SEAL _____ ft.		
	PVC BLANK "X" _____ ft.		
	BACKFILL TYPE _____ ft.		
	PVC SCREEN "X" _____ ft.		
	SLOT SIZE TYPE _____ ft.		
	GRAVEL PACK MATERIAL _____ ft.		
	WELL DEPTH <u>45</u> ft.		
	RECEIVED JAN 05 2007 DEPT. OF ECOLOGY		
	REMARKS <u>Back filled w/ 3/4" Holeplug + hydrated.</u>		

Signature Michael Reynolds

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HOLT DRILLING, INC.

Resource Protection Well Report

22-4E.2J

213961

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-6 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028
 Consulting Firm Geo-Engineers

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	MONUMENT TYPE: _____ CONCRETE SURFACE SEAL _____ ft. PVC BLANK "X" _____ BACKFILL _____ ft. TYPE: _____ PVC SCREEN "X" _____ SLOT SIZE _____ TYPE: _____ GRAVEL PACK _____ ft. MATERIAL: _____ WELL DEPTH <u>40</u> -	<u>0 - 5 ft.</u> Sm-Lg Silty Gravel <u>5 - 8 ft.</u> Brn Silty Sand <u>8 - 30 ft.</u> Brn Silty Sand w/Trace Organics <u>30 - 40 ft.</u> Dk Gray-Blk Med Sand RECEIVED JAN 05 2007 DEPT. OF ECOLOGY REMARKS _____ _____ _____ _____

Signature Michael Reynolds

HOLT DRILLING, INC.

Resource Protection Well Report

22-4E.2J

213962

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-5 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028
 Consulting Firm Geo-Engineers

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	MONUMENT TYPE: _____ CONCRETE SURFACE SEAL _____ ft. PVC BLANK "X" _____ BACKFILL _____ ft. TYPE: _____ PVC SCREEN "X" _____ SLOT SIZE _____ TYPE: _____ GRAVEL PACK _____ ft. MATERIAL: _____ WELL DEPTH <u>40</u> -	<u>0 - 1 ft.</u> Grass Topsoil <u>1 - 6 ft.</u> Brn. Silty Sand <u>6 - 35 ft.</u> Brn Silty Sand w/Trace Organics <u>35 - 40 ft.</u> Dk Gray-Blk Med Sand RECEIVED JAN 05 2007 DEPT. OF ECOLOGY REMARKS _____ _____ _____ _____

Signature Michael Reynolds

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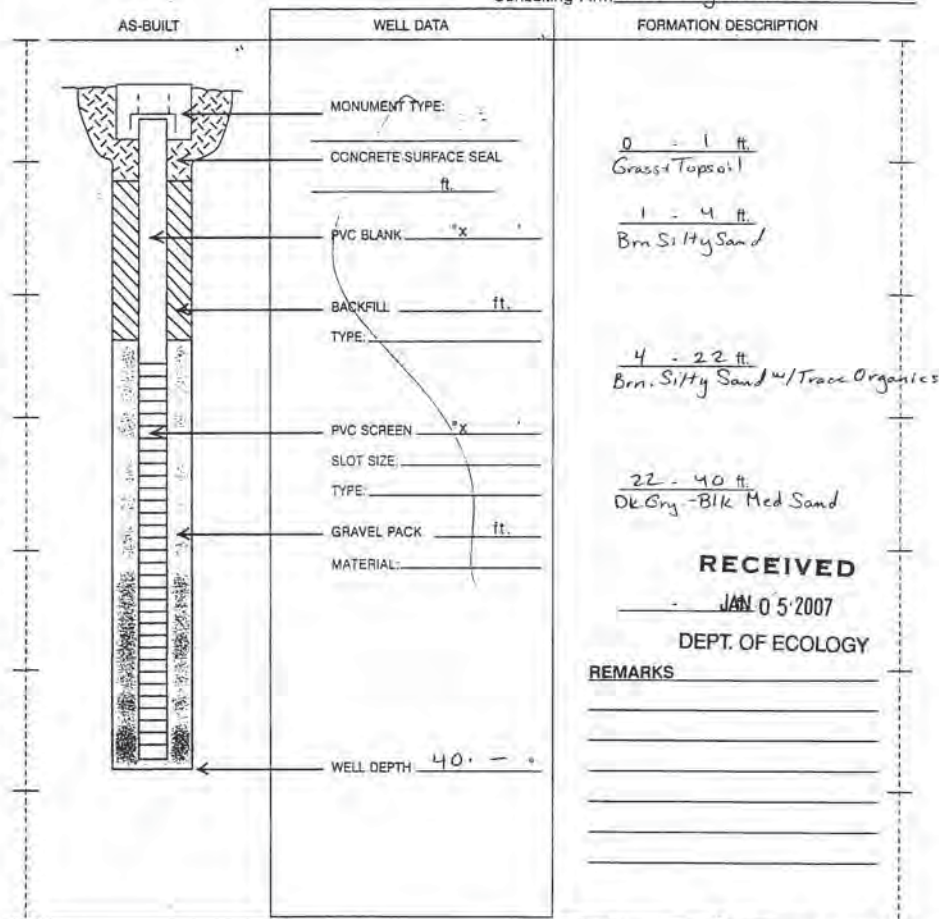
HOLT DRILLING, INC.

Resource Protection Well Report

213963

224E-2J

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-4 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028
 Consulting Firm Geo-Engineers



RECEIVED
 JAN 05 2007
 DEPT. OF ECOLOGY

REMARKS

Signature Michael Reynolds

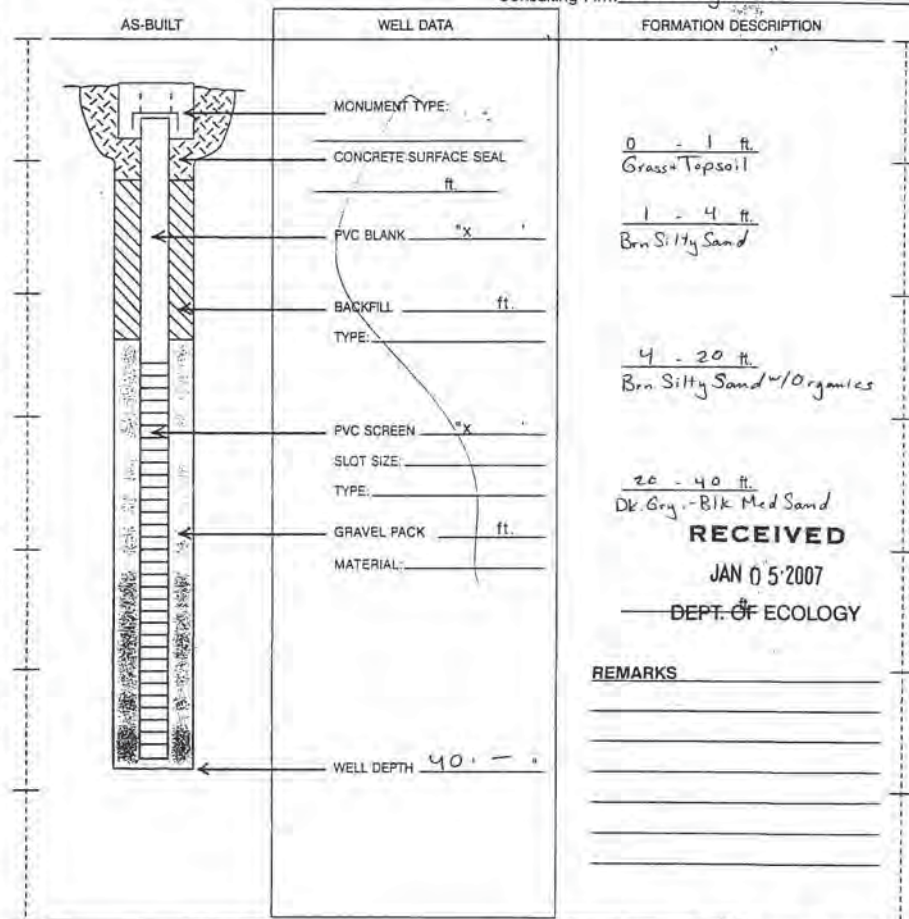
HOLT DRILLING, INC.

Resource Protection Well Report

213964

224E 2J

Project Name Segale - Tukwila Date 12-20-06
 Well Identification # B-3 County King NE 1/4 SE 1/4
 Drilling Method 4"HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028
 Consulting Firm Geo-Engineers



RECEIVED
 JAN 05 2007
 DEPT. OF ECOLOGY

REMARKS

Signature Michael Reynolds

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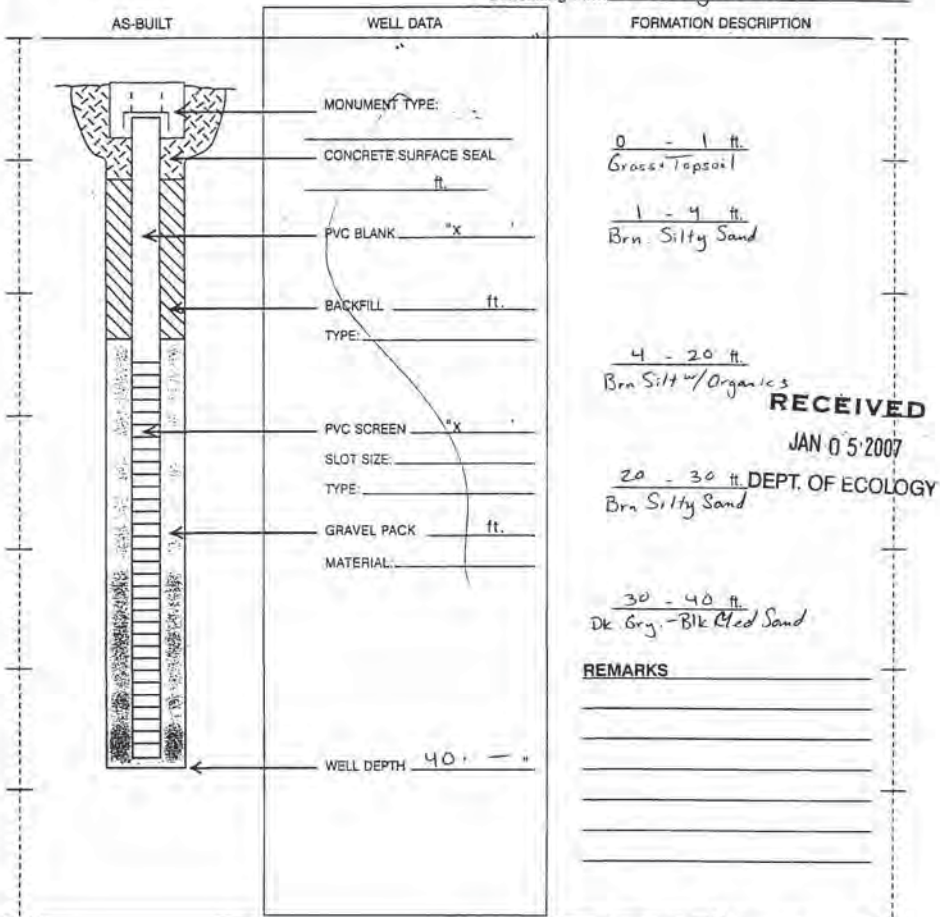
HOLT DRILLING, INC.

Resource Protection Well Report

22-4E-2J

213965

Project Name Segale - Tukwila Date 12-19-06
 Well Identification # B-2 County King NE 1/4 SE 1/4
 Drilling Method 4" HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028
 Consulting Firm Geo-Engineers



Signature Michael Reynolds

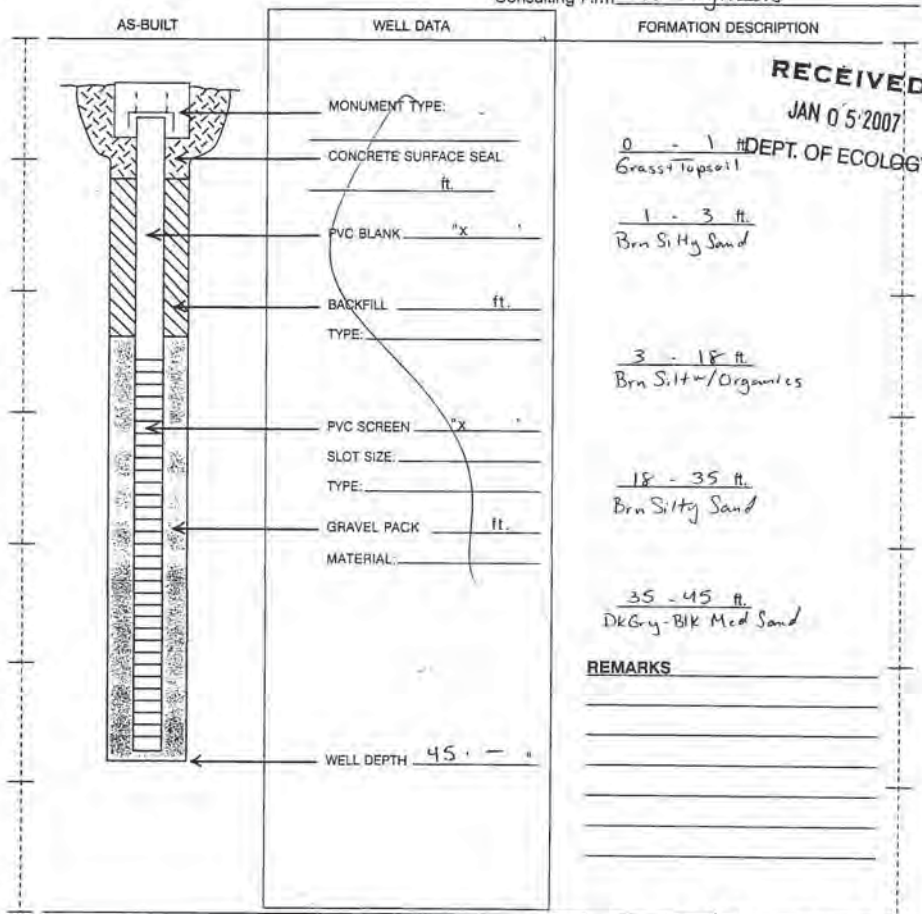
HOLT DRILLING, INC.

Resource Protection Well Report

22-4E-2J

213966

Project Name Segale - Tukwila Date 12-19-06
 Well Identification # B-1 County King NE 1/4 SE 1/4
 Drilling Method 4" HSA Section 2 T. 22N R. 4E
 Driller Michael Reynolds Street Address No Address - On Bicycle Path
 License # 2636 Start Card S31028
 Consulting Firm Geo-Engineers



RECEIVED
JAN 05 2007
DEPT. OF ECOLOGY

Signature Michael Reynolds

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257213

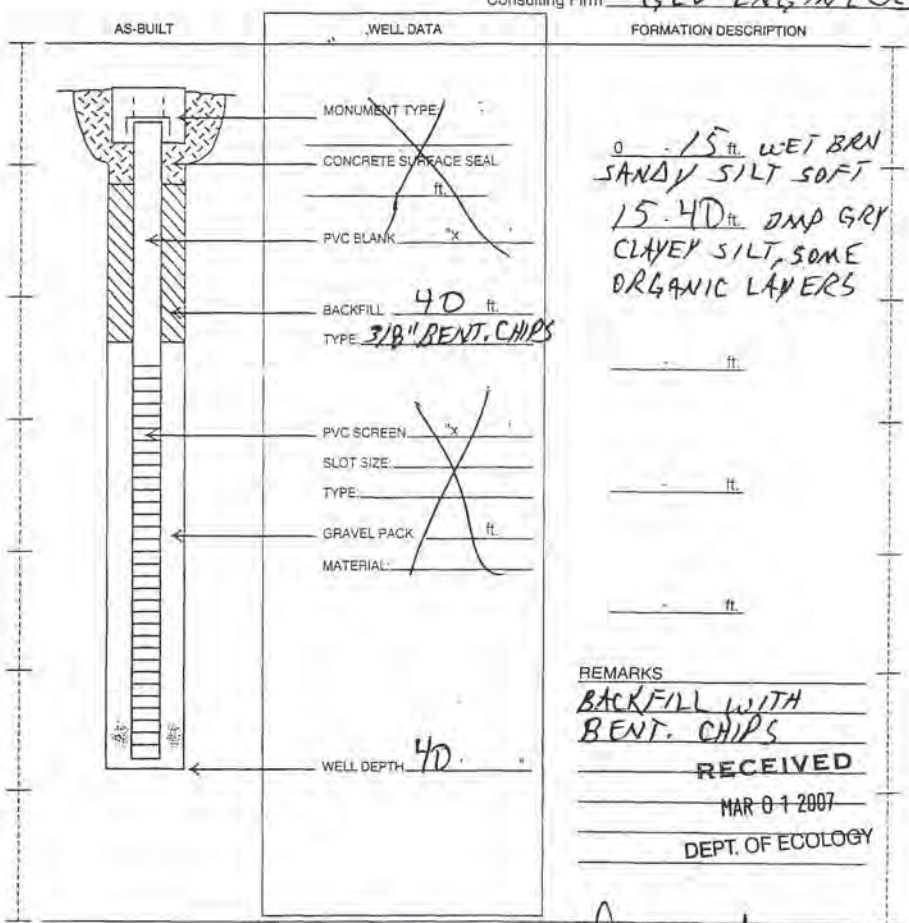
HOLT DRILLING, INC.

Resource Protection Well Report

22-4E-2J

Project Name Kent
 Well Identification # D
 Drilling Method MVD ROTARY
 Driller DYANE STEVENSON
 License # 2795

Date 1-3-7
 County KING, NE 1/4 SE 1/4
 Section 2 T. 22N R. 4E
 Street Address _____
 Start Card S3102B
 Consulting Firm GEC ENGINEERS



Signature Dyane Stevenson

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

257214

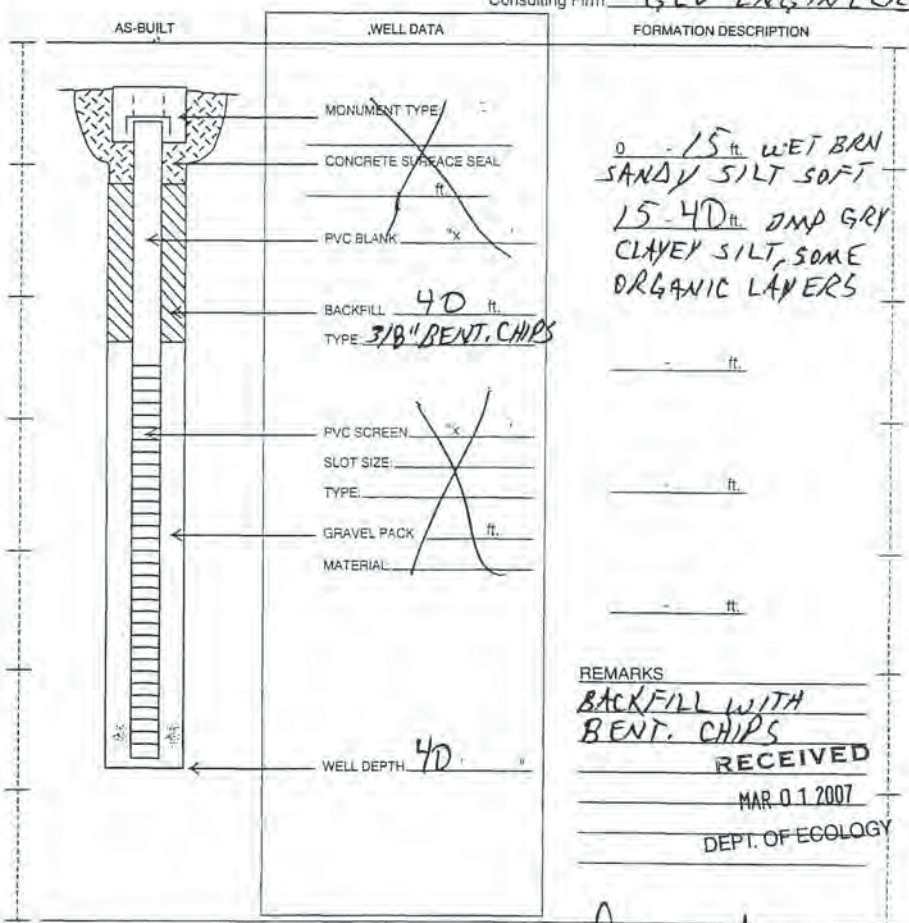
HOLT DRILLING, INC.

Resource Protection Well Report

22-4E-2J

Project Name Kent
 Well Identification # C
 Drilling Method MVD ROTARY
 Driller DYANE STEVENSON
 License # 2795

Date 1-3-7
 County KING, NE 1/4 SE 1/4
 Section 2 T. 22N R. 4E
 Street Address _____
 Start Card S3102B
 Consulting Firm GEC ENGINEERS



Signature Dyane Stevenson

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

257215

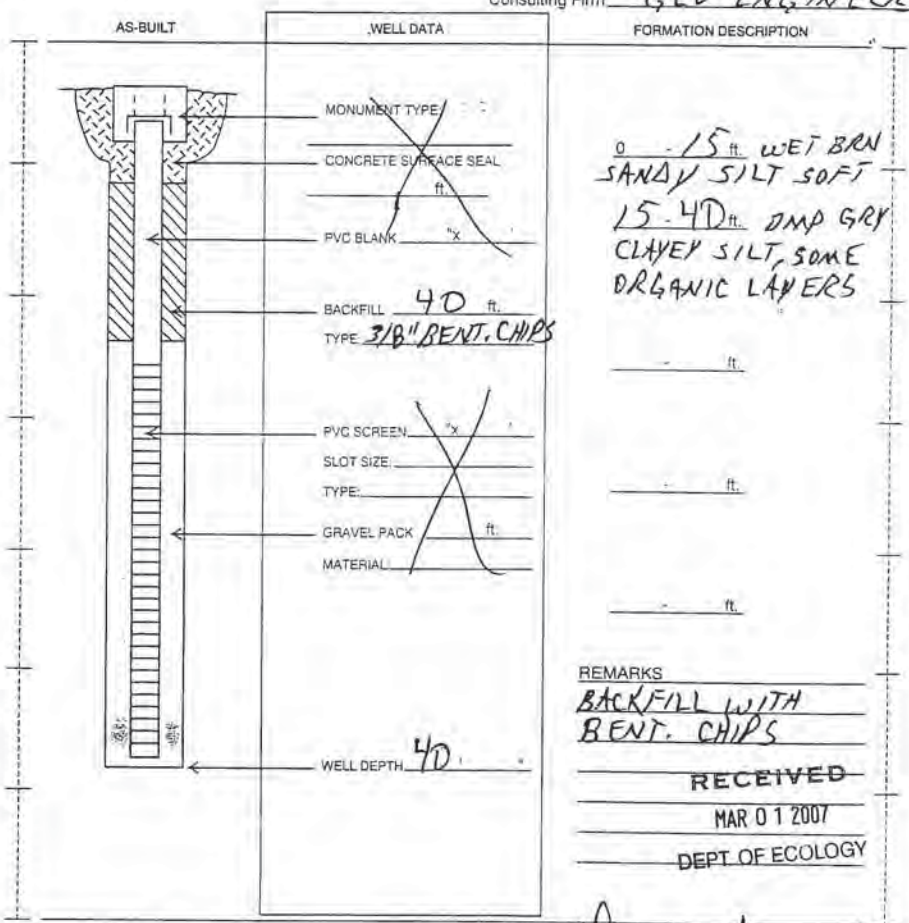
HOLT DRILLING, INC.

22-4E-2J

Resource Protection Well Report

Project Name Kent
 Well Identification # B
 Drilling Method MVD ROTARY
 Driller DYANE STEVENSON
 License # 2795

Date 1-2-7
 County KING, NE 1/4 SE 1/4
 Section 2 T. 22N R. 4E
 Street Address _____
 Start Card S31D2B
 Consulting Firm GED ENGINEERS



Signature Dyane Stevenson

257216

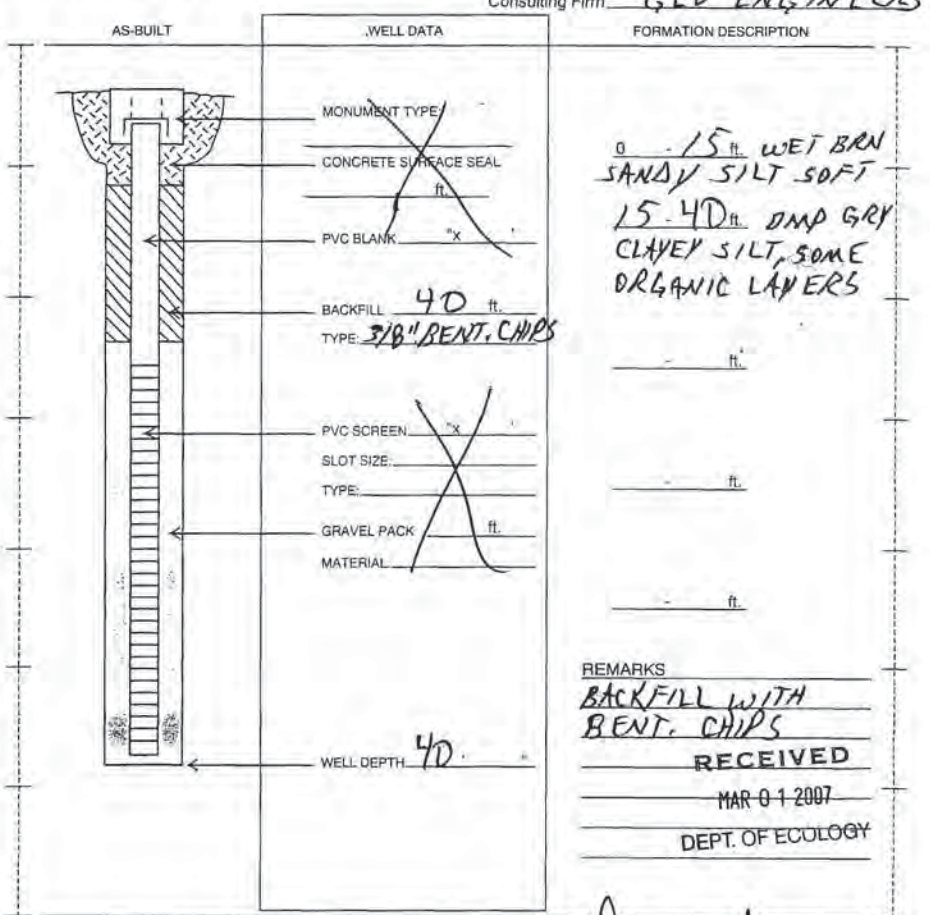
HOLT DRILLING, INC.

22-4E-2J

Resource Protection Well Report

Project Name Kent
 Well Identification # A
 Drilling Method MVD ROTARY
 Driller DYANE STEVENSON
 License # 2795

Date 1-2-7
 County KING, NE 1/4 SE 1/4
 Section 2 T. 22N R. 4E
 Street Address _____
 Start Card S31D2B
 Consulting Firm GED ENGINEERS



Signature Dyane Stevenson

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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

ANDERSON DEWATERING WATER WELL REPORT

START CARD # 076093

File Original and First Copy with
Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

Application No.
Permit No.

(1) OWNER: Name SELEN CONST Address 6300 S 212TH KENT WA
(2) LOCATION OF WELL: County KING - N 1/4 NE 1/4 Sec 11 T22N. R 4E W.M.

Bearing and distance from section or subdivision corner
(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well _____ inches
Drilled _____ ft. Depth of completed well _____ ft.

(6) CONSTRUCTION DETAILS:
Casing installed: " Diam. from _____ ft. to _____ ft.
Threaded " Diam. from _____ ft. to _____ ft.
Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations in. by in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? _____ ft.
Material used in seal _____
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation _____ ft.
Static level _____ ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
------	-------------	------	-------------	------	-------------

Date of test _____
Ballot test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG: ABANDONMENT

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
ABANDONMENT		
1-30ft TEMP		
DEWATERING WELL		
USING LEAN MIX CONCRETE		

RECEIVED
JUL 25 1990
DEPT. OF ECOLOGY

Work started _____ 19____ Completed _____ 19____

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME ANDERSON DEWATERING
(Person, firm, or corporation) (Type or print)
2931-SW 314TH FEDERAL WAY WA 98063
Address

(Signed) John E. Anderson
(Well Driller)

License No. 1521 Date 9-24 1980

(USE ADDITIONAL SHEETS IF NECESSARY)

22/4-11

Start Card # ~~076093~~

ANDERSON DEWATERING WATER WELL REPORT

File Original and First Copy with
Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

Application No.
Permit No.

(1) OWNER: Name SELEN CONST Address 6300 S 212TH KENT WA
(2) LOCATION OF WELL: County KING - N 1/4 NE 1/4 Sec 11 T22N. R 4E W.M.

Bearing and distance from section or subdivision corner
(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well _____ inches
Drilled _____ ft. Depth of completed well _____ ft.

(6) CONSTRUCTION DETAILS:
Casing installed: " Diam. from _____ ft. to _____ ft.
Threaded " Diam. from _____ ft. to _____ ft.
Welded " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations in. by in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? _____ ft.
Material used in seal _____
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation _____ ft.
Static level _____ ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
------	-------------	------	-------------	------	-------------

Date of test _____
Ballot test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
ABANDONED 4EA TEMPORARY		
DEWATERING WELLS USING		
LEAN MIX CONCRETE		
FROM 0-40 FEET		

RECEIVED
JUL 25 1990
DEPT. OF ECOLOGY
WATER WELL REGION

Work started 11-14 1989 Completed 11-14 1989

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME ANDERSON DEWATERING
(Person, firm, or corporation) (Type or print)
PO BOX 3093 FEDERAL WAY WA
Address

(Signed) William H. Anderson
(Well Driller)

License No. 1522 Date NOV 14 1989

(USE ADDITIONAL SHEETS IF NECESSARY)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original with
Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

No. of Intent D 21171

UNIQUE WELL I.D. # _____

Water Right Permit No. _____

(1) OWNER: Name The Amend Group Address 8150 N Central Expressway, Ste 100 Dallas TX 75206
 (2) LOCATION OF WELL: County King NW 1/4 SW 1/4 Sec 1 T22N R4E WM
 (2a) STREET ADDRESS OF WELL: (or nearest address) NEC of S 204th Street & SR-181, Kent
 TAX PARCEL NO.: 22-4E-1M

(3) PROPOSED USE: Domestic Industrial Municipal Other
 Irrigation Test Well
 DeWater
 (4) TYPE OF WORK: Owner's number of well (if more than one) 3
 New Well Method: Dig Drilling
 Reconditioned Cable Drilling
 Decommission Sealing

(5) DIMENSIONS: Diameter of well 36 inches
 Drilled 30 feet. Depth of completed well 30 ft.

(8) CONSTRUCTION DETAILS
 Casing installed: Welded Diam. from _____ ft. to _____ ft.
 Liner installed Diam. from 10 ft. to 30 ft.
 Threaded Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 perforations from _____ ft. to _____ ft.

Screens: Yes No K-Pac Location
 Manufacturer's Name PVC
 Type PVC Model No. _____
 Diam. 10 Slot Size 30 from 10 ft. to 30 ft.
 Diam. _____ Slot Size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: Yes No Size of gravel/sand 3/8 in
 Material placed from 5 ft. to 30 ft.

Surface seal: Yes No To what depth? 5 ft.
 Material used in seal Native Clay
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
 Static level 8.5 ft. below top of well Date 5/19
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (Cap. valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
 Time _____ Water Level _____ Time _____ Water Level _____
 Date of test _____
 Bailor test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Arrest _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION
 Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least 10' for each change of information. Indicate all water encountered.

MATERIAL	FROM	TO
ROAD PACK	0	3
Silty Clays	3	15
Black Sands	15	24
Blue Clays	24	30

Work Started 5:15 00 Completed 5:22 00

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Dev Whisenand License No. 2098
 (Licensed Driller/Engineer)

Trainer Name _____ License No. _____
 Drilling Company SLEAD CONSTRUCTION, INC.
 (Signed) Dev Whisenand License No. 2098
 (Licensed Driller/Engineer)
 Address 9021 Waller Road E, Tacoma, WA
98446-2531
 Contractor's Registration No. SLEADC*325RO Date 4/4/00

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (360) 407-6800. The TDD number is (360) 407-6006.

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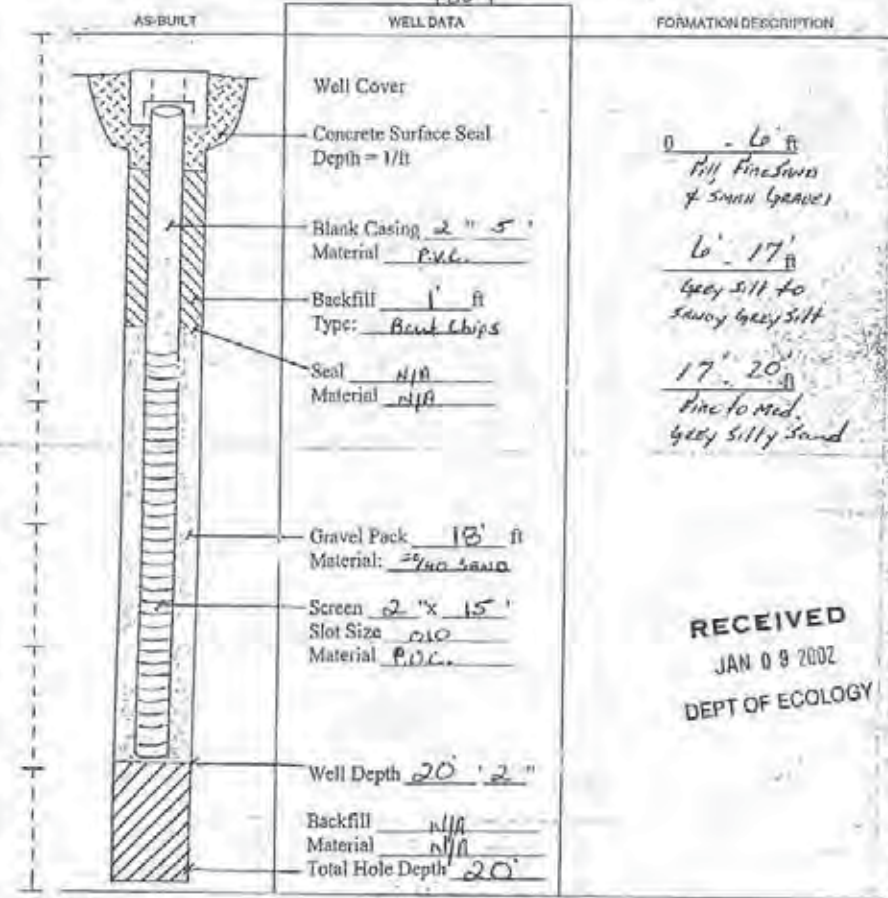
106344

22-4E-25

RESOURCE PROTECTION WELL REPORT

Client Well # _____
 Project Name: Being Space Center
 State Identification # ABR677
 Drilling Method: HSA
 Driller: James Loble
 Firm: Cascade Drilling, Inc.
 Signature: James Loble
 Consulting Firm: Lendau
 Representative: Brian Christiansen

Start Card # R 58291
 County: 17 - King
 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Street Address of Well: 2043 16th AVE S, Kent WA
 Water Level Elevation: _____
 Ground Surface Elevation: N/A
 Date Installed: 12/19/01
 Date Developed: 12/20/01



SCALE: 1" = _____ PAGE _____ OF _____
 ECY 050-12 (Rev. 11/98)

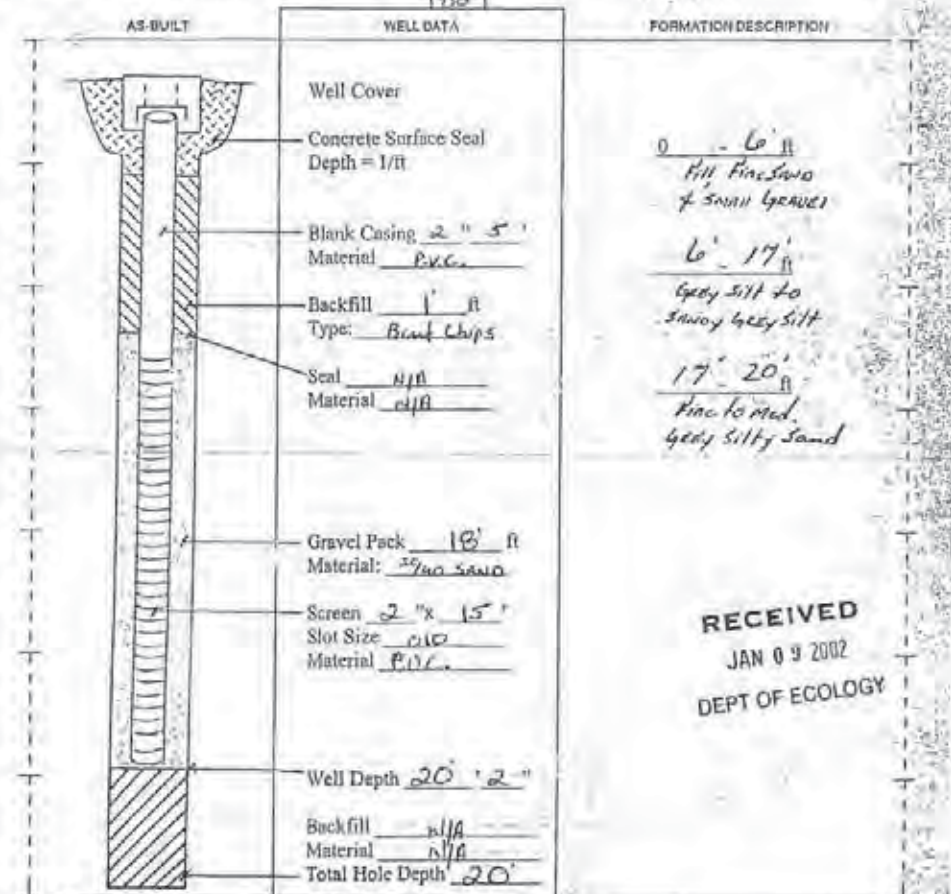
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 DEPT OF ECOLOGY

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106815
RESOURCE PROTECTION WELL REPORT

22-4E-2J

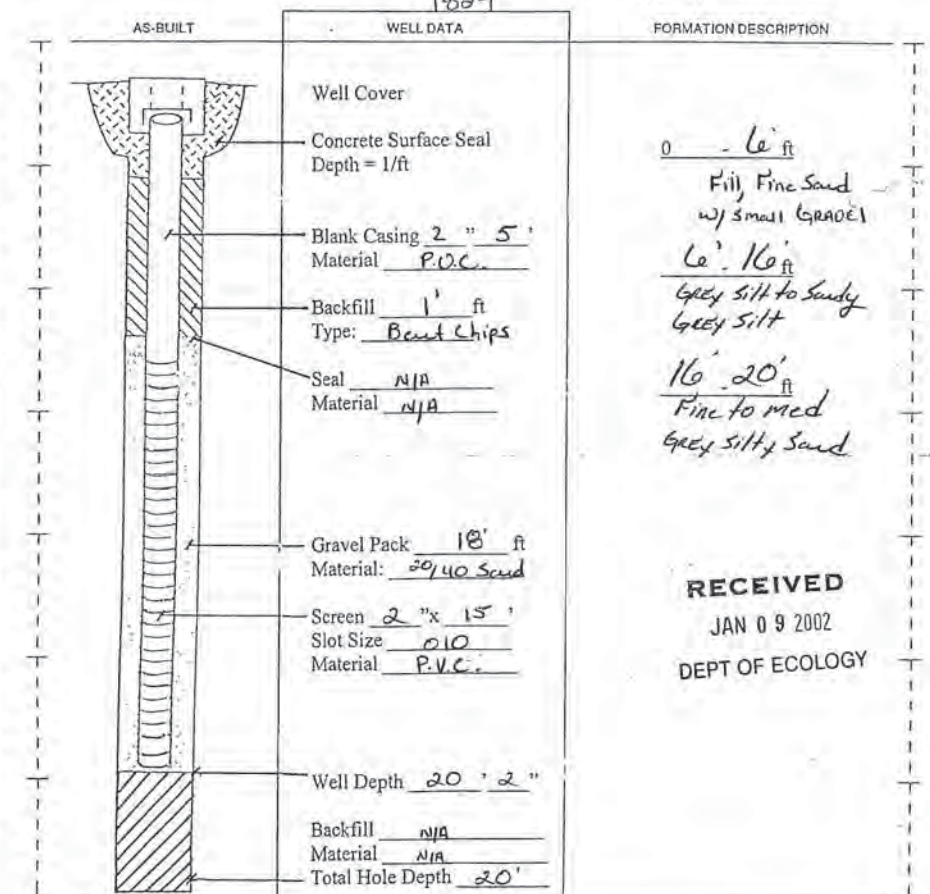
Client Well # _____ Start Card # R 58291
 Project Name: Boring Space Center County: 17-King
 State Identification # ABR 678 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HSR Street Address of Well: _____
 Driller: James Silvala 26403 109th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/19/01
 Representative: Brian Christensen Date Developed: 12/20/01



106846
RESOURCE PROTECTION WELL REPORT

22-4E-2J

Client Well # _____ Start Card # R 58291
 Project Name: Boring Space Center County: 17-King
 State Identification # ABR 679 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HSR Street Address of Well: _____
 Driller: James Silvala 26403 109th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/20/01
 Representative: Brian Christensen Date Developed: 12/21/01



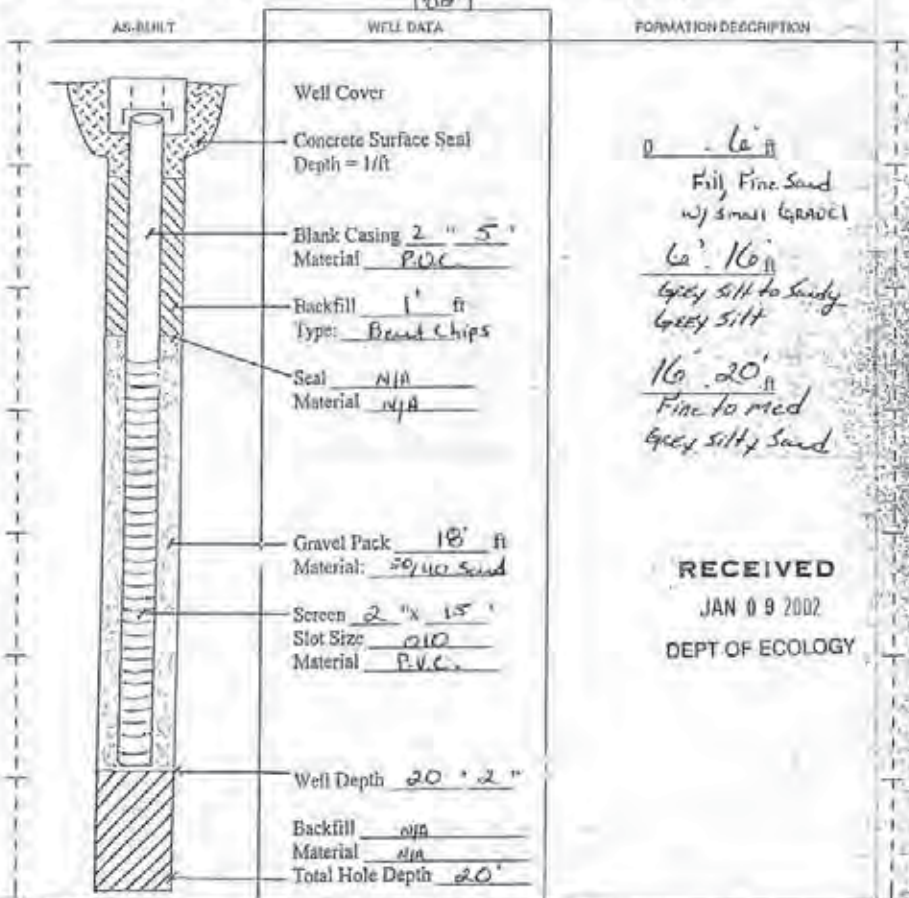
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106847
RESOURCE PROTECTION WELL REPORT 22-4E-2J

Client Well # _____ Start Card # R 58291
 Project Name: Boring Space center County: 17 - King
 State Identification # ABR 680 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HSA Street Address of Well: _____
 Driller: James S. Loble 20403 W 5th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/20/01
 Representative: Bryan Christensen Date Developed: 12/21/01

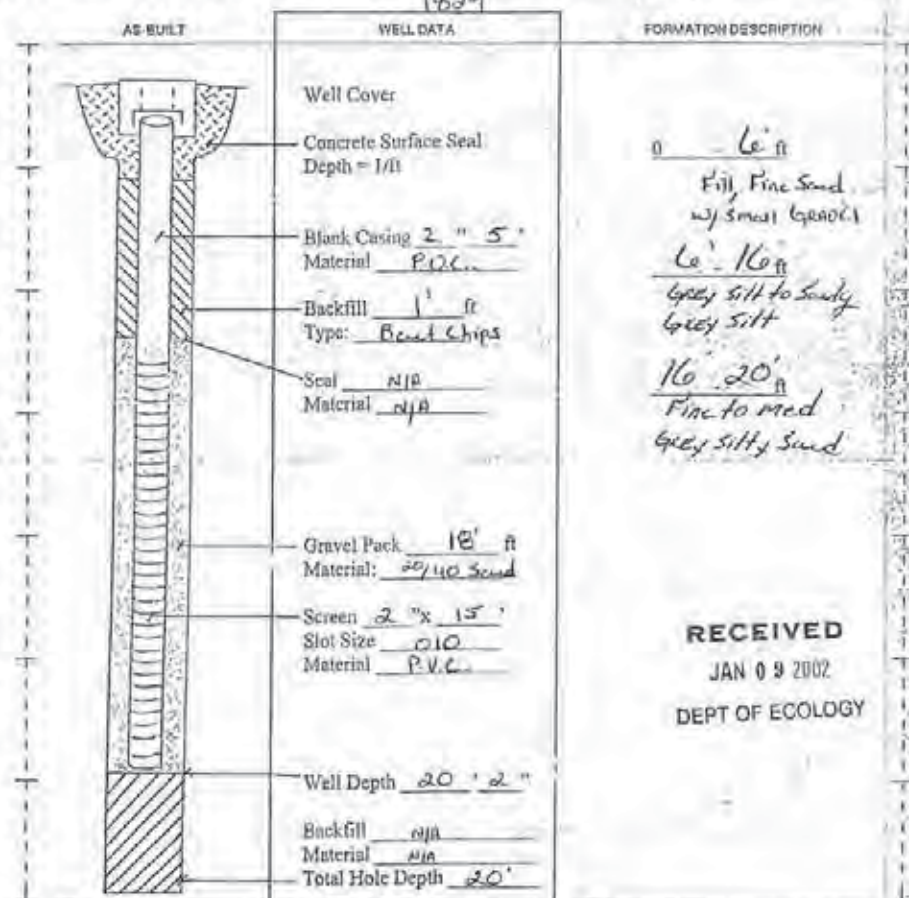


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106848
RESOURCE PROTECTION WELL REPORT 22-4E-2J

Client Well # _____ Start Card # R 58291
 Project Name: Boring Space center County: 17 - King
 State Identification # ABR 681 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HSA Street Address of Well: _____
 Driller: James S. Loble 20403 W 5th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/20/01
 Representative: Bryan Christensen Date Developed: 12/21/01



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 DEPT OF ECOLOGY

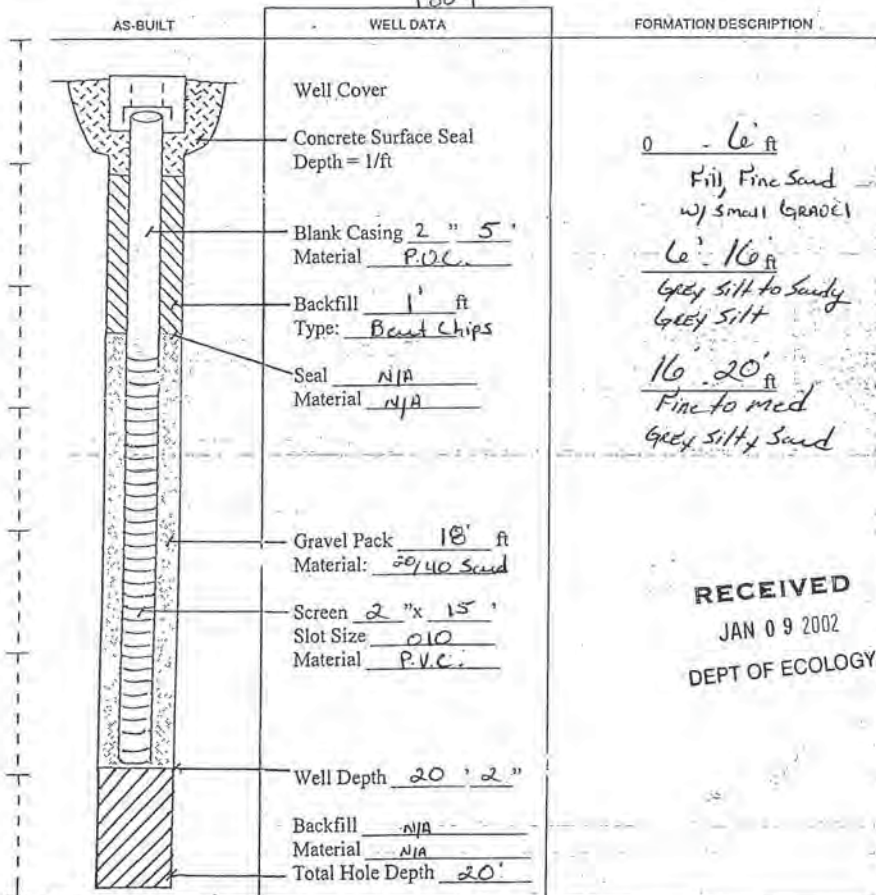
The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

106849
RESOURCE PROTECTION WELL REPORT

22-4E-2J

Client Well # _____ Start Card # R 58291
 Project Name: Boeing Space Center County: 17-King
 State Identification # ABR-682 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HSA Street Address of Well: _____
 Driller: James Goble 26403 68th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/20/01
 Representative: Brian Christiansen Date Developed: 12/21/01

1829



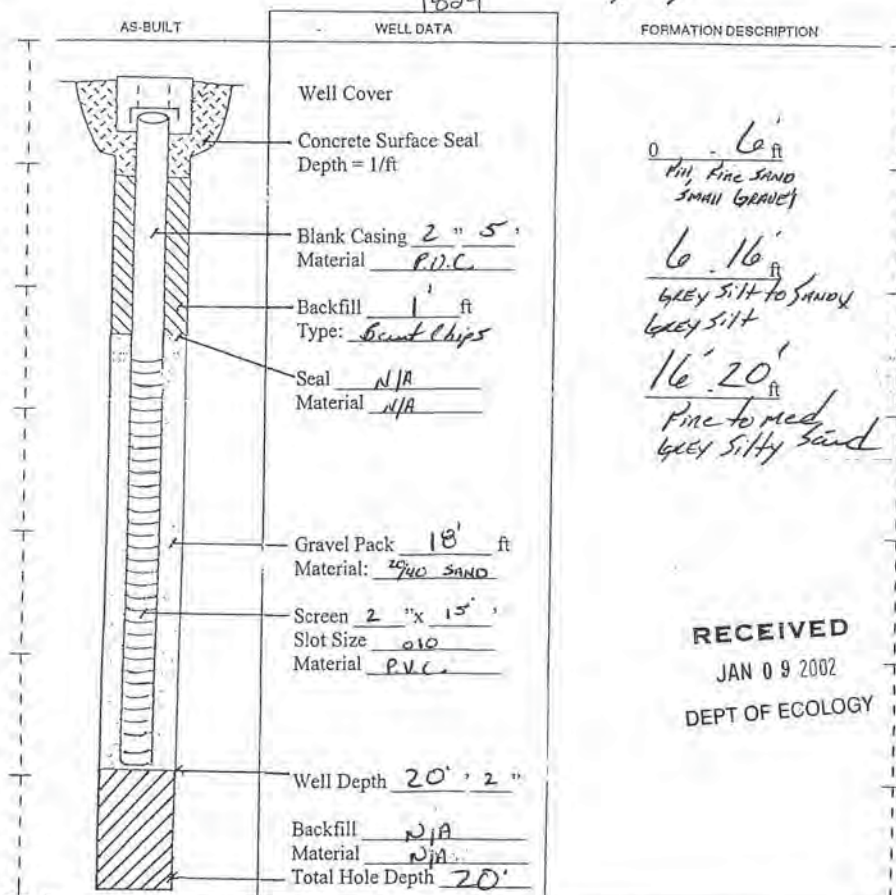
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DEPT OF ECOLOGY

106850
RESOURCE PROTECTION WELL REPORT

22-4E-2J

Client Well # _____ Start Card # R 58291
 Project Name: Boeing Space Center County: 17-King
 State Identification # ABR-683 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HSA Street Address of Well: _____
 Driller: James Goble 26403 68th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/21/01
 Representative: Brian Christiansen Date Developed: 12/21/01

1829



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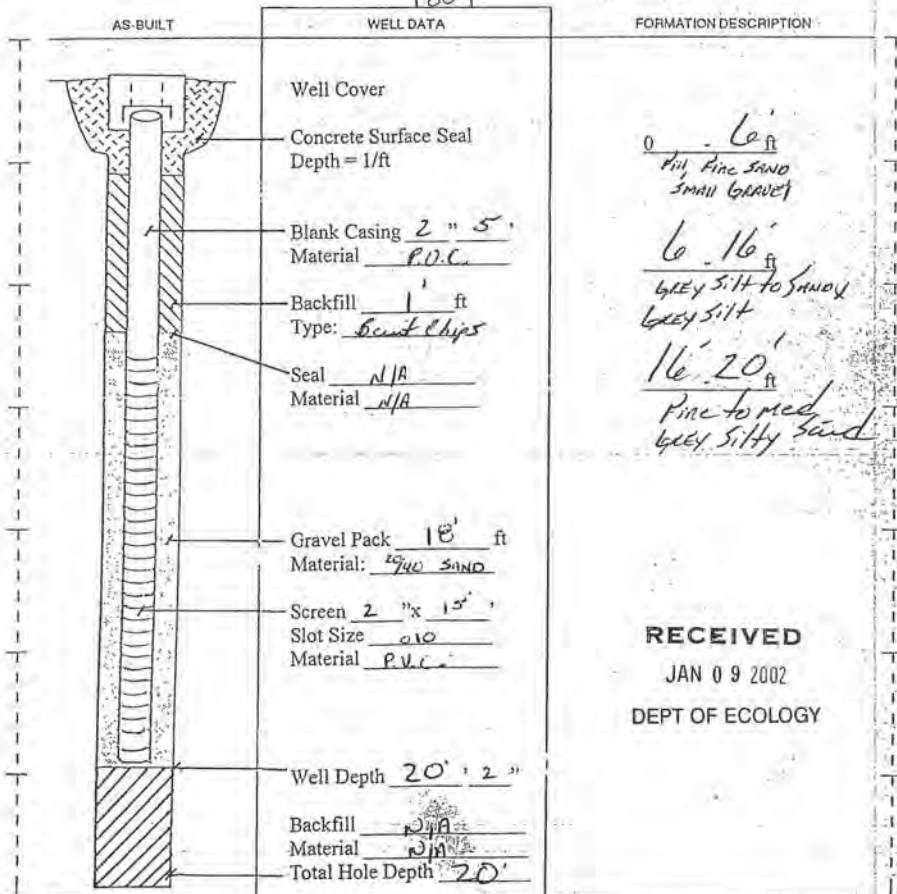
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

106851
RESOURCE PROTECTION WELL REPORT

22-4E-2J

Client Well # _____ Start Card # R 58291
 Project Name: Boring Space Center County: 17 - King
 State Identification # ABR 684 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HS/A Street Address of Well: _____
 Driller: James Goble 20403 68th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/21/01
 Representative: Brian Christensen Date Developed: 12/21/01
 1929



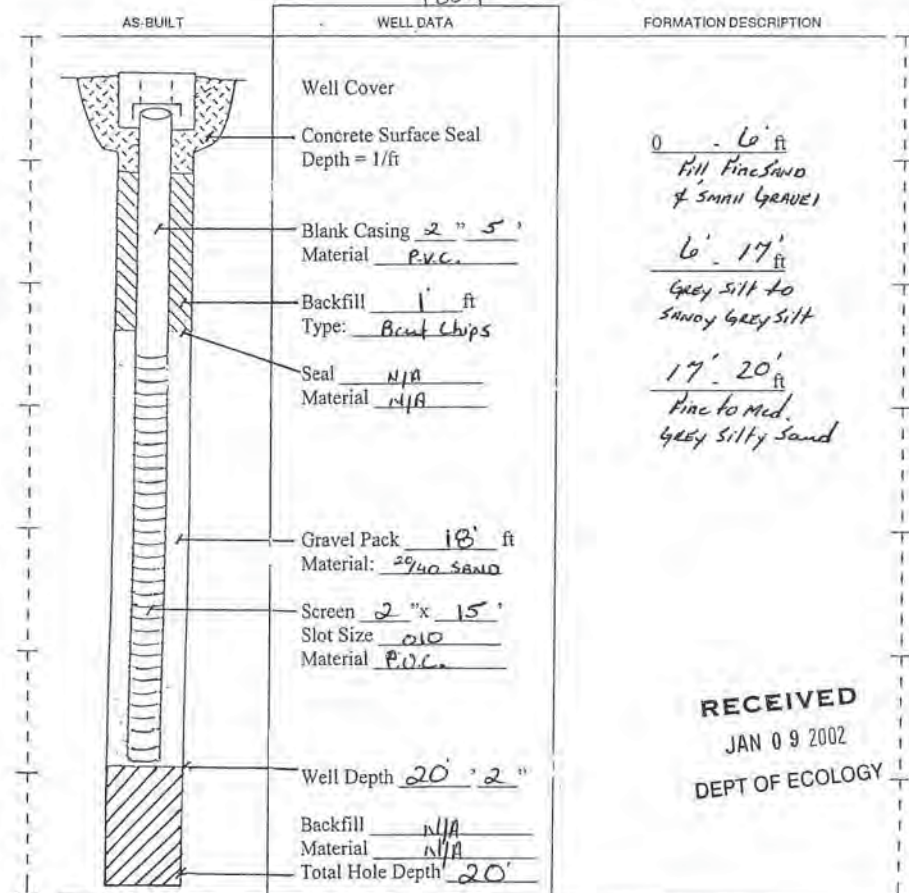
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DEPT OF ECOLOGY

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

106843
RESOURCE PROTECTION WELL REPORT

22-4E-2J

Client Well # _____ Start Card # R 58291
 Project Name: Boring Space Center County: 17 - King
 State Identification # ABR 676 Location: NE 1/4 SE 1/4 Sec 2 Twn 22N R 4E
 Drilling Method: HS/A Street Address of Well: _____
 Driller: James Goble 20403 68th AVE S, Kent WA
 Firm: Cascade Drilling, Inc. Water Level Elevation: _____
 Signature: _____ Ground Surface Elevation: N/A
 Consulting Firm: Landau Date Installed: 12/19/01
 Representative: Brian Christensen Date Developed: 12/20/01
 1929



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DEPT OF ECOLOGY

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)
 Construction 170248
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm KANE Enviro.
 Unique Ecology Well ID
 Tag No: N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Chandleby
 Driller/Engineer/Trainee Signature Kevin Chandleby
 Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no.

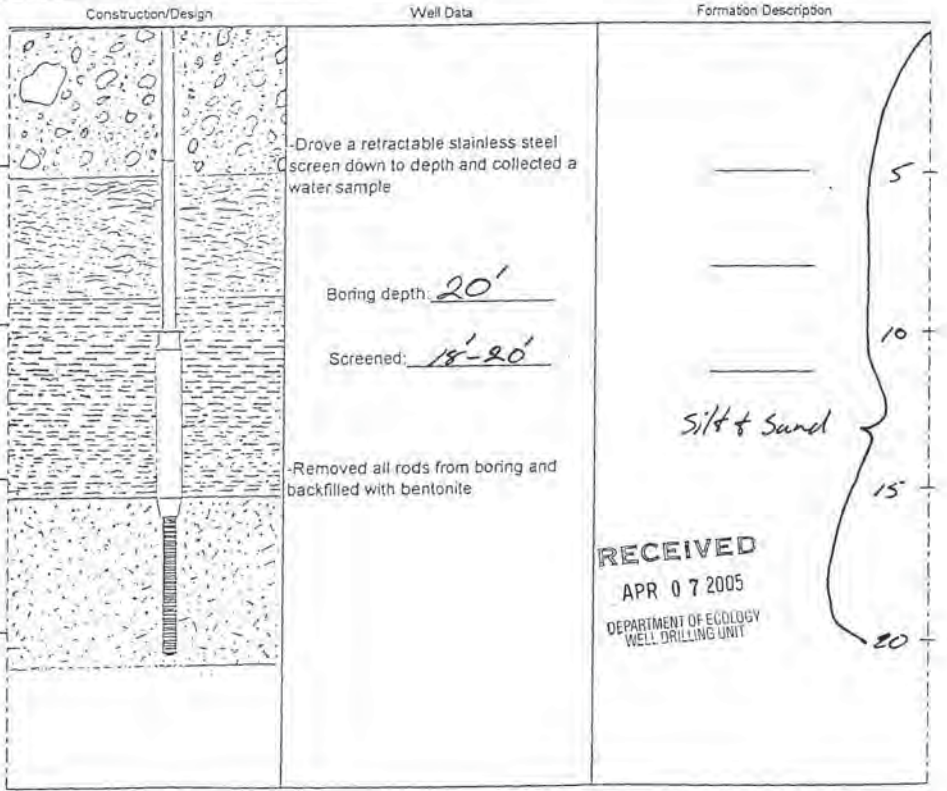
CURRENT Notice of Intent No. E005161

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner The Boeing Co.
 Site Address 20463 68th Ave S.
 City Kent County: King
 Location SE 1/4 SE 1/4 Sec 2 Twp 22N R 4 EWM WWM

Lat/Long (s. t. r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 10'
 Work/Decommission Start Date 12/22/04
 Work/Decommission Completed Date 12/22/04



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 DEPARTMENT OF ECOLOGY
 WELL DRILLING UNIT

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)
 Construction 170249
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm KANE Enviro.
 Unique Ecology Well ID
 Tag No: N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Chandleby
 Driller/Engineer/Trainee Signature Kevin Chandleby
 Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no.

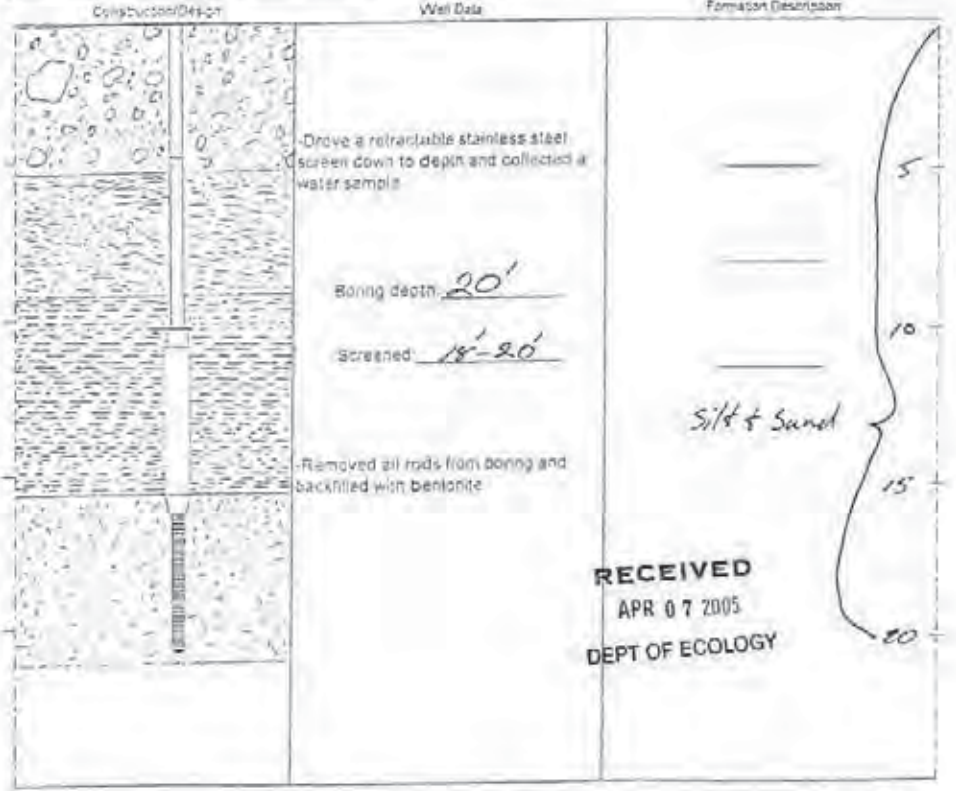
Notice of Intent No. E005161

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner The Boeing Co.
 Site Address 20463 68th Ave S.
 City Kent County: King
 Location SE 1/4 SE 1/4 Sec 2 Twp 22N R 4 EWM WWM

Lat/Long (s. t. r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 10'
 Work/Decommission Start Date 12/22/04
 Work/Decommission Completed Date 12/22/04



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 DEPT OF ECOLOGY

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The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E005161

Construction/Decommission ("x" in circle)
 Construction 170250
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID _____
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20403 68th Ave S.
City Kent County: King
Location SE 1/4 Sec 2 Twp 22N R 4 EWN circle
or one WWM

Lat/Long (s. t. r. still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10'

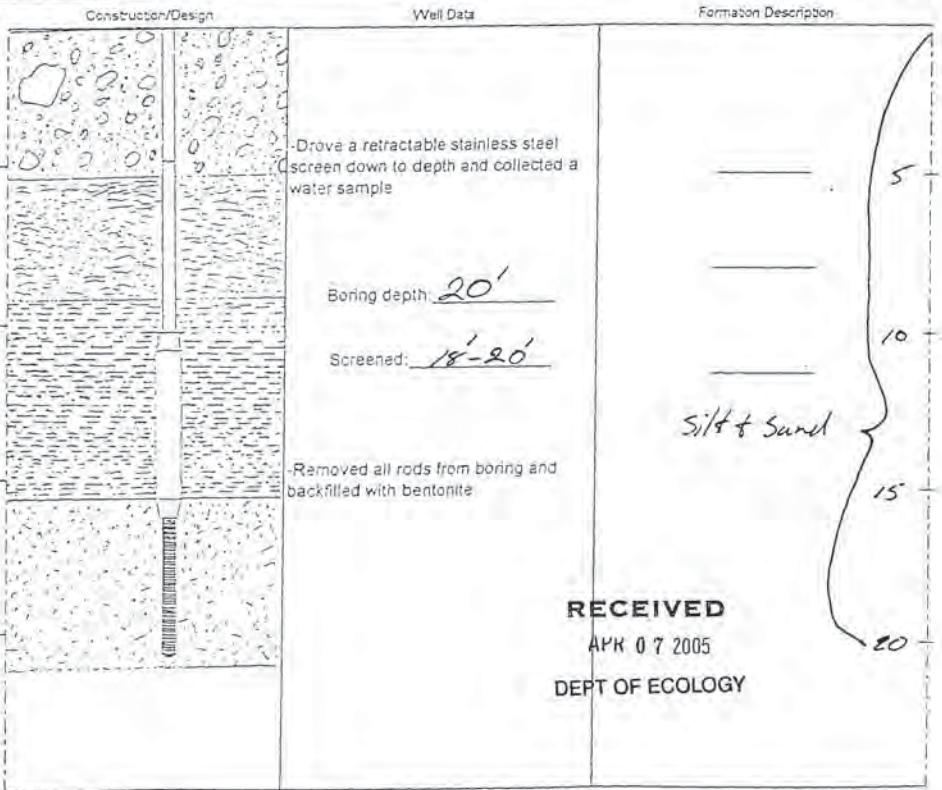
Work/Decommission Start Date 12/22/04

Work/Decommission Completed Date 12/22/04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Landisley
Driller/Engineer/Trainee Signature Kevin Landisley
Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____



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DEPT OF ECOLOGY

RESOURCE PROTECTION WELL REPORT (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E005161

Construction/Decommission ("x" in circle)
 Construction 170251
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID _____
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20403 68th Ave S.
City Kent County: King
Location SE 1/4 Sec 2 Twp 22N R 4 EWN circle
or one WWM

Lat/Long (s. t. r. still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10'

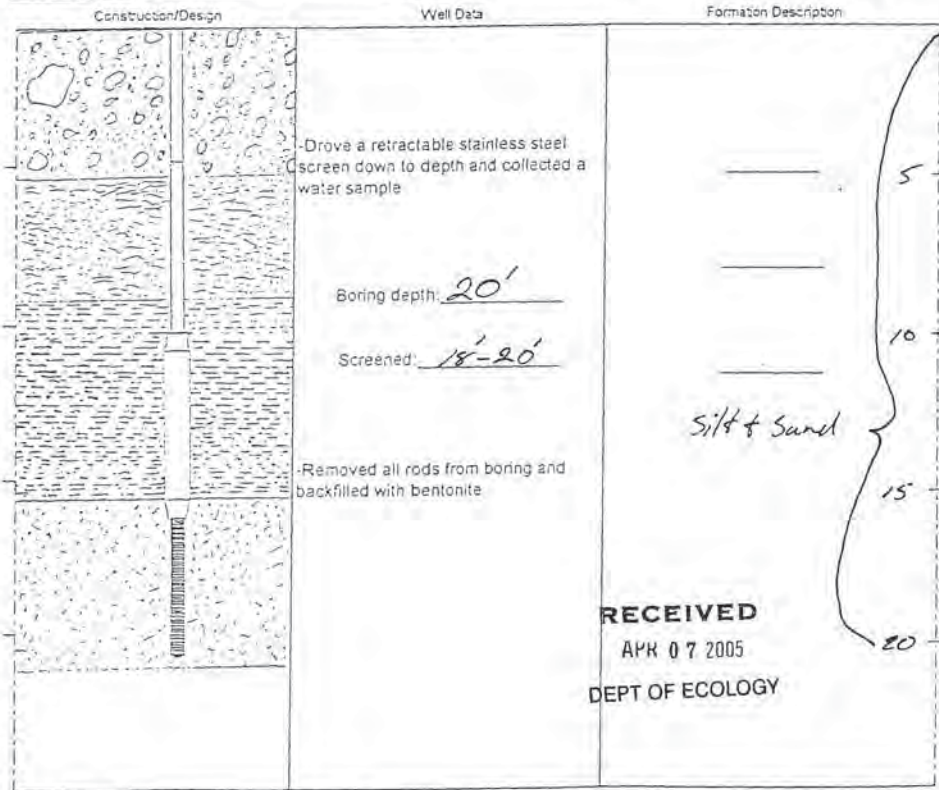
Work/Decommission Start Date 12/22/04

Work/Decommission Completed Date 12/22/04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Landisley
Driller/Engineer/Trainee Signature Kevin Landisley
Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____



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DEPT OF ECOLOGY

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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E005161

Construction/Decommission ("x" in circle)
 Construction 170252
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID _____
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20463 68th Ave S.
City Kent County: King
Location SE 1/4 5th 1/2 Sec 2 Twp 22N R 4 EWM or WWM

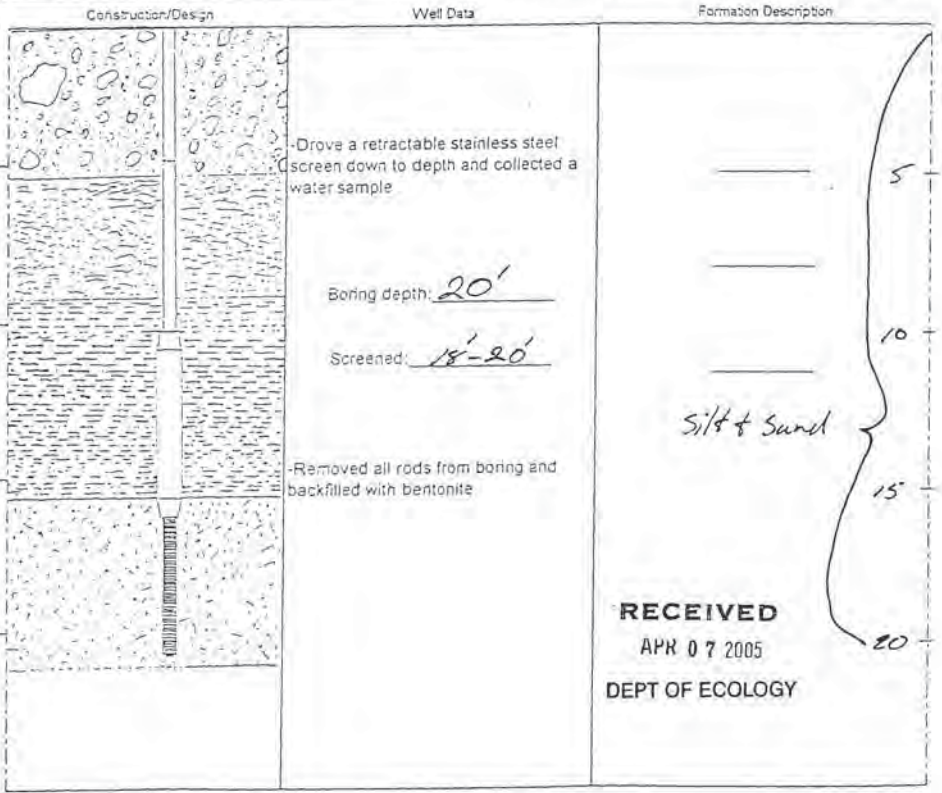
Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Landishey
Driller/Engineer/Trainee Signature [Signature]
Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____



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APR 07 2005
DEPT OF ECOLOGY

RESOURCE PROTECTION WELL REPORT (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E005161

Construction/Decommission ("x" in circle)
 Construction 170253
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID _____
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20463 68th Ave S.
City Kent County: King
Location SE 1/4 5th 1/2 Sec 2 Twp 22N R 4 EWM or WWM

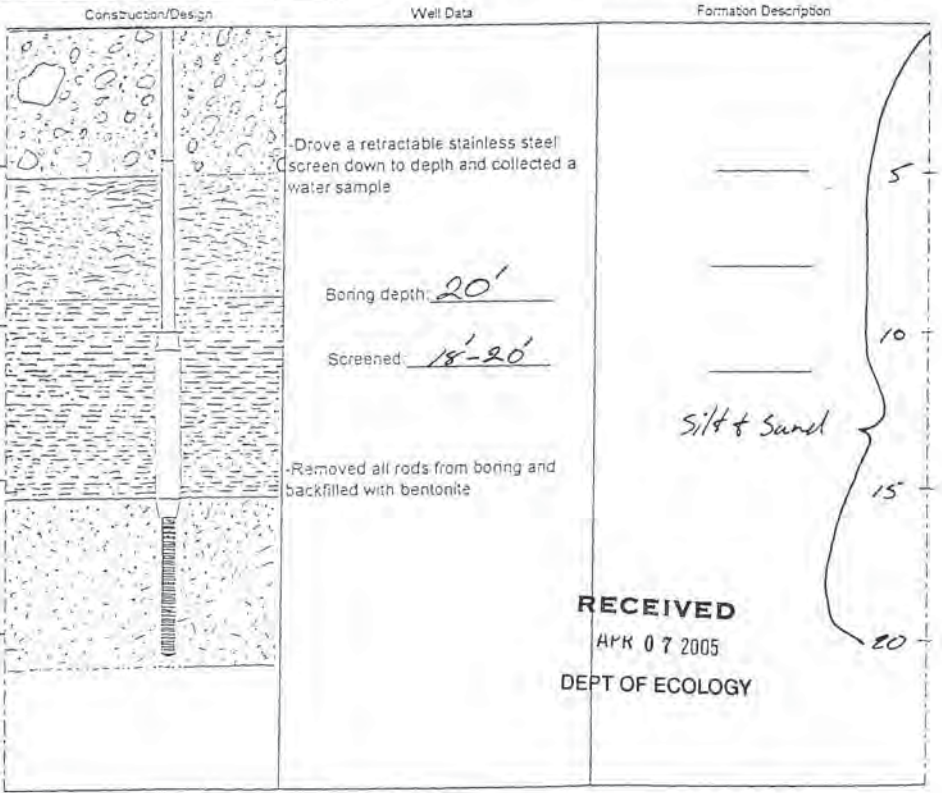
Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Landishey
Driller/Engineer/Trainee Signature [Signature]
Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E005164

Construction/Decommission ("x" in circle)
 Construction 170254
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID _____
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20403 68th Ave S.
City Kent County: King
Location SE 1/4 SE 1/4 Sec 2 Twp 22N R 4 EWN circle of one WWM

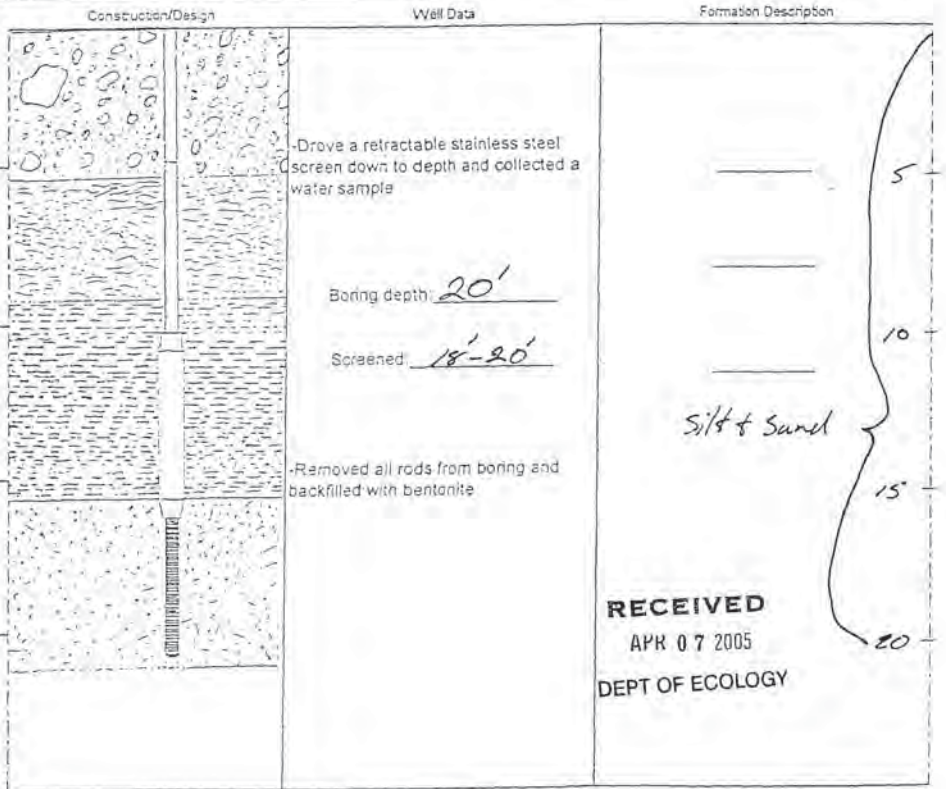
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Handley
Driller/Engineer/Trainee Signature Kevin Handley
Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Notice of Intent No. E005164

Construction/Decommission ("x" in circle)
 Construction 170255
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID _____
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20403 68th Ave S.
City Kent County: King
Location SE 1/4 SE 1/4 Sec 2 Twp 22N R 4 EWN circle of one WWM

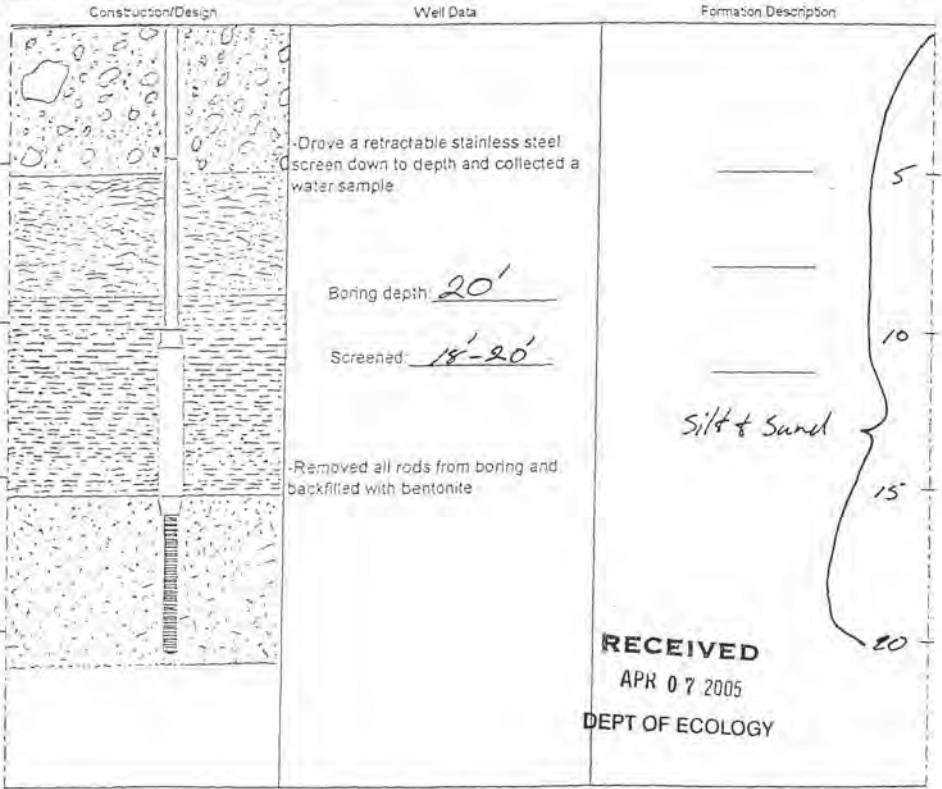
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Handley
Driller/Engineer/Trainee Signature Kevin Handley
Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____



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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. A 72713

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)
 Construction
 Decommission 170256

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
 Unique Ecology Well ID N/A
 Tag No: N/A

Property Owner The Boing Co.
 Site Address 20403 68th Ave S.
 City Kent County: King
 Location SE 1/4 Sec 2 Twp 22N R 9 WWM

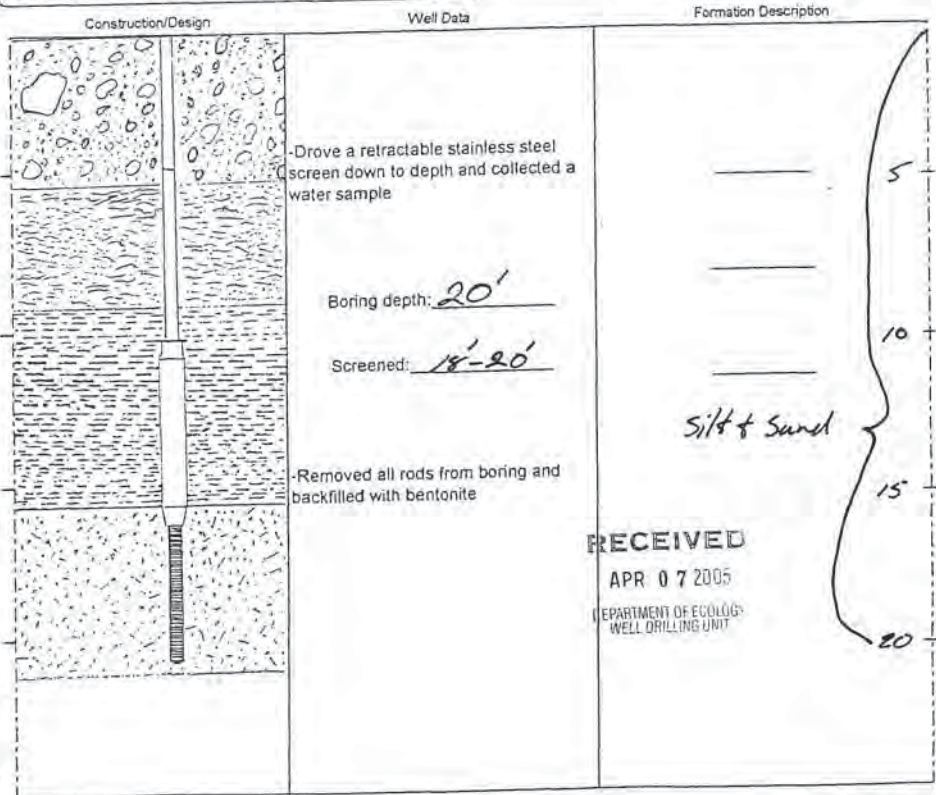
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Driller Engineer Trainee Name (Print) Kevin Vandenberg
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 2642

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 10'
 Work/Decommission Start Date 12/22/04
 Work/Decommission Completed Date 12/22/04

If trainee, licensed driller's Signature and License no. _____



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 WELL DRILLING UNIT

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. A 72713

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)
 Construction
 Decommission 170257

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
 Unique Ecology Well ID N/A
 Tag No: _____

Property Owner The Boing Co.
 Site Address 20403 68th Ave S.
 City Kent County: King
 Location SE 1/4 Sec 2 Twp 22N R 9 WWM

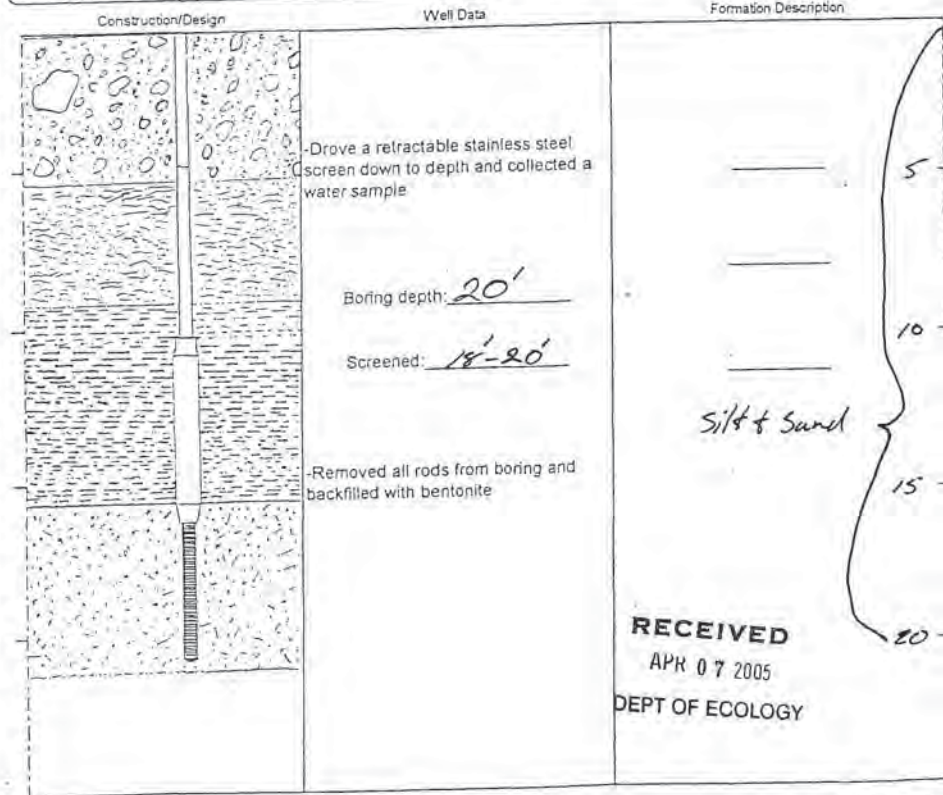
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Driller Engineer Trainee Name (Print) Kevin Vandenberg
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 2642

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 10'
 Work/Decommission Start Date 12/22/04
 Work/Decommission Completed Date 12/22/04

If trainee, licensed driller's Signature and License no. _____



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. A 72713

Construction/Decommission ("x" in circle) 170258
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number E005164

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20463 68th Ave S.
City Kent County: King
Location SE 1/4 SE 1/4 Sec 2 Twn 22N R 4 EWM circle WWM one

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____ still REQUIRED) Long Deg _____ Long Min/Sec _____

Driller Engineer Trainee Name (Print) Kevin Chaudhry
Driller/Engineer/Trainee Signature Kevin Chaudhry
Driller or Trainee License No. 2642

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

If trainee, licensed driller's Signature and License no. _____

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. A 72713

Construction/Decommission ("x" in circle) 170259
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number E005164

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20463 68th Ave S.
City Kent County: King
Location SE 1/4 SE 1/4 Sec 2 Twn 22N R 4 EWM circle WWM one

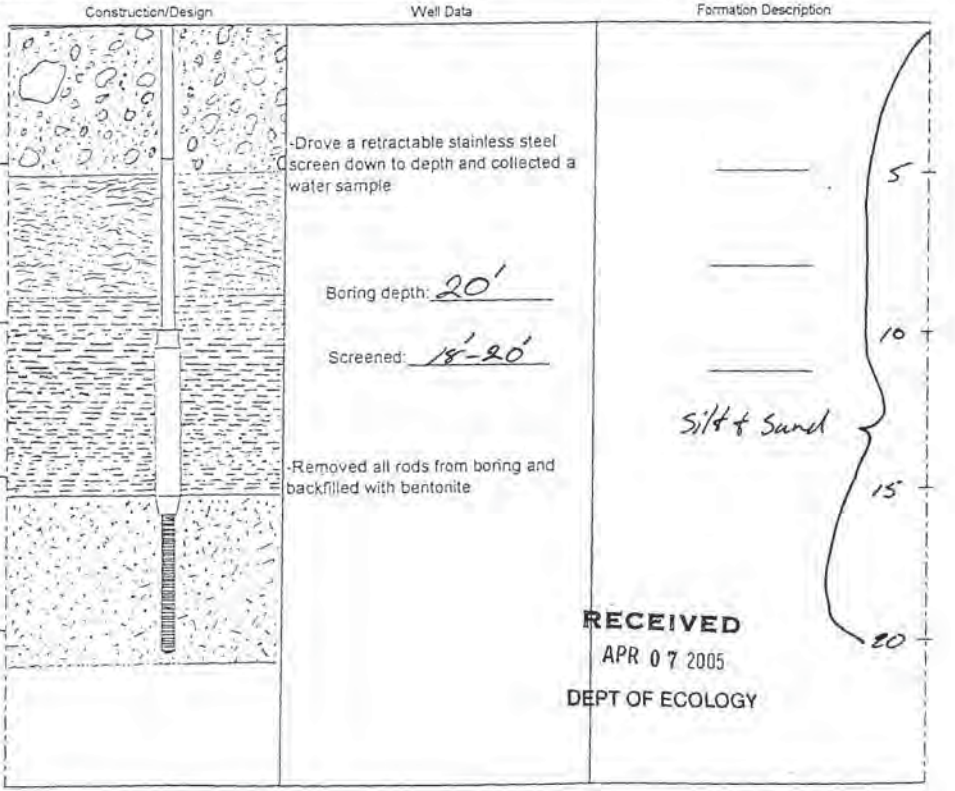
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____ still REQUIRED) Long Deg _____ Long Min/Sec _____

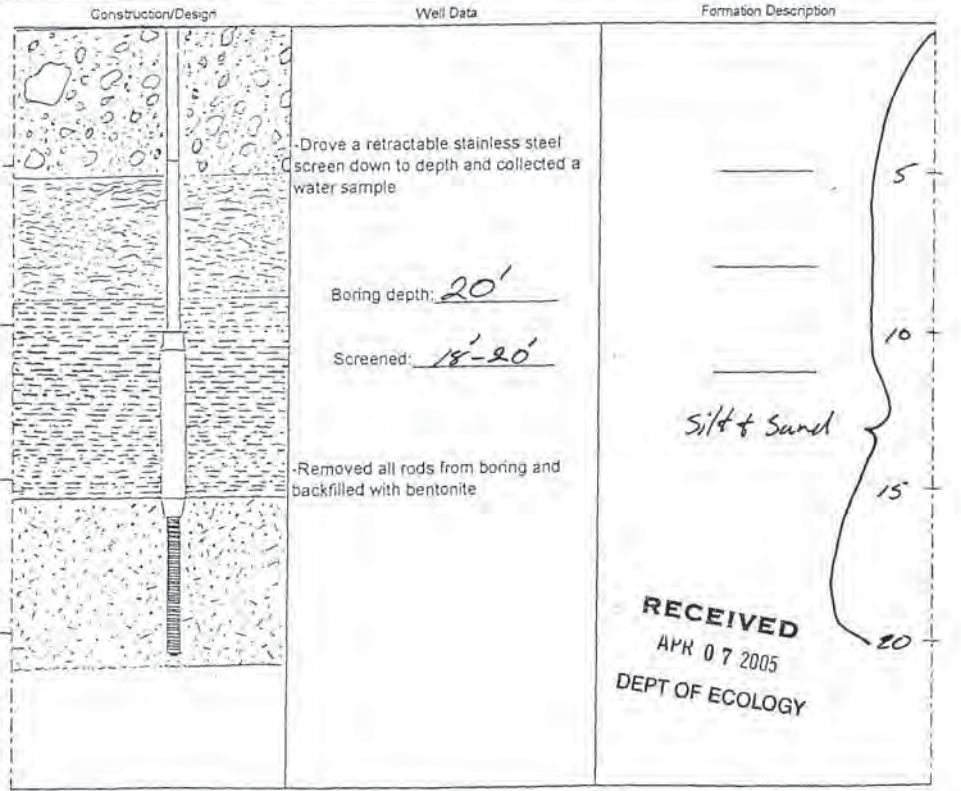
Driller Engineer Trainee Name (Print) Kevin Chaudhry
Driller/Engineer/Trainee Signature Kevin Chaudhry
Driller or Trainee License No. 2642

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

If trainee, licensed driller's Signature and License no. _____



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)

Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number EO05164 170260

Consulting Firm KANE Enviro.

Unique Ecology Well ID
 Tag No: N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Chardley
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____

CURRENT Notice of Intent No. A 72713

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Property Owner The Boeing Co.

Site Address 20463 68th Ave S.

City Kent County: King

Location SE 1/4 SE 1/4 Sec 2 Twp 22N R 4 EWN circle
of one WWM

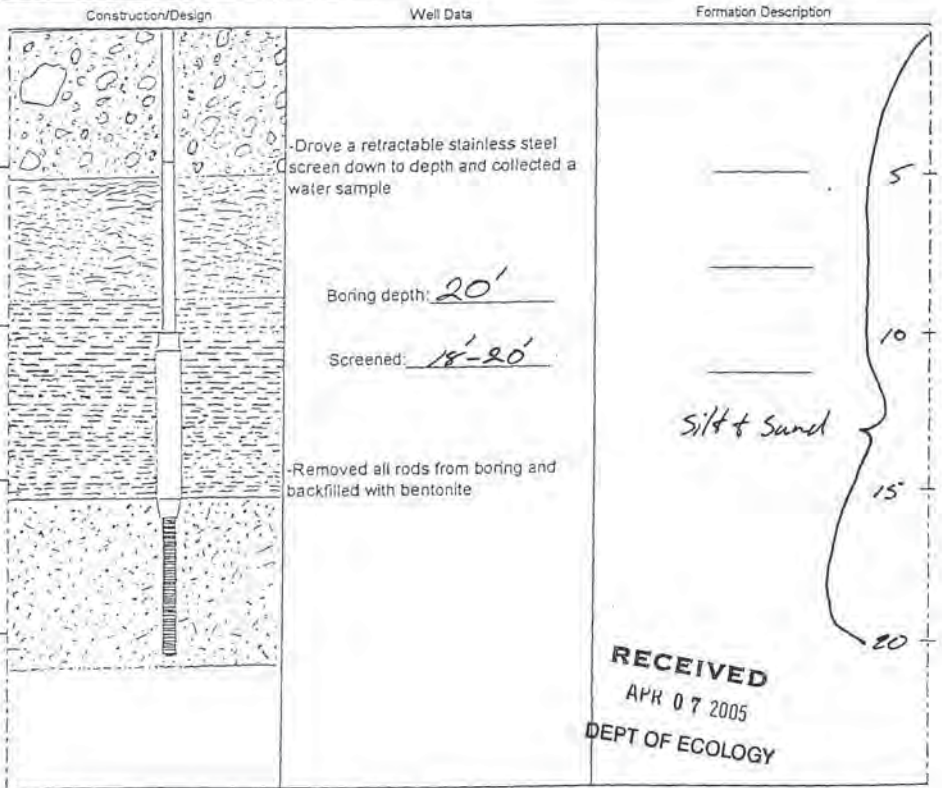
Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10'

Work/Decommission Start Date 12/22/01

Work/Decommission Completed Date 12/22/01



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)

Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number EO05164 170261

Consulting Firm KANE Enviro.

Unique Ecology Well ID
 Tag No: N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Kevin Chardley
 Driller/Engineer/Trainee Signature [Signature]
 Driller or Trainee License No. 2642

If trainee, licensed driller's Signature and License no. _____

CURRENT Notice of Intent No. A 72713

Type of Well ("x" in circle)

Resource Protection
 Geotech Soil Boring

Property Owner The Boeing Co.

Site Address 20463 68th Ave S.

City Kent County: King

Location SE 1/4 SE 1/4 Sec 2 Twp 22N R 4 EWN circle
of one WWM

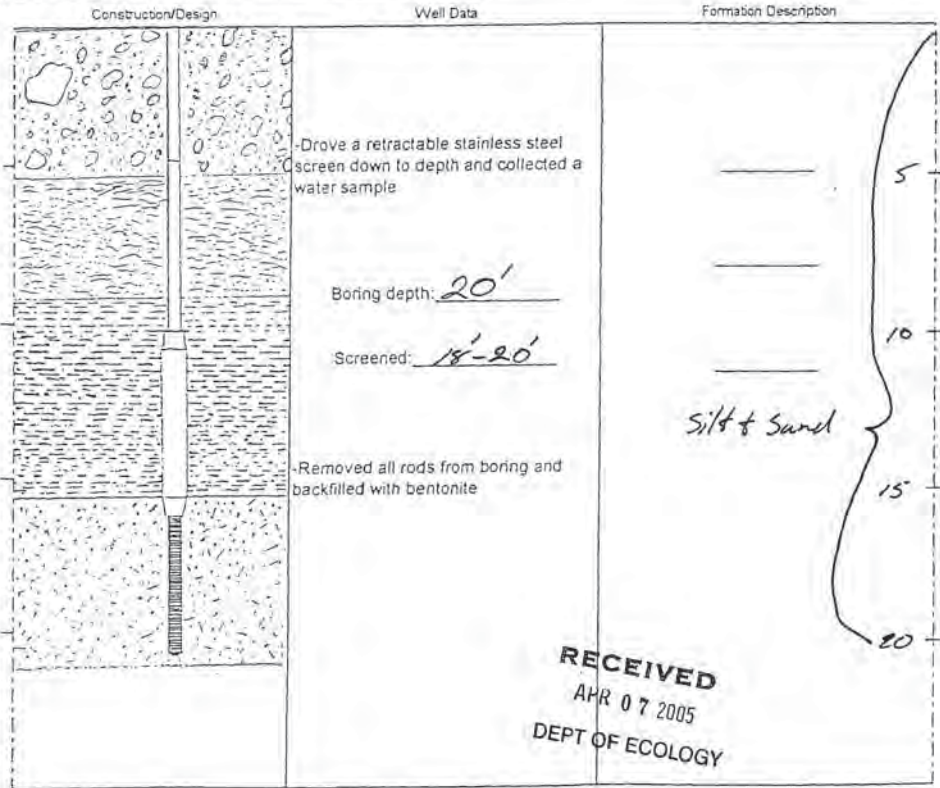
Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10'

Work/Decommission Start Date 12/22/01

Work/Decommission Completed Date 12/22/01



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RESOURCE PROTECTION WELL REPORT I

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURREN Notice of Intent No. A 72713

Construction/Decommission ("x" in circle)
 Construction
 Decommission 170262
ORIGINAL INSTALLATION Notice of Intent Number E005164

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20463 68th Ave S.
City Kent County: King
Location SE 1/4 Sec 2 Twp 22N R 4 EWN WWM

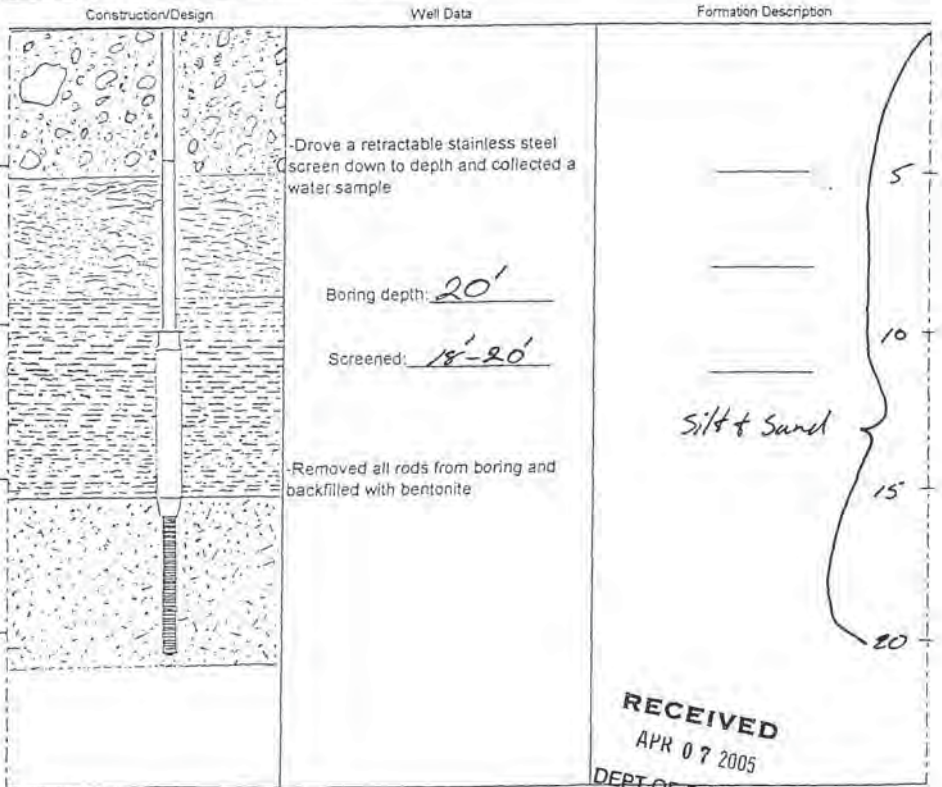
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Driller Engineer Trainee Name (Print) Kevin Chandleby
Driller/Engineer/Trainee Signature Kevin Chandleby
Driller or Trainee License No. 2642

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

If trainee, licensed driller's Signature and License no. _____



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RESOURCE PROTECTION WELL REPORT I

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURREN Notice of Intent No. A 72713

Construction/Decommission ("x" in circle)
 Construction
 Decommission 170263
ORIGINAL INSTALLATION Notice of Intent Number E005164

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Consulting Firm KANE Enviro.
Unique Ecology Well ID
Tag No: N/A

Property Owner The Boeing Co.
Site Address 20463 68th Ave S.
City Kent County: King
Location SE 1/4 Sec 2 Twp 22N R 4 EWN WWM

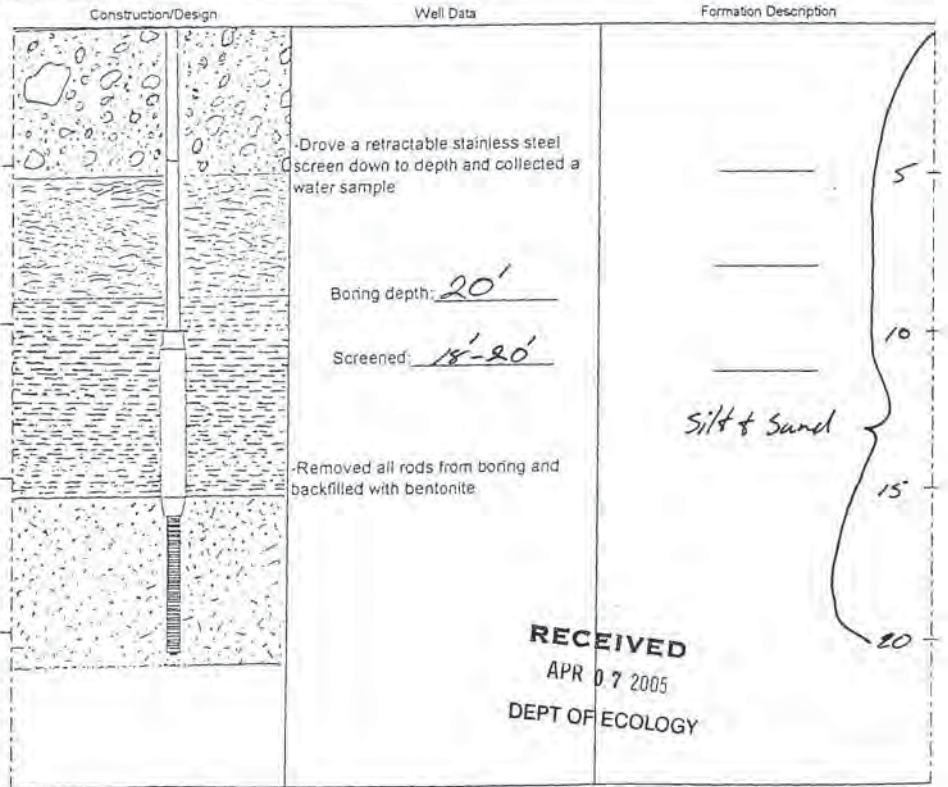
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Driller Engineer Trainee Name (Print) Kevin Chandleby
Driller/Engineer/Trainee Signature Kevin Chandleby
Driller or Trainee License No. 2642

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 10'
Work/Decommission Start Date 12/22/04
Work/Decommission Completed Date 12/22/04

If trainee, licensed driller's Signature and License no. _____



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File Original and First Copy with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

Start Card No. D 19752

UNIQUE WELL I.D. #

22-4E-2-110

(1) OWNER: Name The Boeing Co. Address 20403 68th Ave So., Kent, WA 98032

(2) LOCATION OF WELL: County King See attached SW 1/4 SE 1/4 Sec 2 & 3 T. 22N R. 4E WM.

(2a) STREET ADDRESS OF WELL (or nearest address): 20403 68th Ave So., Kent, WA 98032

(3) PROPOSED USE: Domestic Irrigation Industrial Municipal
 DeWater Test Well Other

(10) WELL LOG OR ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
Abandoned New well Deepened Reconditioned Method: Dug Bored
 Cable Driven Rotary Jetted

MATERIAL	FROM	TO
Silty sand & gravel with trace brown clay	0	5
Medium Black sand with #20	5	18
Dry Blue clay	18	25

(5) DIMENSIONS: Diameter of well 36 inches.
Drilled: test. Depth of completed well _____ ft.

(6) CONSTRUCTION DETAILS:
Casing installed: _____ Diam. from _____ ft. to _____ ft.
Welded Liner installed: 1A _____ Diam. from 0 ft. to 25 ft.
Threaded _____ Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name Westerwell screen
Type _____ Model No. _____
Diam. 16 Slot size 20 from 25 ft. to 5 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel 3/8-Pas
Gravel placed from 25 ft. to 5 ft.

Surface seal: Yes No To what depth? 5 ft.
Material used in seal NATURAL CLAY
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____ H.P. _____
Type _____

(8) WATER LEVELS: Land surface elevation _____ ft.
Static level 8 _____ ft. below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

Work Started 8/4/97 19_____. Completed 10/2/97 19____.

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME SLEAD CONSTRUCTION, INC.
(PERSONAL FIRM OR CORPORATION) (TYPE OR FIRM)
Address 9021 Walter Road E., Tacoma, WA
98446-2531
(Signed) [Signature] License No. 1761

Contractor's Registration No. SLEADC*325KO Date 4/30/00

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (206) 407-8600. The TDD number is (206) 407-6006.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level
Date of test _____
Baker test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airstest _____ gal./min. with steam set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

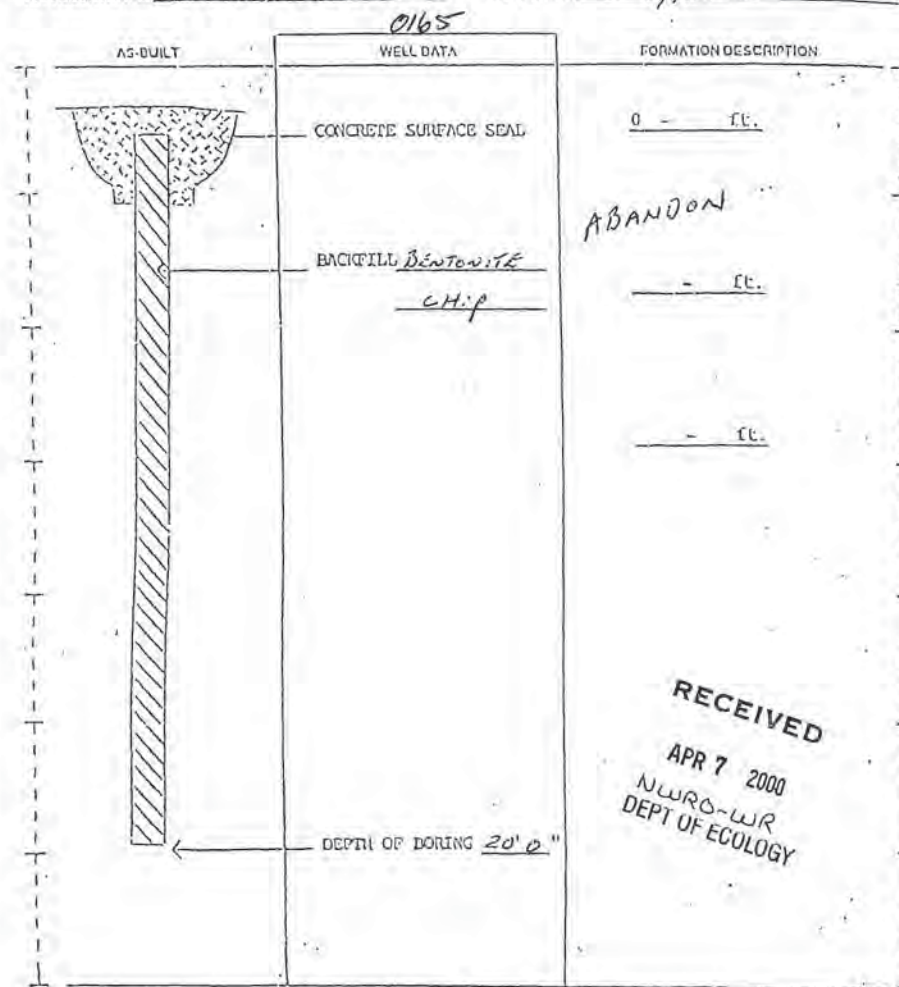
RESOURCE PROTECTION WELL REPORT

ENTERED

START GATION NO. A47570

PROJECT NAME: Boeing Space Cntr.
WELL IDENTIFICATION NO. N/A
DRILLING METHOD: Abandon
DRILLER: F. Lynn Goble
FIRM: Cascade Drilling, Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: Boeing Co.
REPRESENTATIVE: Don McCormack

COUNTY: King
LOCATION: NW 1/4 NE 1/4 Sec 11 T22N R 4E
STREET ADDRESS OF WELL: 5800-S. 2125 St. Kent WA
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: N/A
DEVELOPED: N/A



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

83961

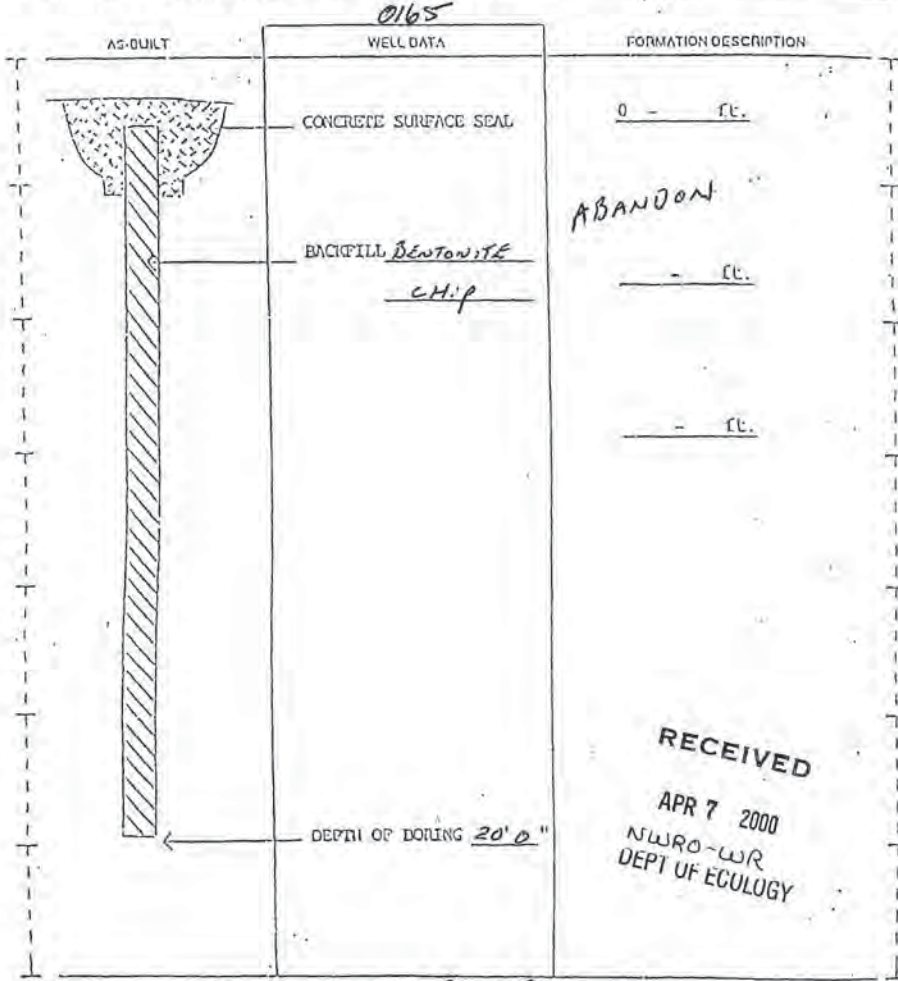
RESOURCE PROTECTION WELL REPORT

ENTERED

START CARD NO. A47570

PROJECT NAME: Boeing Space Cntr.
WELL IDENTIFICATION NO. N/A
DRILLING METHOD: Abandon
DRILLER: F. Lynn Goble
FIRM: Cascade Drilling, Inc.
SIGNATURE: Lynn Goble
CONSULTING FIRM: Boeing Co.
REPRESENTATIVE: Dan McCormack

COUNTY: King 22-4E-11B
LOCATION: NW 1/4 NE 1/4 Sec 11 T22N R 4E
STREET ADDRESS OF WELL: 5800 S. 212th S. Kent WA
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: N/A
DEVELOPED: N/A



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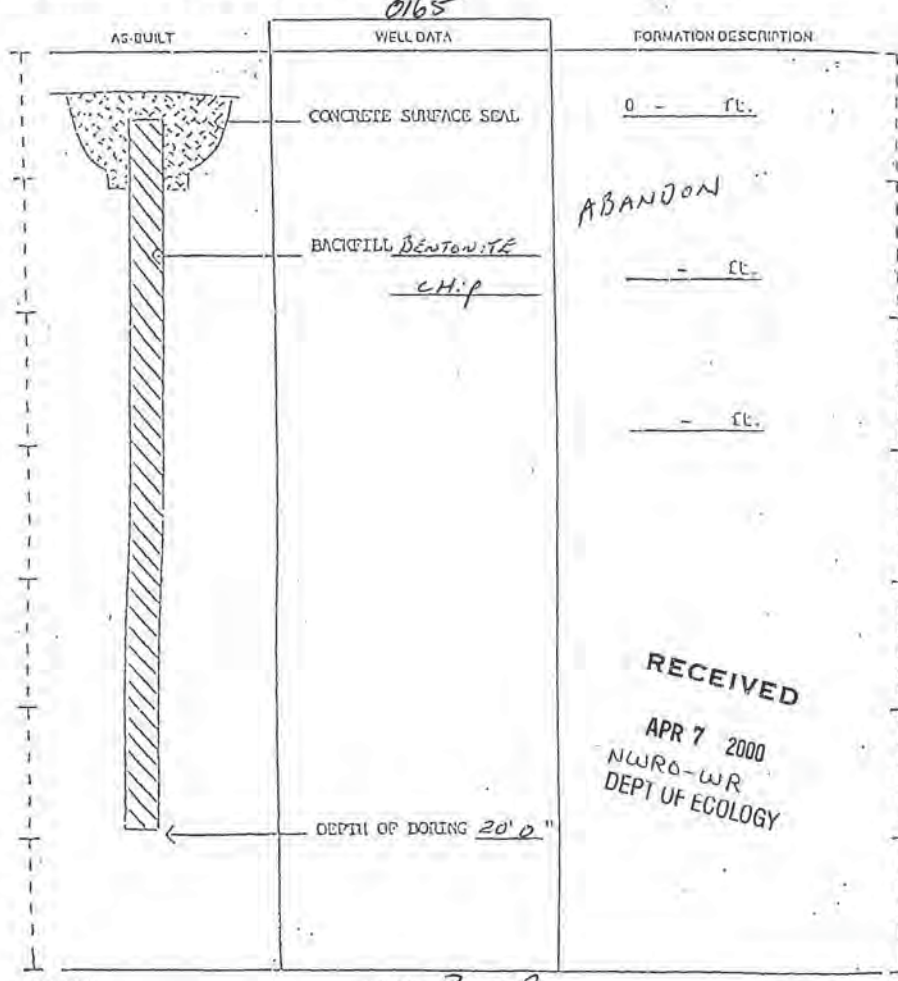
RESOURCE PROTECTION WELL REPORT

ENTERED

START CARD NO. A47570

PROJECT NAME: Boeing Space Cntr.
WELL IDENTIFICATION NO. N/A
DRILLING METHOD: Abandon
DRILLER: F. Lynn Goble
FIRM: Cascade Drilling, Inc.
SIGNATURE: Lynn Goble
CONSULTING FIRM: Boeing Co.
REPRESENTATIVE: Dan McCormack

COUNTY: King 22-4E-11B
LOCATION: NW 1/4 NE 1/4 Sec 11 T22N R 4E
STREET ADDRESS OF WELL: 5800 S. 212th S. Kent WA
WATER LEVEL ELEVATION: N/A
GROUND SURFACE ELEVATION: N/A
INSTALLED: N/A
DEVELOPED: N/A



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APR 7 2000
NWRO-WR
DEPT OF ECOLOGY

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MONITORING WELL REPORT 342832 Well ID# Quotech Soil Boring
 Start Card # JE04388

OWNER/PROJECT: The Boring Company WELL NO. _____
PO Box 3707 _____
Seattle State WA Zip 98124

(6) LOCATION OF WELL By legal description:
 County King Latitude _____ Longitude _____
 Township 4N (N or S) Range 4E (E or W) Section 2
NE 1/4 of SE 1/4 of above section.
 Street address of well location: Boring Access Road
Kent WA 98032
 Tax lot number of well location: _____

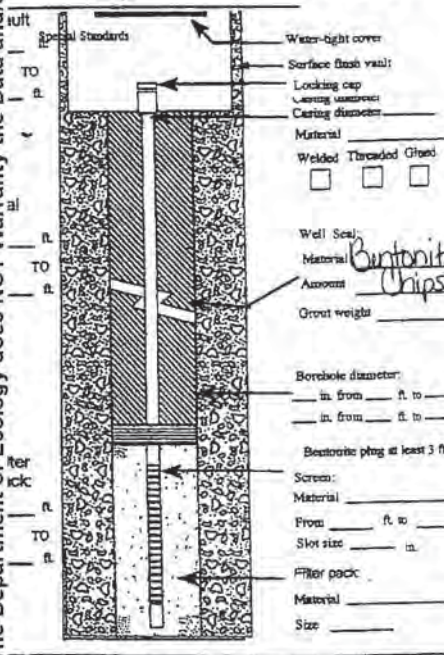
TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

(7) STATIC WATER LEVEL:
 _____ Ft. below land surface. Date _____
 Artesian Pressure _____ lbf/sq. in. Date _____

BORE HOLE CONSTRUCTION:
 Yes No
 Standards Depth of Completed Well 41.5 ft.

(8) WATER BEARING ZONES:
 Depth at which water was first found _____

From	To	Est. Flow Rate	SWL



(9) WELL LOG:
 Ground Elevation _____

Material	From	To	SWL
Till	0	41.5	

Material Welded Threaded Gasket
 Well Seal:
 Material Bentonite
 Amount Chips
 Grout weight _____
 Borehole diameter:
 _____ in. from _____ ft. to _____ ft.
 _____ in. from _____ ft. to _____ ft.
 Bentonite plug at least 3 ft. thick
 Screen:
 Material _____
 From _____ ft. to _____ ft.
 Slot size _____ in.
 Filter pack:
 Material _____
 Size _____
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 MAY 19 2009
 Dept of Ecology
 WR-NWRO
 Date started 4/17/09 Completed 4/17/09

WELL TESTS:
 Pump Baller Air Flowing Artesian
 Permeability _____ Yield _____ OPM _____
 Conductivity _____ PH _____
 Temperature of water _____ OFA/ Depth artesian flow found _____ ft.
 Was water analysis done? Yes No
 By whom? _____
 Depth of strata to be analyzed. From _____ ft. to _____ ft.
 Remarks _____
 Name of Supervising Geologist/Engineer Quotech Engineers

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Type or Print Name David Puckett License No. 27169
 Trainee Name _____ License No. _____
 Drilling Company Holocene Drilling Inc
 (Signed) David Puckett License No. 27169
 Address 10621 Todd Road E Edgewood WA 98372
 Registration No. HOLOC010441KH Date 5/14/09

MONITORING WELL REPORT 342833 Well ID# Quotech Soil Boring
 Start Card # JE04388

OWNER/PROJECT: The Boring Company WELL NO. _____
PO Box 3707 _____
Seattle State WA Zip 98124

(6) LOCATION OF WELL By legal description:
 County King Latitude _____ Longitude _____
 Township 4N (N or S) Range 4E (E or W) Section 2
NE 1/4 of SE 1/4 of above section.
 Street address of well location: Boring Access Road
Kent WA 98032
 Tax lot number of well location: _____

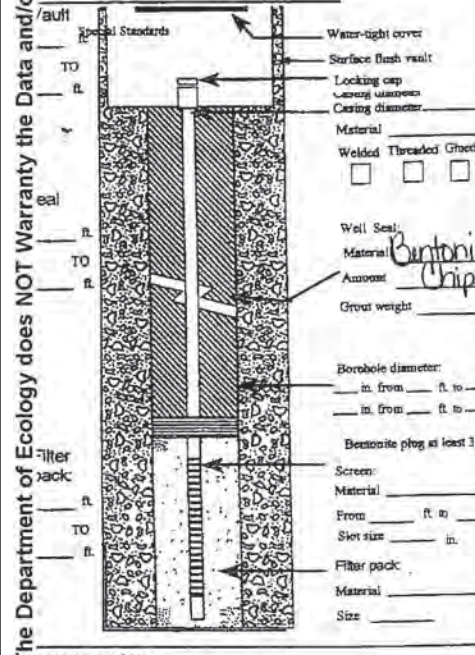
TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

(7) STATIC WATER LEVEL:
 _____ Ft. below land surface. Date _____
 Artesian Pressure _____ lbf/sq. in. Date _____

BORE HOLE CONSTRUCTION:
 Yes No
 Standards Depth of Completed Well 51.5 ft.

(8) WATER BEARING ZONES:
 Depth at which water was first found _____

From	To	Est. Flow Rate	SWL



(9) WELL LOG:
 Ground Elevation _____

Material	From	To	SWL
Till	0	51.5	

Material Welded Threaded Gasket
 Well Seal:
 Material Bentonite
 Amount Chips
 Grout weight _____
 Borehole diameter:
 _____ in. from _____ ft. to _____ ft.
 _____ in. from _____ ft. to _____ ft.
 Bentonite plug at least 3 ft. thick
 Screen:
 Material _____
 From _____ ft. to _____ ft.
 Slot size _____ in.
 Filter pack:
 Material _____
 Size _____
RECEIVED
 MAY 19 2009
 Dept of Ecology
 WR-NWRO
 Date started 4/17/09 Completed 4/17/09

WELL TESTS:
 Pump Baller Air Flowing Artesian
 Permeability _____ Yield _____ OPM _____
 Conductivity _____ PH _____
 Temperature of water _____ OFA/ Depth artesian flow found _____ ft.
 Was water analysis done? Yes No
 By whom? _____
 Depth of strata to be analyzed. From _____ ft. to _____ ft.
 Remarks _____
 Name of Supervising Geologist/Engineer Quotech Engineers

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 Type or Print Name David Puckett License No. 27169
 Trainee Name _____ License No. _____
 Drilling Company Holocene Drilling Inc
 (Signed) David Puckett License No. 27169
 Address 10621 Todd Road E Edgewood WA 98372
 Registration No. HOLOC010441KH Date 5/14/09

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-2J
SEP7364

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

382053

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave. S.
City Kent County 17-King

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

Lat/Long (4, 1, still Required) Lat Deg 46 Lat Min/Sec 3
Long Deg 122 Long Min/Sec 3

Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott

Driller/Trainee Signature [Signature]

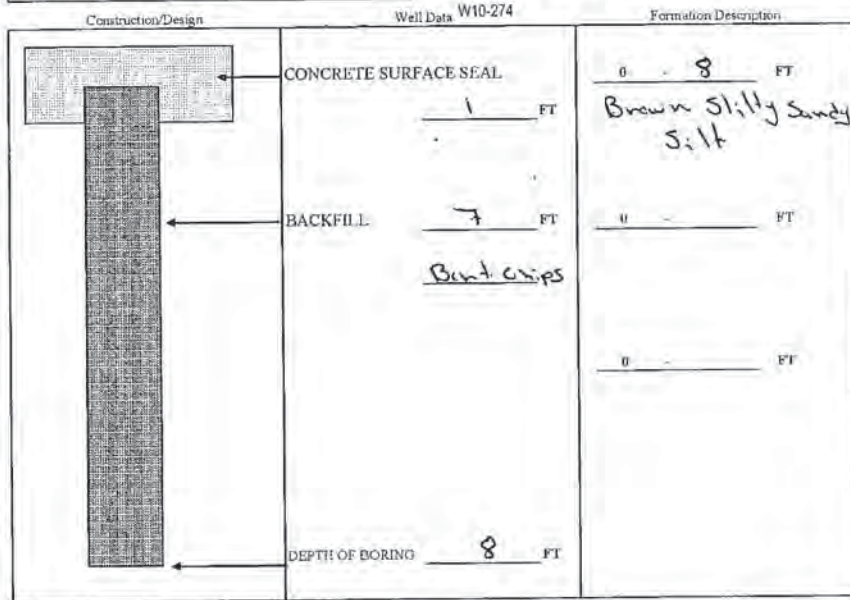
Driller/Trainee License No. 2549

Cased or ~~Uncased~~ Diameter 2" Static Level W1A

Work/Decommission Start Date 6/9/2010

Work/Decommission Completed Date 6-9-10

If trained, licensed driller's Signature and License No. _____



RECEIVED
JUL 20 2010
Dept of Ecology
WR-NWRO

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-2J
SEP7364

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

382054

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave. S.
City Kent County 17-King

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

Lat/Long (4, 1, still Required) Lat Deg 46 Lat Min/Sec 3
Long Deg 122 Long Min/Sec 3

Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott

Driller/Trainee Signature [Signature]

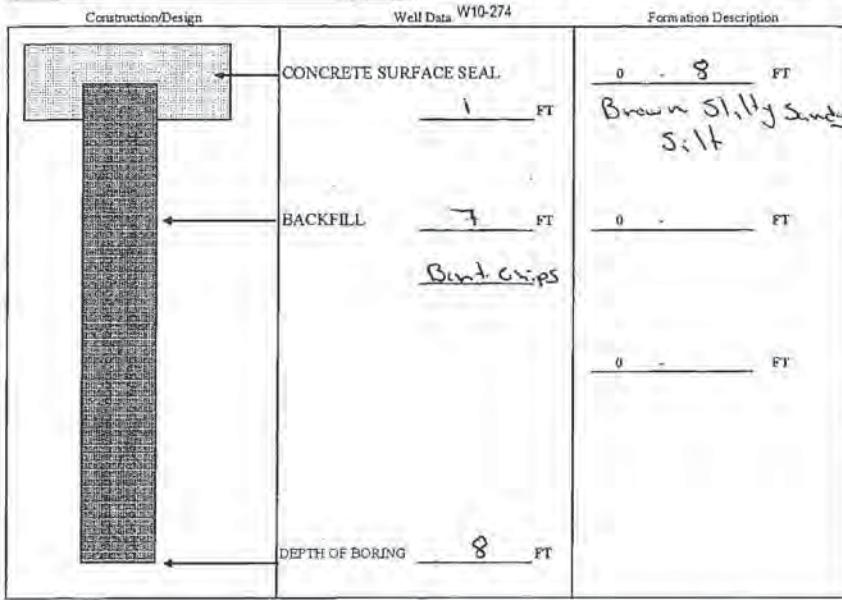
Driller/Trainee License No. 2549

Cased or ~~Uncased~~ Diameter 2" Static Level W1A

Work/Decommission Start Date 6/9/2010

Work/Decommission Completed Date 6-9-10

If trained, licensed driller's Signature and License No. _____



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WR-NWRO

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SEP 7364

22-4E-2J

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

382055

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm GeoEngineers-Redmond

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County 17-King

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

Lat/Long (S, L, R) Lat Deg: x Lat Min/Sec: x

still Required) Long Deg: x Long Min/Sec: x

Tax Parcel No. _____

Driller Trainee Name (Print) Frank Scott

Driller/Trainee Signature [Signature]

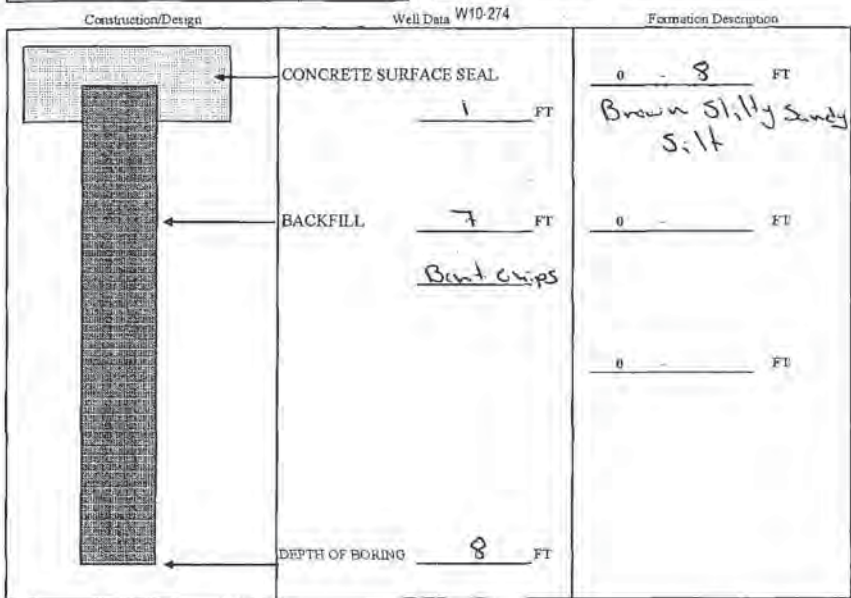
Driller/Trainee License No. 2549

Cased or Uncased Diameter 2" State Level W1A

Work/Decommission Start Date 6/9/2010

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Completed Date 6-9-10



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Dept of Ecology
WR-NWRO

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SEP 7364

22-4E-2J

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

382056

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm GeoEngineers-Redmond

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County 17-King

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

Lat/Long (S, L, R) Lat Deg: x Lat Min/Sec: x

still Required) Long Deg: x Long Min/Sec: x

Tax Parcel No. _____

Driller Trainee Name (Print) Frank Scott

Driller/Trainee Signature [Signature]

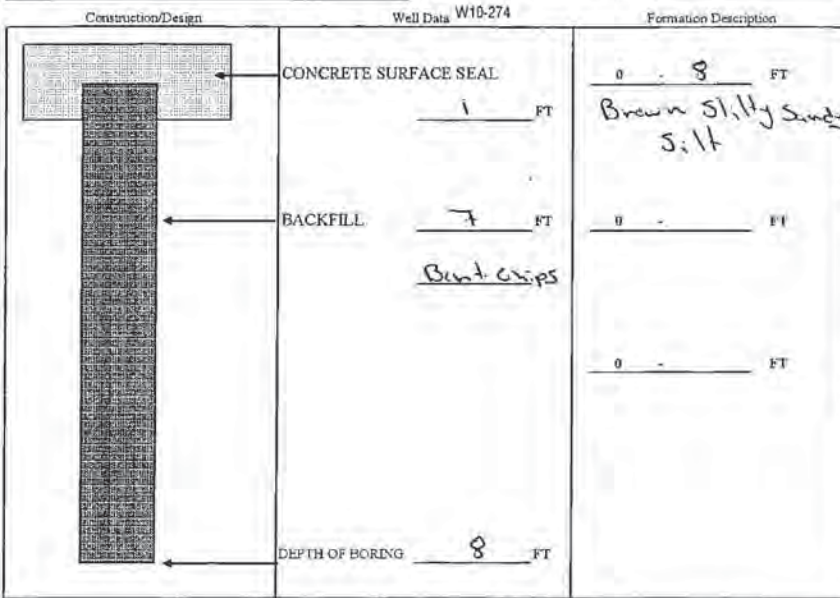
Driller/Trainee License No. 2549

Cased or Uncased Diameter 2" State Level W1A

Work/Decommission Start Date 6/9/2010

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Completed Date 6-9-10



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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number 382057

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID
Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2549

If trainee, licensed driller's
Signature and License No.

CURRENT

Notice of Intent No. SE07364

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM
WWM

Lat/Long (S,L) still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level W14

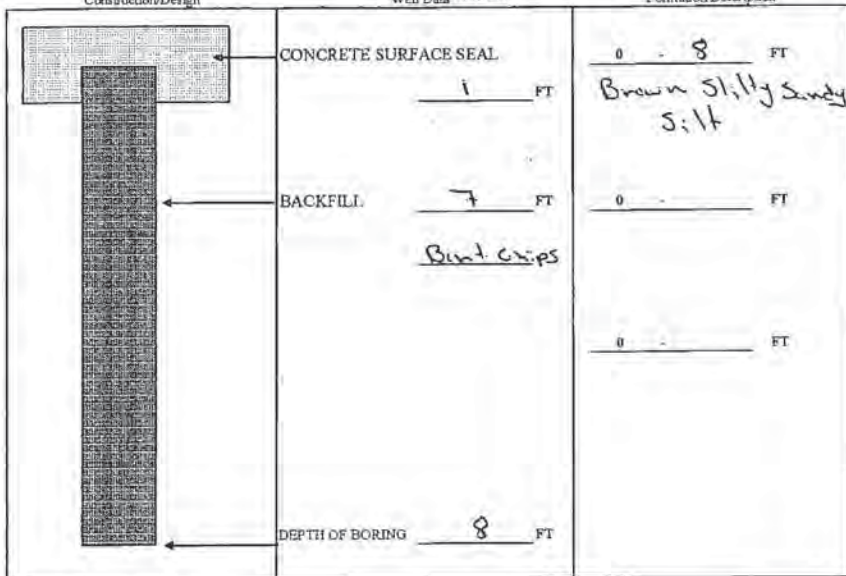
Work/Decommission Start Date 6/9/2010

Work/Decommission Completed Date 6-9-10

Construction/Design

Well Data W10-274

Formation Description



Scale 1" = _____

Page _____ of _____

ECY 030-12 (Rev. 2/01)

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Dept of Ecology
WR-NWRO

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number 382058

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID
Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2549

If trainee, licensed driller's
Signature and License No.

CURRENT

Notice of Intent No. AEO9569

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM
WWM

Lat/Long (S,L) still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level W14

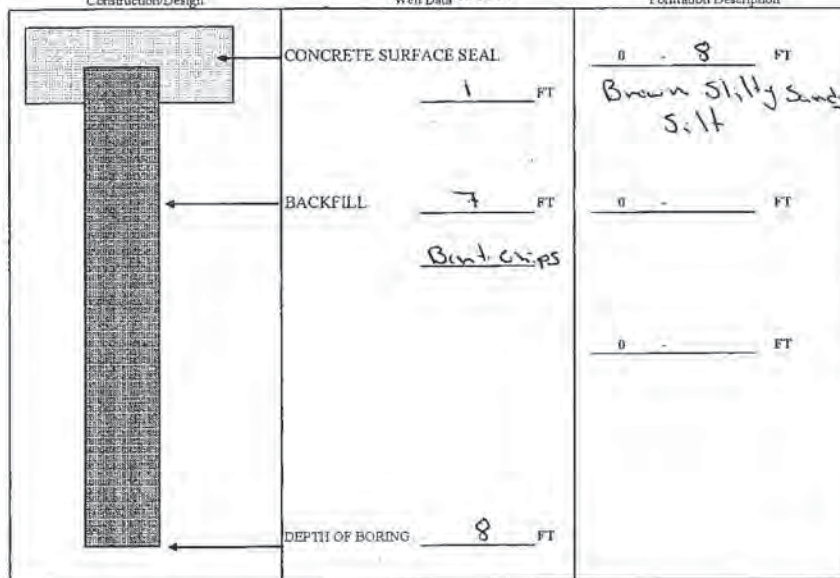
Work/Decommission Start Date 6/9/2010

Work/Decommission Completed Date 6-9-10

Construction/Design

Well Data W10-274

Formation Description



Scale 1" = _____

Page _____ of _____

ECY 030-12 (Rev. 2/01)

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Dept of Ecology
WR-NWRO

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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

22-4E-2J
AEO9569

Construction/Decommission

382059

Construction

Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07364

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID

Tag No.

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r) Lat Deg 1 Lat Min/Sec 1

still Required) Long Deg 1 Long Min/Sec 1

Tax Parcel No.

Driller Trainee Name (Print) Frank Spott

Driller/Trainee Signature [Signature]

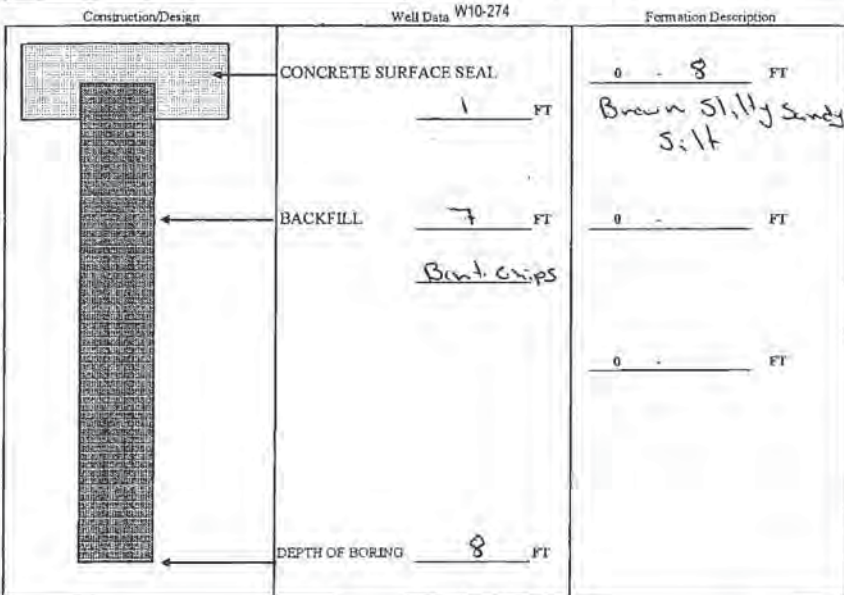
Driller/Trainee License No. 2549

Cased or ~~Uncased~~ Diameter 2" Static Level NA

Work/Decommission Start Date 6/9/2010

Work/Decommission Completed Date 6-9-10

If trainee, licensed driller's Signature and License No.



Scale 1" = _____

Page _____ of _____

ECW 850-12 (Rev 12/01)

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Dept of Ecology
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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

22-4E-2J
AEO9569

Construction/Decommission

382060

Construction

Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07364

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID

Tag No.

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r) Lat Deg 1 Lat Min/Sec 1

still Required) Long Deg 1 Long Min/Sec 1

Tax Parcel No.

Driller Trainee Name (Print) Frank Spott

Driller/Trainee Signature [Signature]

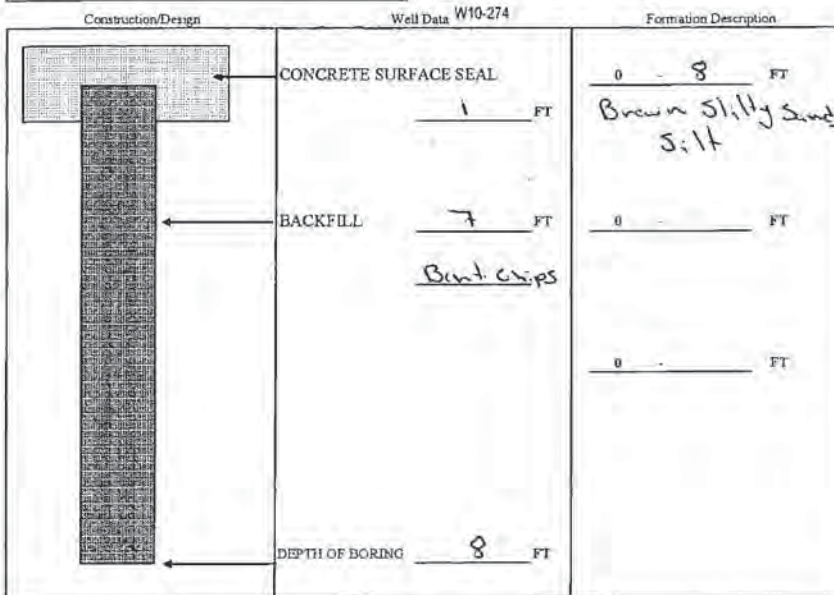
Driller/Trainee License No. 2549

Cased or ~~Uncased~~ Diameter 2" Static Level NA

Work/Decommission Start Date 6/9/2010

Work/Decommission Completed Date 6-9-10

If trainee, licensed driller's Signature and License No.



Scale 1" = _____

Page _____ of _____

ECW 850-12 (Rev 12/01)

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JUL 20 2010
Dept of Ecology
WR-NWRO

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 382061

Decommission ORIGINAL INSTALLATION Notice
of Intent Number SEA 7364

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID
Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2549

If trainee, licensed driller's
Signature and License No.

CURRENT
Notice of Intent No. 22-4E-2J
AEO9569

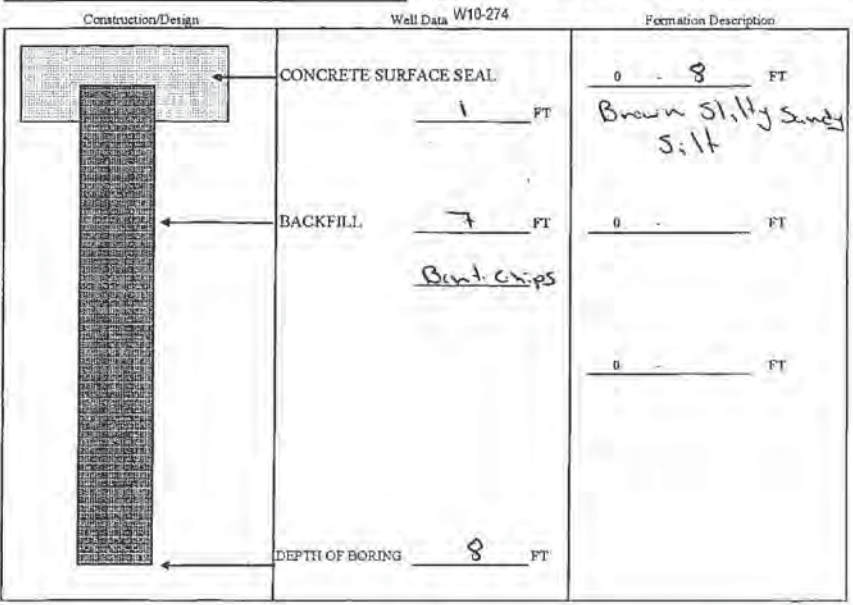
Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave. S
City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM
Lat/Long (s, l, r) Lat Deg 46 Lat Min/Sec 1
still Required Long Deg 122 Long Min/Sec 4

Cased or Uncased Diameter 2" Static Level W1A

Work/Decommission Start Date 6/9/2010
Work/Decommission Completed Date 6-9-10



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JUL 20 2010
Dept of Ecology
WR-NWRO

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 382062

Decommission ORIGINAL INSTALLATION Notice
of Intent Number SEA 7364

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID
Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Frank Scott
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2549

If trainee, licensed driller's
Signature and License No.

CURRENT
Notice of Intent No. 22-4E-2J
AEO9569

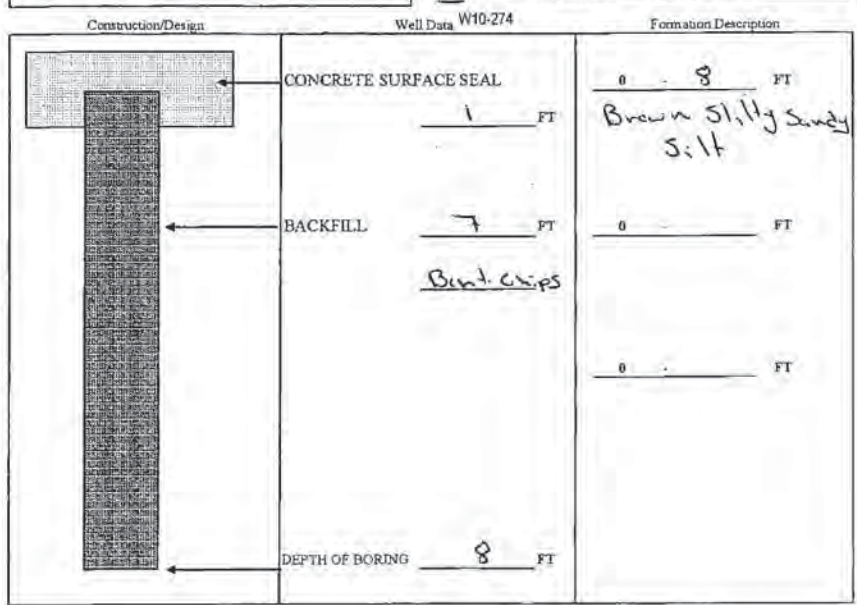
Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave. S
City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E EWM
Lat/Long (s, l, r) Lat Deg 46 Lat Min/Sec 1
still Required Long Deg 122 Long Min/Sec 4

Cased or Uncased Diameter 2" Static Level W1A

Work/Decommission Start Date 6/9/2010
Work/Decommission Completed Date 6-9-10



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JUL 20 2010
Dept of Ecology
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The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)
 CURRENT 22-4E-2J
 Notice of Intent No. AE11131

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 396621

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID _____ Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kerry Lamphear
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3015T

If trainee, licensed driller's Signature and License No. [Signature] 2330

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of WWM

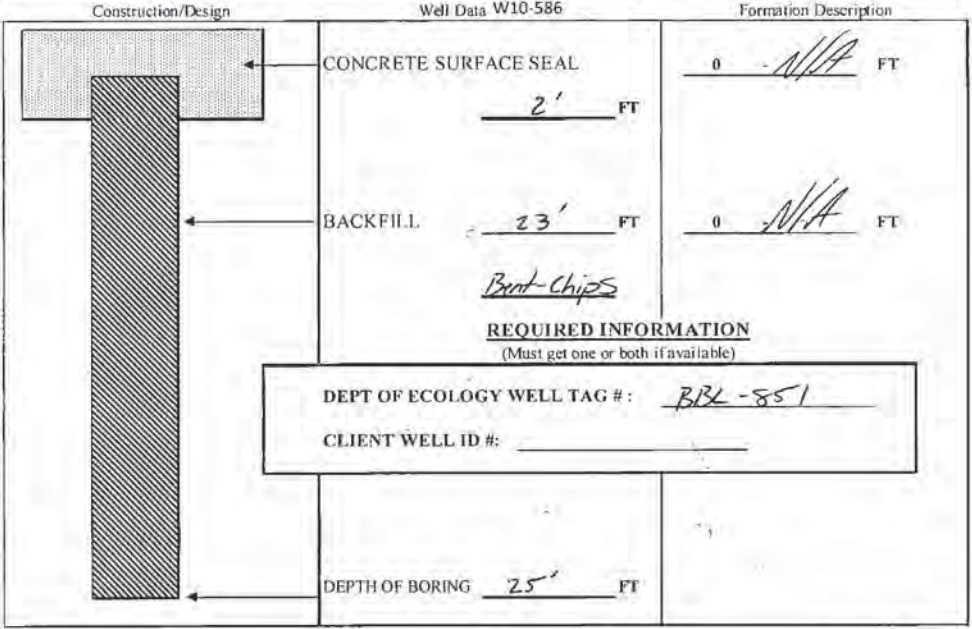
Lat/Long (s, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level _____

Work/Decommission Start Date 10/22/2010

Work/Decommission Completed Date 10/22/10



RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)
 CURRENT 22-4E-2J
 Notice of Intent No. AE11131

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 396622

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm GeoEngineers-Redmond

Unique Ecology Well ID _____ Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kerry Lamphear
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3015T

If trainee, licensed driller's Signature and License No. [Signature] 2330

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of WWM

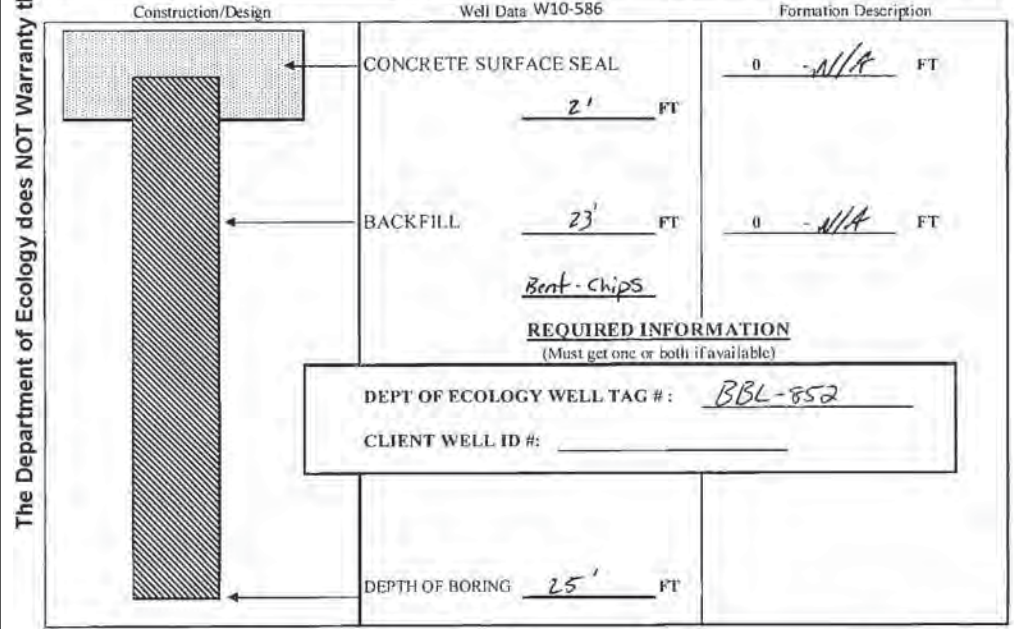
Lat/Long (s, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 1.2'

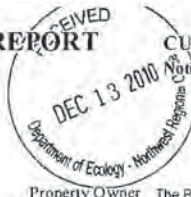
Work/Decommission Start Date 10/22/2010

Work/Decommission Completed Date 10-22-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)



CURRENT 22-4E-2J
Notice of Intent No. AE11131

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 396623

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm GeoEngineers-Redmond

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____ WWM

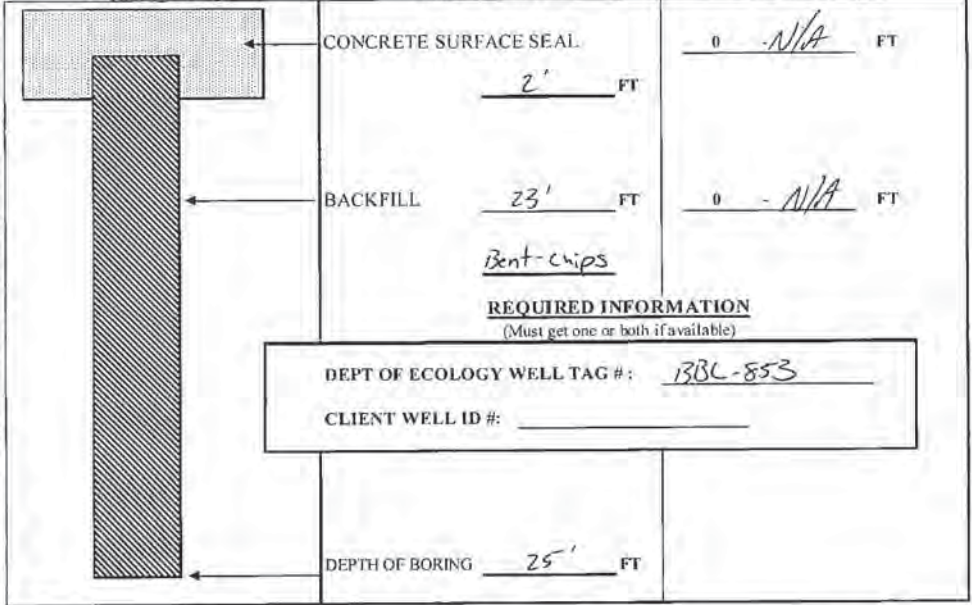
WELL CONSTRUCTION CERTIFICATION: I am licensed and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (S, L, R) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kerry Lamphear
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3075T
 If trainee, licensed driller's Signature and License No. [Signature] 2330

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 119
 Work/Decommission Start Date 10/22/2010
 Work/Decommission Completed Date 10/22/10

Construction/Design Well Data W10-586 Formation Description



RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)



CURRENT 22-4E-2J
Notice of Intent No. AE11131

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 396624

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm GeoEngineers-Redmond

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____ WWM

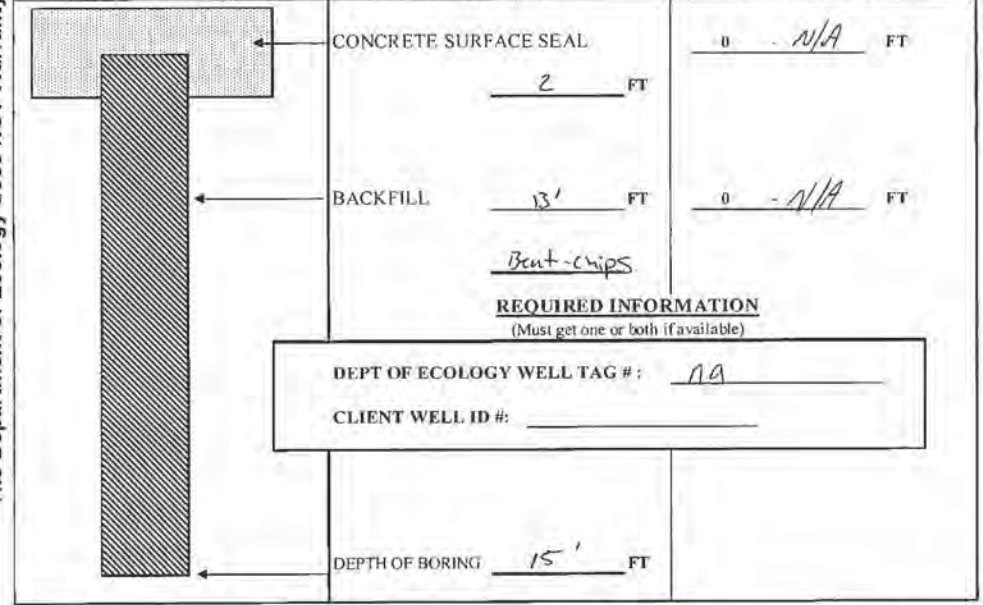
WELL CONSTRUCTION CERTIFICATION: I am licensed and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (S, L, R) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kerry Lamphear
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 3075T
 If trainee, licensed driller's Signature and License No. [Signature] 2330

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 119
 Work/Decommission Start Date 10/22/2010
 Work/Decommission Completed Date 10/22/10

Construction/Design Well Data W10-586 Formation Description



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 396625

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Geo engineers

Unique Ecology Well ID Tag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Shivers
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2905 T

If trainee, licensed drillers' Signature and License No. [Signature] 2990

RECEIVED
 DEC 13 2010
 Department of Ecology - Well Report Register Office

CURRENT 22-4E-2J
 Notice of Intent No. AE11131

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner BOEING
 Site Address 20403 168th AVE. S
 City KENT County KING

Location 1/4 NE 1/4 SE Sec 2 Twn 22 R 4E or WWM

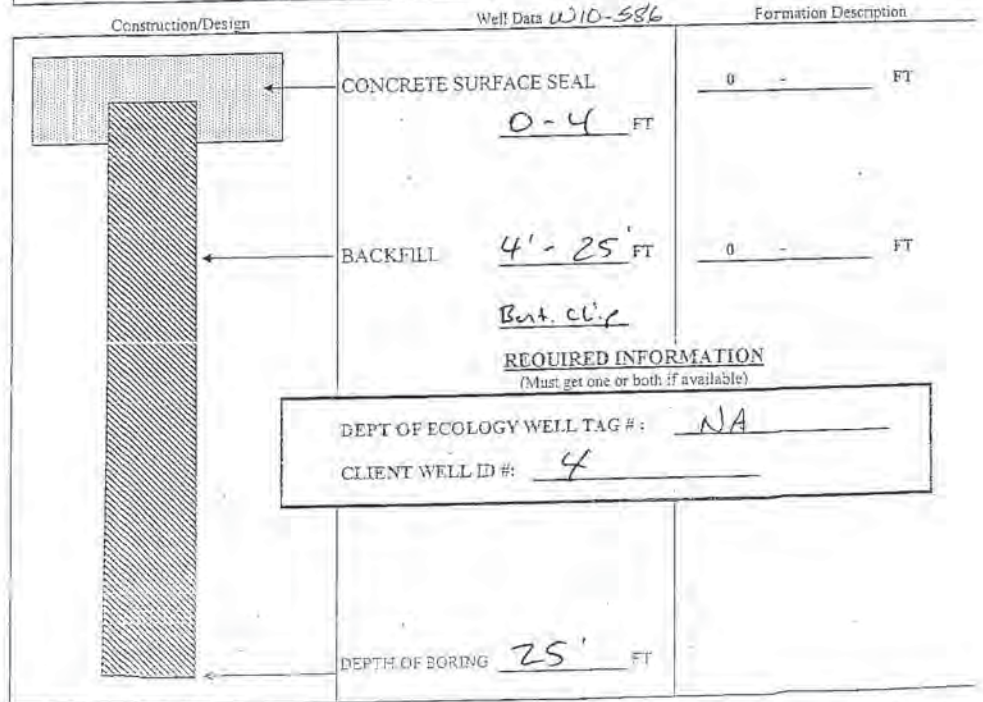
Lat/Long (s, l, r) still Required) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 1" Static Level NA

Work/Decommission Start Date 11-2-10

Work/Decommission Completed Date 11-2-10



RESOURCE PROTECTION WELL REPORT
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 385264

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

CURRENT 22-4E-2J
 Notice of Intent No. SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

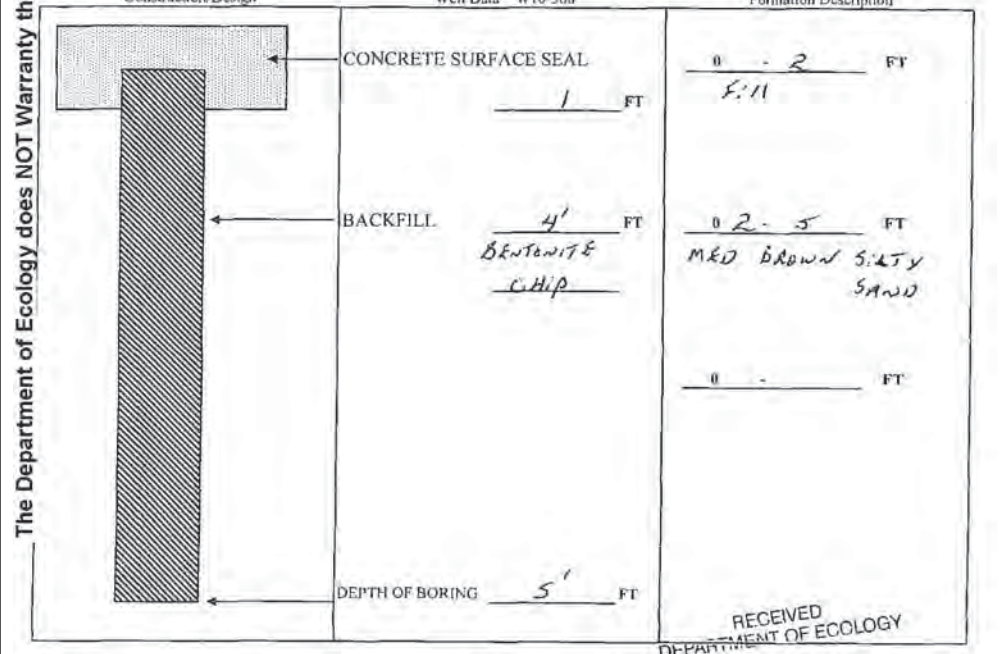
Lat/Long (s, l, r) still Required) Lat Deg _____ Lat Min/Sec _____
 Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385265
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of EWM WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

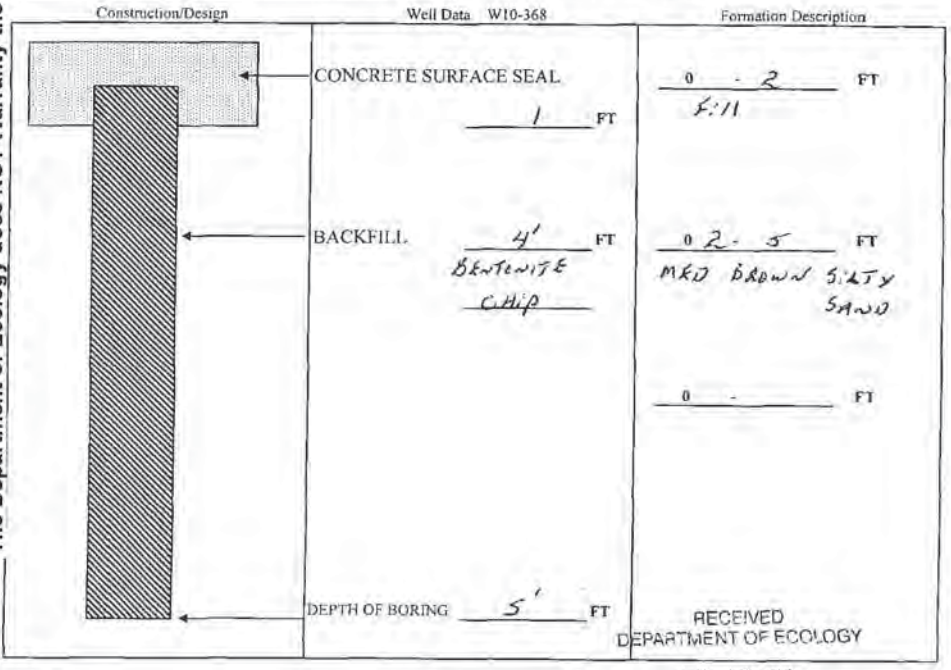
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-23-10
Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____ 123 47 210
ECY 050-12 (Rev 07/2011)
WATER RESOURCES PROGRAM
NWRO

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385266
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of EWM WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

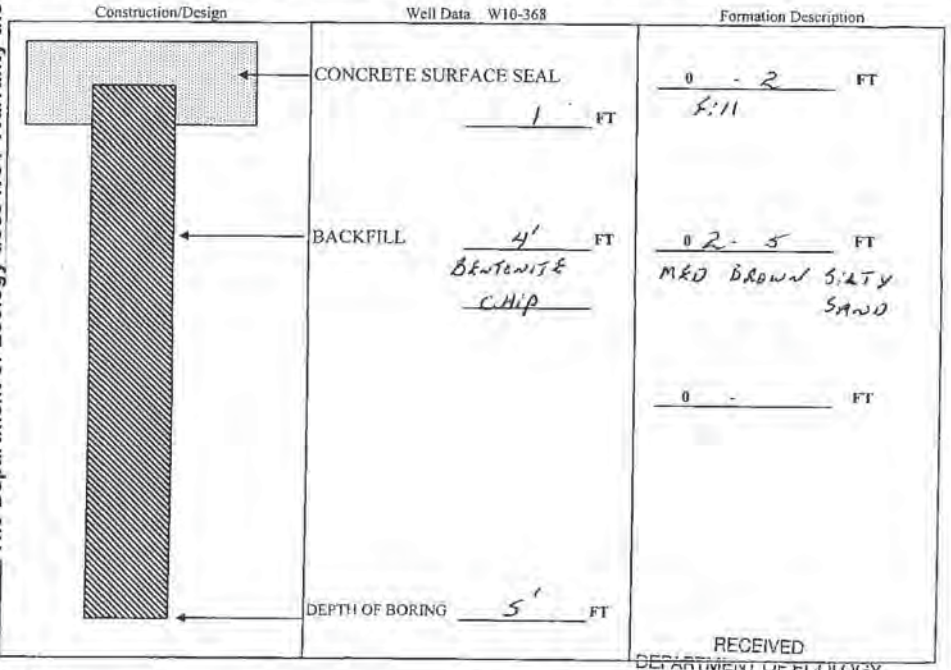
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-23-10
Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____ 123 47 210
ECY 050-12 (Rev 07/2011)
WATER RESOURCES PROGRAM
NWRO

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

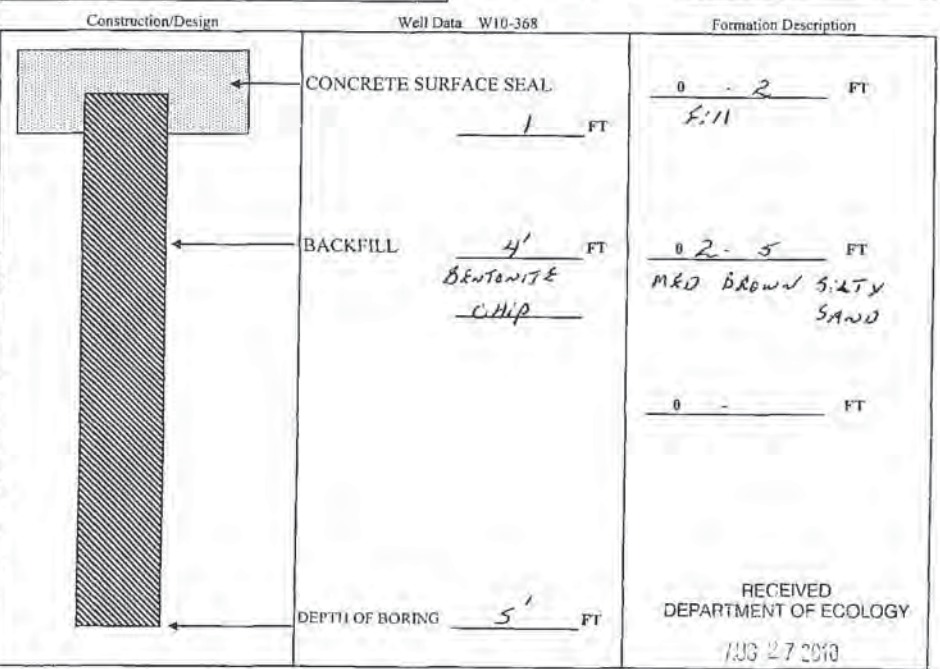
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385267
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____
 Consulting Firm Landau Associates
 Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E
 Lat/Long (s, l, r) Lat Deg Lat Min/Sec
 still Required) Long Deg Long Min/Sec
 Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982
 Cased or Uncased Diameter 2" Static Level 8'
 Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



RECEIVED
DEPARTMENT OF ECOLOGY
JUL 27 2010

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

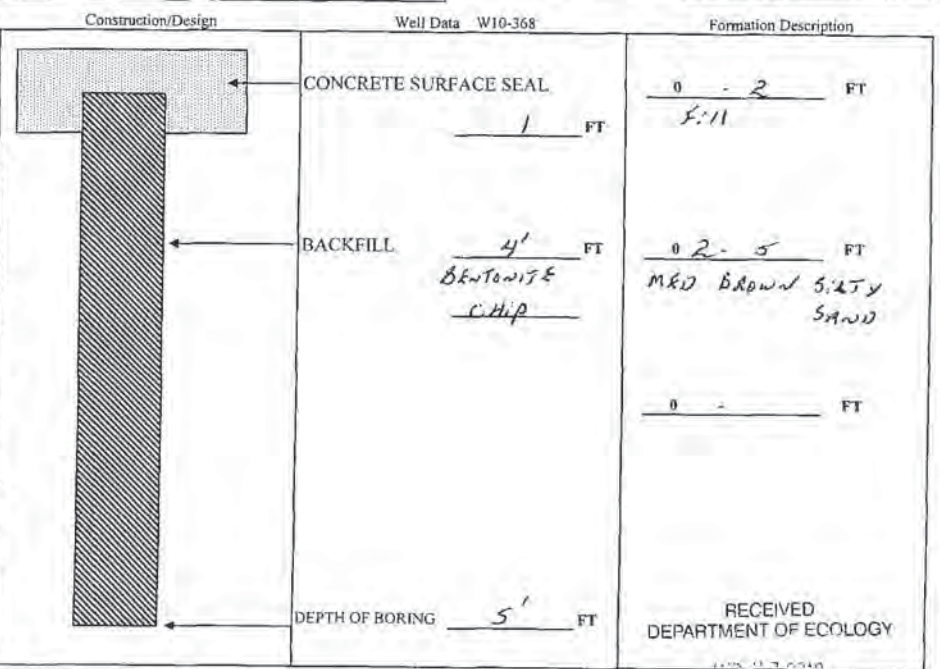
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385268
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____
 Consulting Firm Landau Associates
 Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E
 Lat/Long (s, l, r) Lat Deg Lat Min/Sec
 still Required) Long Deg Long Min/Sec
 Tax Parcel No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982
 Cased or Uncased Diameter 2" Static Level 8'
 Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



RECEIVED
DEPARTMENT OF ECOLOGY
JUL 27 2010

ECY 650-12 (Rev. 2/01)

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 204E-2J
SE07641

Construction/Decommission 385269

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well
 Resource Protection
 Geotechnical Soil Boring

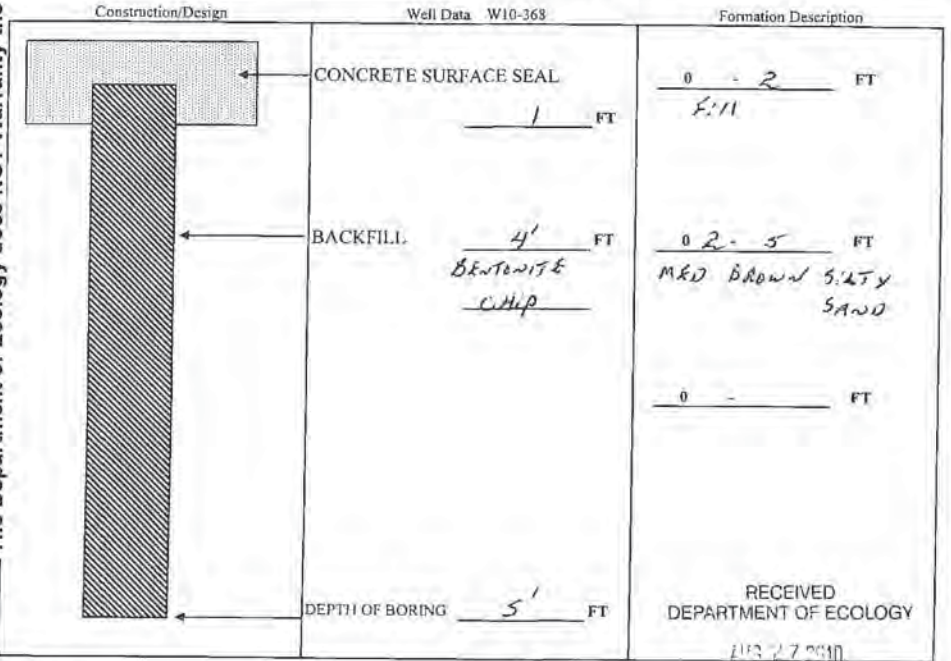
Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards still Required) Lat/Long (S, L, Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x Tax Parcel No. _____

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982
Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-27-10
If trainee, licensed drillers' Signature and License No. _____
Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 204E-2J
SE07641

Construction/Decommission 385270

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well
 Resource Protection
 Geotechnical Soil Boring

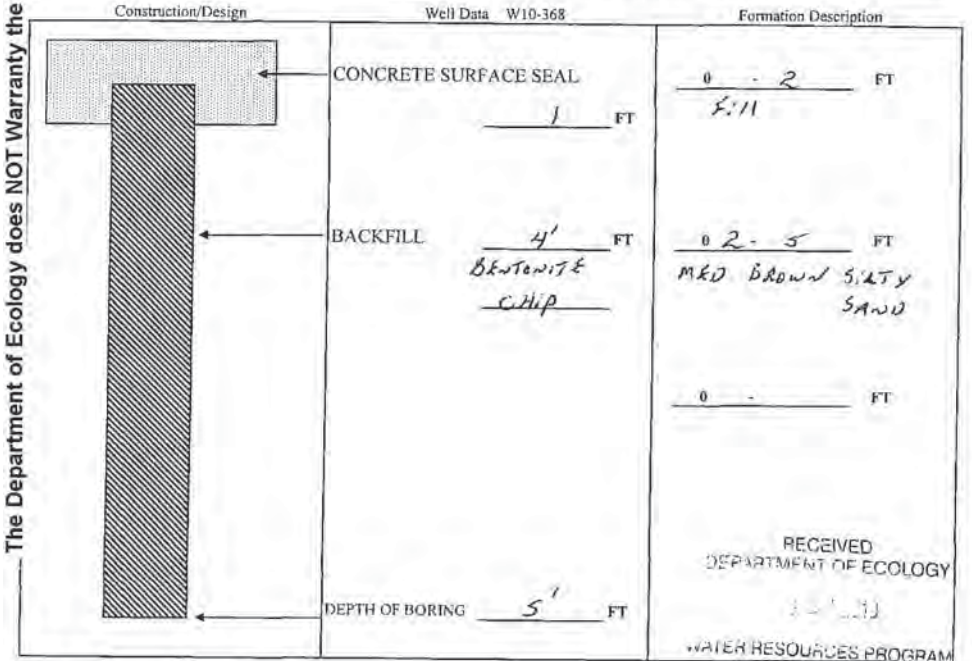
Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards still Required) Lat/Long (S, L, Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x Tax Parcel No. _____

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982
Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-27-10
If trainee, licensed drillers' Signature and License No. _____
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385271
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

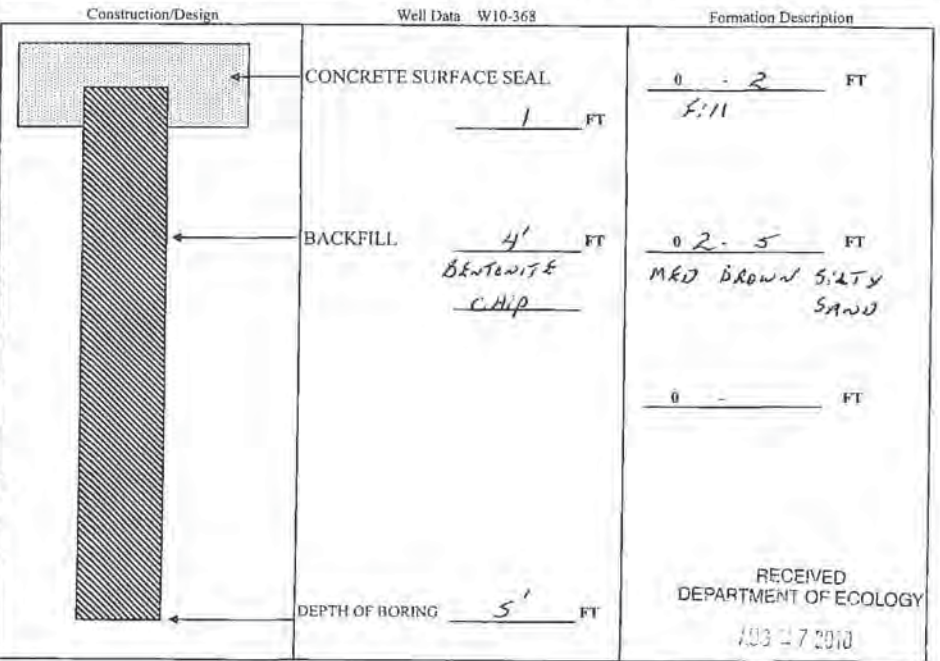
Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twp 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards still Required) Lat/Long (s,t,r Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____
Cased or Uncased Diameter 2" Static Level 8'
Work/Decommission Start Date 7-22-10
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385272
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

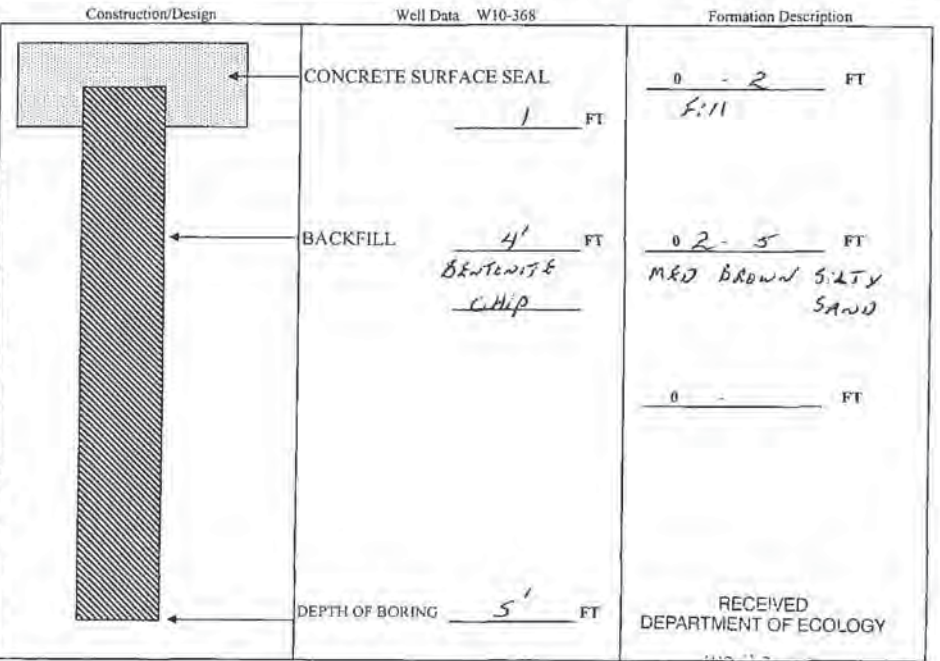
Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twp 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards still Required) Lat/Long (s,t,r Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____
Cased or Uncased Diameter 2" Static Level 8'
Work/Decommission Start Date 7-22-10
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

20-4E-2J
SE07641

Construction/Decommission

385273

Type of Well

- Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

- Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

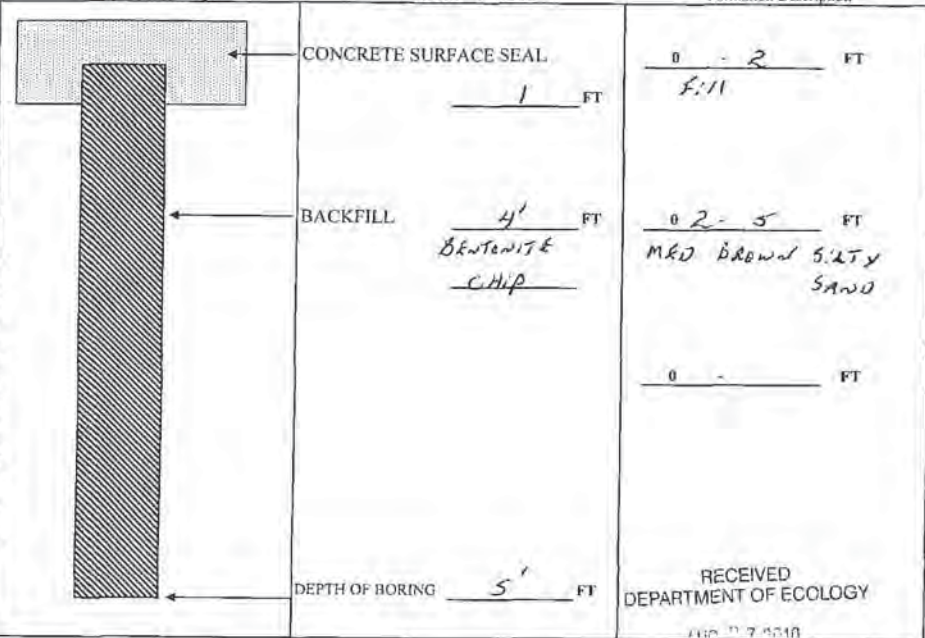
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

20-4E-2J
SE07641

Construction/Decommission

385274

Type of Well

- Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

- Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

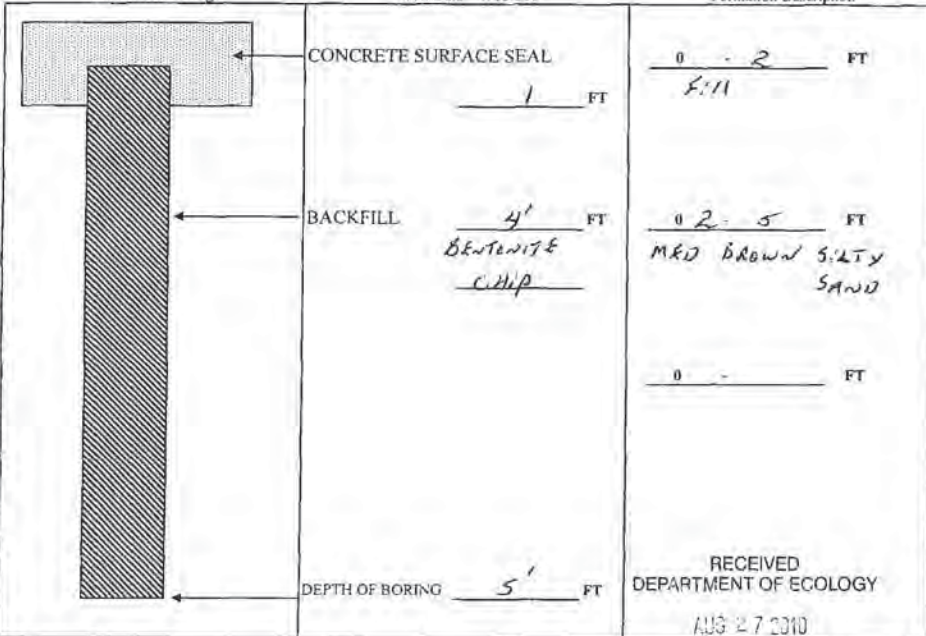
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 00-4E-2J
SE07641

Construction/Decommission 385275
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

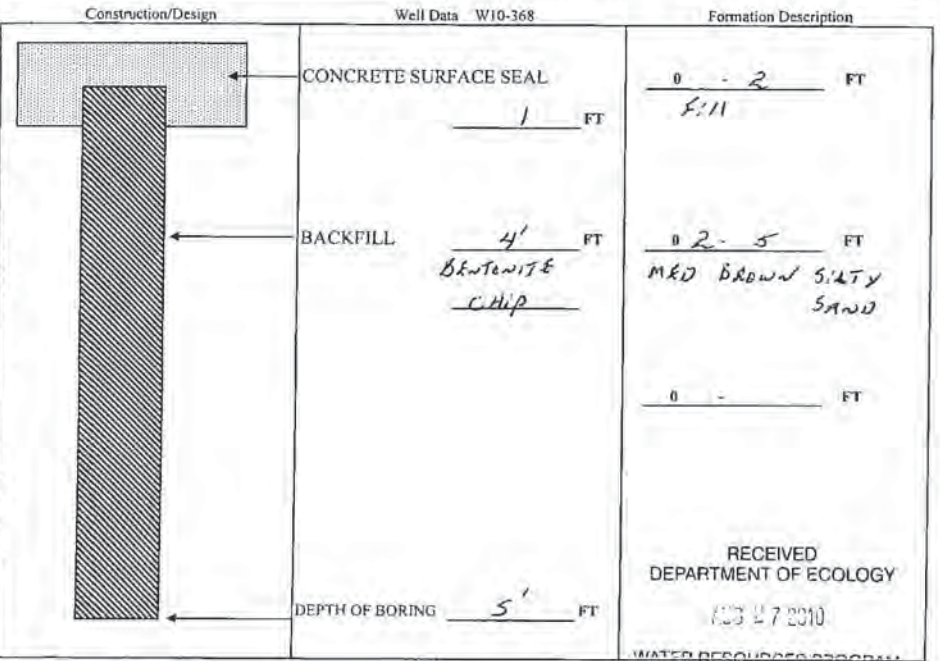
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 00-4E-2J
SE07641

Construction/Decommission 385276
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

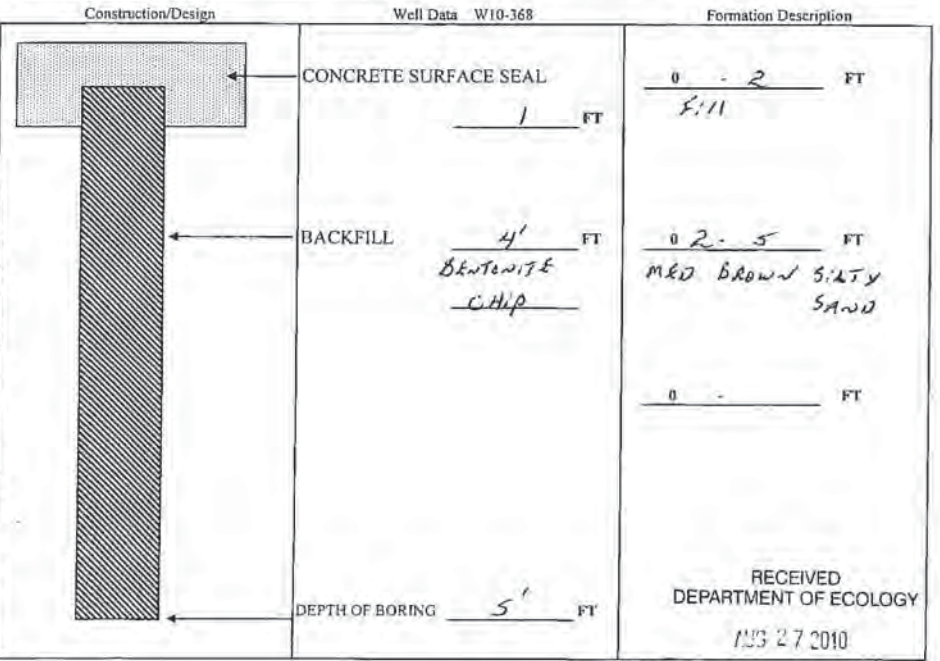
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385277 Type of Well Resource Protection
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____ Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 Consulting Firm Landau Associates City Kent County King EWM

Unique Ecology Well ID _____ Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____
 Tag No. _____ WWM

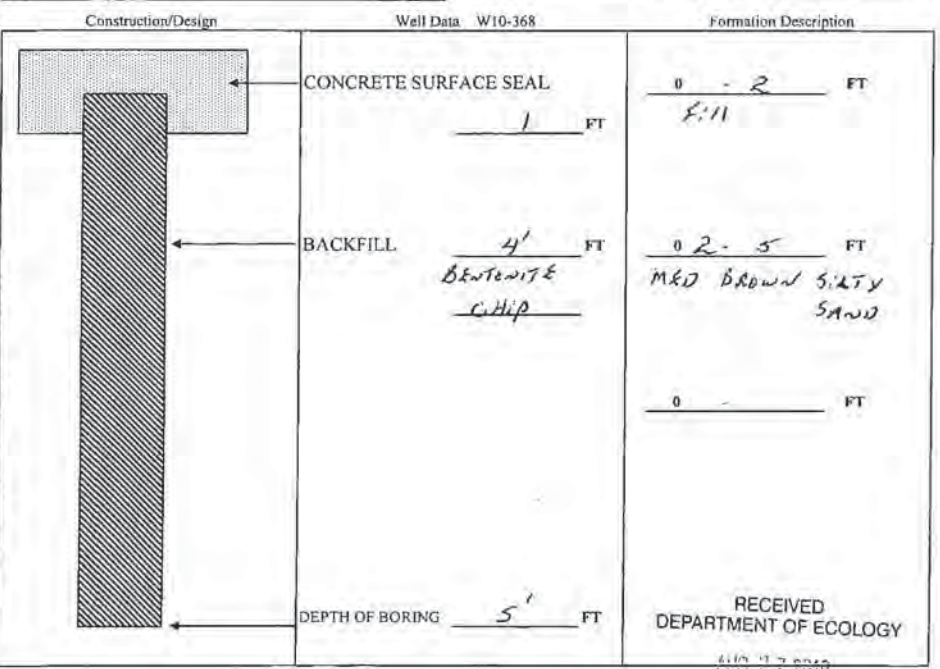
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 0'

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10

If trainee, licensed driller's Signature and License No. _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385278 Type of Well Resource Protection
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____ Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 Consulting Firm Landau Associates City Kent County King EWM

Unique Ecology Well ID _____ Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____
 Tag No. _____ WWM

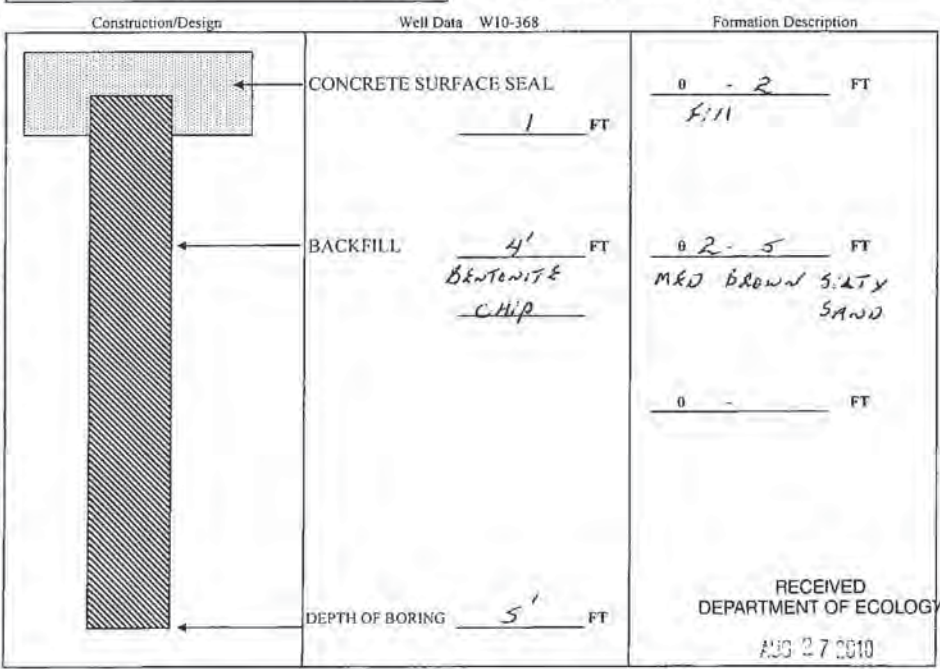
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 0'

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10

If trainee, licensed driller's Signature and License No. _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4e-2J
SE07641

Construction/Decommission
 Construction 385279
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

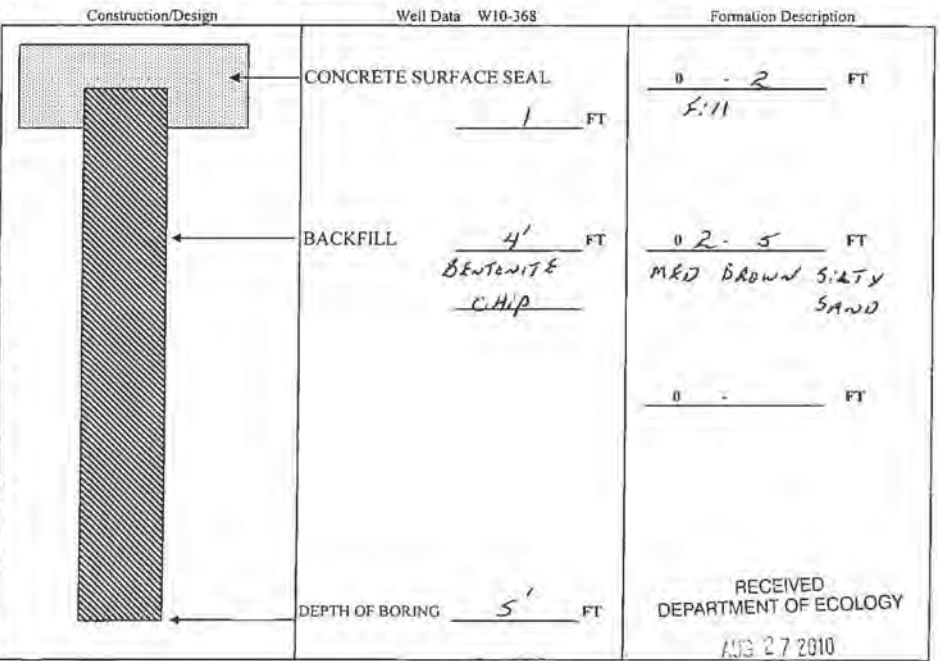
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates
Unique Ecology Well ID Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Trainees Name (Print) Lynn Goble
Driller/Trainees Signature Lynn Goble
Driller/Trainees License No. 2982

Cased or Uncased Diameter 2" Static Level B'
Work/Decommission Start Date 7-23-10
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4e-2J
SE07641

Construction/Decommission
 Construction 385280
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

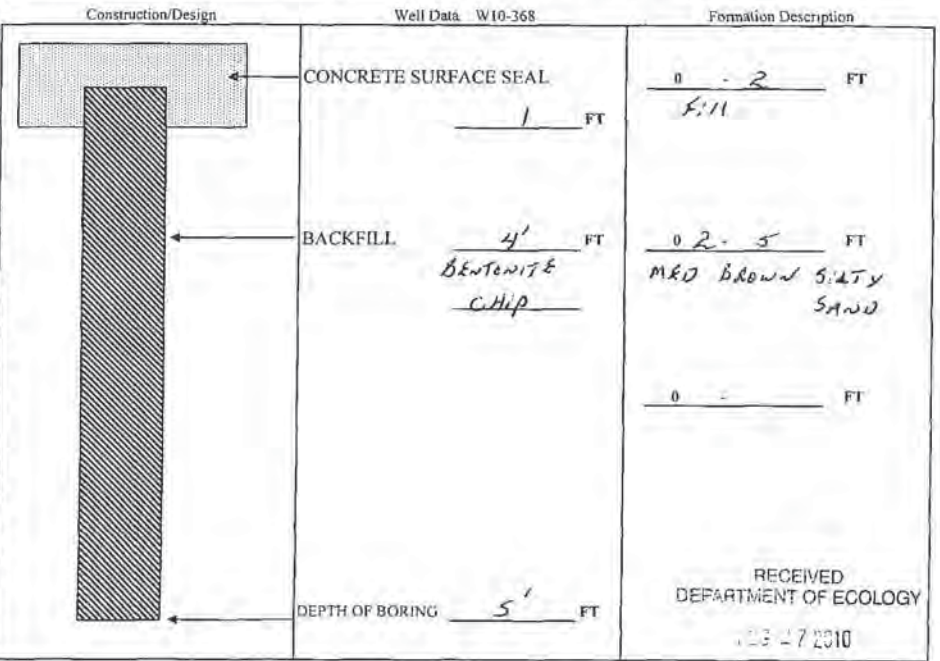
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates
Unique Ecology Well ID Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Trainees Name (Print) Lynn Goble
Driller/Trainees Signature Lynn Goble
Driller/Trainees License No. 2982

Cased or Uncased Diameter 2" Static Level B'
Work/Decommission Start Date 7-23-10
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385281

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

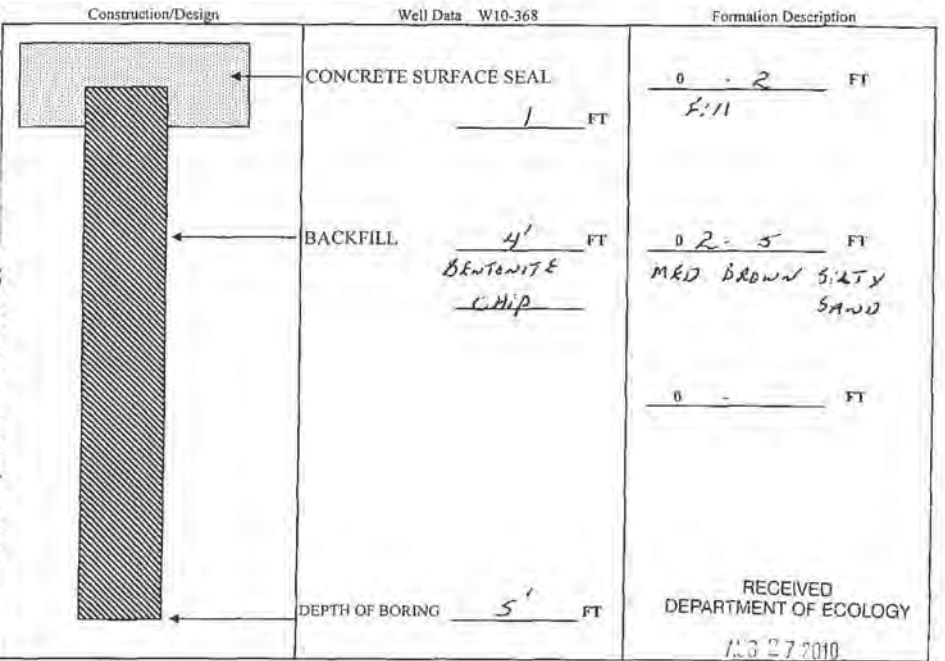
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates
Unique Ecology Well ID Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Increased Diameter 2" Static Level B'
Work/Decommission Start Date 7-27-10
If trainee, licensed drillers' Signature and License No. _____
Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385282

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

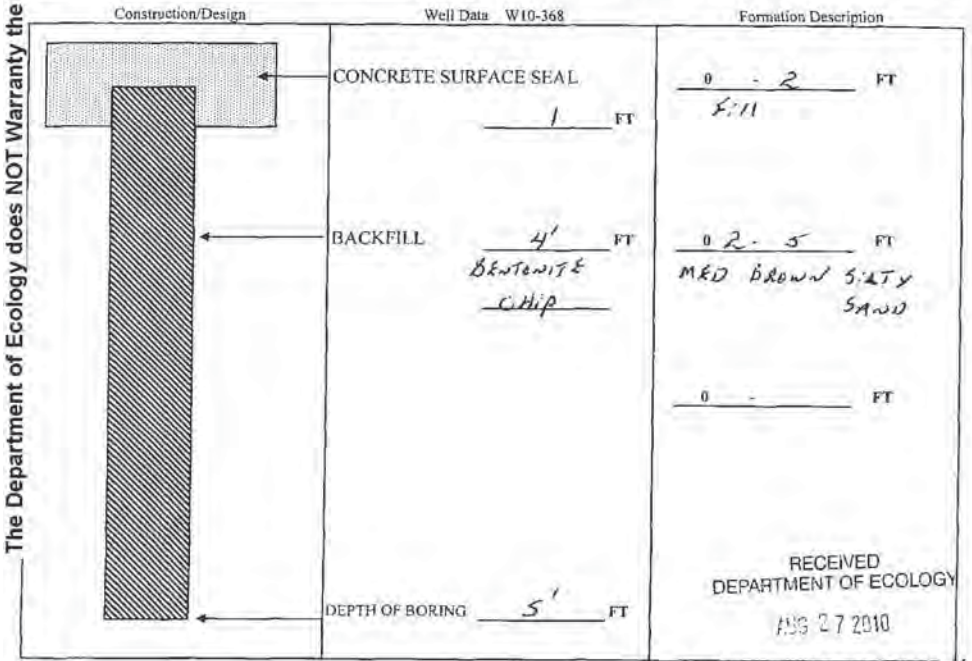
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates
Unique Ecology Well ID Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Increased Diameter 2" Static Level B'
Work/Decommission Start Date 7-27-10
If trainee, licensed drillers' Signature and License No. _____
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385283

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of WWM

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

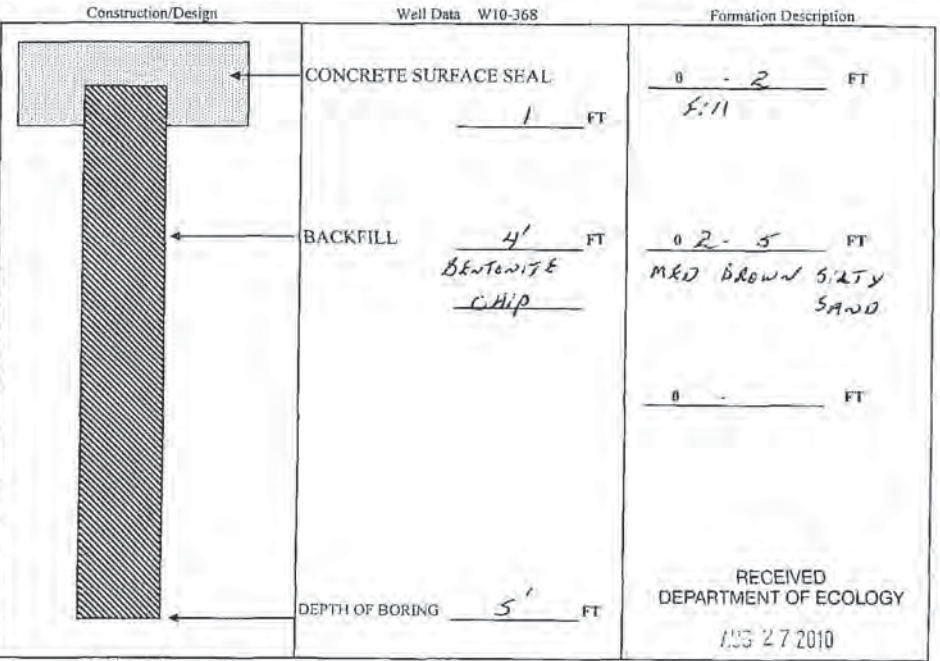
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385284

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID _____
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of WWM

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

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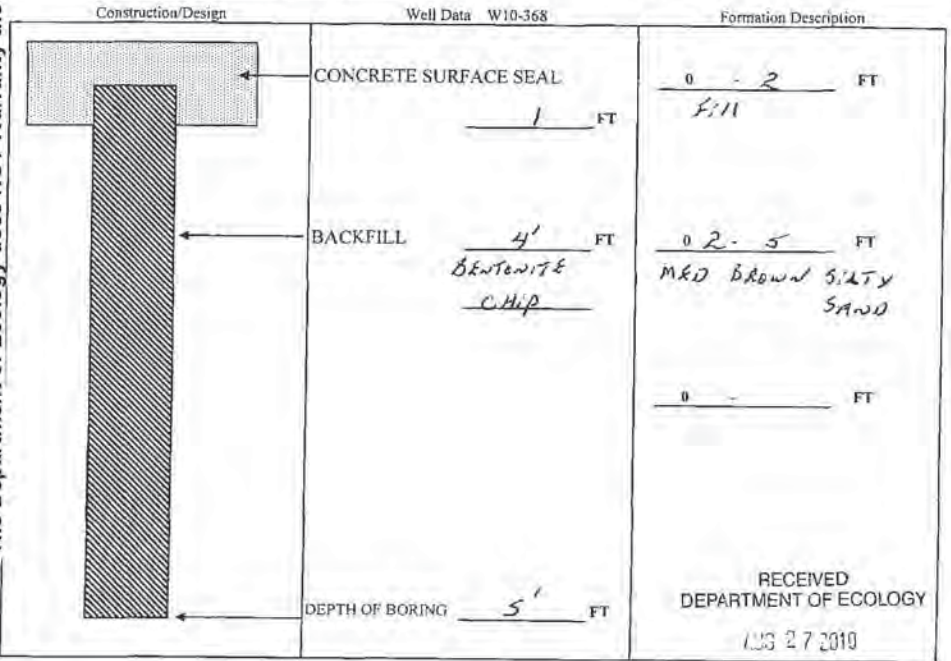
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385285 Type of Well Resource Protection Geotechnical Soil Boring

Construction Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID _____ Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____

Lat/Long (S, L, Lat Deg _____ Lat Min/Sec _____ still Required) Long Deg _____ Long Min/Sec _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

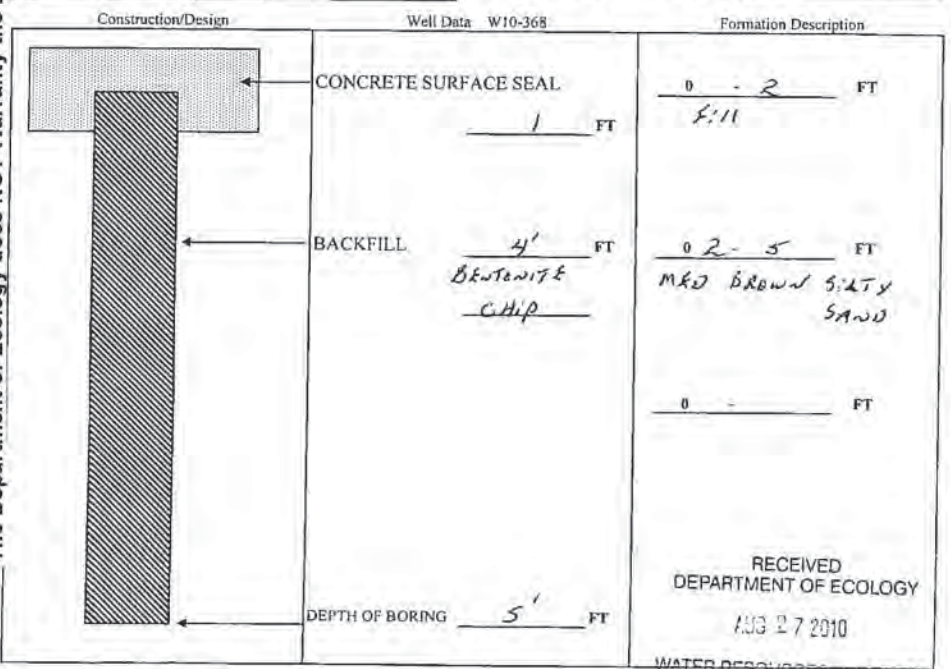
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Completed Date 7-30-10



RECEIVED DEPARTMENT OF ECOLOGY
AUG 27 2010
WATER RESOURCES PROGRAM
NWRO
ECY 200-12 (Rev. 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385286 Type of Well Resource Protection Geotechnical Soil Boring

Construction Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID _____ Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____

Lat/Long (S, L, Lat Deg _____ Lat Min/Sec _____ still Required) Long Deg _____ Long Min/Sec _____

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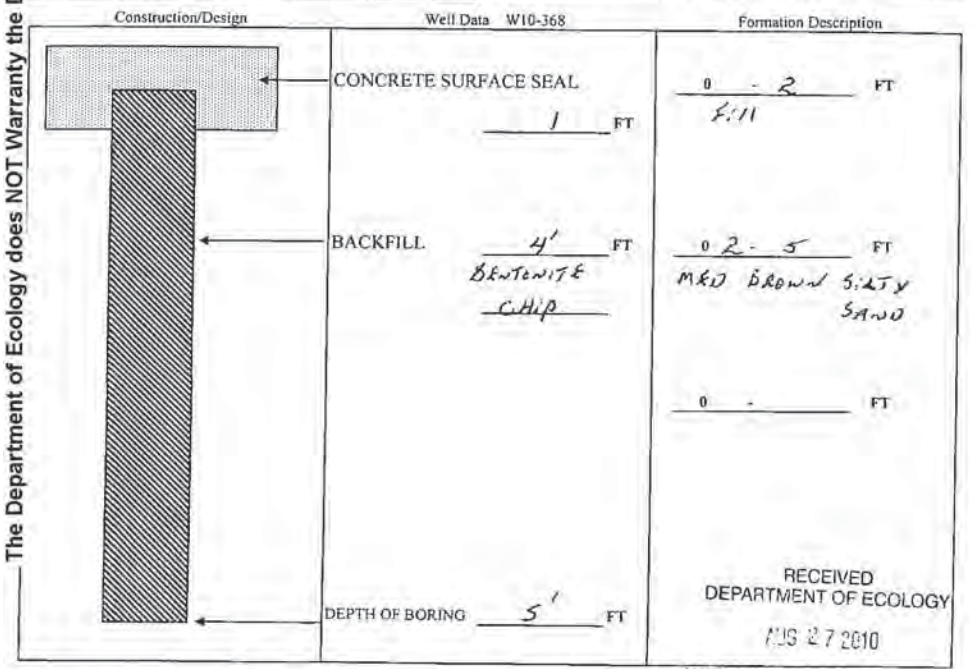
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Completed Date 7-30-10



RECEIVED DEPARTMENT OF ECOLOGY
AUG 27 2010
WATER RESOURCES PROGRAM
NWRO
ECY 200-12 (Rev. 2/01)

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission

385287

Construction

Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM
WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. _____

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level B'

If trained, licensed drillers' Signature and License No. _____

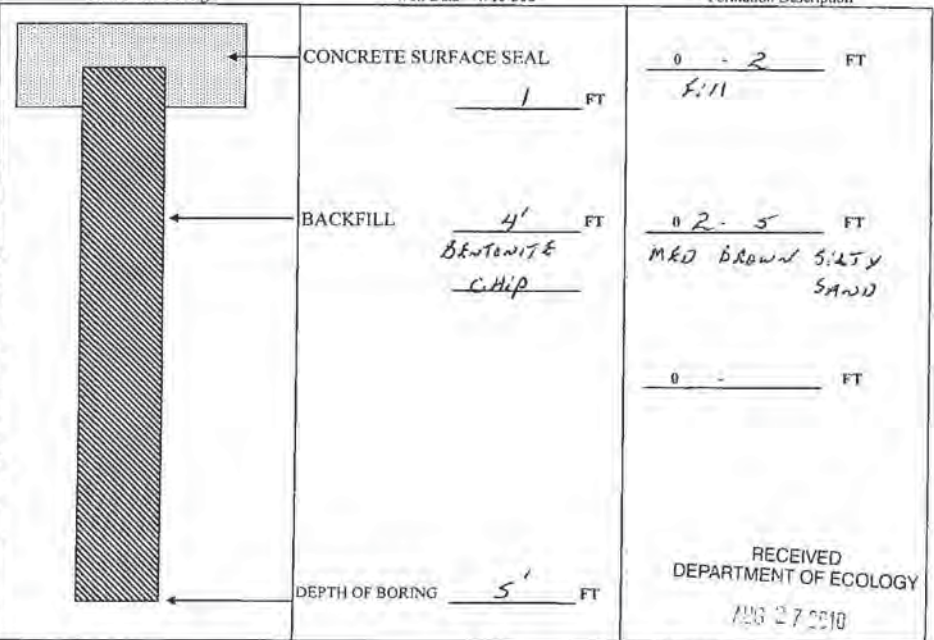
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

Page _____ of _____

RECEIVED DEPARTMENT OF ECOLOGY
AUG 27 2010
WATER RESOURCES PROGRAM
NWRO

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission

385288

Construction

Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM
WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No. _____

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level B'

If trained, licensed drillers' Signature and License No. _____

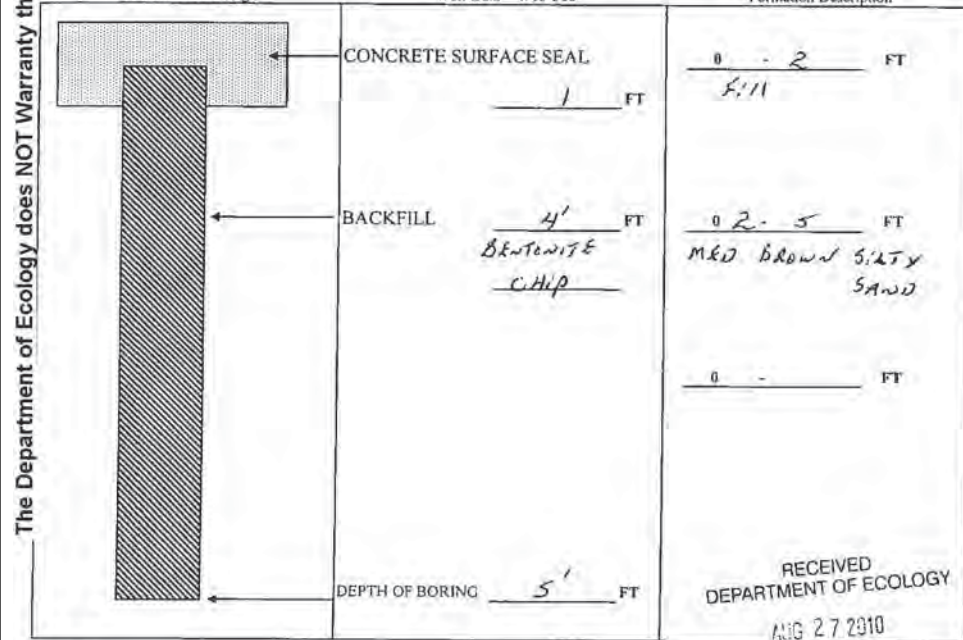
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

Page _____ of _____

RECEIVED DEPARTMENT OF ECOLOGY
AUG 27 2010
WATER RESOURCES PROGRAM
NWRO

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE07641

22-4E-2J

Construction/Decommission

385289

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards still Required) Long Deg _____

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level B'

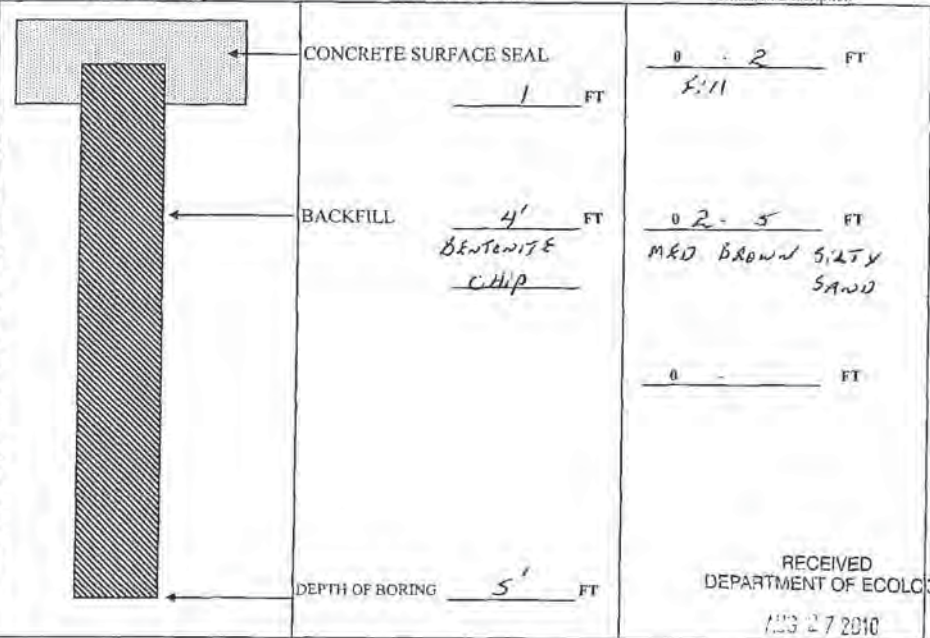
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



RECEIVED DEPARTMENT OF ECOLOGY

AUG 27 2010

Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM NWRO

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE07641

22-4E-2J

Construction/Decommission

385290

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards still Required) Long Deg _____

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level B'

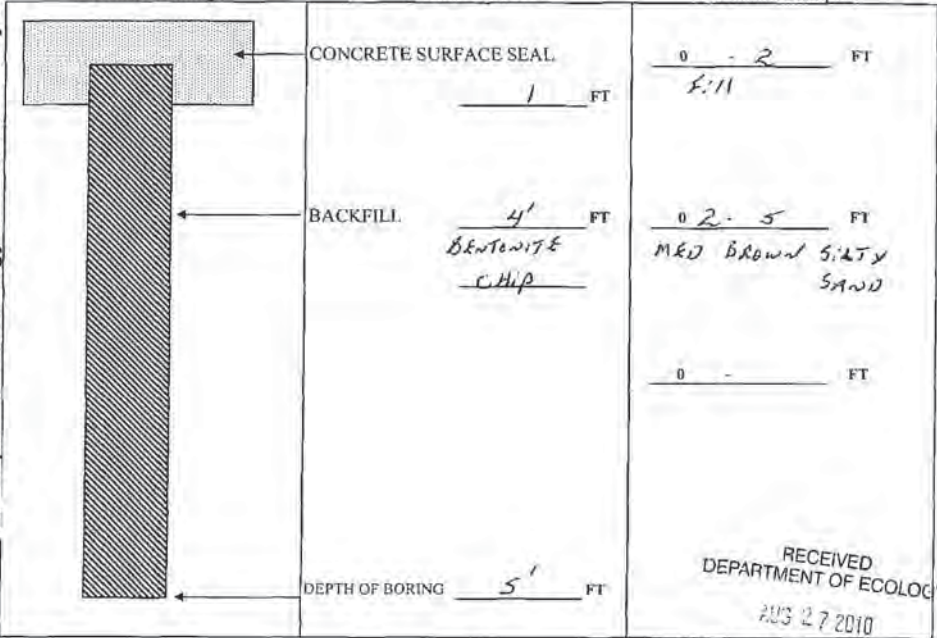
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



RECEIVED DEPARTMENT OF ECOLOGY

AUG 27 2010

Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM NWRO

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385291

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

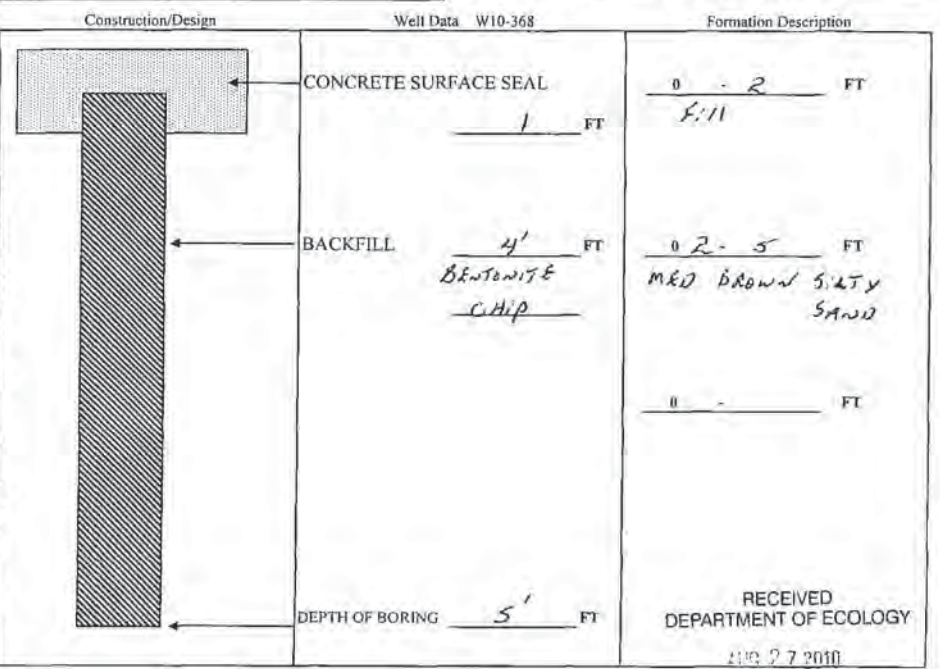
Lat/Long (s,t,r still Required) Lat Deg s Lat Min/Sec s
Long Deg s Long Min/Sec s

Tax Parcel No. _____

Cased or Uncased Diameter 2" State Level B'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
SE07641

Construction/Decommission 385292

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

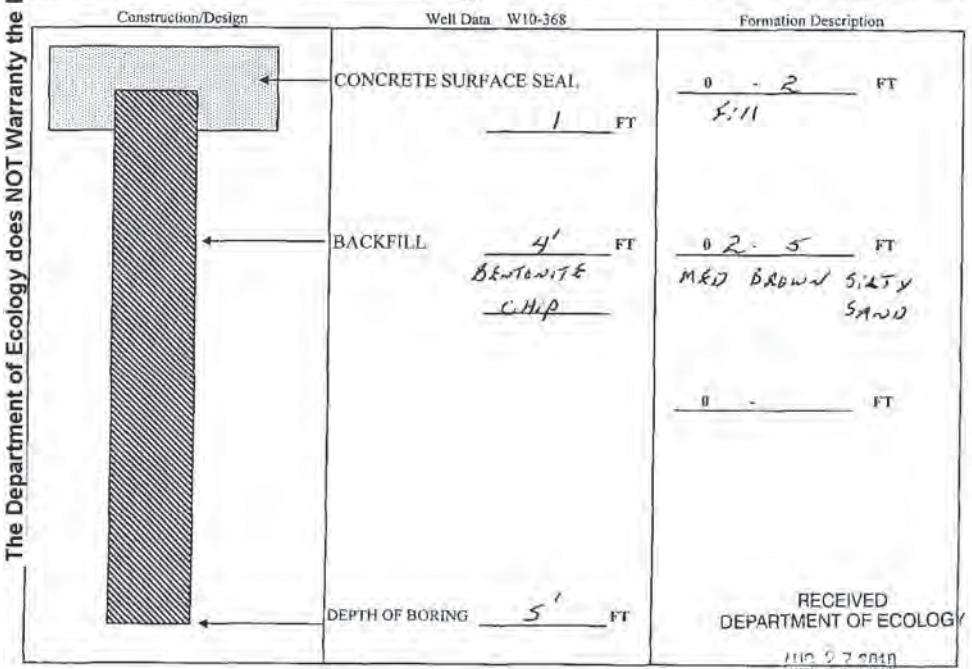
Lat/Long (s,t,r still Required) Lat Deg s Lat Min/Sec s
Long Deg s Long Min/Sec s

Tax Parcel No. _____

Cased or Uncased Diameter 2" State Level B'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission 385293

ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

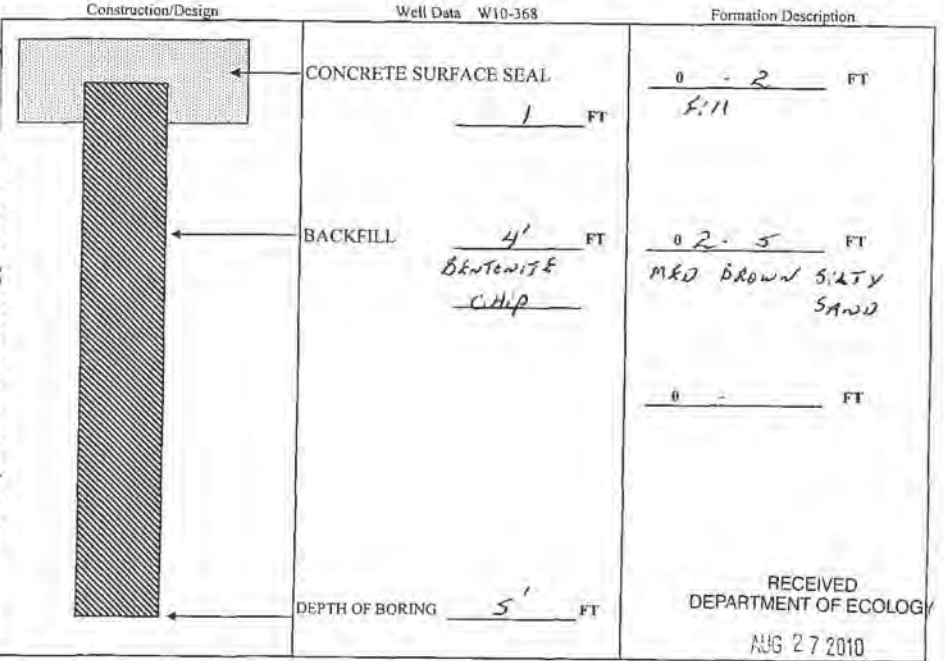
Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission 385294

ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

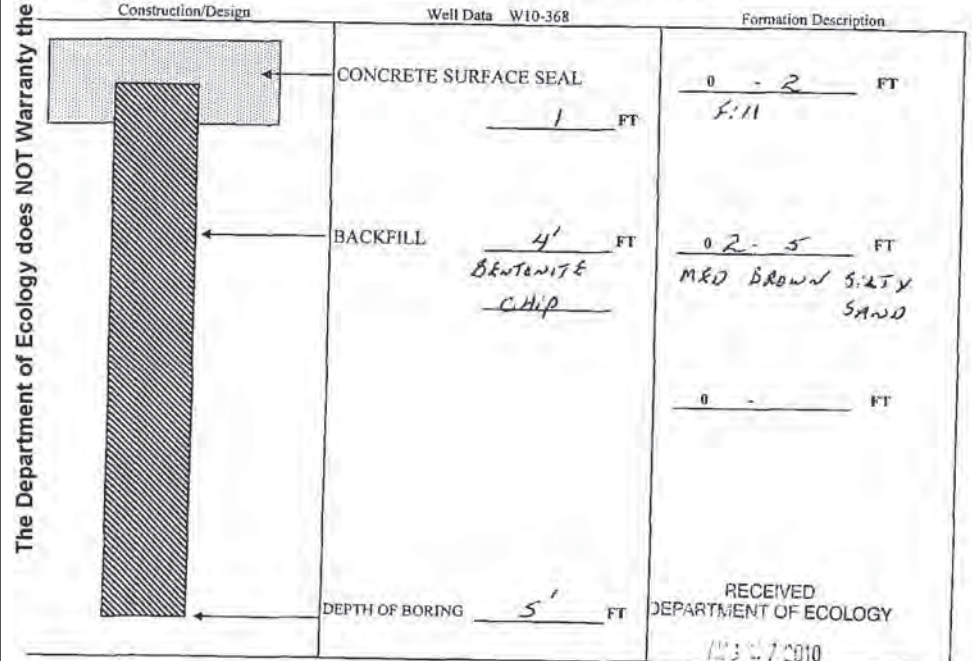
Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level B'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

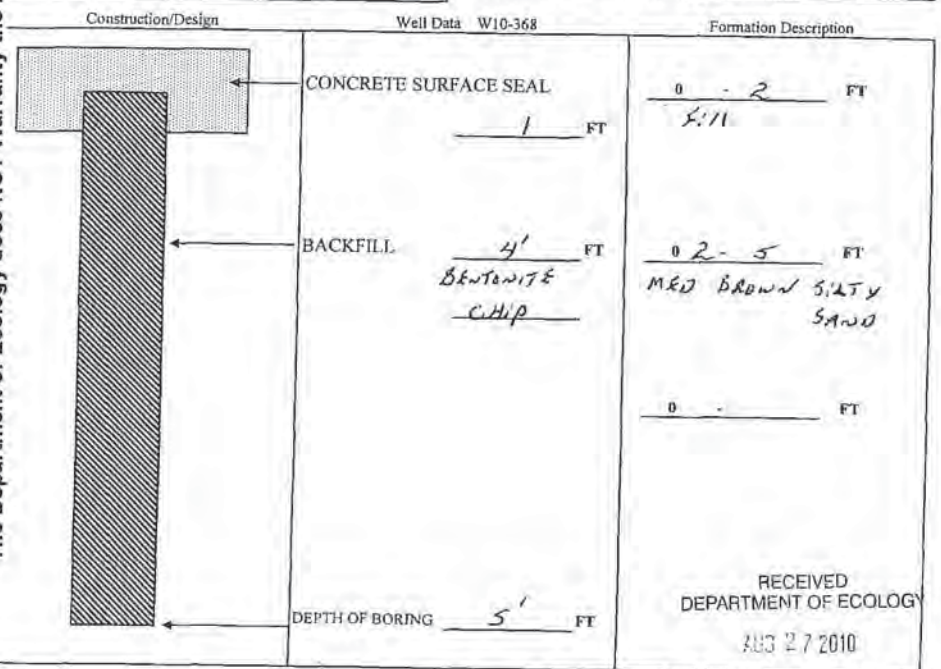
If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
Lat/Long (S, L, R) still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 0'

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



RECEIVED DEPARTMENT OF ECOLOGY
AUG 27 2010

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

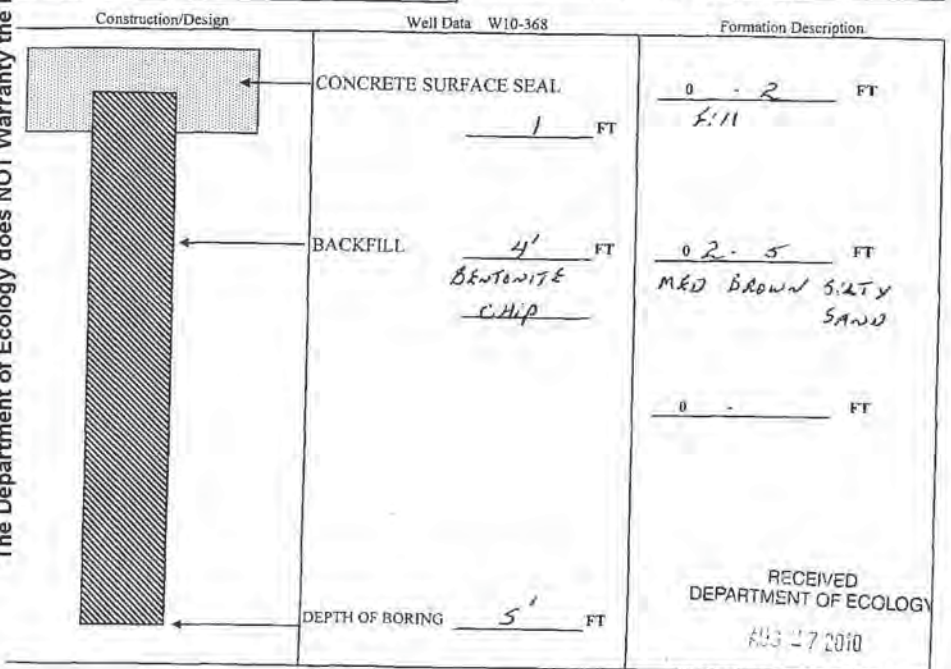
If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
Lat/Long (S, L, R) still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 0'

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



RECEIVED DEPARTMENT OF ECOLOGY
AUG 27 2010

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

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Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

CURRENT
 Notice of Intent No. 22-4E-2J
AE10045

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

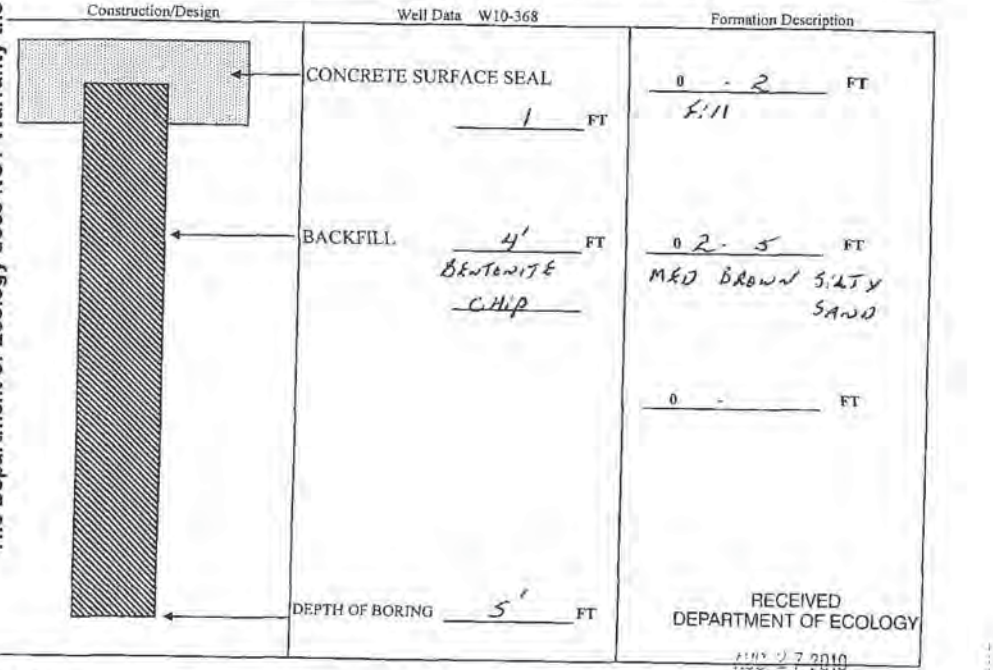
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (S, L, R) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

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If trainee, licensed drillers' Signature and License No. _____

CURRENT
 Notice of Intent No. 22-4E-2J
AE10045

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

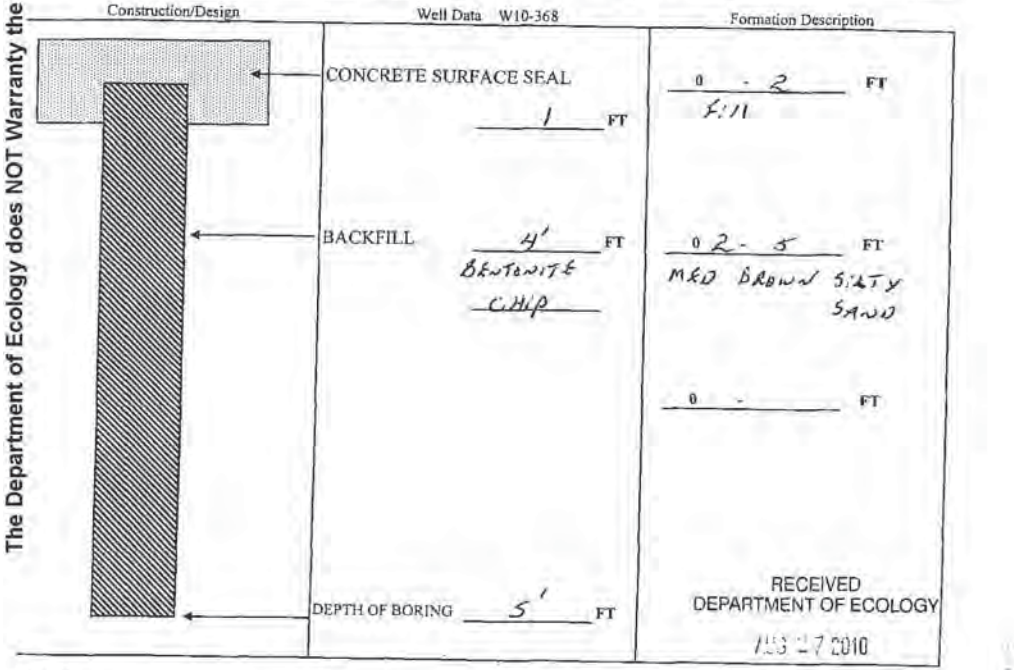
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (S, L, R) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



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The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 20-4E-2J
Notice of Intent No. AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (S, L, R) Lat Deg 3 Lat Min/Sec x
still Required) Long Deg 2 Long Min/Sec x

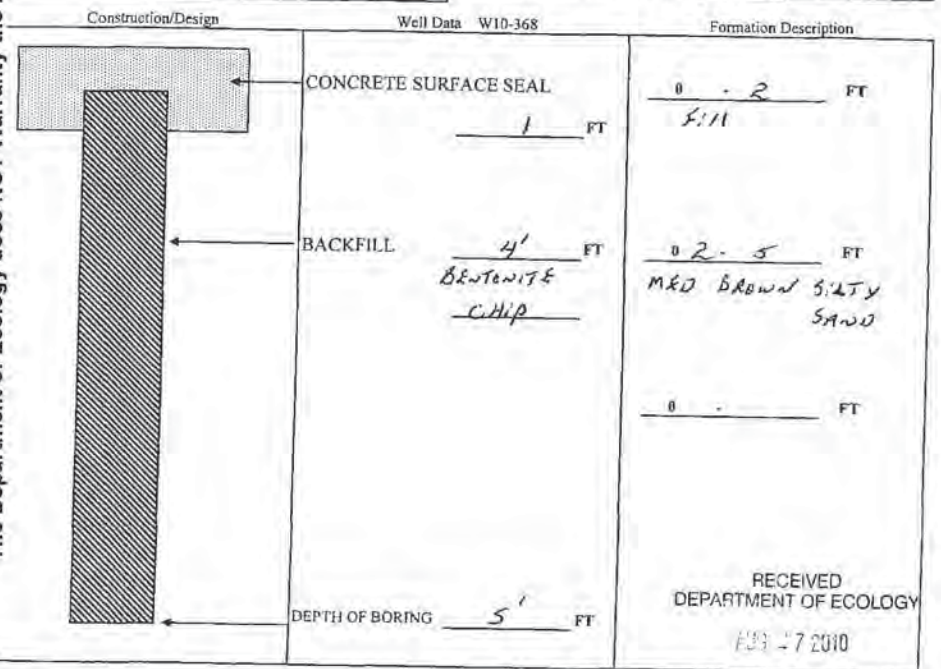
Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed driller's
Signature and License No. _____

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 20-4E-2J
Notice of Intent No. AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

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Tag No. _____

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Lat/Long (S, L, R) Lat Deg 3 Lat Min/Sec x
still Required) Long Deg 2 Long Min/Sec x

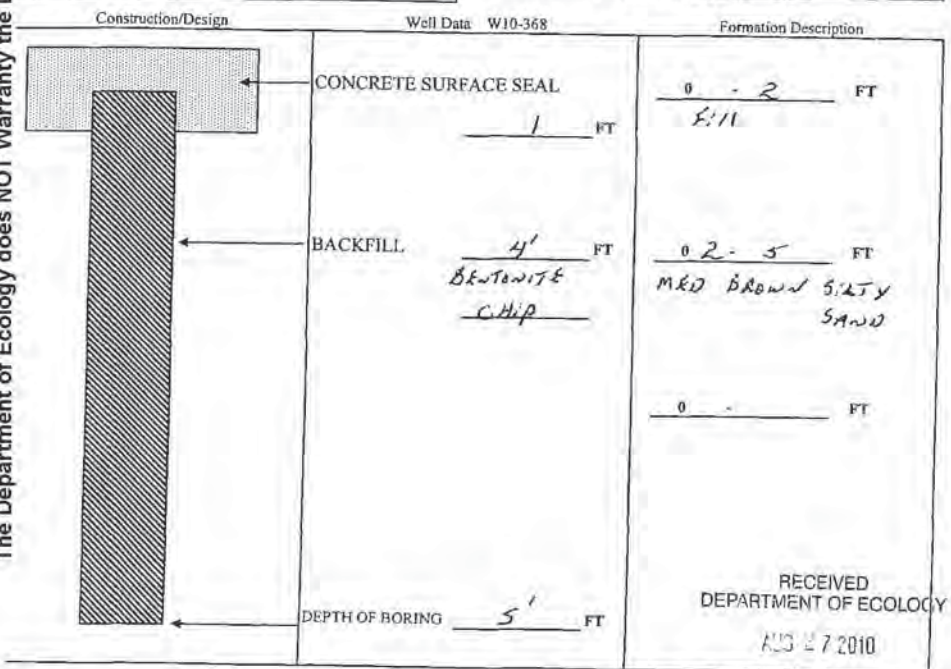
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Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed driller's
Signature and License No. _____

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 5E07641

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

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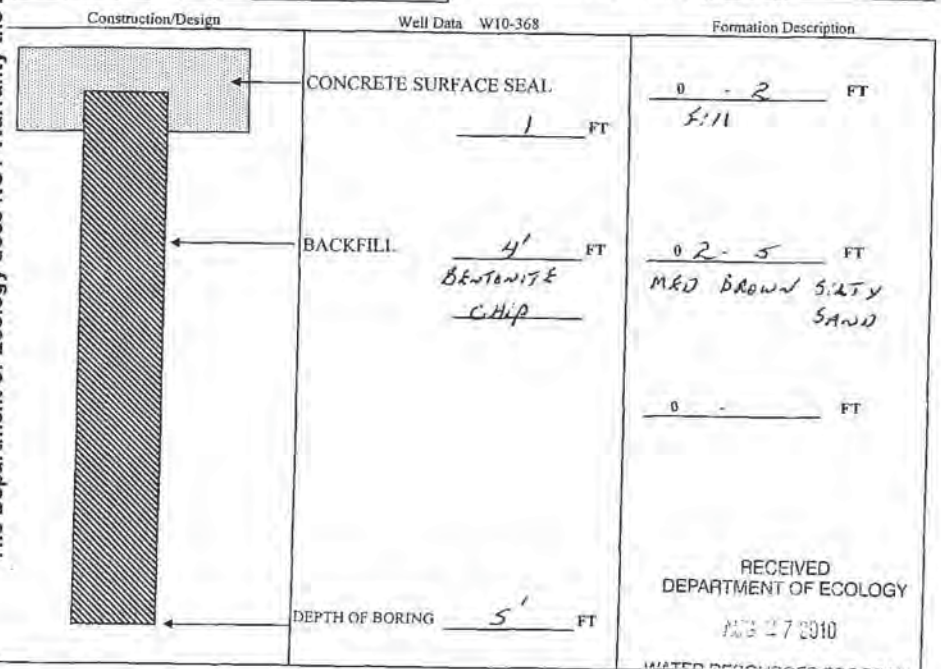
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 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'

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Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 5E07641

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

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Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

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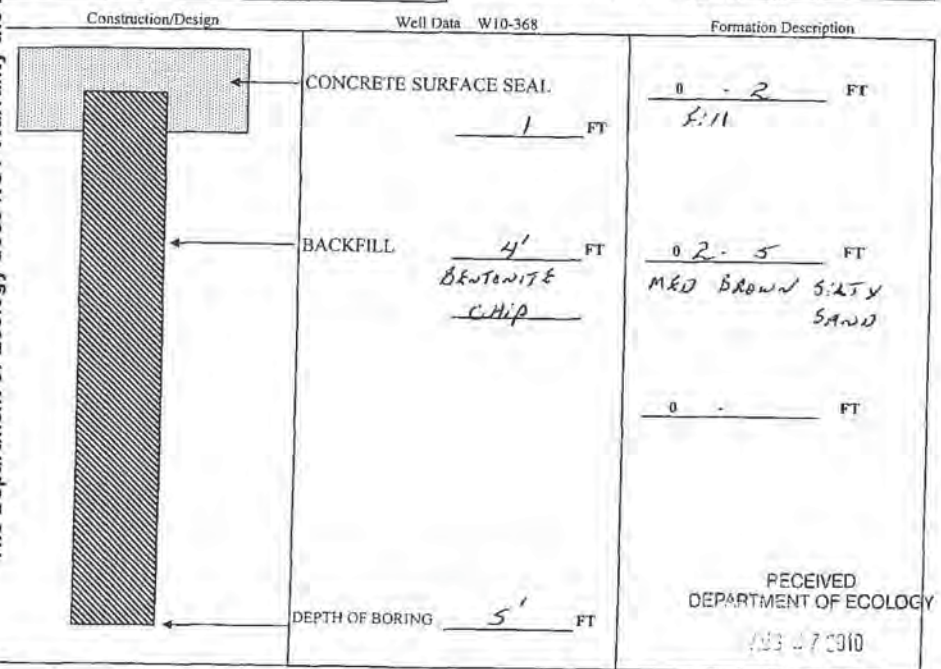
Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x
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Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
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Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____
 WWM _____

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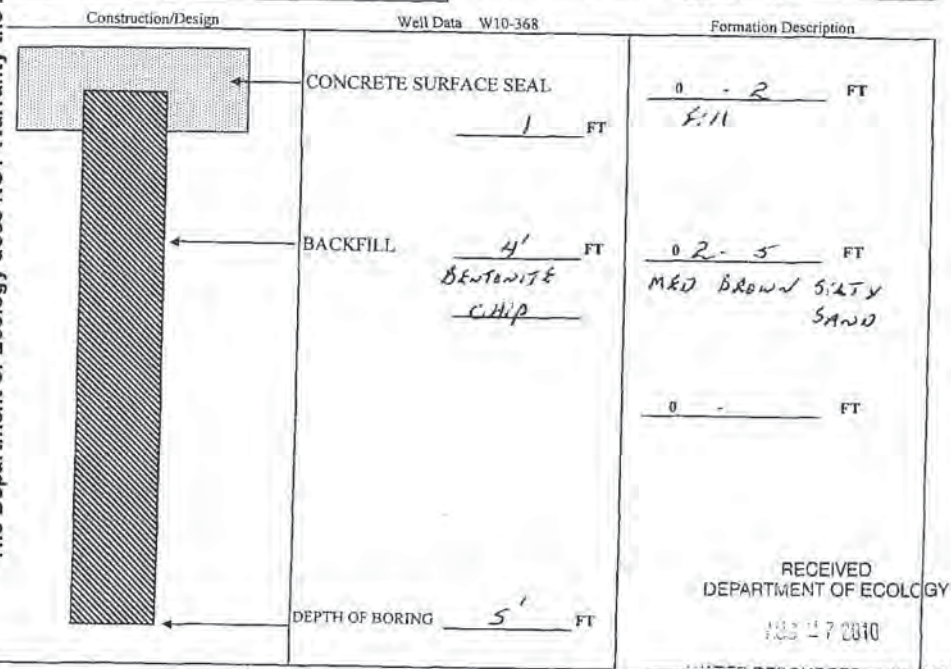
Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
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 Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____
 WWM _____

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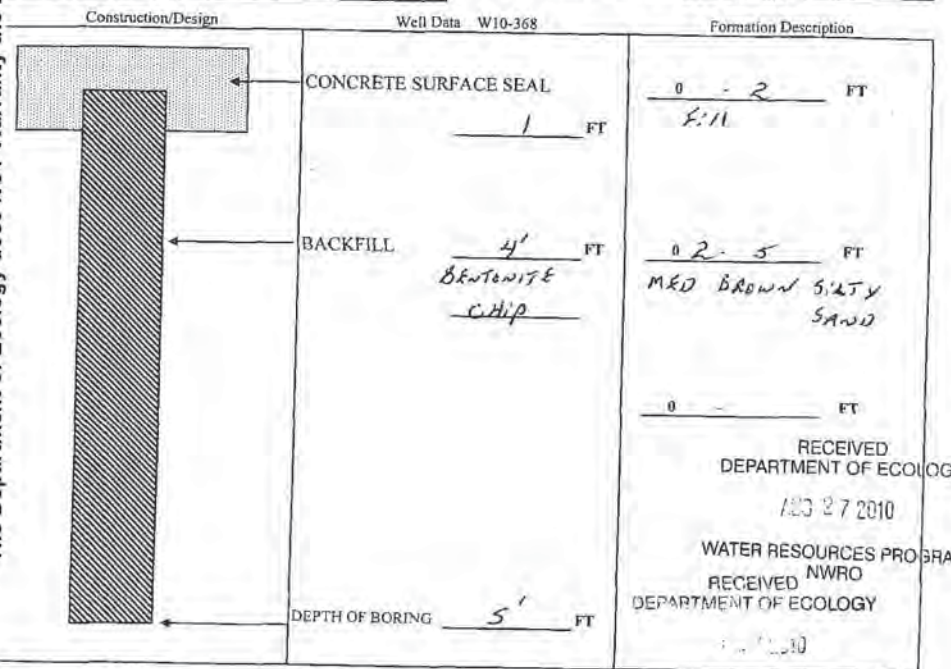
Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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 DEPARTMENT OF ECOLOGY
 EGY 910-12 (Rev. 201)

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 02-46-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____
 WWM

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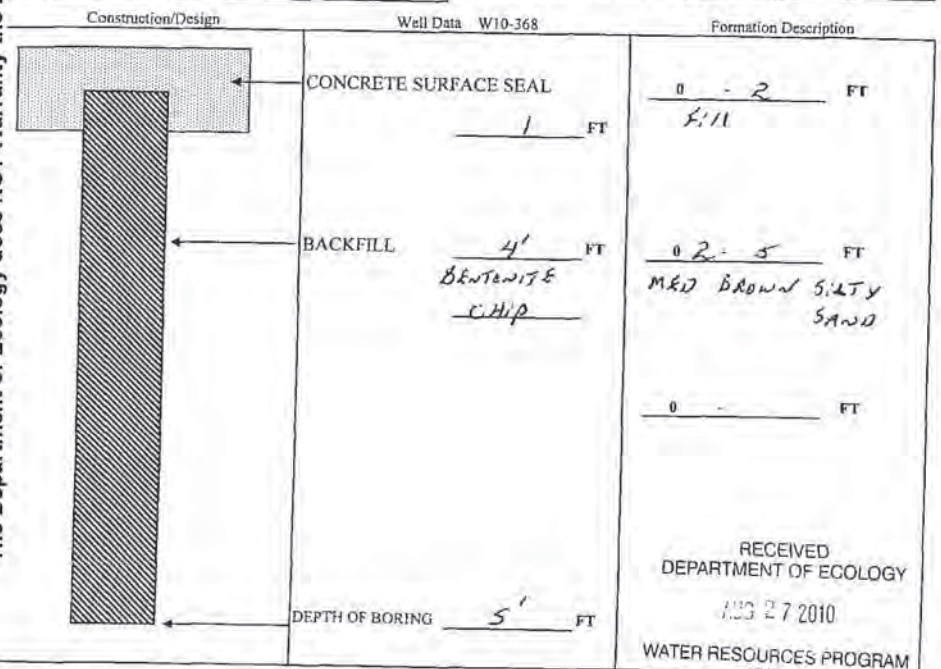
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 02-46-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or _____
 WWM

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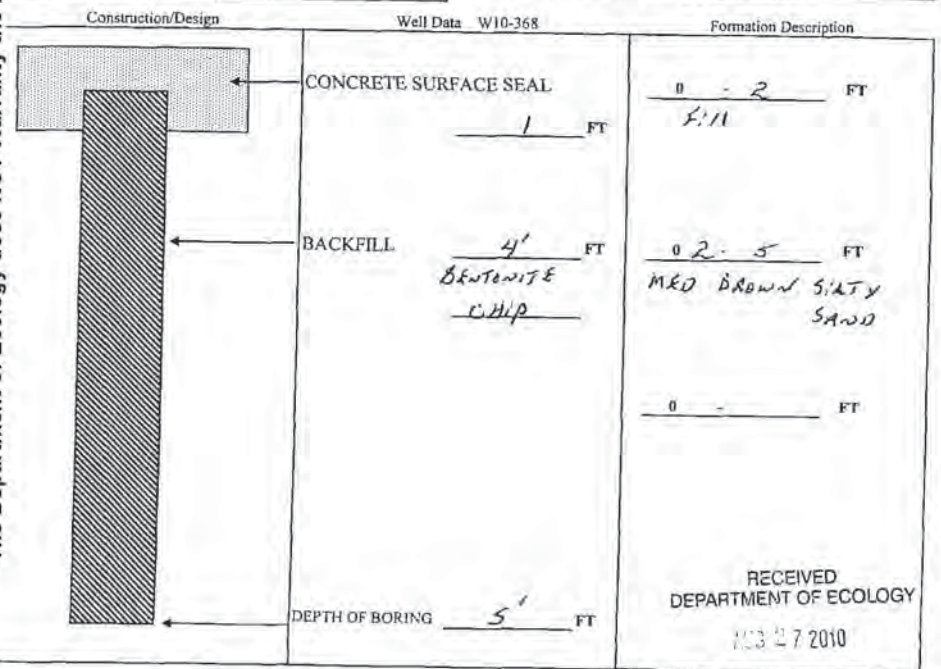
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-2J
Notice of Intent No. AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (s,r still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Gable
Driller/Trainee Signature Lynn Gable
Driller/Trainee License No. 2982

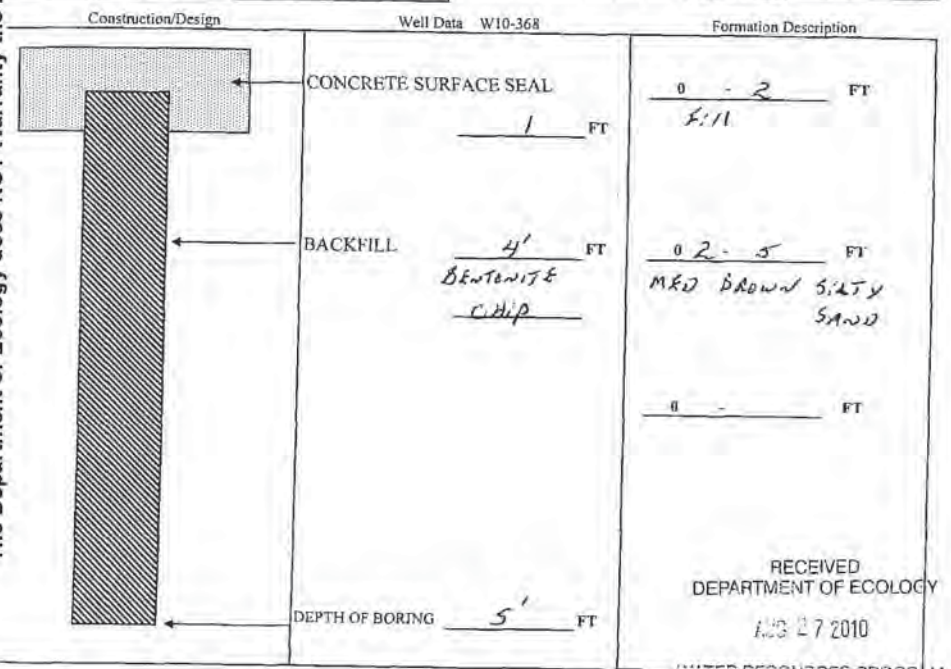
If trainee, licensed drillers' Signature and License No. _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



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DEPARTMENT OF ECOLOGY
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ECY 909-12 (Rev 201)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-2J
Notice of Intent No. AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (s,r still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

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Driller Trainee Name (Print) Lynn Gable
Driller/Trainee Signature Lynn Gable
Driller/Trainee License No. 2982

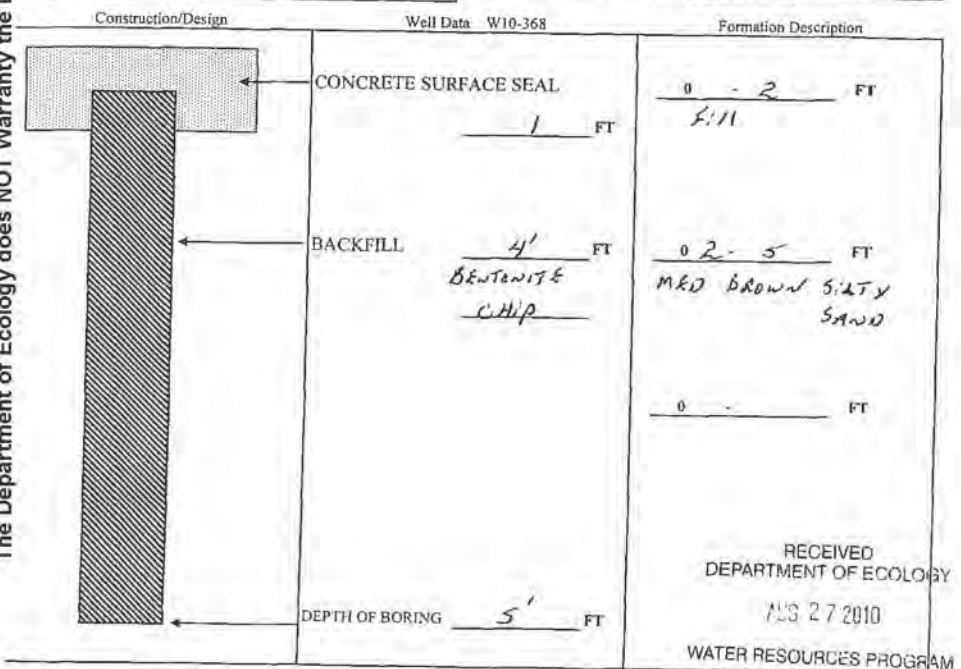
If trainee, licensed drillers' Signature and License No. _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



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DEPARTMENT OF ECOLOGY
AUG 27 2010
WATER RESOURCES PROGRAM
NWRCO
ECY 909-12 (Rev 201)

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No.

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I contracted and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (s,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

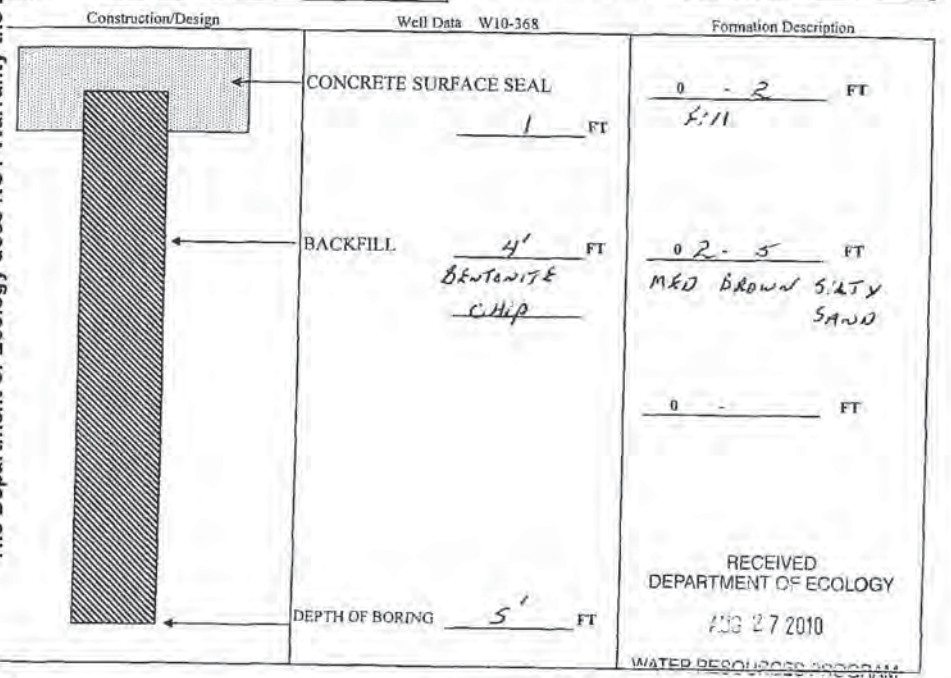
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Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 0'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



scale 1" = _____ Page _____ of _____
 RECEIVED DEPARTMENT OF ECOLOGY
 AUG 27 2010
 WATER RESOURCES PROGRAM
 NWRO
 ECY 010-12 (Rev 2/01)

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No.

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or 4E or WWM

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Lat/Long (s,r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

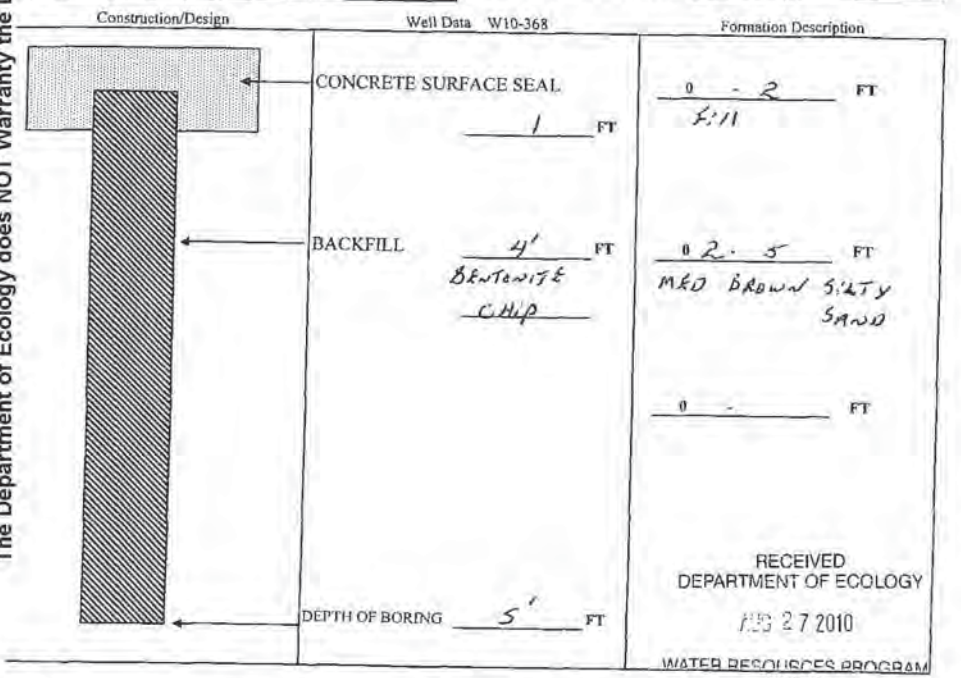
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Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 0'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



scale 1" = _____ Page _____ of _____
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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No. _____

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Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

CURRENT 22-4E-2J
 Notice of Intent No. AE10045

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

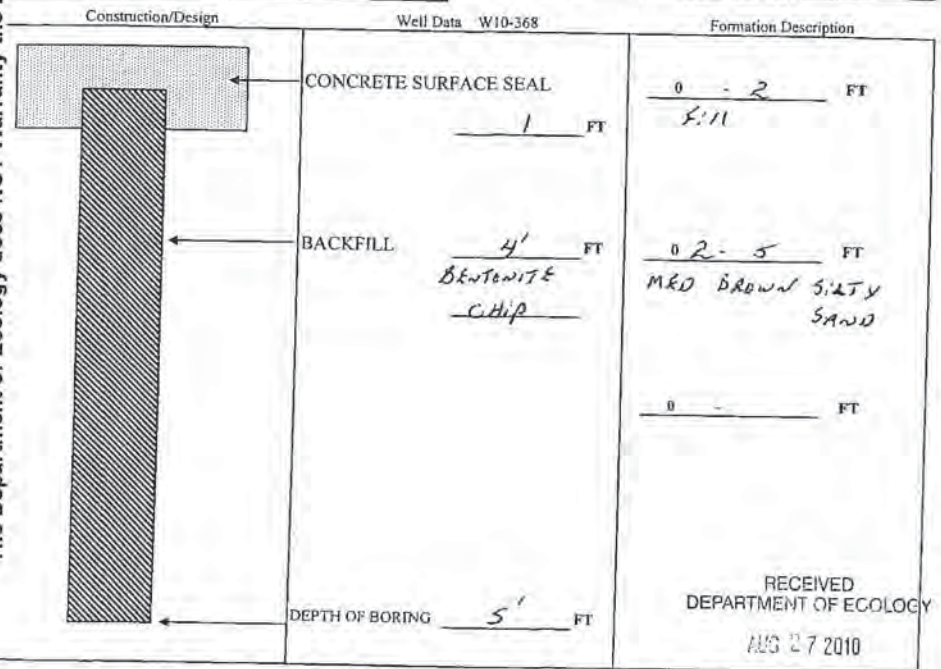
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (s,t,r still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID
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 Driller/Trainee Signature Lynn Goble
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CURRENT 22-4E-2J
 Notice of Intent No. AE10045

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

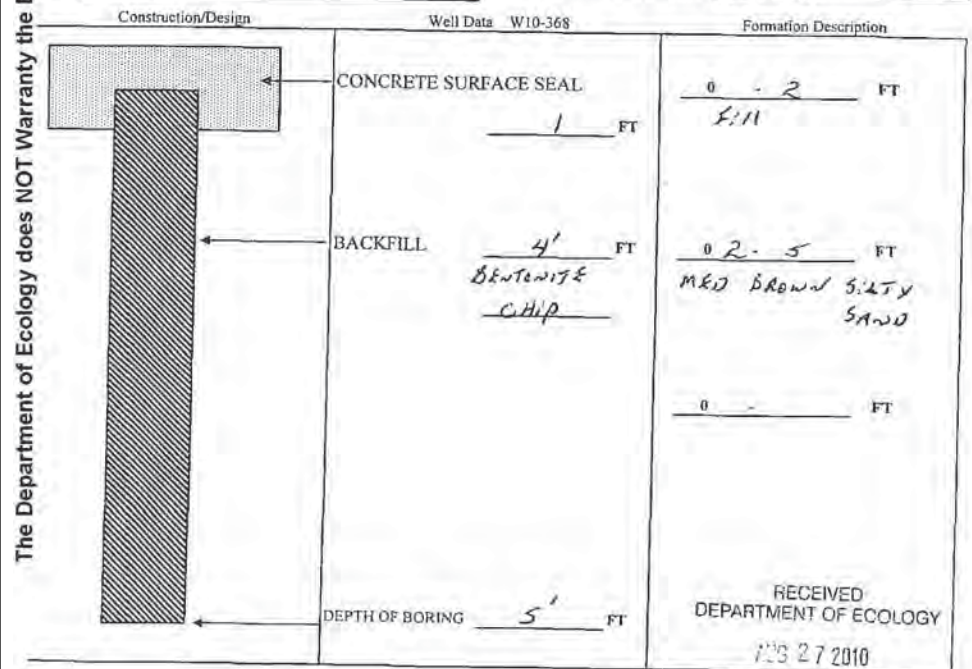
Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

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Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-46-2J AE10045

Construction/Decommission
 Construction 385313
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-46-2J AE10045

Construction/Decommission
 Construction 385314
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

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Lat/Long (S, L, R) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

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Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed driller's
Signature and License No. _____

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

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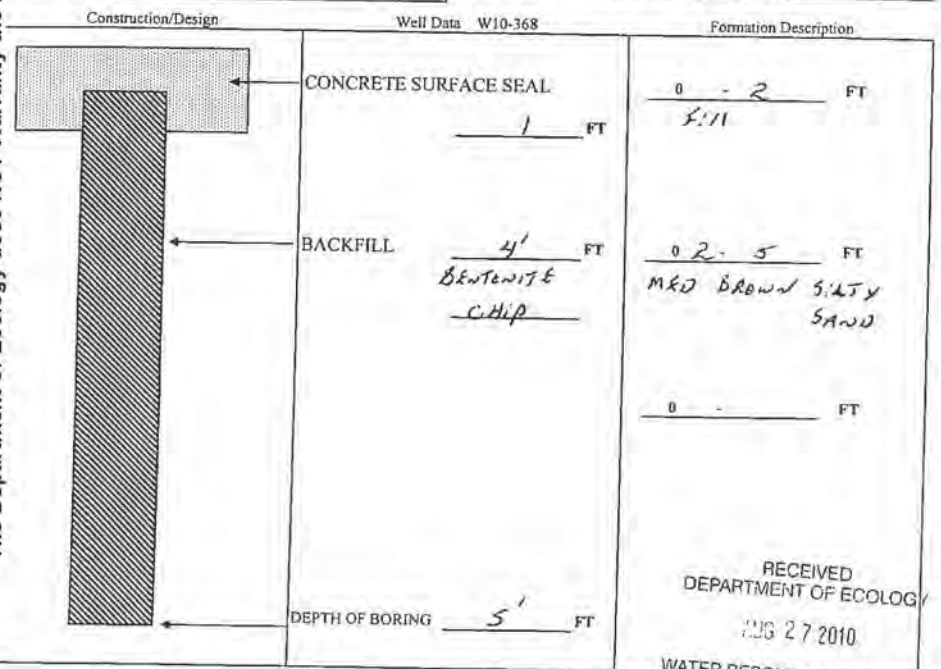
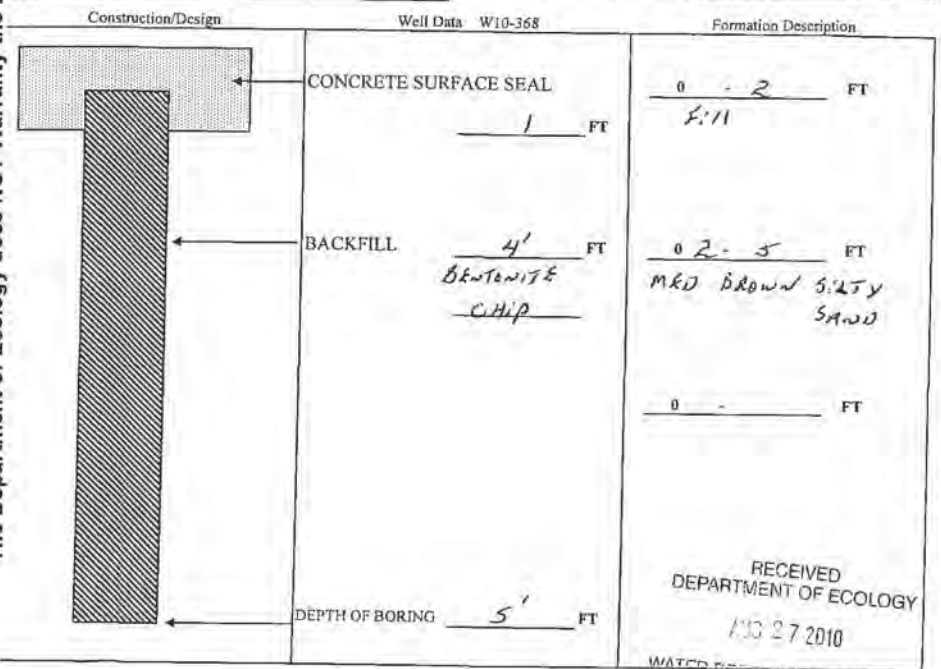
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Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed driller's
Signature and License No. _____

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



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WATER RESOURCES PROGRAM
NW/RP
ECV 05012 (Rev. 201)

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 20-4E-2J
Notice of Intent No. AE10045

Construction/Decommission 385315
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SEP 7641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID
Tag No.

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

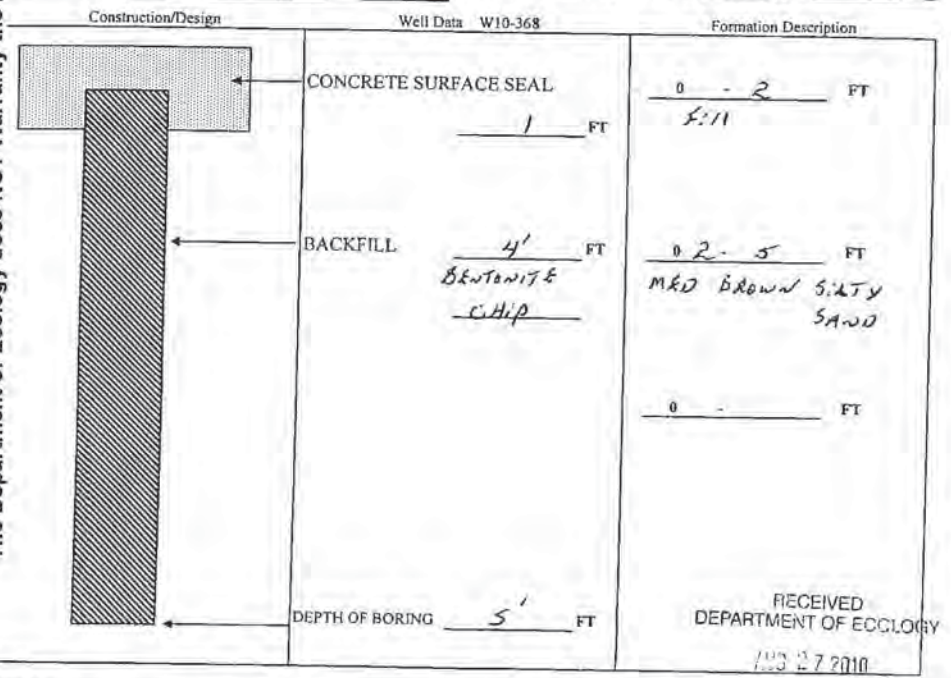
Lat/Long (S, L, R) Lat Deg s Lat Min/Sec s
still Required) Long Deg s Long Min/Sec s

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No.
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 20-4E-2J
Notice of Intent No. AE10045

Construction/Decommission 385316
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SEP 7641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Unique Ecology Well ID
Tag No.

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

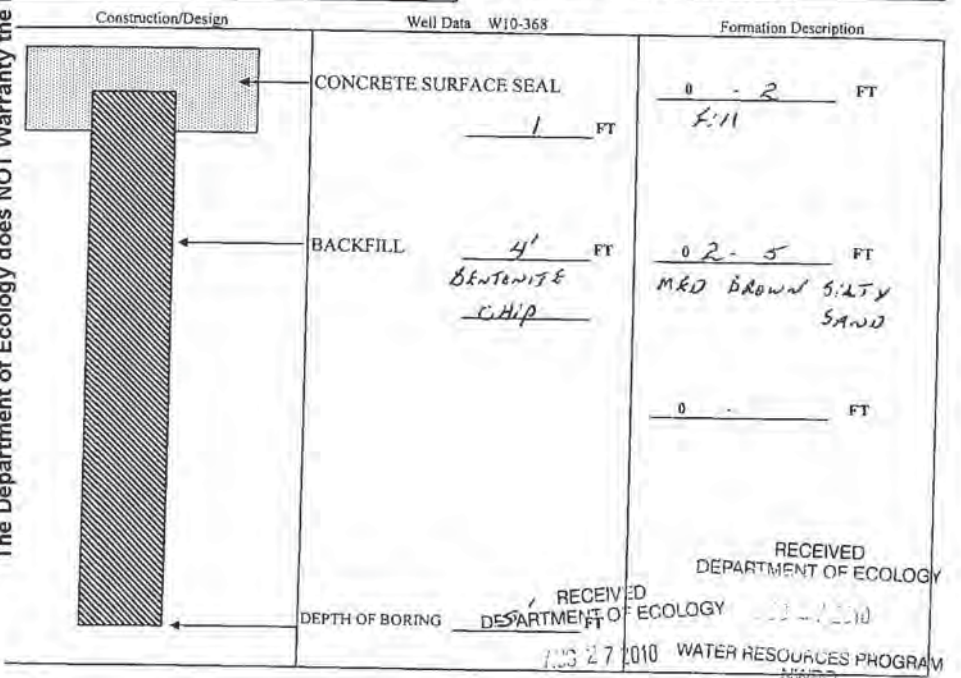
Lat/Long (S, L, R) Lat Deg s Lat Min/Sec s
still Required) Long Deg s Long Min/Sec s

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No.
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No.

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (S, L, R) Lat Deg x Lat Min/Sec x
 still Required Long Deg x Long Min/Sec x

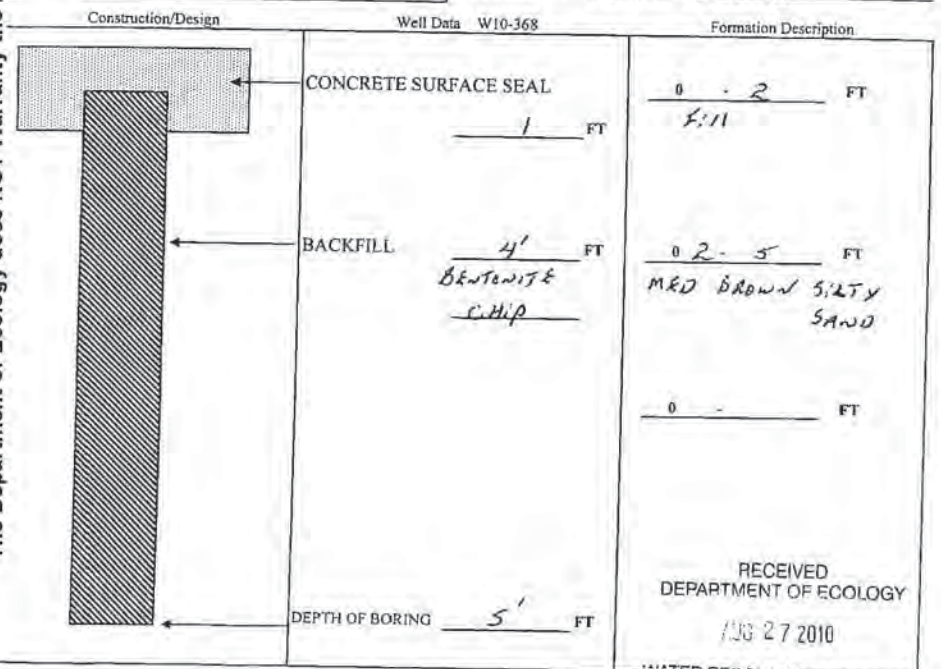
Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 0'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



RECEIVED DEPARTMENT OF ECOLOGY
 1/03 27 2010

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 5E07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID
 Tag No.

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Lat/Long (S, L, R) Lat Deg x Lat Min/Sec x
 still Required Long Deg x Long Min/Sec x

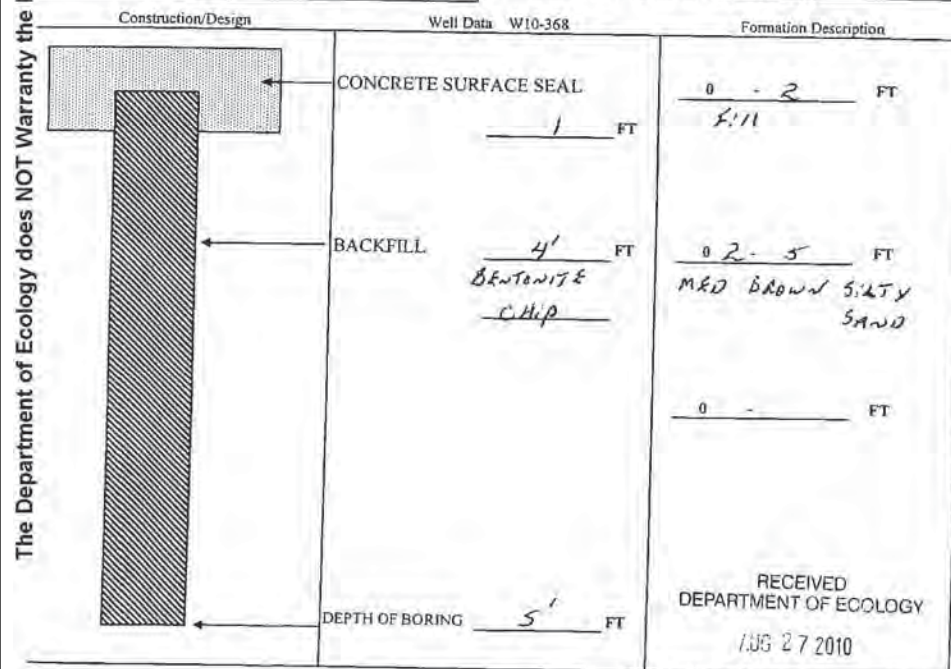
Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 0'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



RECEIVED DEPARTMENT OF ECOLOGY
 1/03 27 2010

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 204E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Unique Ecology Well ID
 Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

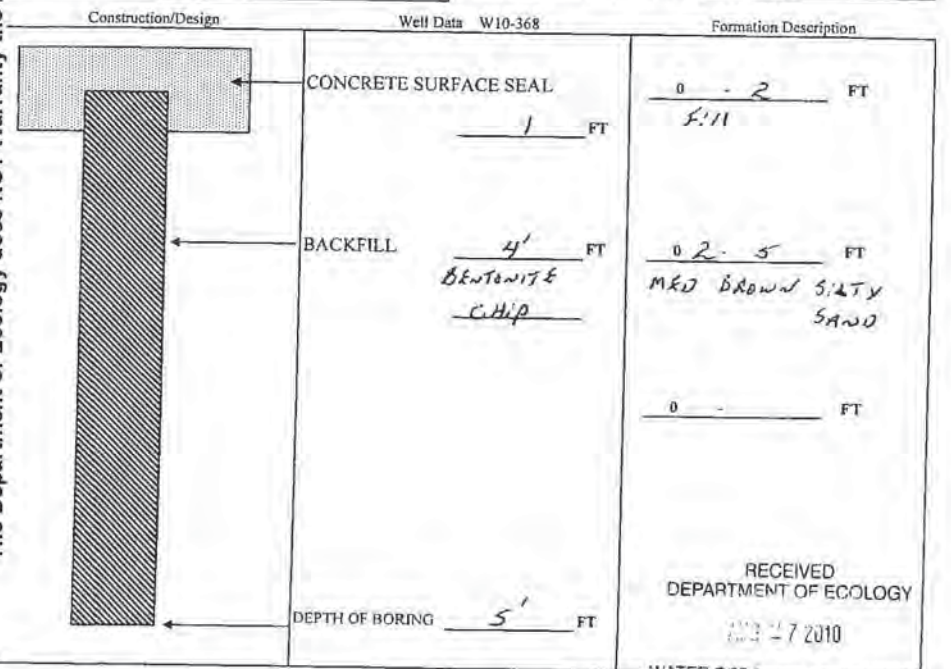
Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Lat/Long (S, L, R) Lat Deg Lat Min/Sec
 still Required) Long Deg Long Min/Sec

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 204E-2J
AE10045

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Unique Ecology Well ID
 Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

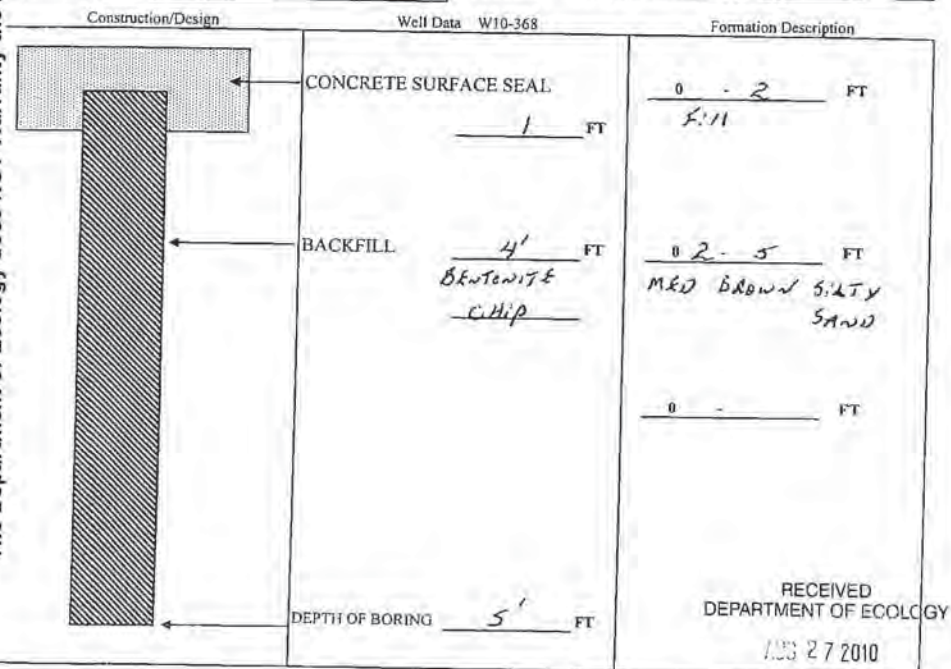
Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Lat/Long (S, L, R) Lat Deg Lat Min/Sec
 still Required) Long Deg Long Min/Sec

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No.

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction 385321
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (S, L, R) Lat Deg x Lat Min/Sec e
still Required) Long Deg x Long Min/Sec x

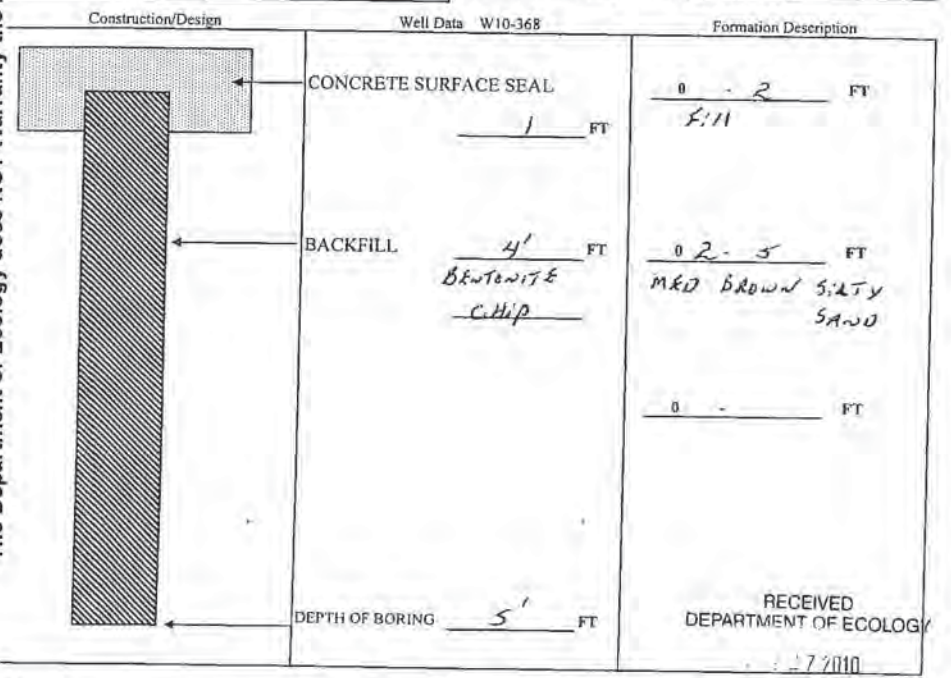
Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission
 Construction 385322
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Type of Well
 Resource Protection
 Geotechnical Soil Boring
Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (S, L, R) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

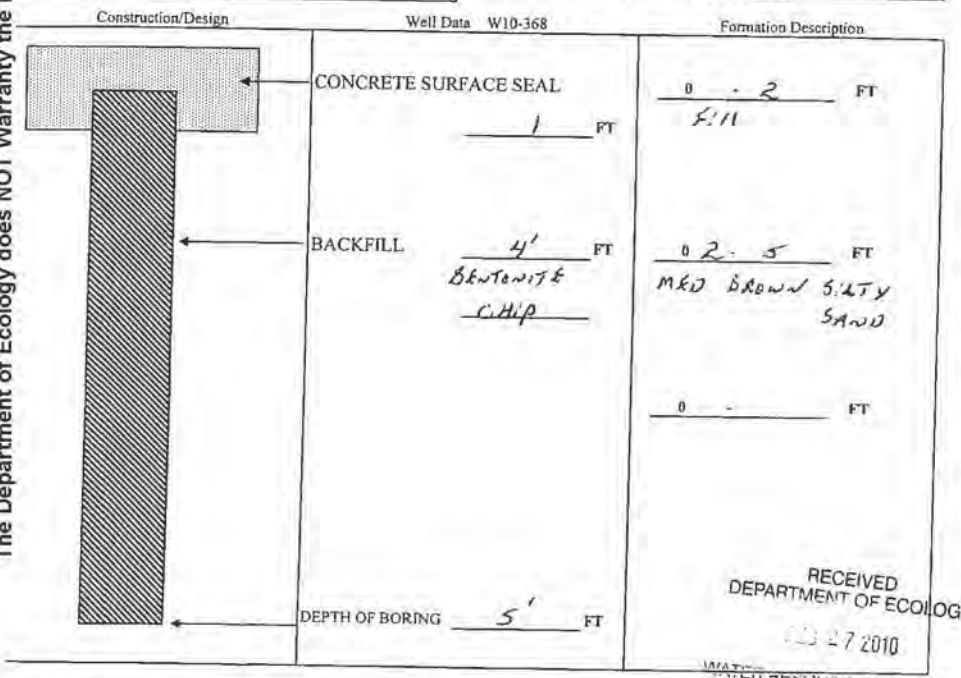
Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Tax Parcel No. _____
Cased or Uncased Diameter 2" Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. EE01534
20-4E-2J

Construction/Decommission 385675
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

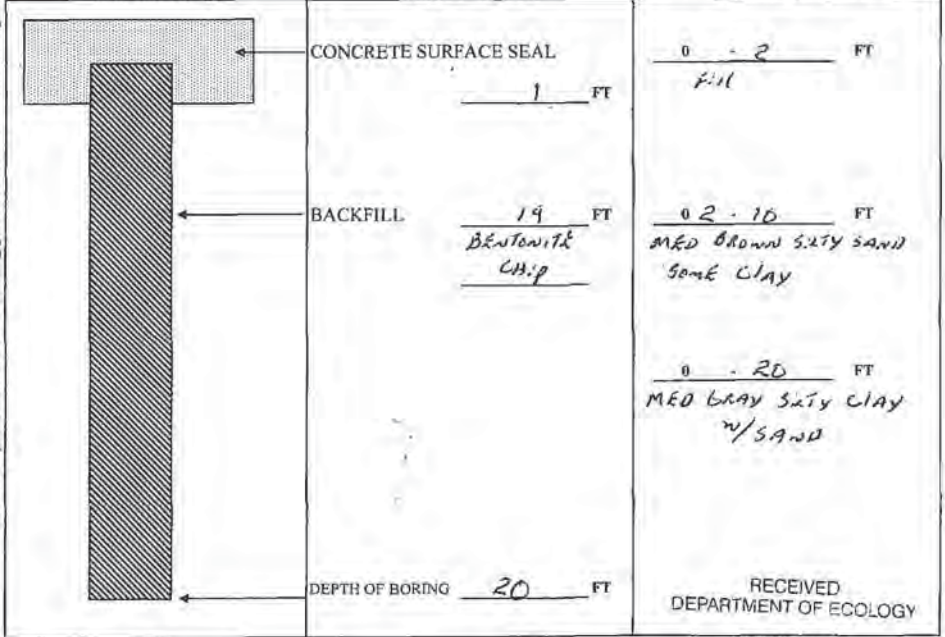
Consulting Firm Landau Associates
Unique Ecology Well ID _____
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'
Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. EE01534
20-4E-2J

Construction/Decommission 385676
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

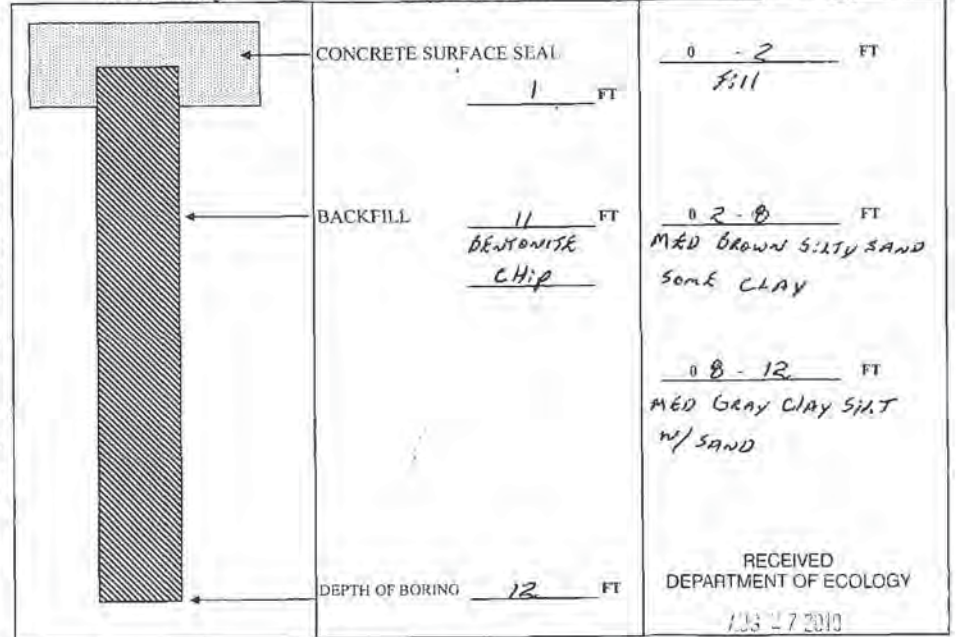
Consulting Firm Landau Associates
Unique Ecology Well ID _____
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'
Work/Decommission Start Date 7-27-10
Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



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DEPARTMENT OF ECOLOGY
AUG 17 2010

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

EE01534

02-4E-2J

Notice of Intent No. _____

Construction/Decommission

385677

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

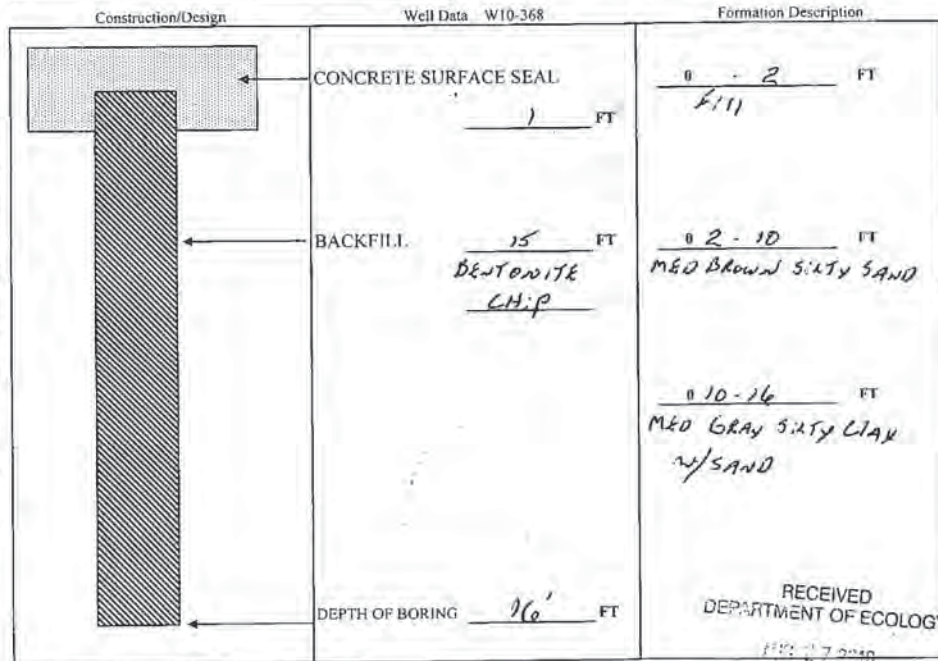
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

EE01534

02-4E-2J

Notice of Intent No. _____

Construction/Decommission

385678

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

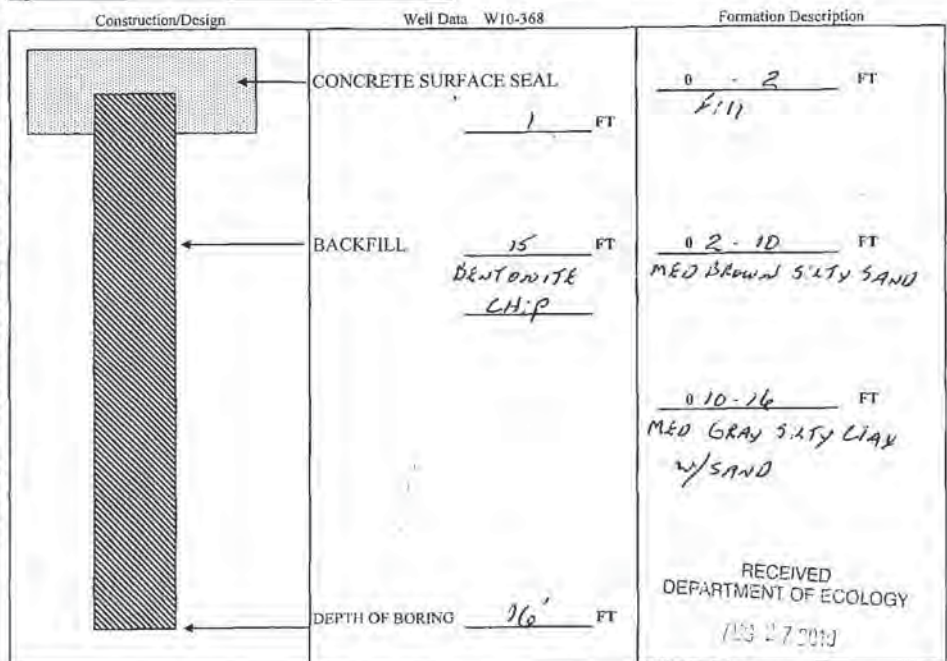
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-2J
 EE01534
 Notice of Intent No. _____

Construction/Decommission 385679
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 Consulting Firm Landau Associates City Kent County King EWM

Unique Ecology Well ID _____ Tag No. _____

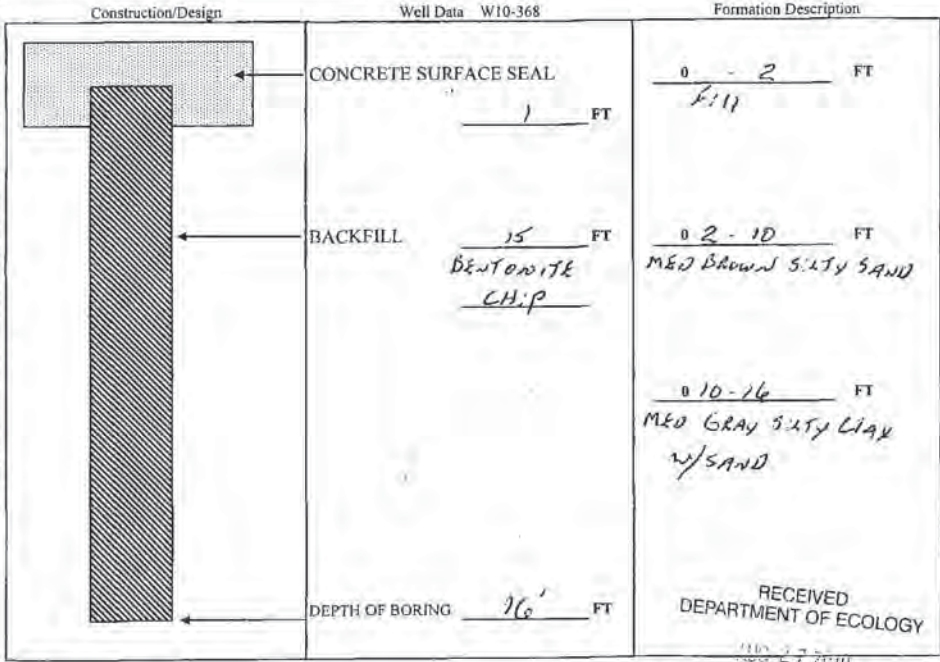
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well Resource Protection Geotechnical Soil Boring

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
 Lat/Long (s,t,r) still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x
 Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'
 Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-2J
 EE01534
 Notice of Intent No. _____

Construction/Decommission 385680
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 Consulting Firm Landau Associates City Kent County King EWM

Unique Ecology Well ID _____ Tag No. _____

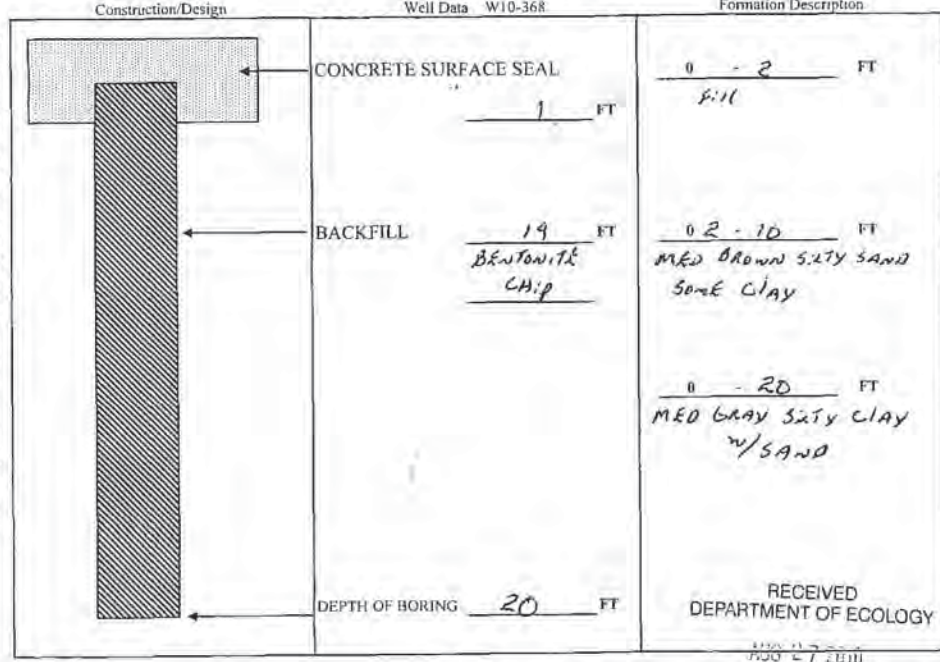
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well Resource Protection Geotechnical Soil Boring

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM
 Lat/Long (s,t,r) still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x
 Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 8'
 Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
EE01534

Construction/Decommission 385681

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID _____
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

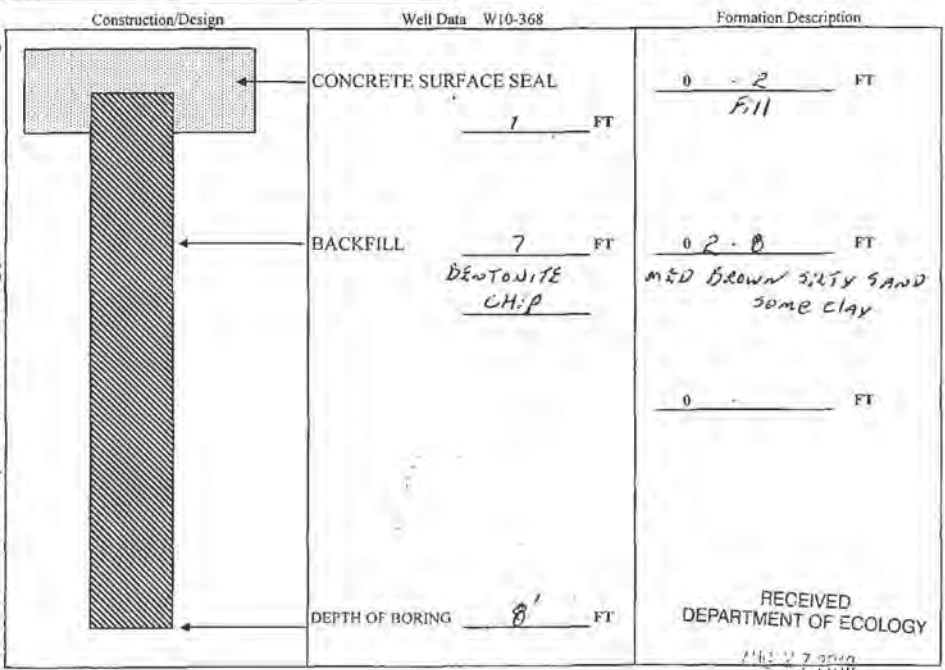
If trainee, licensed drillers' Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of WWM
 Lat/Long (S,T,R) Lat Deg Lat Min/Sec
 still Required) Long Deg Long Min/Sec

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J
EE01534

Construction/Decommission 385682

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID _____
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

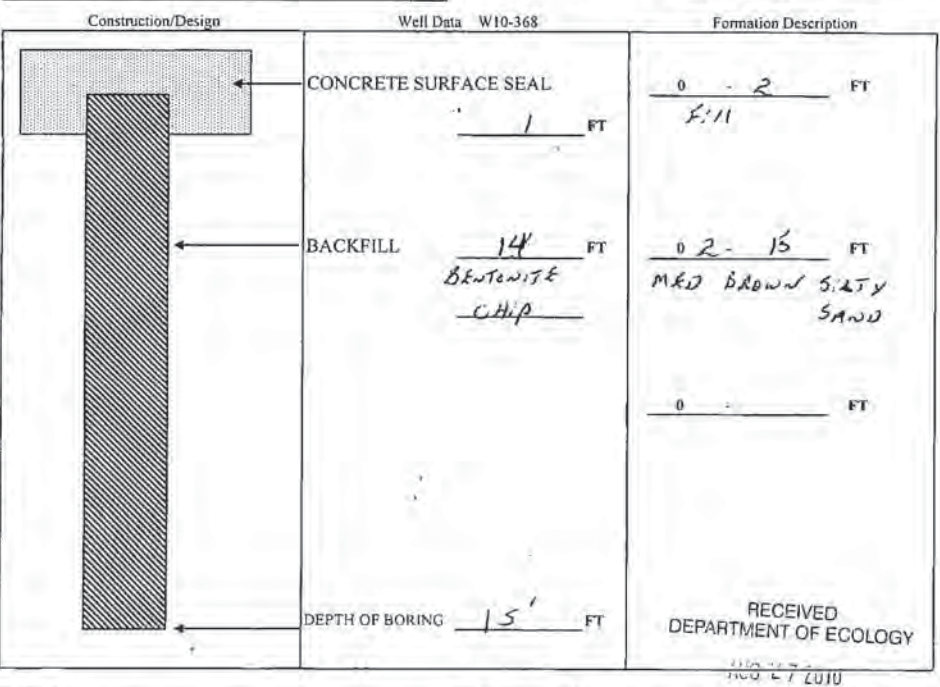
If trainee, licensed drillers' Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E of WWM
 Lat/Long (S,T,R) Lat Deg Lat Min/Sec
 still Required) Long Deg Long Min/Sec

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm Landau Associates

Unique Ecology Well ID Tag No.

WELL CONSTRUCTION CERTIFICATION: I construct and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print)

Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No.

CURRENT

Notice of Intent No. 22-4E-2J
EE01534

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

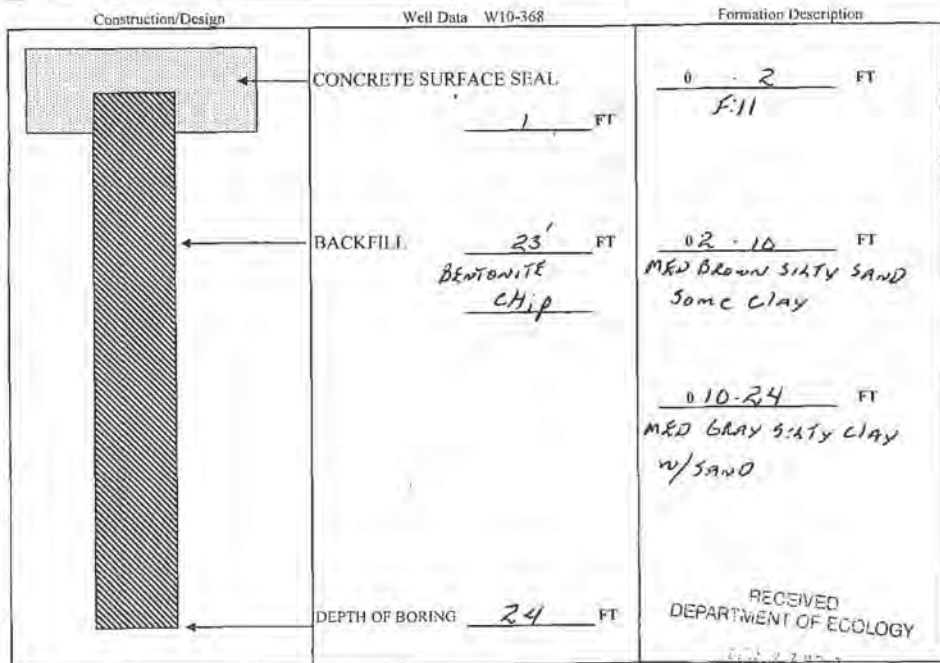
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Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm Landau Associates

Unique Ecology Well ID Tag No.

WELL CONSTRUCTION CERTIFICATION: I construct and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards

Materials used and the information reported above are true to my best knowledge and belief

Driller Trainee Name (Print)

Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No.

CURRENT

Notice of Intent No. 22-4E-2J
AE10046

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

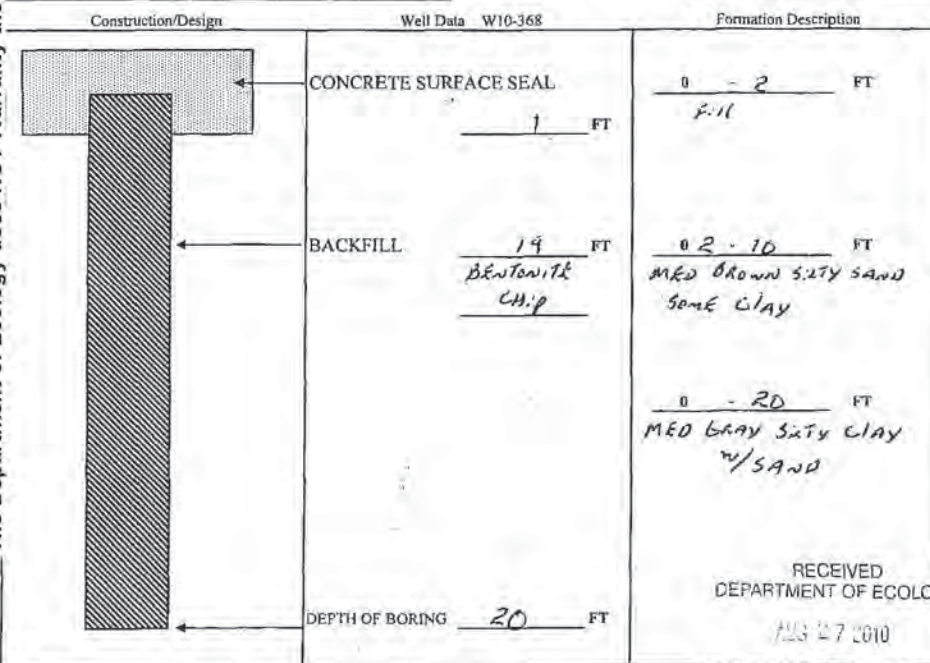
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Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 02-4E-2J

AE10046

Construction/Decommission

Construction

385685

Decommission ORIGINAL INSTALLATION Notice

of Intent Number E01534

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner

Site Address

City

Kent

County

King

The Boeing Company

20403 68th Ave S

Consulting Firm

Landau Associates

Unique Ecology Well ID

Tag No.

Location

1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or

EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r

still Required)

Long Deg

Lat Min/Sec

Long Min/Sec

Tax Parcel No.

Driller Trainee Name (Print)

Lynn Goble

Driller/Trainee Signature

Lynn Goble

Driller/Trainee License No.

2982

Cased or Uncased Diameter

2"

Static Level 8'

Work/Decommission Start Date

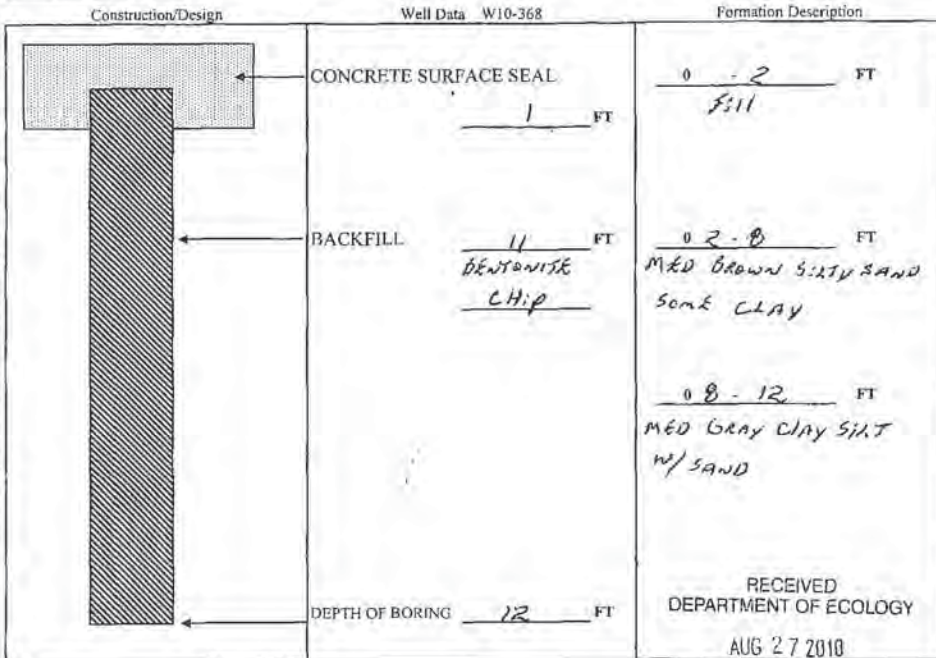
7-27-10

If trainee, licensed drillers'

Signature and License No.

Work/Decommission Completed Date

7-30-10



Scale 1" = _____

Page _____ of _____ WATER RESOURCES PROGRAM

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 02-4E-2J

AE10046

Construction/Decommission

Construction

385686

Decommission ORIGINAL INSTALLATION Notice

of Intent Number E01534

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner

Site Address

City

Kent

County

King

The Boeing Company

20403 68th Ave S

Consulting Firm

Landau Associates

Unique Ecology Well ID

Tag No.

Location

1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or

EWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r

still Required)

Long Deg

Lat Min/Sec

Long Min/Sec

Tax Parcel No.

Driller Trainee Name (Print)

Lynn Goble

Driller/Trainee Signature

Lynn Goble

Driller/Trainee License No.

2982

Cased or Uncased Diameter

2"

Static Level 8'

Work/Decommission Start Date

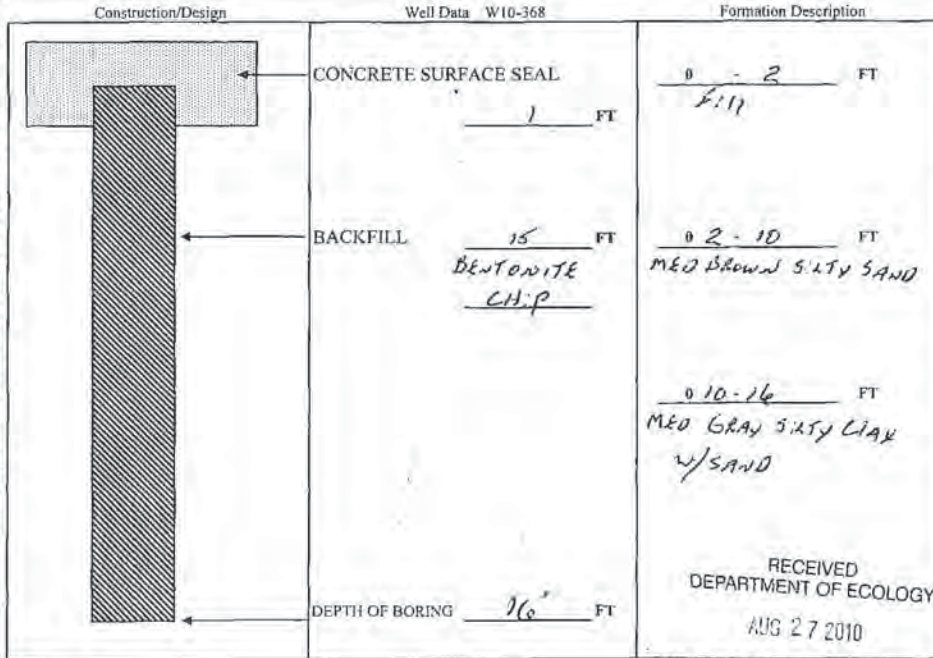
7-27-10

If trainee, licensed drillers'

Signature and License No.

Work/Decommission Completed Date

7-30-10



Scale 1" = _____

Page _____ of _____ WATER RESOURCES PROGRAM

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

AE10046
22-4E-2J

Construction/Decommission

Construction

385687

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice

of Intent Number EE01534

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print)

Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

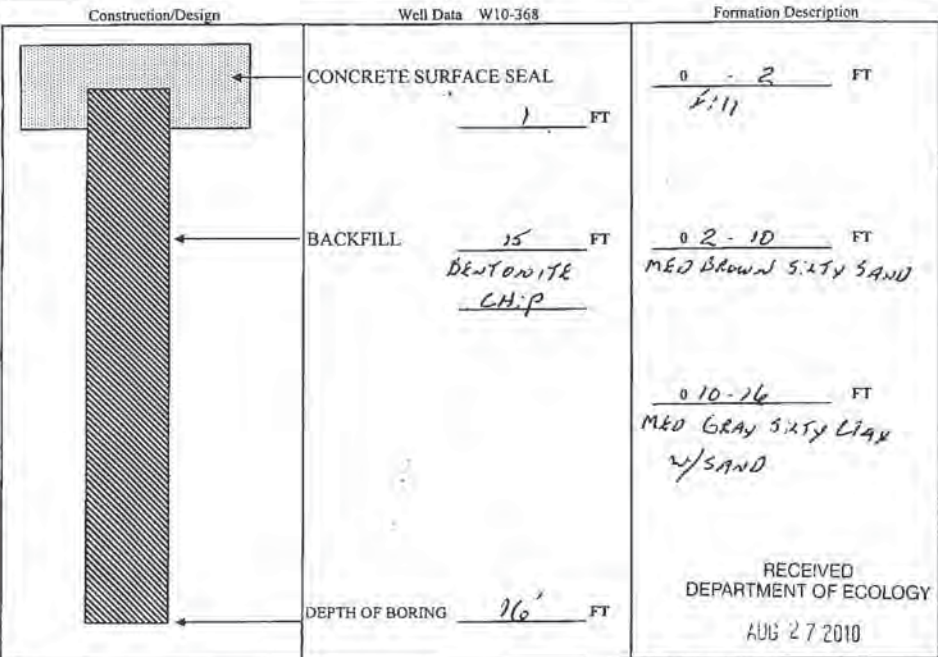
Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

If trainee, licensed drillers'

Signature and License No.

Work/Decommission Completed Date 7-30-10



Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM
WRCY 850-12 (Rev. 2011)

RECEIVED
DEPARTMENT OF ECOLOGY
AUG 27 2010

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

AE10046
22-4E-2J

Construction/Decommission

Construction

385688

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice

of Intent Number EE01534

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print)

Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

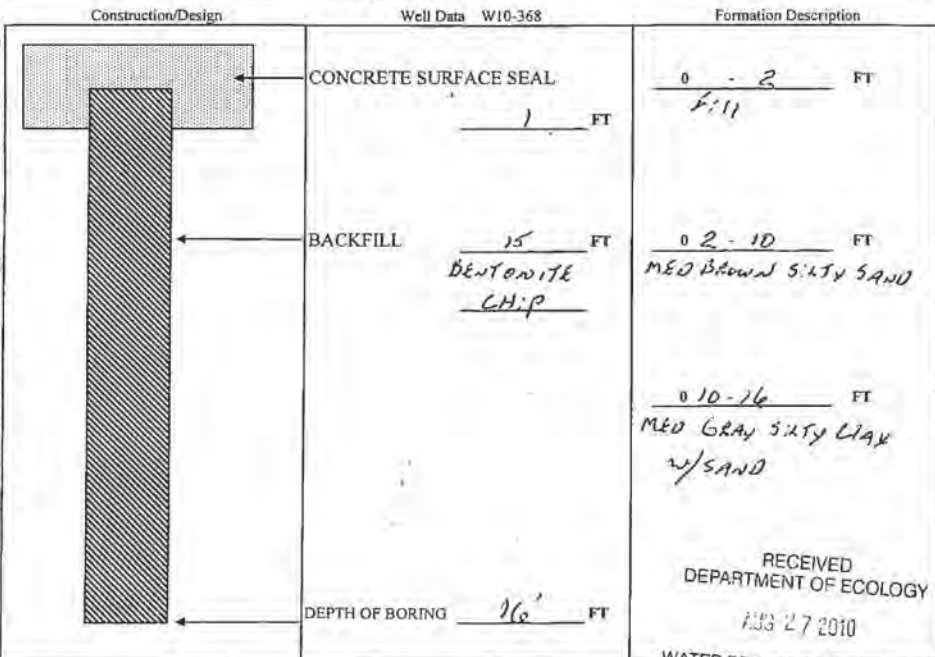
Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

If trainee, licensed drillers'

Signature and License No.

Work/Decommission Completed Date 7-30-10



Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM
WRCY 850-12 (Rev. 2011)

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DEPARTMENT OF ECOLOGY
AUG 27 2010

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J AE10046

Construction/Decommission 385689
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEO1534

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID _____
 Tag No. _____

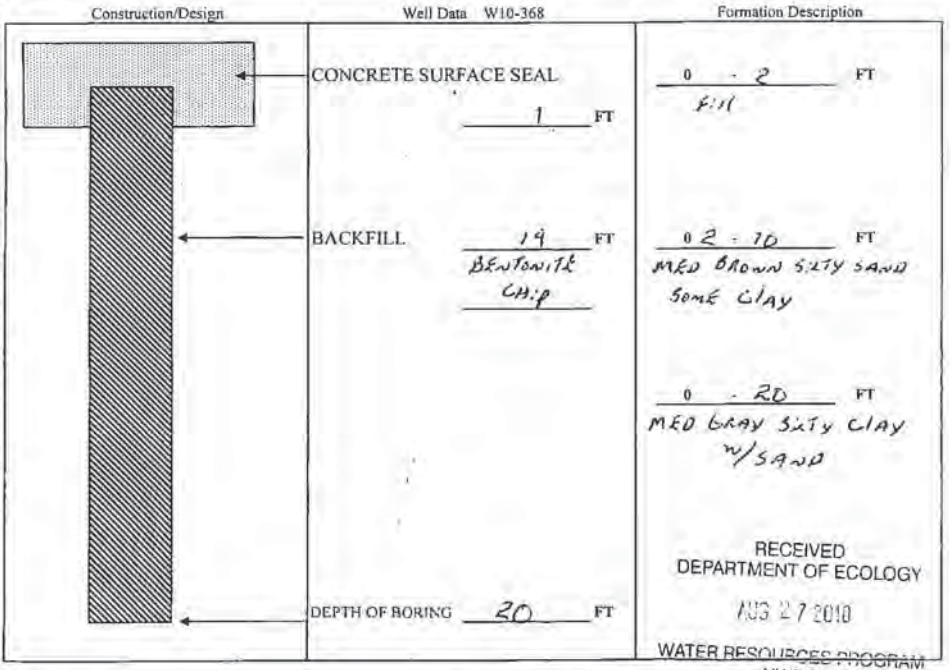
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J AE10046

Construction/Decommission 385690
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEO1534

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID _____
 Tag No. _____

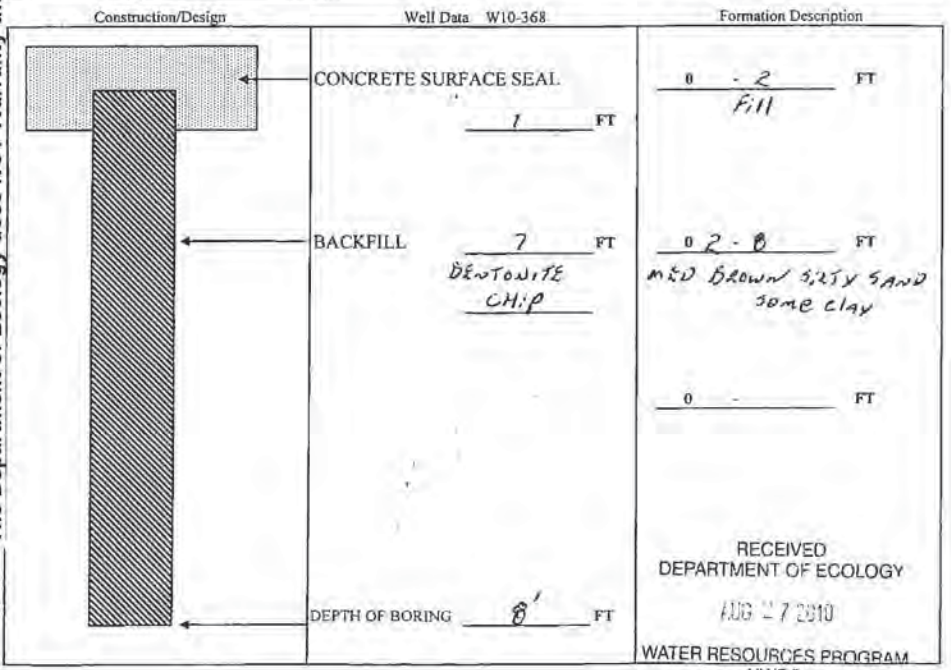
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10

If trainee, licensed drillers' Signature and License No. _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J AE10046

Construction/Decommission 385691

Decommission ORIGINAL INSTALLATION Notice of Intent Number EE01534

Consulting Firm Landau Associates

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

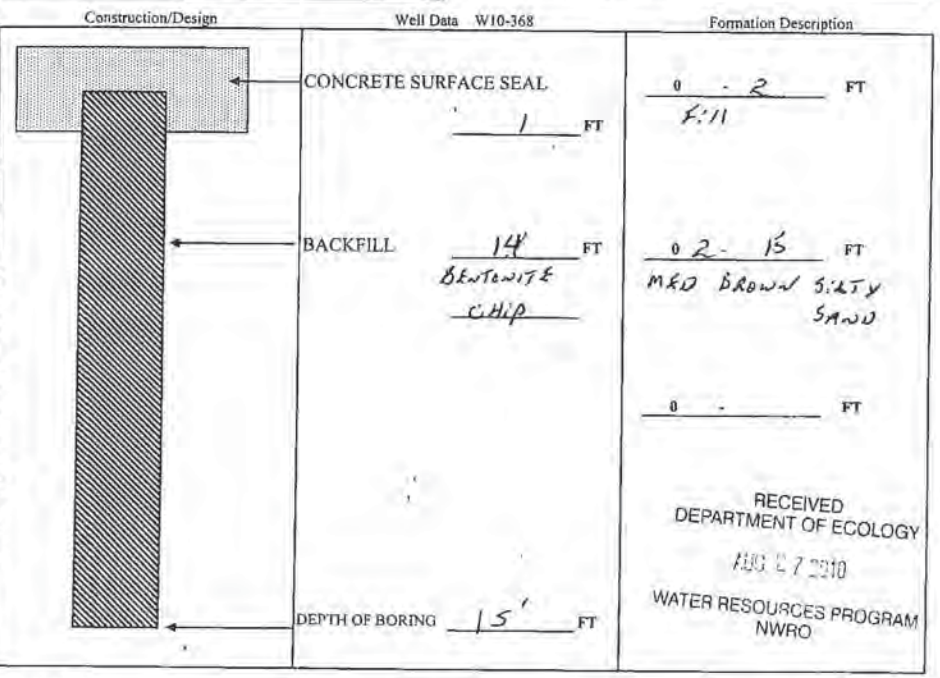
Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring
 Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM
 WWM
 Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level B'
 Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-2J AE10046

Construction/Decommission 385692

Decommission ORIGINAL INSTALLATION Notice of Intent Number EE01534

Consulting Firm Landau Associates

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material used and the information reported above are true to my best knowledge and belief.

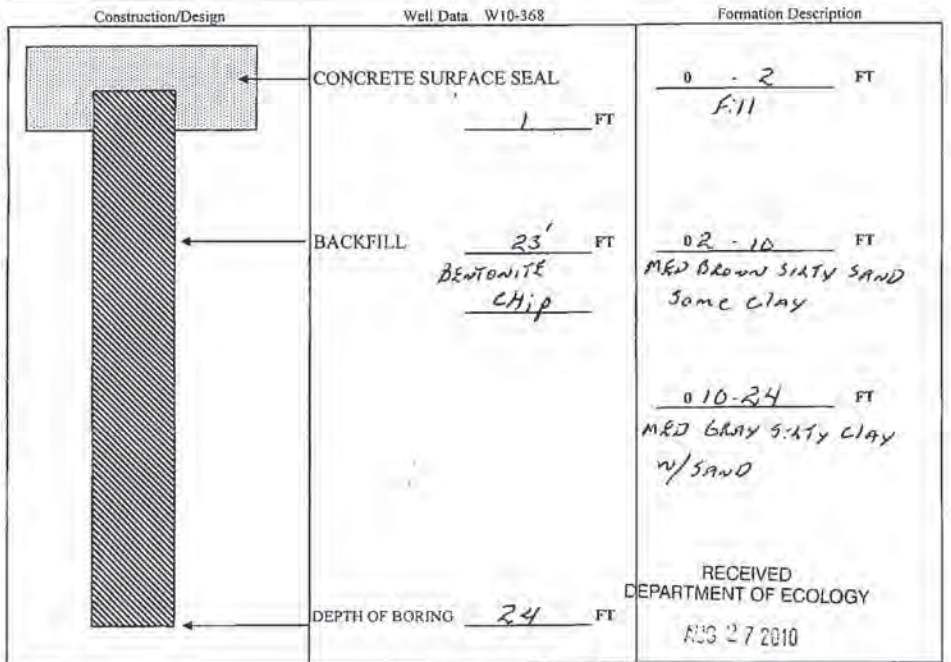
Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring
 Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM
 WWM
 Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level B'
 Work/Decommission Start Date 7-27-10
 Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-0J
SE07641

Construction/Decommission 385786

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM
WWM

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

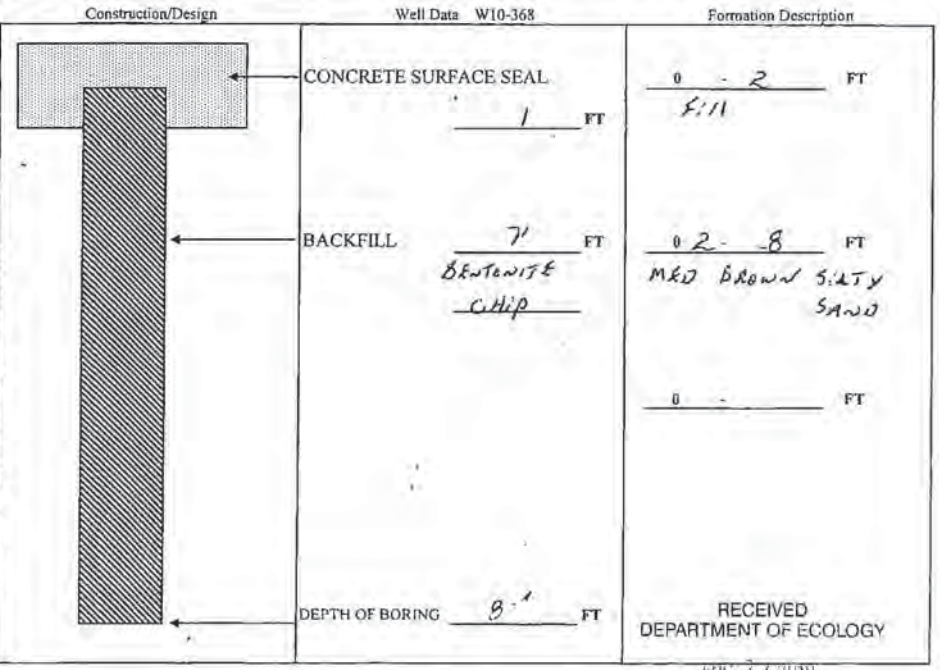
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level B'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



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AUG 27 2010

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 20-4E-2J
SE07641

Construction/Decommission 385787

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM
WWM

Unique Ecology Well ID
Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

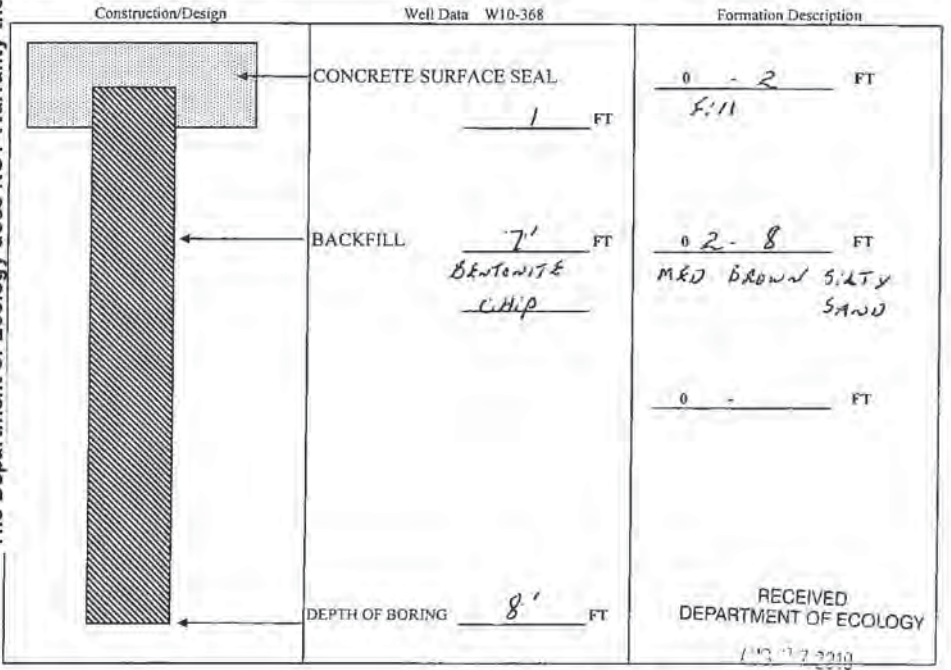
Driller Trainee Name (Print) Lynn Goble
Driller/Trainee Signature Lynn Goble
Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level B'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



RECEIVED DEPARTMENT OF ECOLOGY

AUG 27 2010

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

22-4E-2J
SE07641

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

385788

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

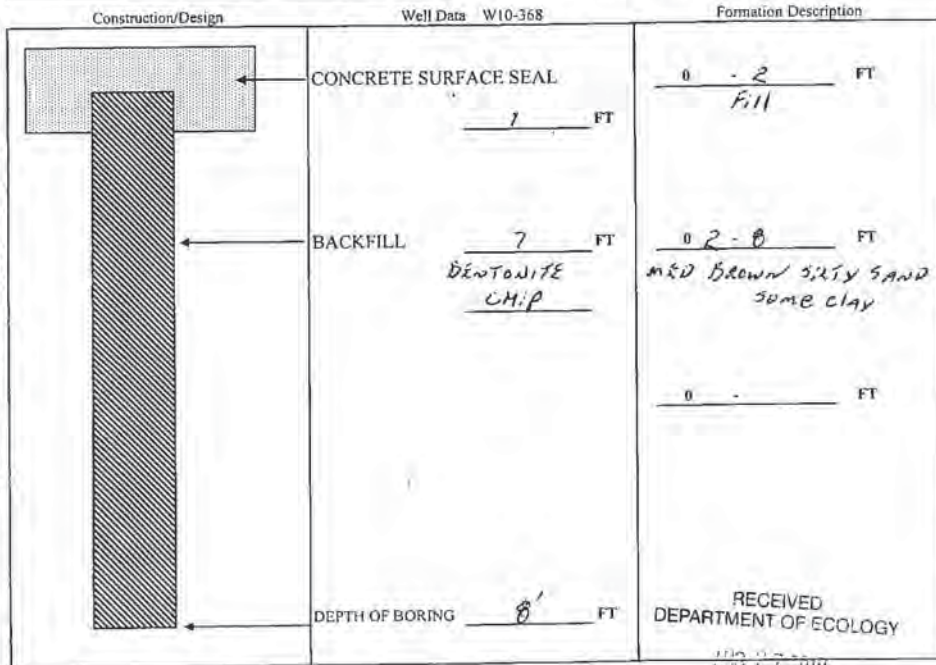
Lat/Long (S,L,R Lat Deg s Lat Min/Sec s still Required) Long Deg s Long Min/Sec s

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



The Department of Ecology does NOT warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

22-4E-2J
SE07641

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

385789

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company
Site Address 20403 68th Ave S
City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

If trainee, licensed drillers' Signature and License No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or WWM

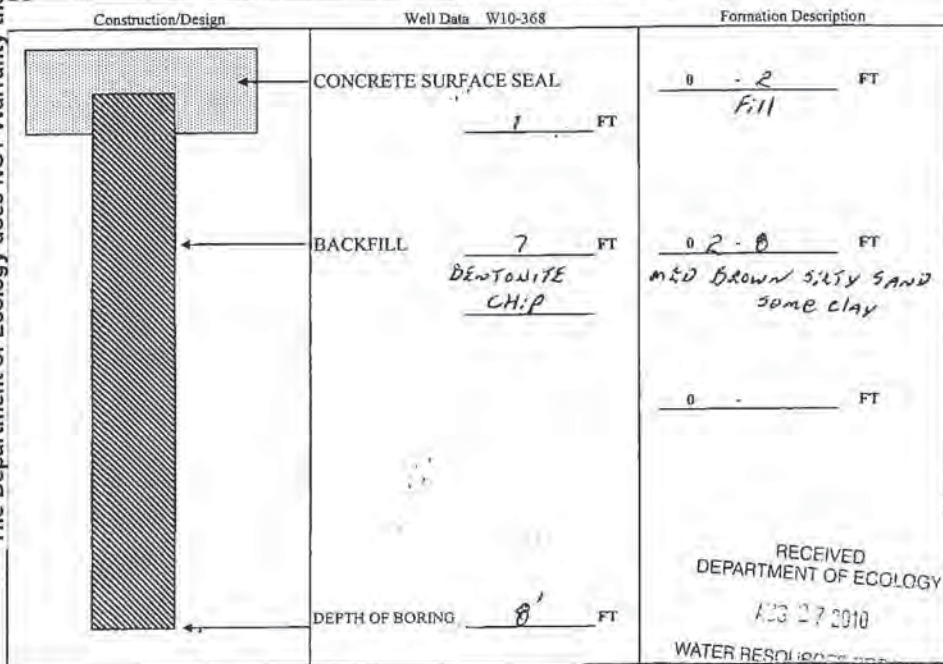
Lat/Long (S,L,R Lat Deg s Lat Min/Sec s still Required) Long Deg s Long Min/Sec s

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction 385790

Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Gable

Driller/Trainee Signature Lynn Gable

Driller/Trainee License No. 2982

If trainee, licensed drillers' _____

Signature and License No. _____

CURRENT

Notice of Intent No. 204E-2J
AE/0045

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM

WWM

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level B'

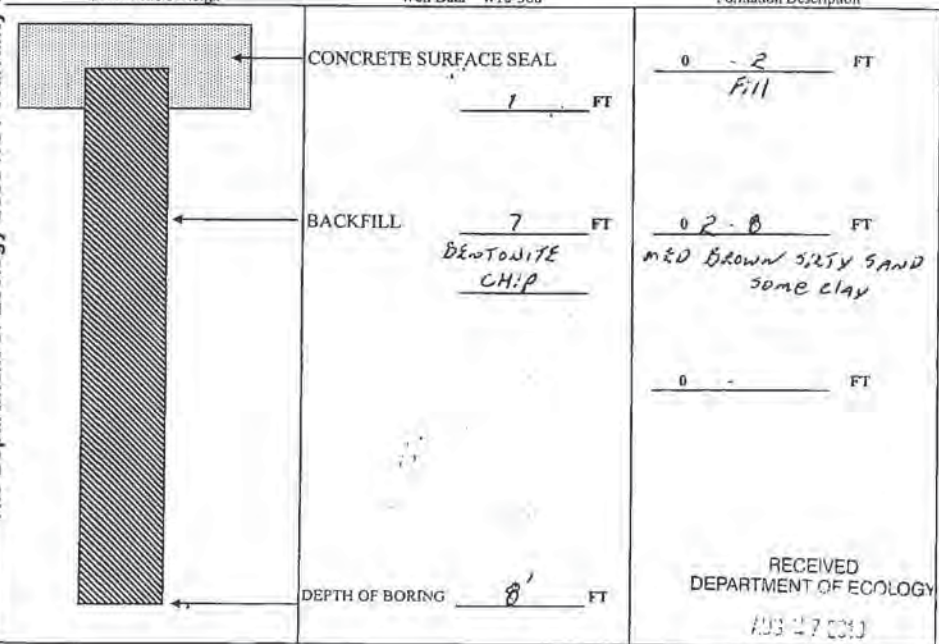
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM
NWR (RCY 010-12 (Rev. 2011))

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DEPARTMENT OF ECOLOGY
AUG 27 2010

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction 385791

Decommission ORIGINAL INSTALLATION Notice
of Intent Number SE07641

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Gable

Driller/Trainee Signature Lynn Gable

Driller/Trainee License No. 2982

If trainee, licensed drillers' _____

Signature and License No. _____

CURRENT

Notice of Intent No. 204E-2J
AE/0045

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM

WWM

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level B'

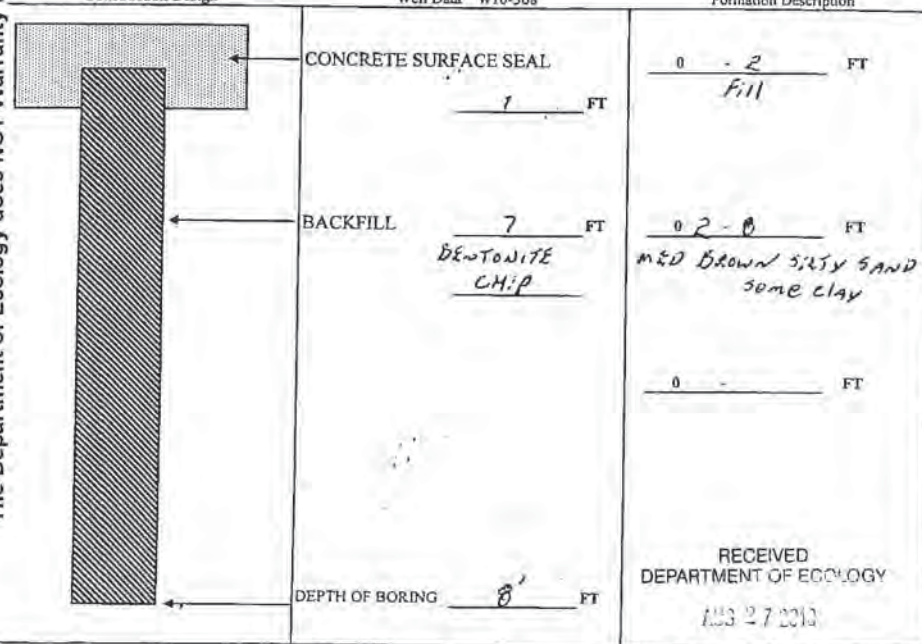
Work/Decommission Start Date 7-27-10

Work/Decommission Completed Date 7-30-10

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM
NWR (RCY 010-12 (Rev. 2011))

RECEIVED
DEPARTMENT OF ECOLOGY
AUG 27 2010

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission

Construction

385792

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice

of Intent Number SE07641

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM

still Required) Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Gable

Driller/Trainee Signature Lynn Gable

Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

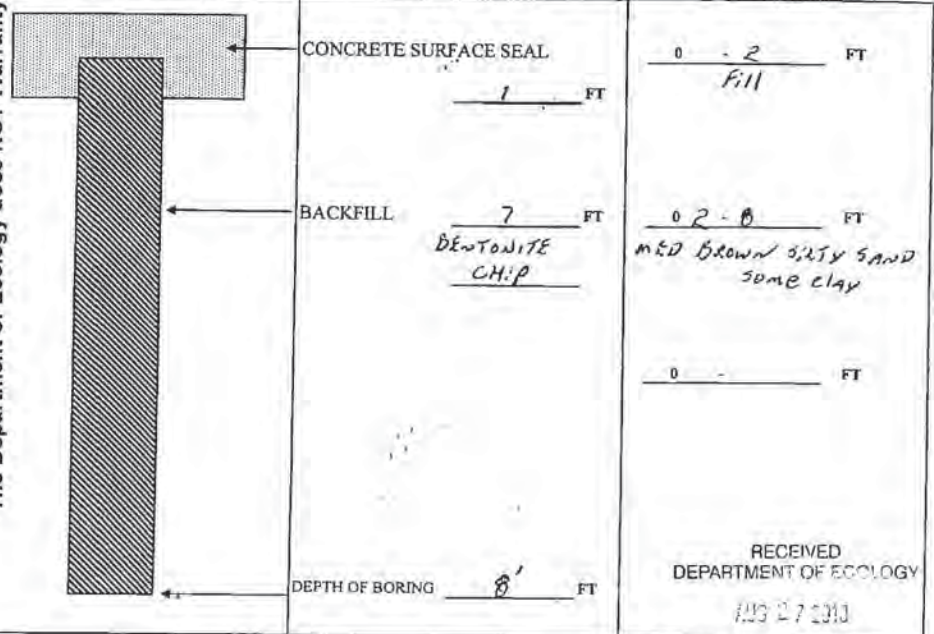
Work/Decommission Completed Date 7-30-10

Drill trainee, licensed drillers' signature and License No. _____

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM
NWRC 010-12 (Rev. 2011)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-2J
AE10045

Construction/Decommission

Construction

385793

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice

of Intent Number SE07641

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County King

Consulting Firm Landau Associates

Unique Ecology Well ID

Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Twn 22N R 4E or EWM

still Required) Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Gable

Driller/Trainee Signature Lynn Gable

Driller/Trainee License No. 2982

Cased or Uncased Diameter 2" Static Level 8'

Work/Decommission Start Date 7-27-10

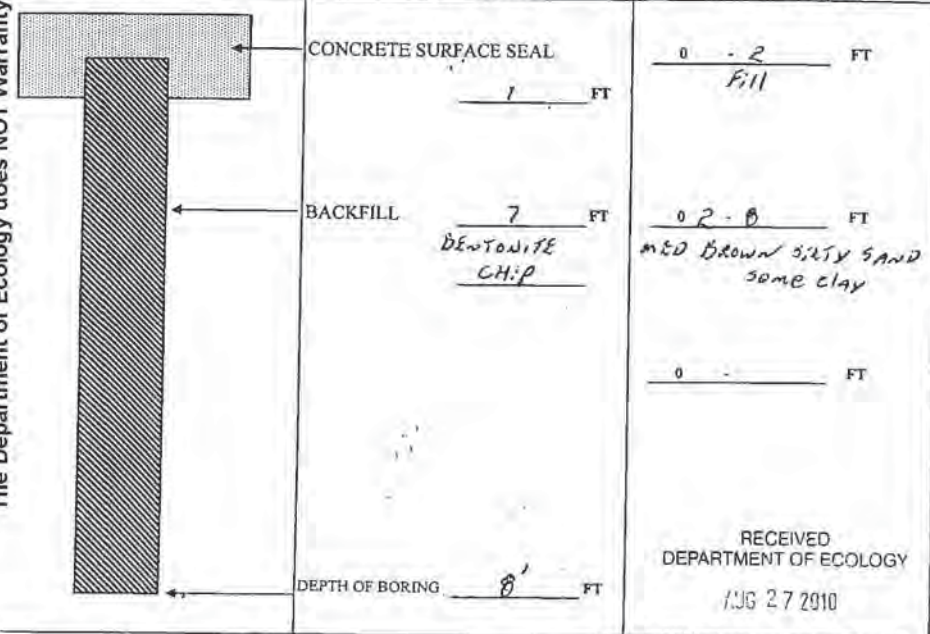
Work/Decommission Completed Date 7-30-10

Drill trainee, licensed drillers' signature and License No. _____

Construction/Design

Well Data W10-368

Formation Description



Scale 1" = _____

Page _____ of _____

WATER RESOURCES PROGRAM
NWRC 010-12 (Rev. 2011)

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

23-4E-20

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EED1815

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

466598

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (EWT)
(WWM)

WELL CONSTRUCTION CERTIFICATION: I evaluated and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (if still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No. _____

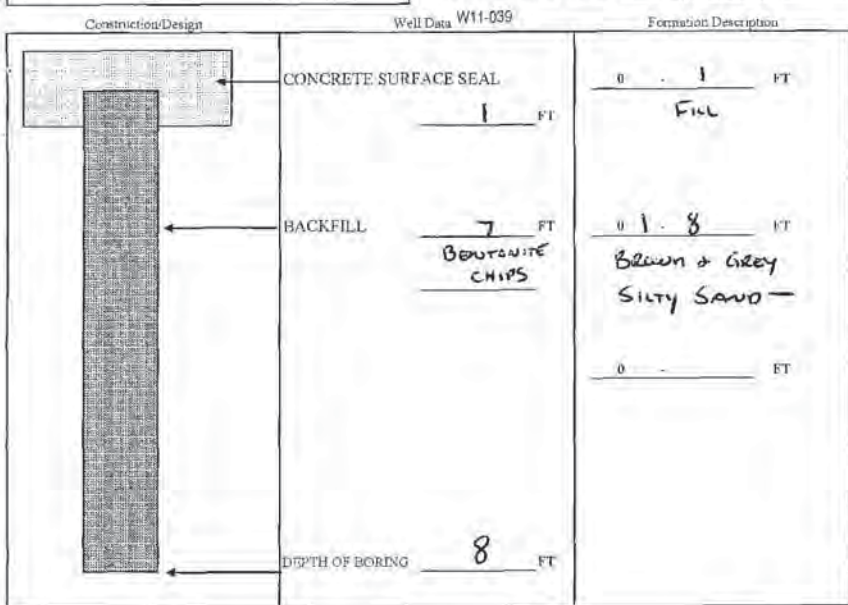
Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" State Level 4'

Work/Decommission Start Date 1-26-11

If trainee, licensed driller's
Signature and License No. _____

Work/Decommission Completed Date 1-26-11



Scale 1" = _____

Page _____ of _____



23-4E-20

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EED1815

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice
of Intent Number _____

466599

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (EWT)
(WWM)

WELL CONSTRUCTION CERTIFICATION: I evaluated and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (if still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x

Tax Parcel No. _____

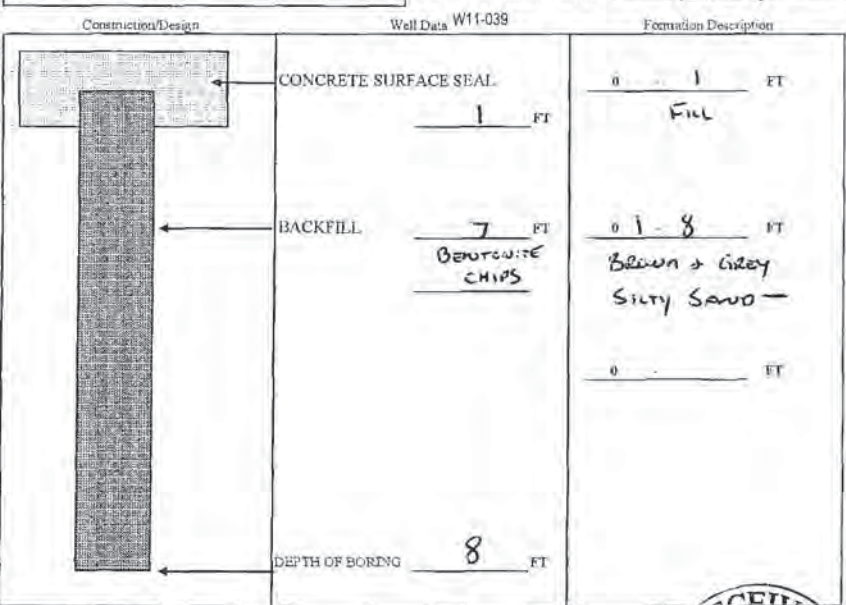
Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" State Level 4'

Work/Decommission Start Date 1-26-11

If trainee, licensed driller's
Signature and License No. _____

Work/Decommission Completed Date 1-26-11



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

22-48-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. FED1815

Construction/Decommission

406600

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No.

EW11-039

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (S, L, R still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" Static Level 4'

Work/Decommission Start Date 1-26-11

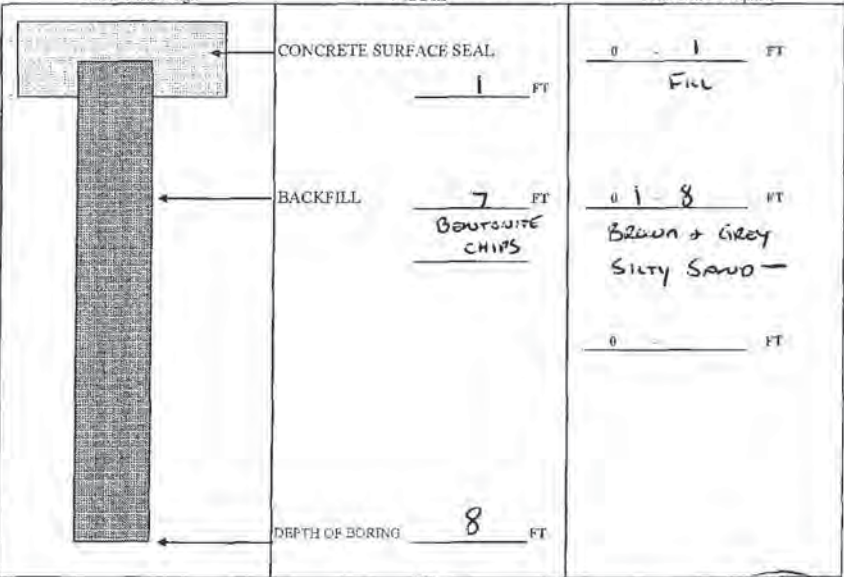
If trainee, licensed drillers' Signature and License No.

Work/Decommission Completed Date 1-26-11

Construction/Design

Well Data W11-039

Formation Description



Scale 1" = _____

Page _____ of _____



22-48-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. FED1815

Construction/Decommission

406601

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No.

EW11-039

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (S, L, R still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" Static Level 4'

Work/Decommission Start Date 1-26-11

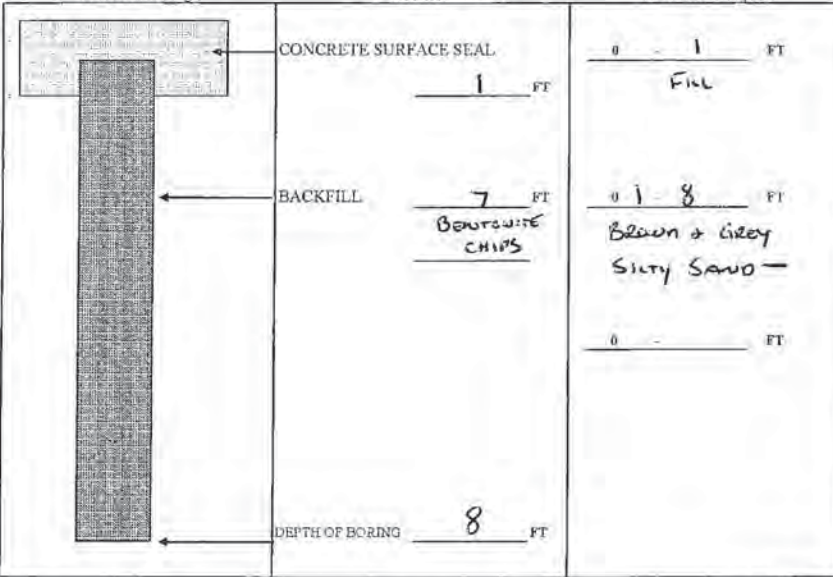
If trainee, licensed drillers' Signature and License No.

Work/Decommission Completed Date 1-26-11

Construction/Design

Well Data W11-039

Formation Description



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EED1815

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

406602

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner: The Boeing Company
 Site Address: 20403 68th Ave. S
 City: Kent County: 17-King

Consulting Firm: Landau Associates-Edmonds

Unique Ecology Well ID

Tag No. _____

Location: 1/4 NE 1/4 SE Sec 2 Town: 22N R4E

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print): Kasey Goble

Driller/Trainee Signature: _____

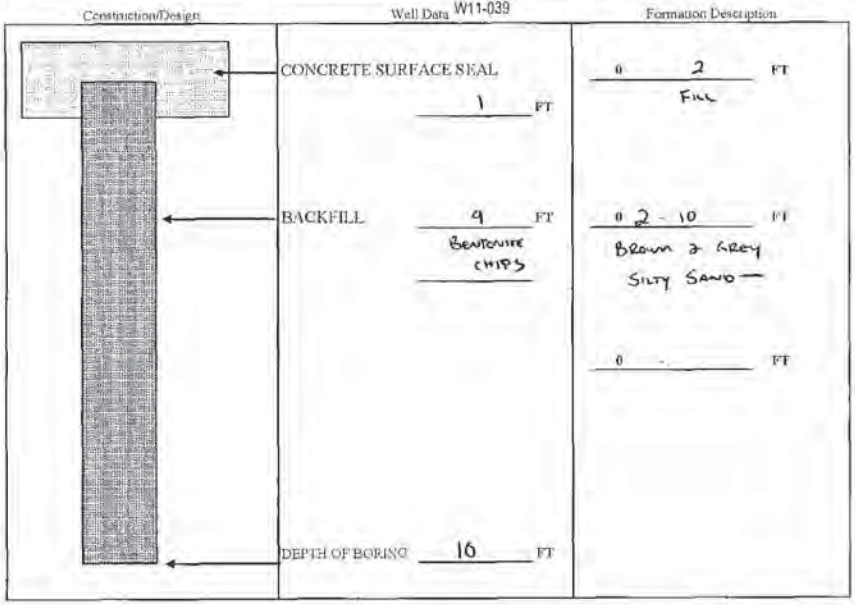
Driller/Trainee License No: 2501

Cased or Uncased Diameter: 2" Static Level: 2'

Work/Decommission Start Date: 1-25-11

Work/Decommission Completed Date: 1-27-11

If trainee licensed driller:
 Signature and License No: _____



Scale 1" = _____

Page _____ of _____



22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EED1815

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

406603

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner: The Boeing Company
 Site Address: 20403 68th Ave. S
 City: Kent County: 17-King

Consulting Firm: Landau Associates-Edmonds

Unique Ecology Well ID

Tag No. _____

Location: 1/4 NE 1/4 SE Sec 2 Town: 22N R4E

Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print): Kasey Goble

Driller/Trainee Signature: _____

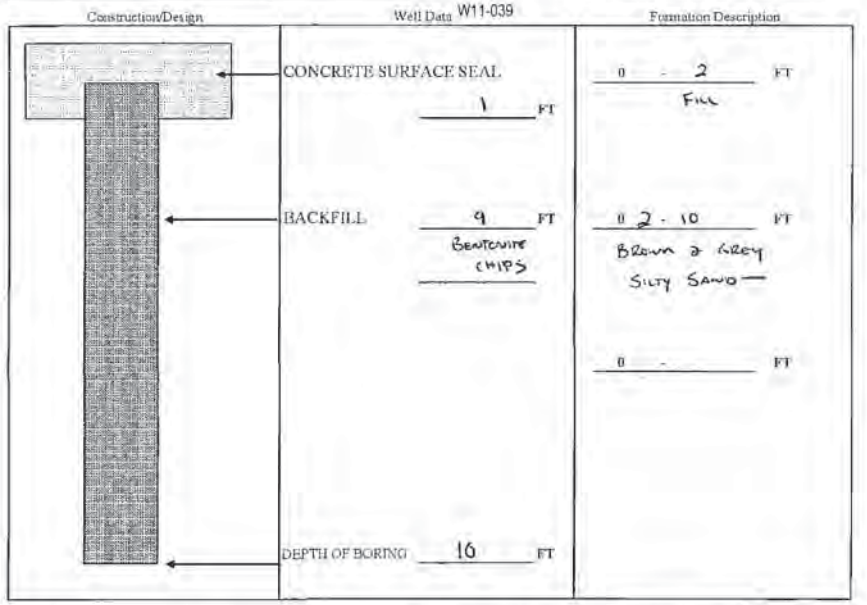
Driller/Trainee License No: 2501

Cased or Uncased Diameter: 2" Static Level: 2'

Work/Decommission Start Date: 1-25-11

Work/Decommission Completed Date: 1-27-11

If trainee licensed driller:
 Signature and License No: _____



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

22-4E-2J

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EED1815

Construction/Decommission 406604
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (SWM)
 Tag No. _____ (WWM)

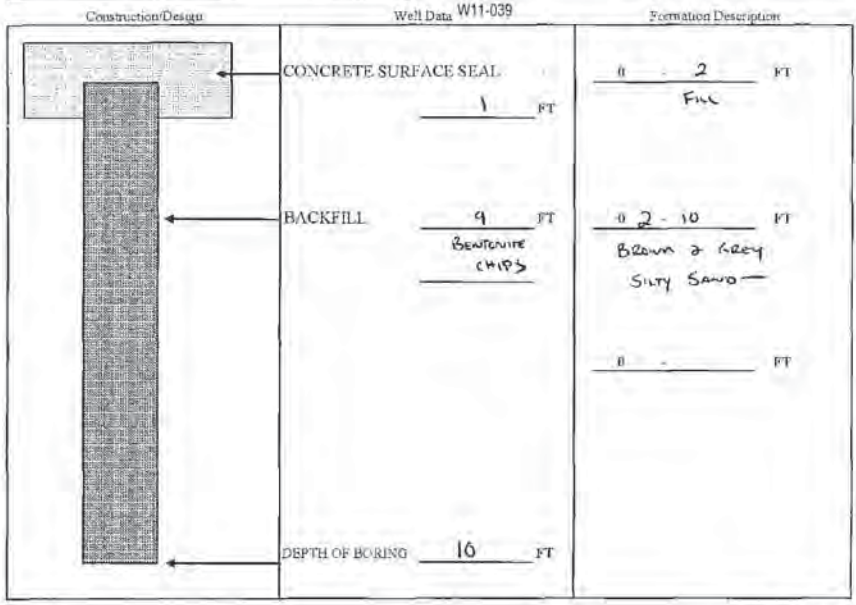
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. No acids used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Cased or Uncased Diameter: 2" Static Level 2'

Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-27-11

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____

22-4E-2J

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. EED1815

Construction/Decommission 406605
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (SWM)
 Tag No. _____ (WWM)

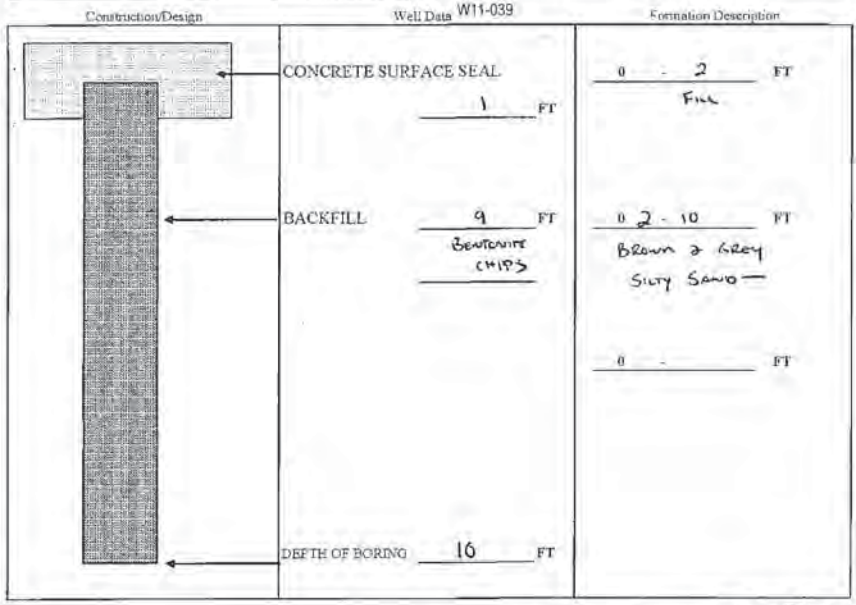
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. No acids used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Cased or Uncased Diameter: 2" Static Level 2'

Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-27-11

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

406606

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and in compliance with all Washington well construction standards.

Materials used and all information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature

Driller/Trainee License No. 2501

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. EED1815

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R1E

Lat/Long (N,T, Long Deg, Lat Min/Sec, Long Min/Sec)

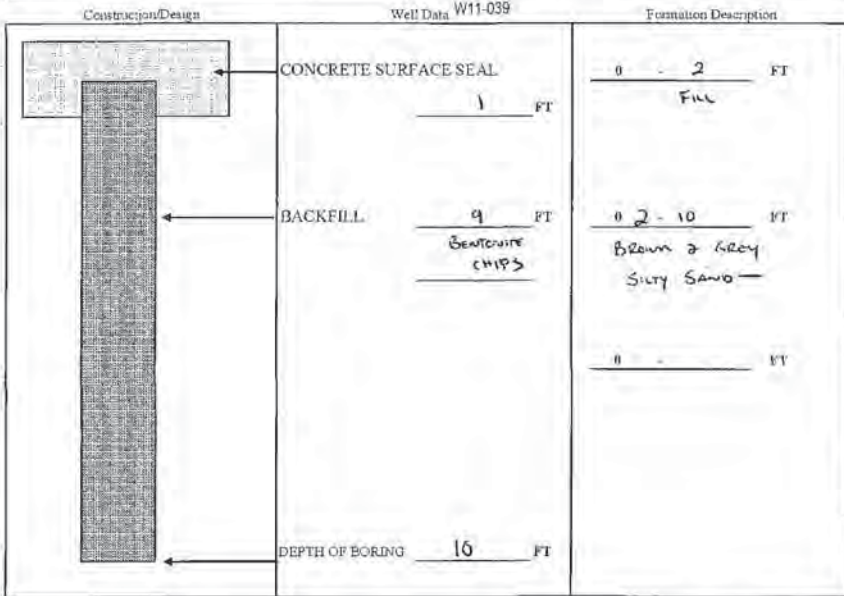
Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 2'

Well/Decommission Start Date 1-25-11

Well/Decommission Completed Date 1-27-11

22-4E-2J



Scale 1" =

Page of



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

406607

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and in compliance with all Washington well construction standards.

Materials used and all information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature

Driller/Trainee License No. 2501

If trainee, licensed driller's

Signature and License No.

CURRENT

Notice of Intent No. EED1815

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S

City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R1E

Lat/Long (N,T, Long Deg, Lat Min/Sec, Long Min/Sec)

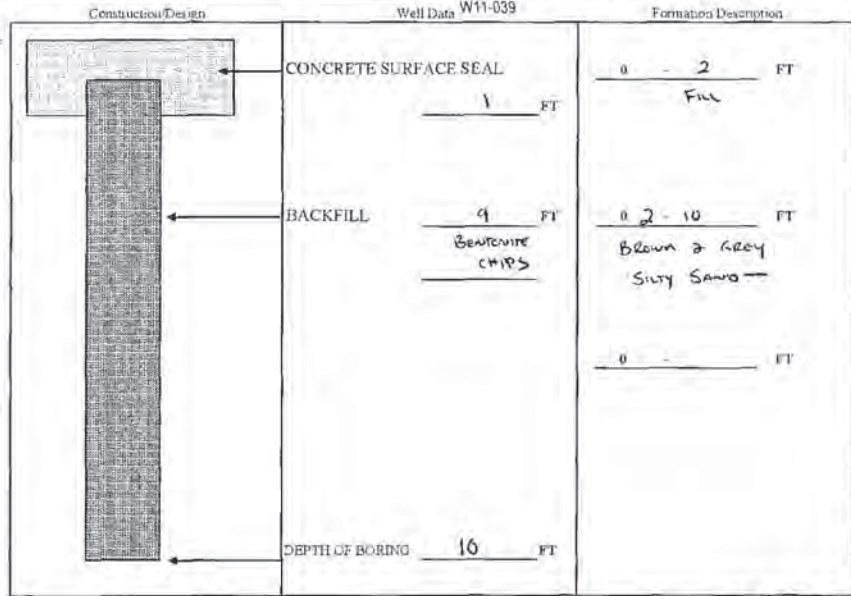
Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 2'

Well/Decommission Start Date 1-25-11

Well/Decommission Completed Date 1-27-11

22-4E-2J



Scale 1" =

Page of



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

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22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406608

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. FED1815

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (SWA)
 (WVA)

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (N.T. Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature _____

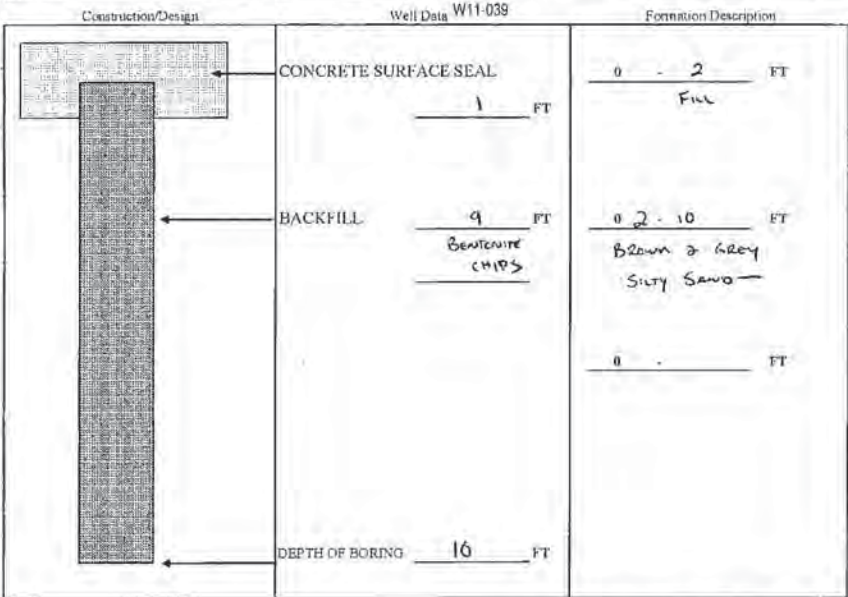
Driller/Trainee License No. 2501

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 2'

If trainee, licensed driller's
 Signature and License No. _____

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____

Page _____ of _____



22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406609

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. FED1815

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (SWA)
 (WVA)

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

Lat/Long (N.T. Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature _____

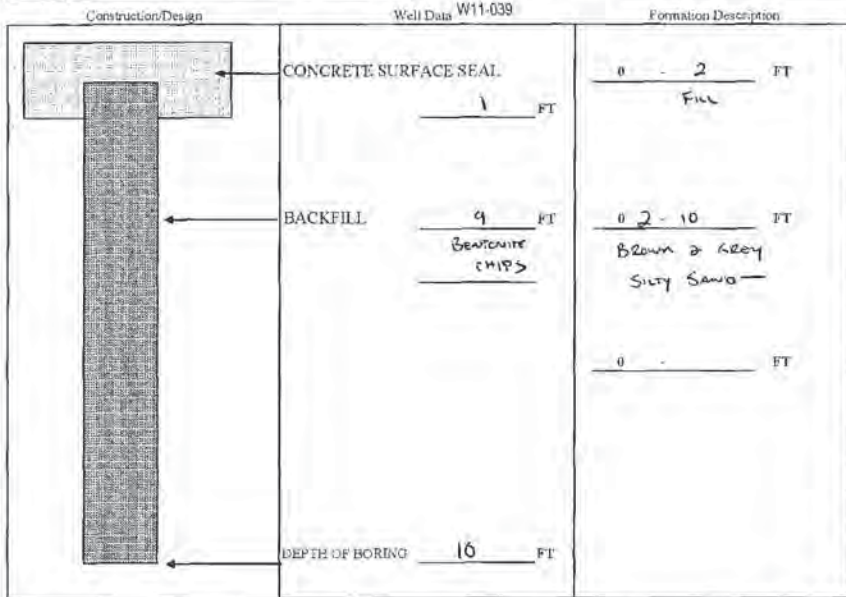
Driller/Trainee License No. 2501

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 2'

If trainee, licensed driller's
 Signature and License No. _____

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EED1815

Construction/Decommission 406610

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 86th Ave. S.

Consulting Firm Landau Associates-Edmonds City Kent County 17-King

Unique Ecology Well ID _____ Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (N, E) Lat Deg x Lat Min/Sec x
 Lon Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

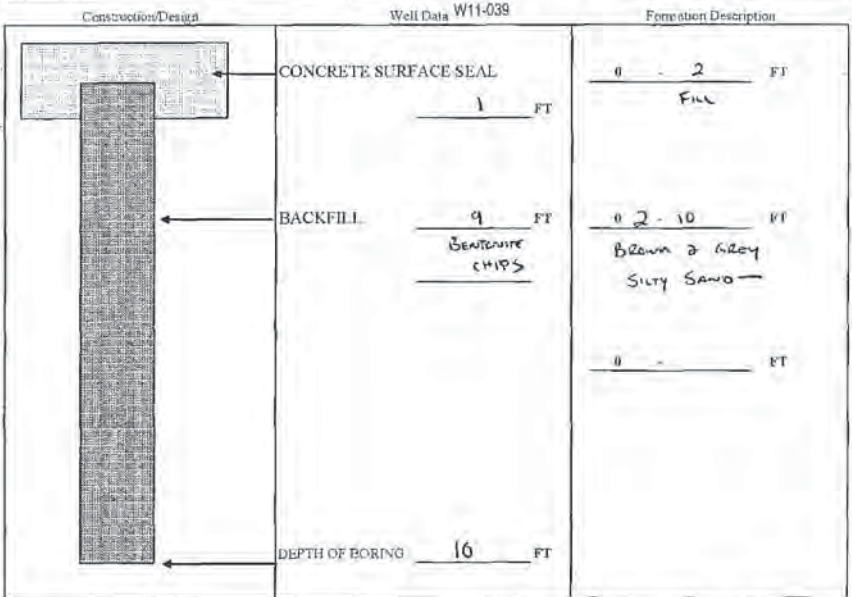
Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11

If trained, licensed drillers' Signature and License No. _____



Scale 1" = _____

Page _____ of _____



22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. EED1815

Construction/Decommission 406611

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 86th Ave. S.

Consulting Firm Landau Associates-Edmonds City Kent County 17-King

Unique Ecology Well ID _____ Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (N, E) Lat Deg x Lat Min/Sec x
 Lon Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

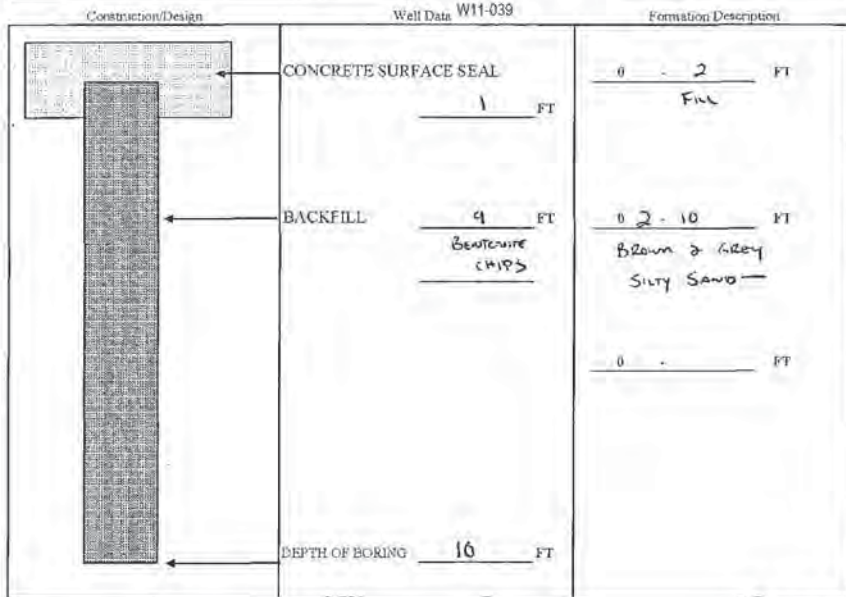
Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11

If trained, licensed drillers' Signature and License No. _____



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406612

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

If trainee, licensed driller's
 Signature and License No. _____

CURRENT

Notice of Intent No. EED1815

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 58th Ave. S.
 City Kent County 17-King

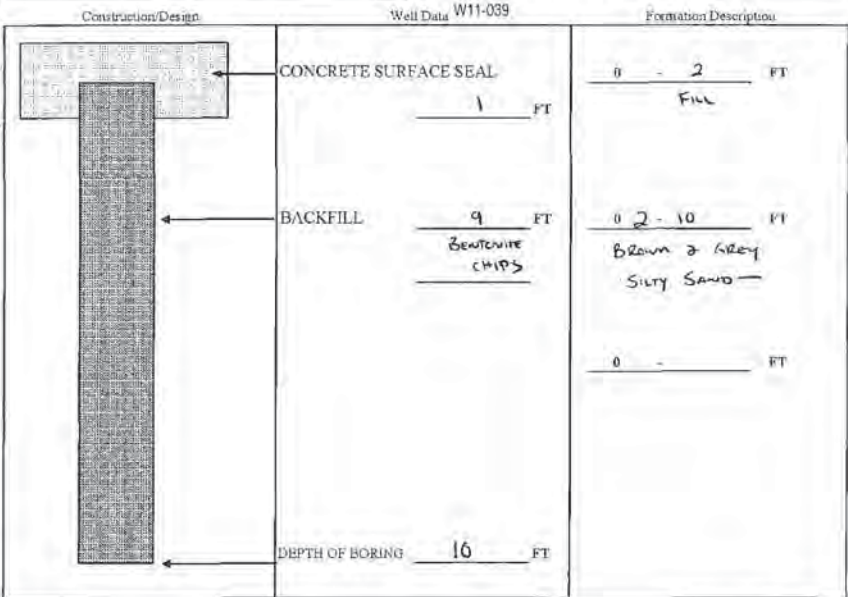
Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (s.t.r. Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406613

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

If trainee, licensed driller's
 Signature and License No. _____

CURRENT

Notice of Intent No. EED1815

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 58th Ave. S.
 City Kent County 17-King

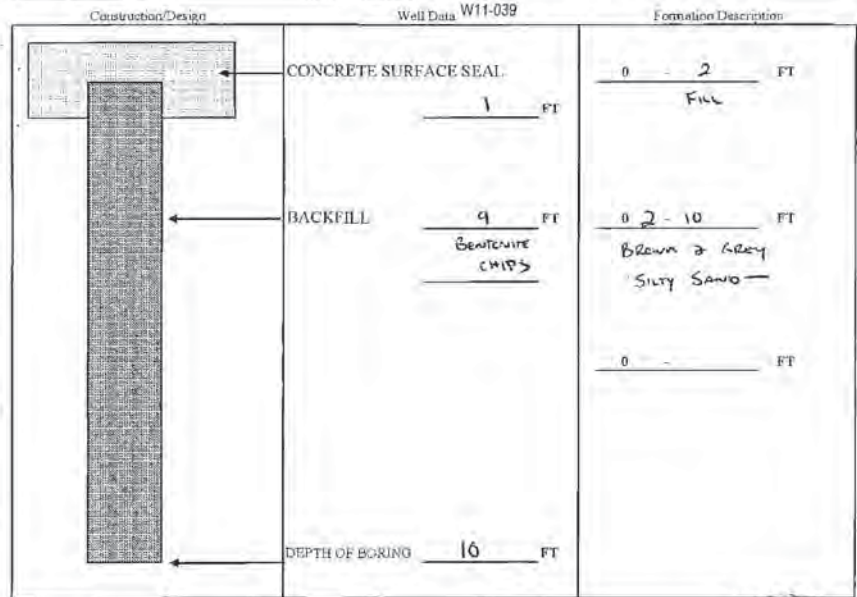
Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (s.t.r. Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

406614

CURRENT

Notice of Intent No. EED1815

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (S,T,r) Lat Deg s Lat Min/Sec s
 still Required) Long Deg s Long Min/Sec s

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainer Name (Print) Kasey Goble

Driller/Trainer Signature _____

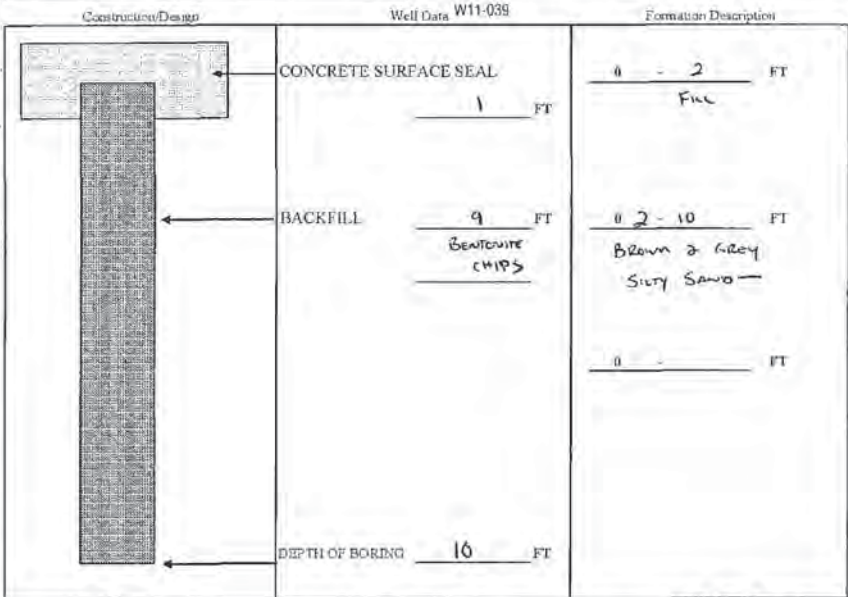
Driller/Trainer License No. 2501

Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____

Page _____ of _____



22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

406615

CURRENT

Notice of Intent No. EED1815

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Lat/Long (S,T,r) Lat Deg s Lat Min/Sec s
 still Required) Long Deg s Long Min/Sec s

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainer Name (Print) Kasey Goble

Driller/Trainer Signature _____

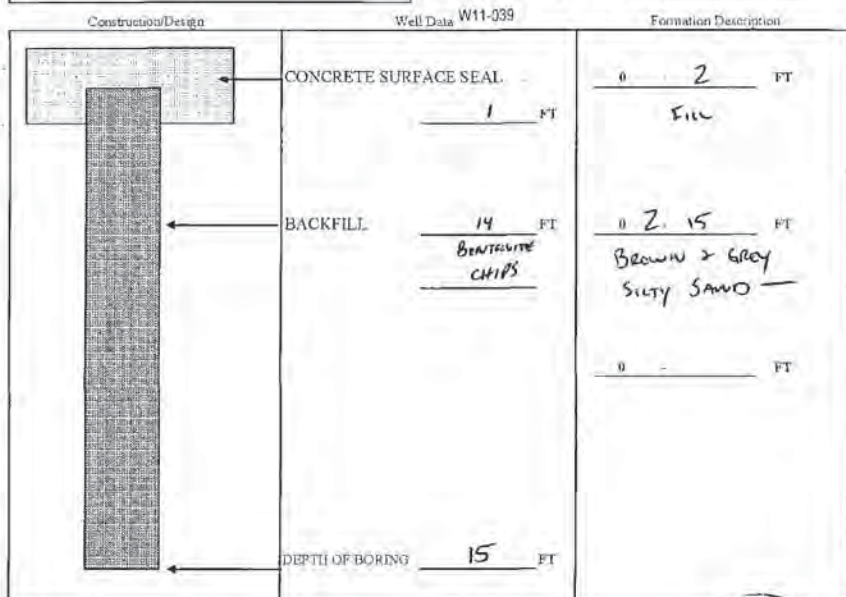
Driller/Trainer License No. 2501

Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-25-11

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE11930

Construction/Decommission 406616
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (S/L, R) Lat Deg Lat Min/Sec
 Lon (W/E) Long Deg Long Min/Sec

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501

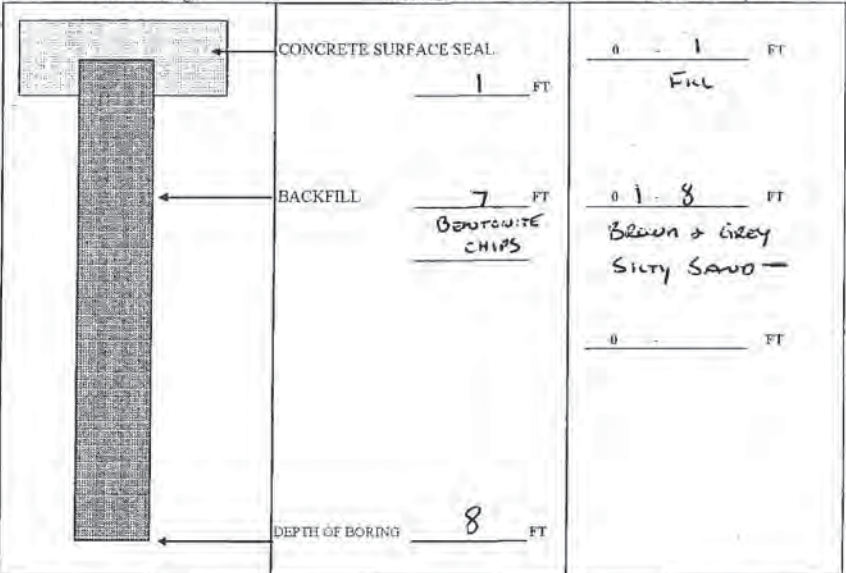
Cased or Uncased Diameter 2" Static Level 4'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 1-26-11

Work/Decommission Completed Date 1-26-11

Construction/Design Well Data W11-039 Formation Description



Scale 1" = _____ Page _____ of _____



22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE11930

Construction/Decommission 406617
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. _____

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (S/L, R) Lat Deg Lat Min/Sec
 Lon (W/E) Long Deg Long Min/Sec

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501

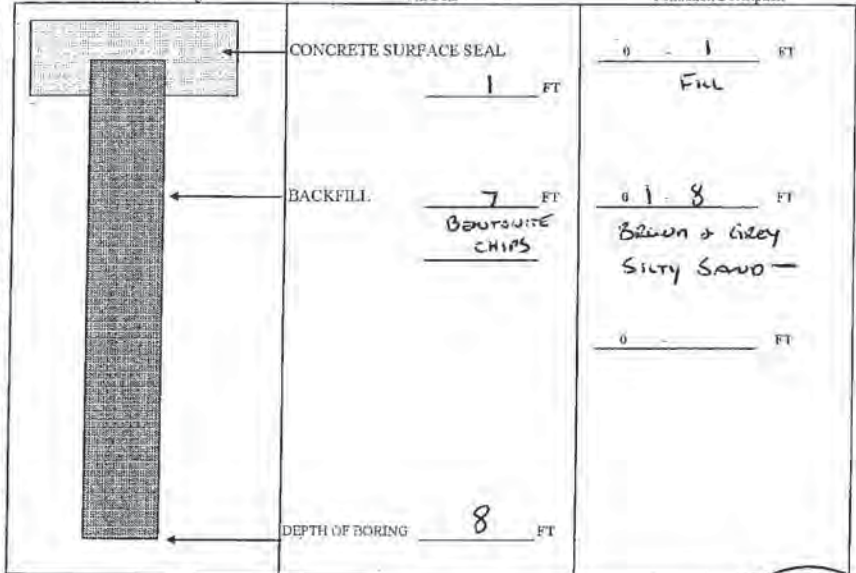
Cased or Uncased Diameter 2" Static Level 4'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 1-26-11

Work/Decommission Completed Date 1-26-11

Construction/Design Well Data W11-039 Formation Description



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE11930

Construction/Decommission

406618

Type of Well

- Resource Protection
 Geotechnical Soil Boring

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I consulted and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (N, E, W) Lat Deg x Lat Min/Sec x

still Required Long Deg x Long Min/Sec x

Tax Parcel No.

Driller Trainee Name (Print) Kasey Goble

Cased or Uncased Diameter 2" Static Level 4'

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

Work/Decommission Start Date 1-26-11

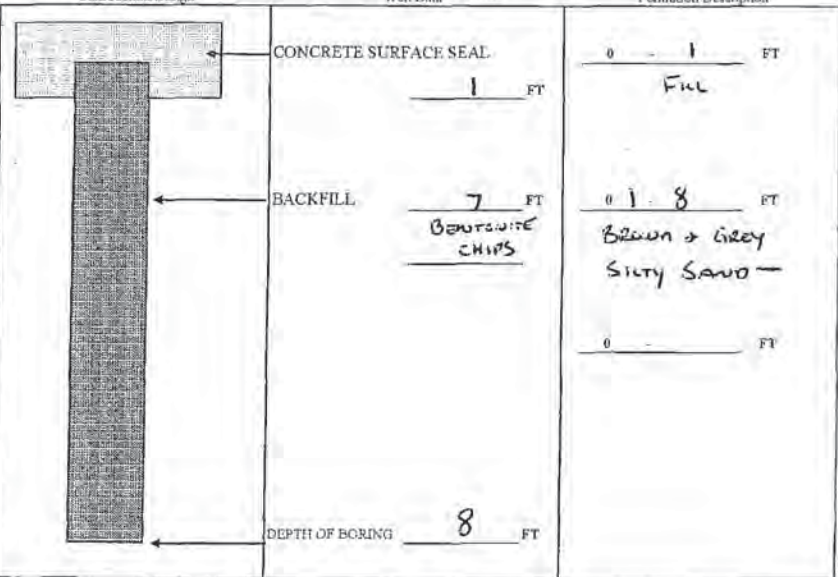
If trainee, licensed driller's Signature and License No.

Work/Decommission Completed Date 1-26-11

Construction/Design

Well Data W11-039

Formation Description



Scale 1" = _____

Page _____ of _____



22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE11930

Construction/Decommission

406619

Type of Well

- Resource Protection
 Geotechnical Soil Boring

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

Property Owner The Boeing Company

Site Address 20403 68th Ave. S.

City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I consulted and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (N, E, W) Lat Deg x Lat Min/Sec x

still Required Long Deg x Long Min/Sec x

Tax Parcel No.

Driller Trainee Name (Print) Kasey Goble

Cased or Uncased Diameter 2" Static Level 4'

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2501

Work/Decommission Start Date 1-26-11

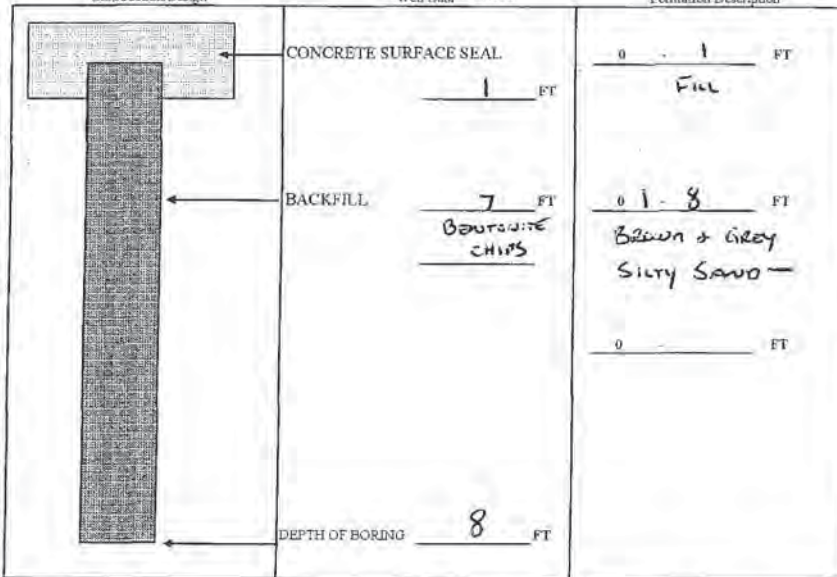
If trainee, licensed driller's Signature and License No.

Work/Decommission Completed Date 1-26-11

Construction/Design

Well Data W11-039

Formation Description



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406620

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

CURRENT Notice of Intent No. 22-4E-2J
AE11930

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds City Kent County 17-King

Unique Ecology Well ID _____ Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

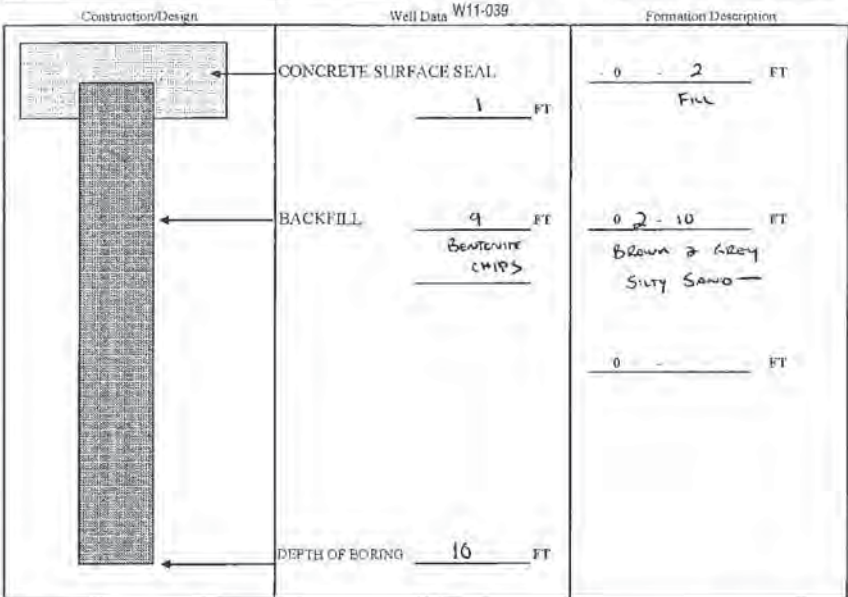
Lat/Long (N, E) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11

If trained, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406621

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

CURRENT Notice of Intent No. 22-4E-2J
AE11930

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds City Kent County 17-King

Unique Ecology Well ID _____ Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

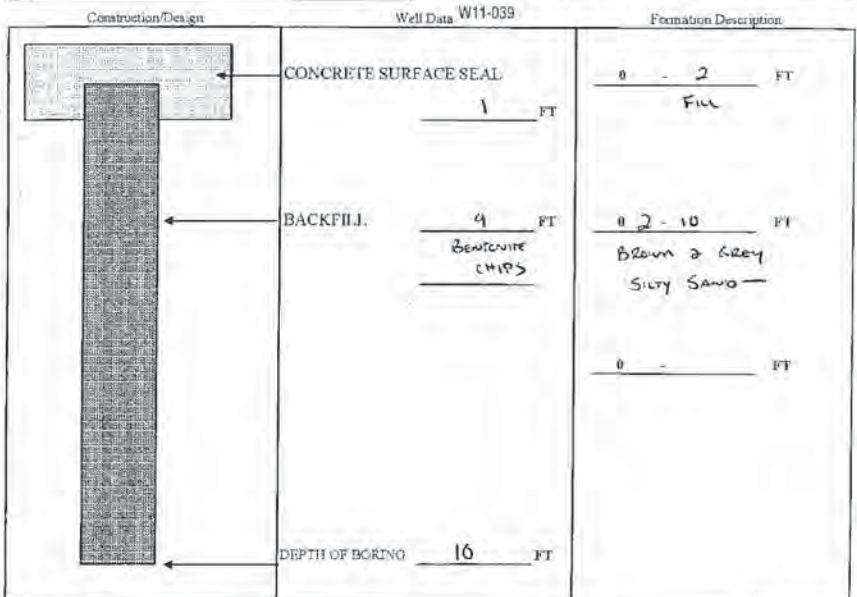
Lat/Long (N, E) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No. _____
 Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11

If trained, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406622

Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number EEG1815

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I, the contractor, accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature 

Driller/Trainee License No. 2501

If trained, licensed drillers' Signature and License No.

CURRENT

Notice of Intent No. AE11930

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 TOWN 22N R4E
 (EWSM) (WWSM)

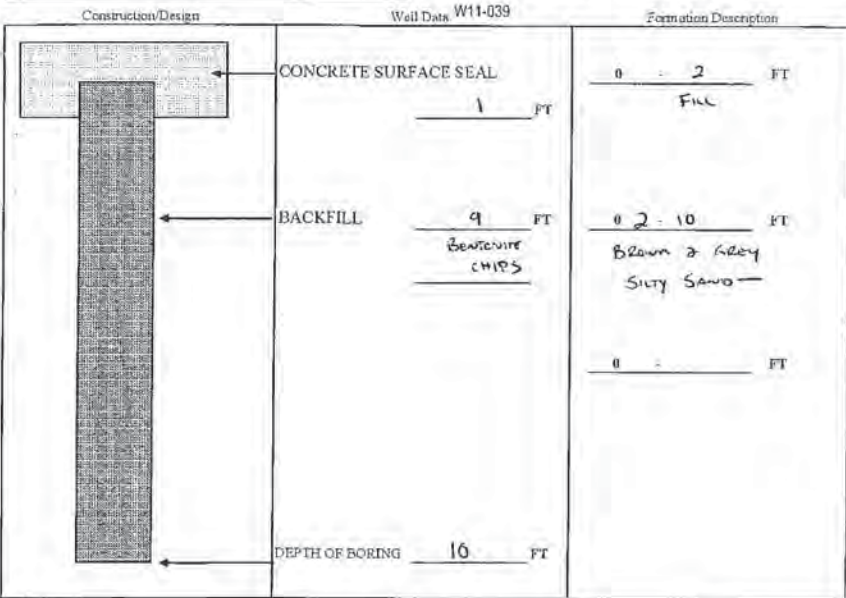
Lat/Long (N, E) Lat Deg 3 Lat Min/Sec 3
 Still Required) Long Deg 3 Long Min/Sec 3

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 3'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406623

Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number EEG1815


Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID

Tag No.

WELL CONSTRUCTION CERTIFICATION: I, the contractor, accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature 

Driller/Trainee License No. 2501

If trained, licensed drillers' Signature and License No.

CURRENT

Notice of Intent No. AE11930

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 TOWN 22N R4E
 (EWSM) (WWSM)

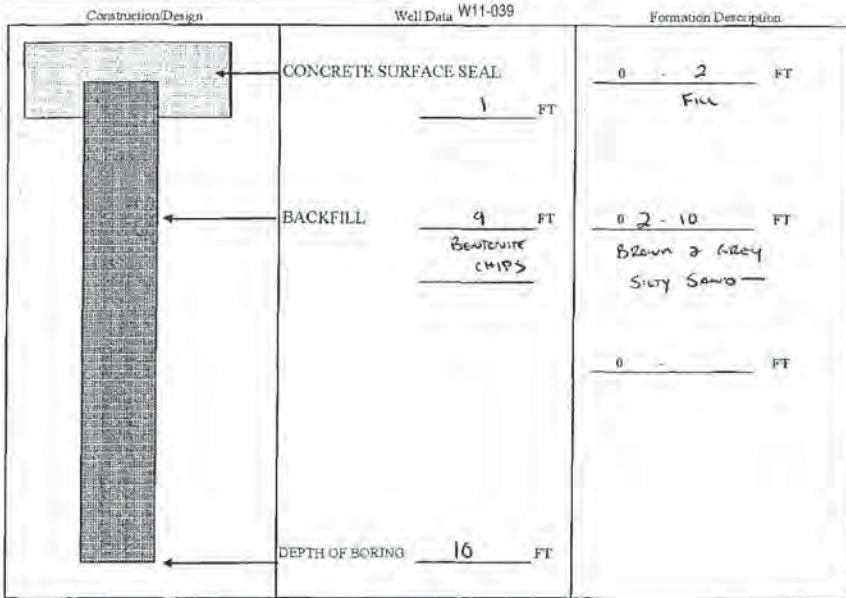
Lat/Long (N, E) Lat Deg 3 Lat Min/Sec 3
 Still Required) Long Deg 3 Long Min/Sec 3

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 3'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

22-48-2J

AE11930

406623

EEG1815

The Boeing Company

20403 68th Ave S

Kent 17-King

1/4 NE 1/4 SE Sec 2 TOWN 22N R4E

3 3 3

3 3 3

2" 3'

1-25-11

1-27-11

10 FT

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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission: 406624

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

Consulting Firm: Landau Associates-Edmonds

Unique Ecology Well ID: _____
 Tag No.: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material omissions and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print): Kasey Goble
 Driller/Trainee Signature: _____
 Driller/Trainee License No.: 2501

If trained, licensed drillers' Signature and License No.: _____

Property Owner: The Boeing Company
 Site Address: 20403 68th Ave S
 City: Kent County: 17-King

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E (EWM) (WWM)

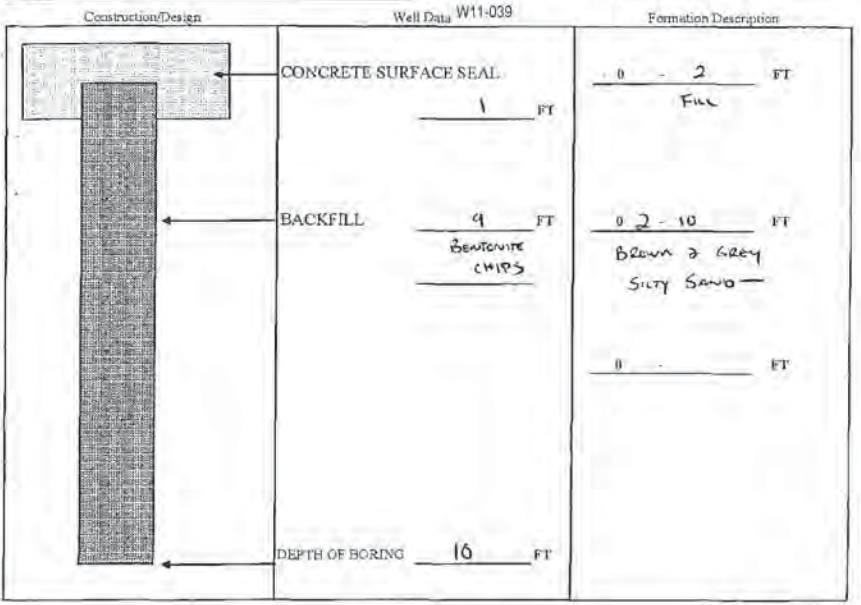
Lat/Long (N, E) Lat Deg: 46 Lat Min/Sec: 0
 Long Deg: 122 Long Min/Sec: 0

Tax Parcel No.: _____

Cased or Uncased Diameter: 2" Static Level: 2'

Work/Decommission Start Date: 1-25-11

Work/Decommission Completed Date: 1-27-11



22-48-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission: 406625

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815

Consulting Firm: Landau Associates-Edmonds

Unique Ecology Well ID: _____
 Tag No.: _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Material omissions and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print): Kasey Goble
 Driller/Trainee Signature: _____
 Driller/Trainee License No.: 2501

If trained, licensed drillers' Signature and License No.: _____

Property Owner: The Boeing Company
 Site Address: 20403 68th Ave S
 City: Kent County: 17-King

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E (EWM) (WWM)

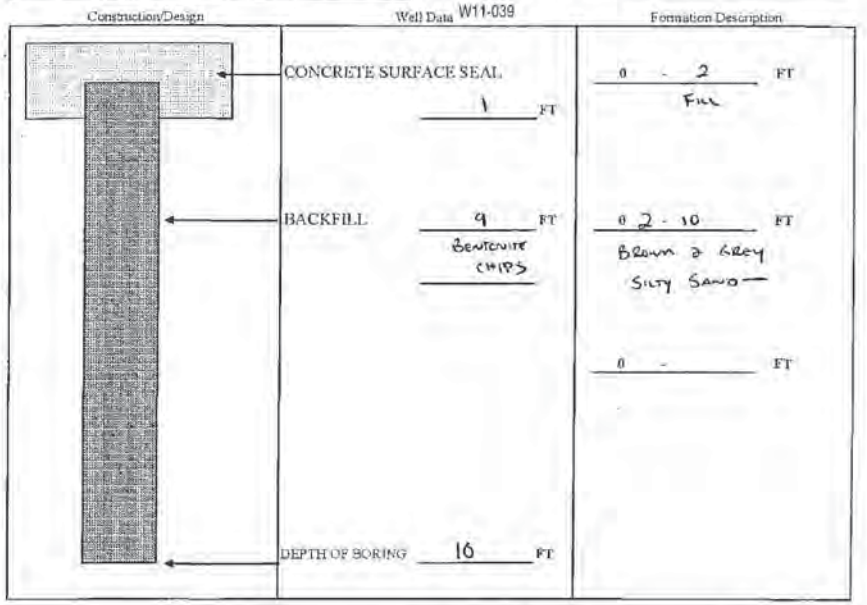
Lat/Long (N, E) Lat Deg: 46 Lat Min/Sec: 0
 Long Deg: 122 Long Min/Sec: 0

Tax Parcel No.: _____

Cased or Uncased Diameter: 2" Static Level: 2'

Work/Decommission Start Date: 1-25-11

Work/Decommission Completed Date: 1-27-11



22-48-2J

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission (ORIGINAL INSTALLATION Notice of Intent Number EE01815)

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501

If trainee, licensed driller:
 Signature and License No.

CURRENT
 Notice of Intent No. AE11930 22-4E-2J

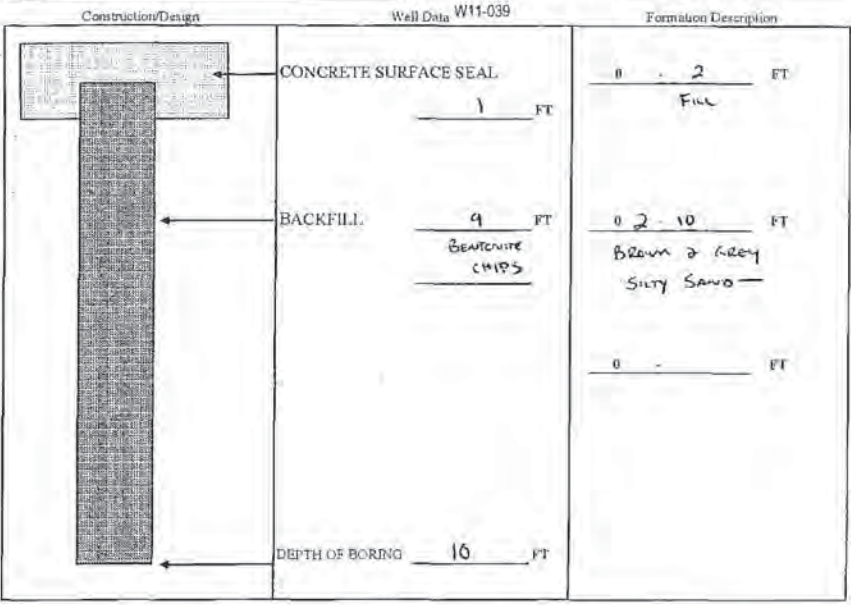
Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E
 (WMA) (WVMA)

Lat/Long (N), E Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 2'
 Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission (ORIGINAL INSTALLATION Notice of Intent Number EE01815)

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501

If trainee, licensed driller:
 Signature and License No.

CURRENT
 Notice of Intent No. AE11930 22-4E-2J

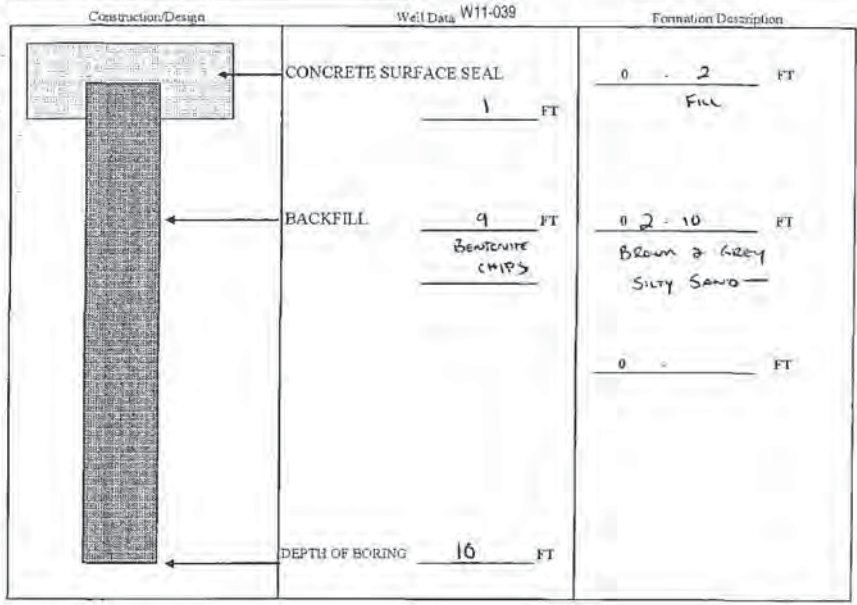
Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E
 (WMA) (WVMA)

Lat/Long (N), E Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No.
 Cased or Uncased Diameter 2" Static Level 2'
 Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815
406628

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. (Initials) dated and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

If trainee, licensed driller's
 Signature and License No.

CURRENT
 Notice of Intent No. AE11930
22-4B-2J

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Location: 1/4 NE 1/4 SE Sec 2 T20N R4E (EWM)
 (JWWM)

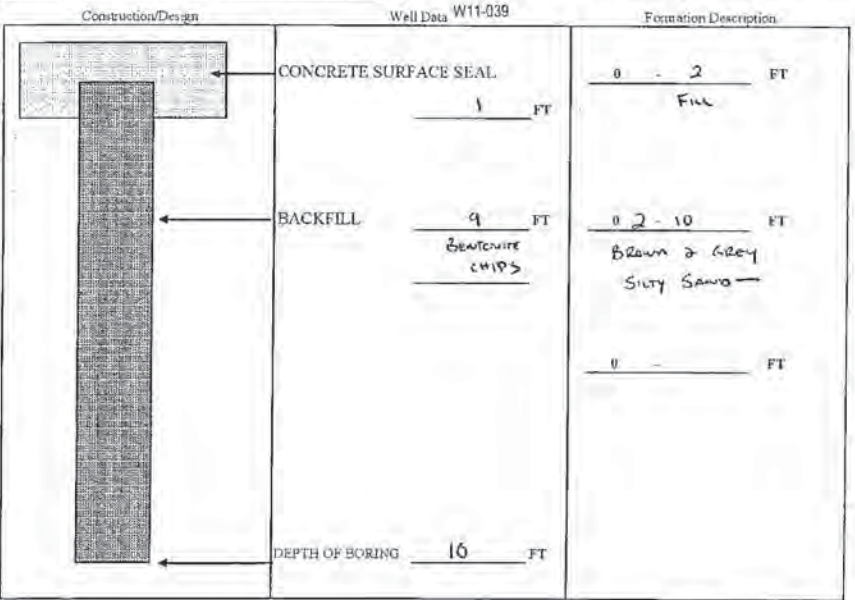
Lat/Long (S, E, T) Lat Deg 4 Lat Min/Sec 4
 still Required Long Deg 4 Long Min/Sec 4

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EEG1815
406629

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID
 Tag No.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. (Materials used and the information reported above are true to my best knowledge and belief.)

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

If trainee, licensed driller's
 Signature and License No.

CURRENT
 Notice of Intent No. AE11930
22-4B-2J

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

Location: 1/4 NE 1/4 SE Sec 2 T20N R4E (EWM)
 (JWWM)

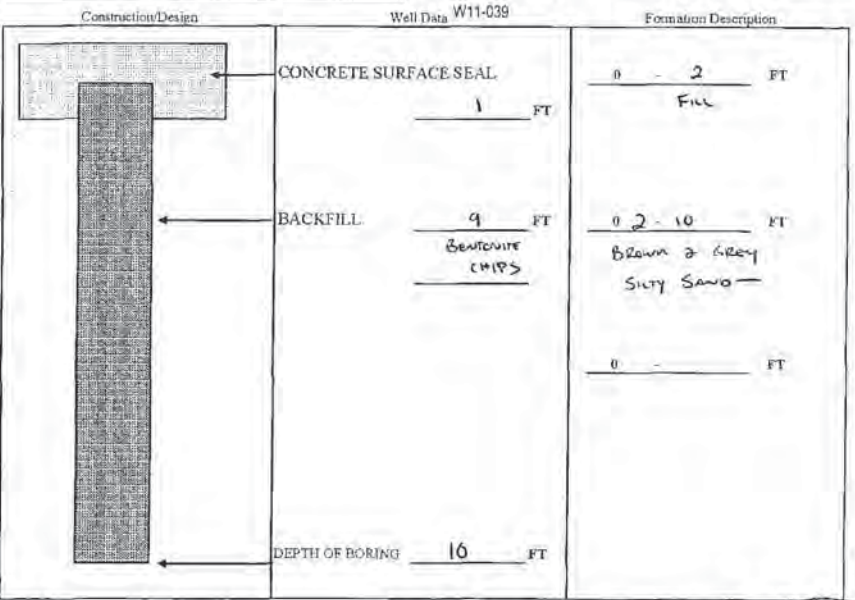
Lat/Long (S, E, T) Lat Deg 4 Lat Min/Sec 4
 still Required Long Deg 4 Long Min/Sec 4

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11

Work/Decommission Completed Date 1-27-11



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EE01815 **406630**

Consulting Firm Landau Associates-Edmonds
 Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

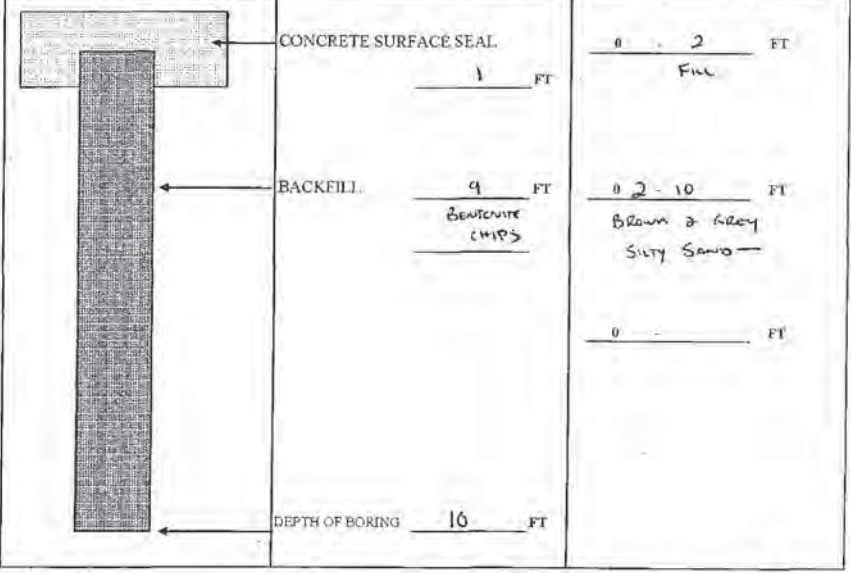
Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (BWM) (WWM)

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501
 Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-27-11

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



22-4E-2J

CURRENT Notice of Intent No. AE11930

Type of Well
 Resource Protection
 Geotechnical Soil Boring

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EE01815 **406631**

Consulting Firm Landau Associates-Edmonds
 Property Owner The Boeing Company
 Site Address 20403 68th Ave. S.
 City Kent County 17-King

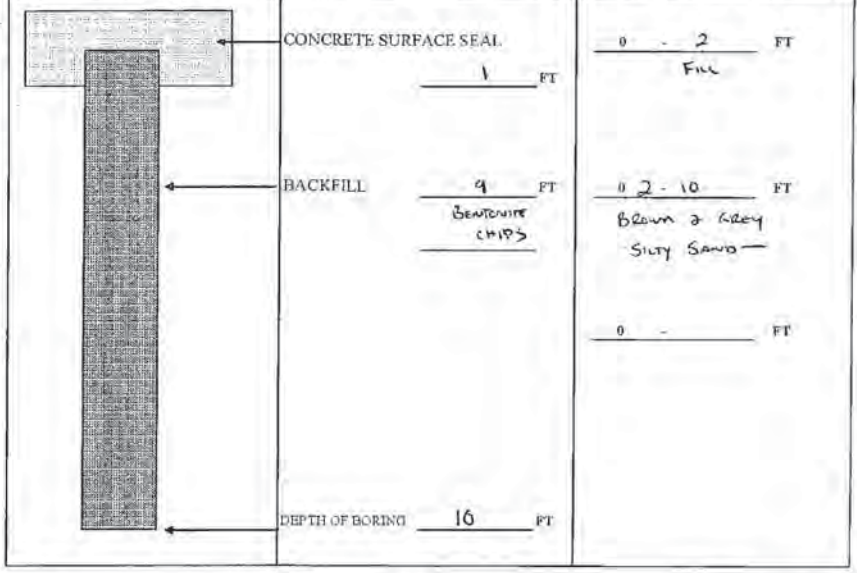
Unique Ecology Well ID _____
 Tag No. _____
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E (BWM) (WWM)

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501
 Cased or Uncased Diameter 2" Static Level 2'

Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-27-11

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



22-4E-2J

CURRENT Notice of Intent No. AE11930

Type of Well
 Resource Protection
 Geotechnical Soil Boring

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-2J

Construction/Decommission 406632

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EE01815

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID _____
 Tag No. _____

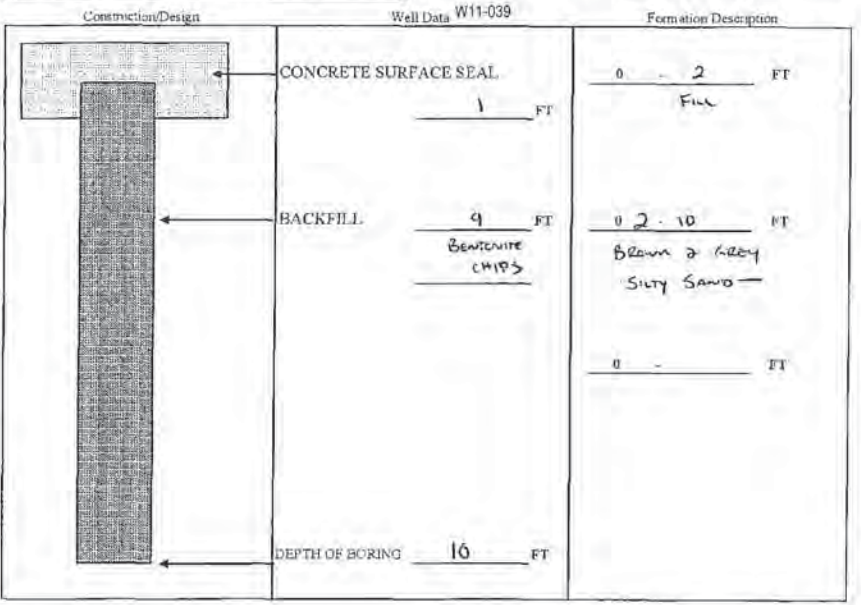
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-27-11

Cased or Uncased Diameter 2" Static Level 2'

If trawler, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-2J

Construction/Decommission 406633

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number EE01815

Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County 17-King

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID _____
 Tag No. _____

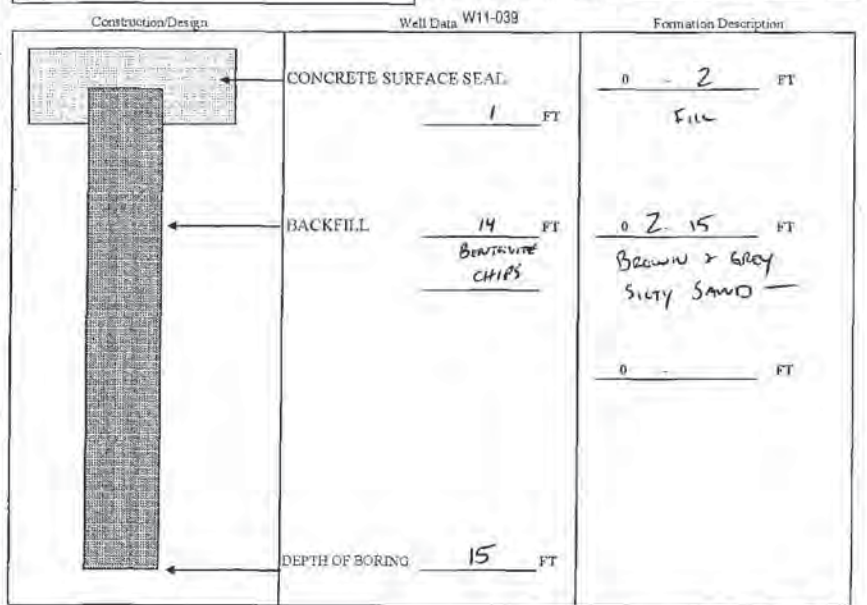
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Work/Decommission Start Date 1-25-11
 Work/Decommission Completed Date 1-25-11

Cased or Uncased Diameter 2" Static Level 2'

If trawler, licensed drillers' Signature and License No. _____



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction

Decommission: ORIGINAL INSTALLATION Notice of Intent Number _____

417069

CURRENT

Notice of Intent No. _____

SE09864 22-4E-2J

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S

City Kent County 17-King

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E or WWM

Lat/Long (S, L) List Deg x Lat/Min/Sec x

still Required) Long Deg x Long/Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10

Work/Decommission Start Date 5/20/2011

Work/Decommission Completed Date 5/24/11

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials described in the information reported above are true to my best knowledge and belief.

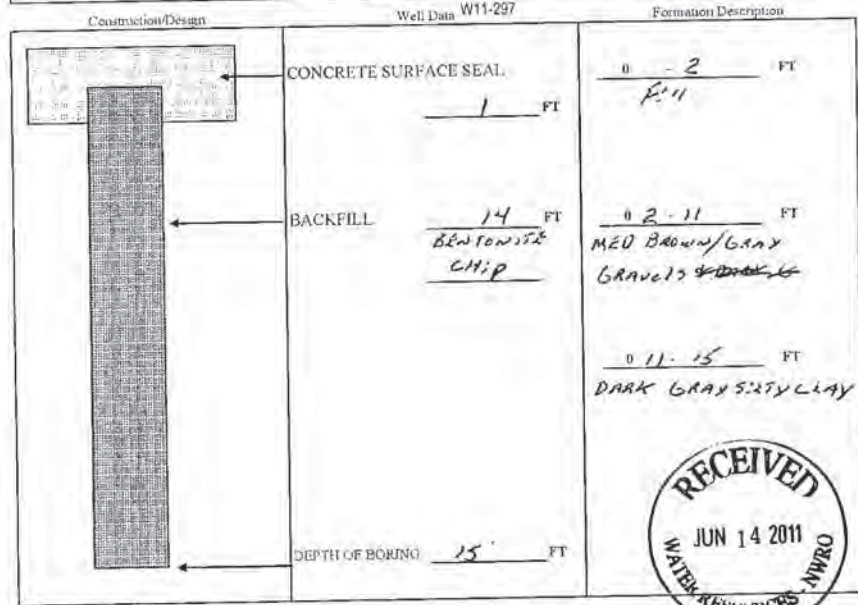
Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

If names, licensed driller's

Signature and License No. _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction

Decommission: ORIGINAL INSTALLATION Notice of Intent Number _____

417070

CURRENT

Notice of Intent No. _____

22-4E-2J AE13273

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner The Boeing Company

Site Address 20403 68th Ave. S

City Kent County 17-King

Location: 1/4 NE 1/4 SE Sec 2 Town 22N R4E or WWM

Lat/Long (S, L) List Deg x Lat/Min/Sec x

still Required) Long Deg x Long/Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10

Work/Decommission Start Date 5/20/2011

Work/Decommission Completed Date 5/24/11

Unique Ecology Well ID

Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

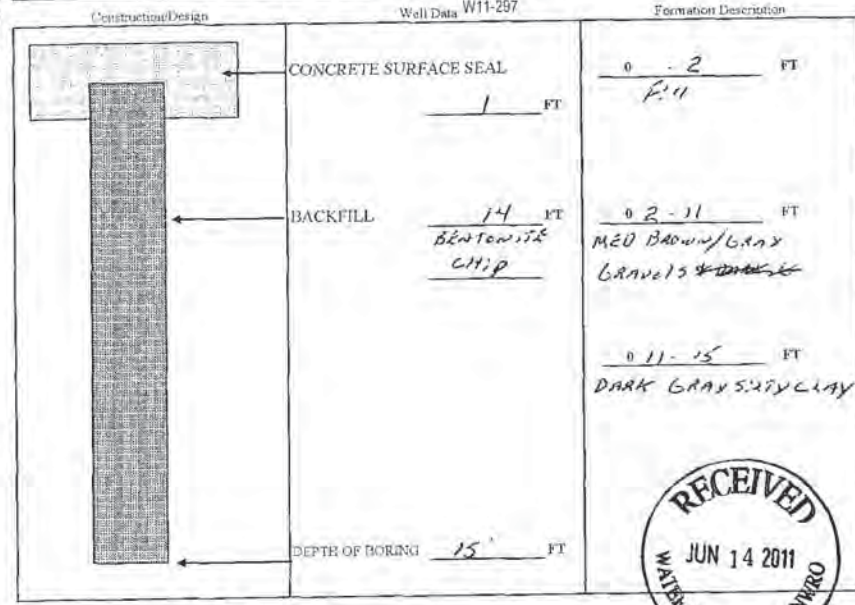
Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2982

If names, licensed driller's

Signature and License No. _____



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

23-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 417071

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID _____ Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed under accept responsibility for construction of this well, and in compliance with all Washington well construction standards. Materials used and the information reported herein are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trained, licensed drillers: _____
 Signature and License No. _____

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E or WWM

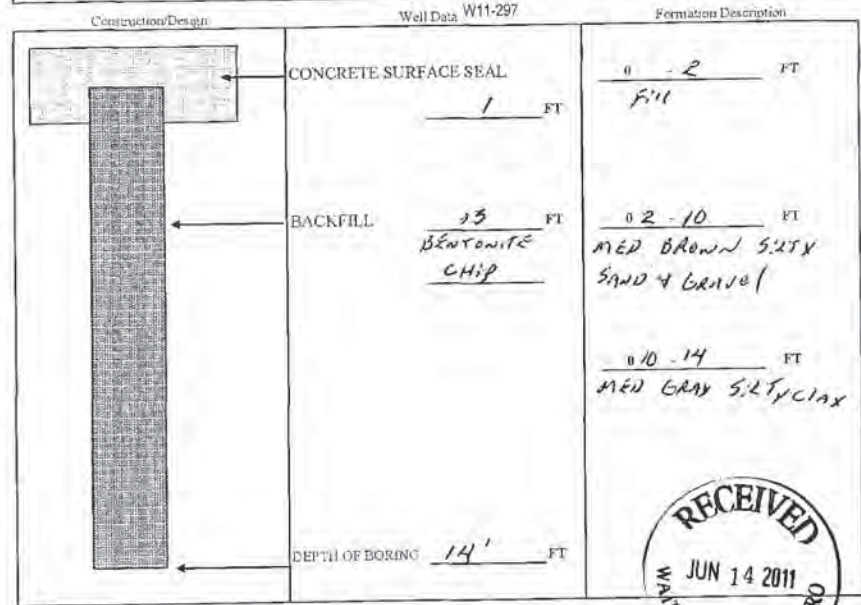
Lat/Long (U.S. still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10

Work/Decommission Start Date 5/20/2011

Work/Decommission Completed Date 5/20/11



23-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 417072

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm Landau Associates-Edmonds

Unique Ecology Well ID _____ Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed under accept responsibility for construction of this well, and in compliance with all Washington well construction standards. Materials used and the information reported herein are true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble
 Driller/Trainee Signature Lynn Goble
 Driller/Trainee License No. 2982

If trained, licensed drillers: _____
 Signature and License No. _____

Property Owner The Boeing Company
 Site Address 20403 68th Ave. S
 City Kent County 17-King

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E or WWM

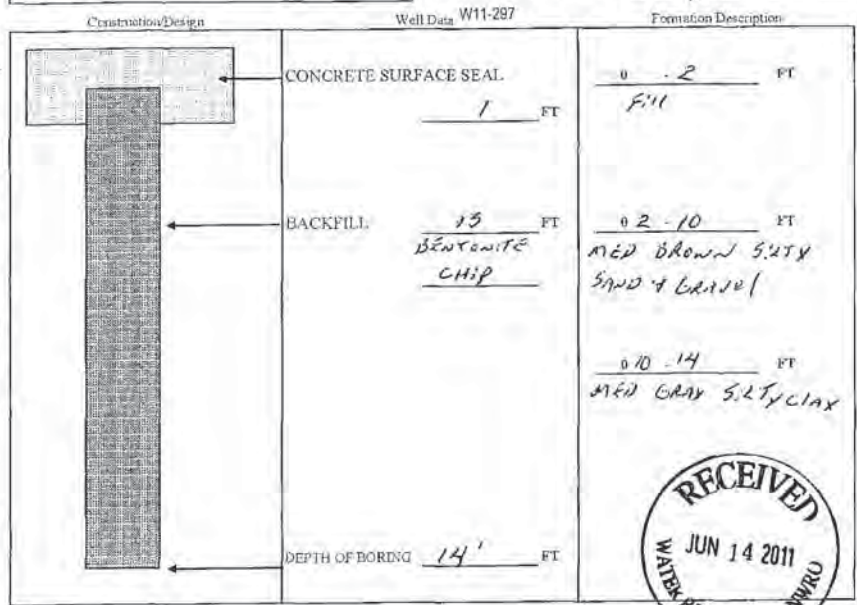
Lat/Long (U.S. still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 10

Work/Decommission Start Date 5/20/2011

Work/Decommission Completed Date 5/20/11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-2J

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

417073

CURRENT

Notice of Intent No. EE02010

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County 17-King

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No.

Lat/Long (NAD 83) still Required) Lat Deg 46 Lat Min/Sec 3 Lat Max/Sec 3
Long Deg 122 Long Min/Sec 4 Long Max/Sec 4

WELL CONSTRUCTION CERTIFICATION: I consent and accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

I warrant that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2882

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 10

Work/Decommission Start Date 5/20/2011

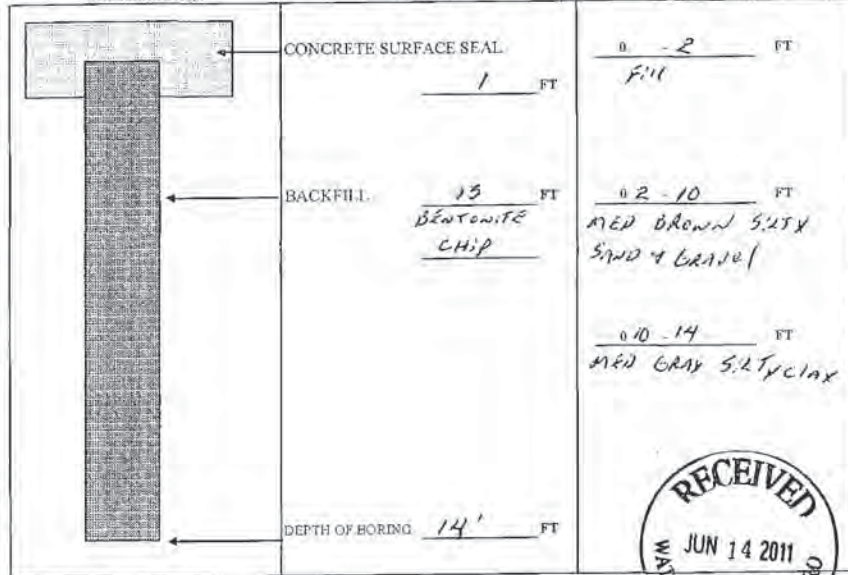
If trainee, licensed driller's Signature and License No.

Work/Decommission Completed Date 5/20/11

Construction/Design

Well Data W11-297

Formation Description



Scale 1" = _____

Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-2J

Construction/Decommission

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

417074

CURRENT

Notice of Intent No. AE13274

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm Landau Associates-Edmonds

Property Owner The Boeing Company

Site Address 20403 68th Ave S

City Kent County 17-King

Unique Ecology Well ID

Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E

Tag No.

Lat/Long (NAD 83) still Required) Lat Deg 46 Lat Min/Sec 3 Lat Max/Sec 3
Long Deg 122 Long Min/Sec 4 Long Max/Sec 4

WELL CONSTRUCTION CERTIFICATION: I consent and accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

I warrant that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Lynn Goble

Driller/Trainee Signature Lynn Goble

Driller/Trainee License No. 2882

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 10

Work/Decommission Start Date 5/20/2011

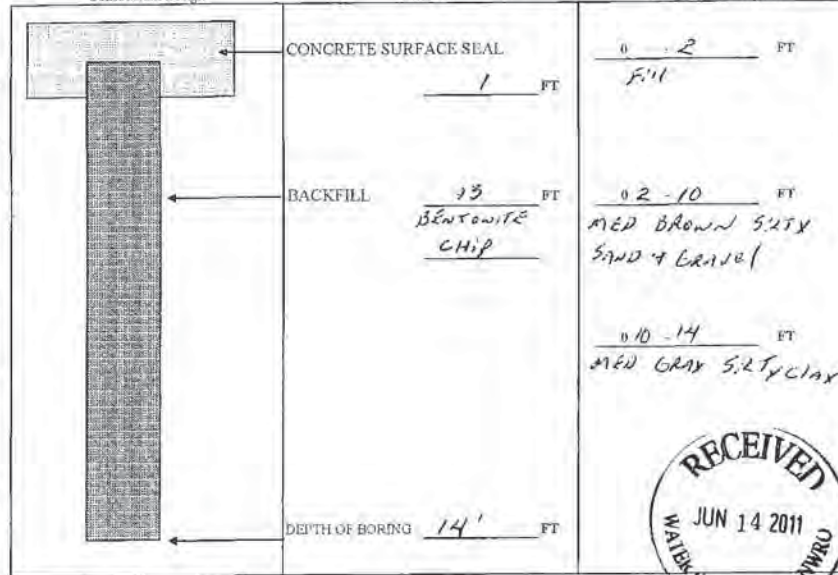
If trainee, licensed driller's Signature and License No.

Work/Decommission Completed Date 5/20/11

Construction/Design

Well Data W11-297

Formation Description



Scale 1" = _____

Page _____ of _____



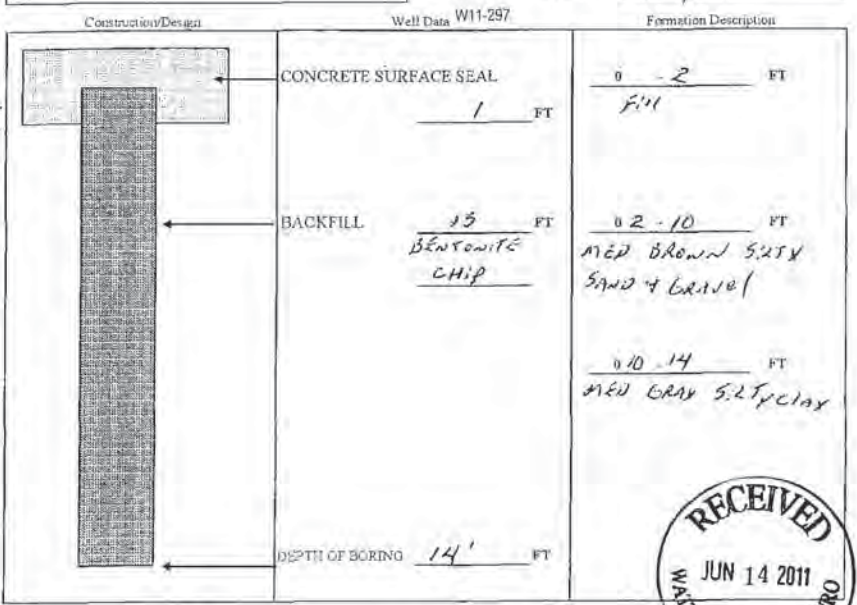
The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 417075
 Type of Well
 Resource Protection
 Geotechnical Soil Boring
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number EED 2010
 Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County 17-King
 Consulting Firm Landau Associates-Edmonds
 Unique Ecology Well ID Tag No. SWM
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E
 Lat/Long (s, l, r) still Required) Lat Deg s Lat Min/Sec s
 Long Deg s Long Min/Sec s
 Tax Parcel No. _____
 Cased or Uncased Diameter 2" State Level 10
 Work/Decommission Start Date 5/20/2011
 Work/Decommission Completed Date 5/20/11
 Driller/Trainer Name (Print) Lynn Goble
 Driller/Trainer Signature _____
 Driller/Trainer License No. 2982
 If trained/licensed driller? _____
 Signature and License No. _____

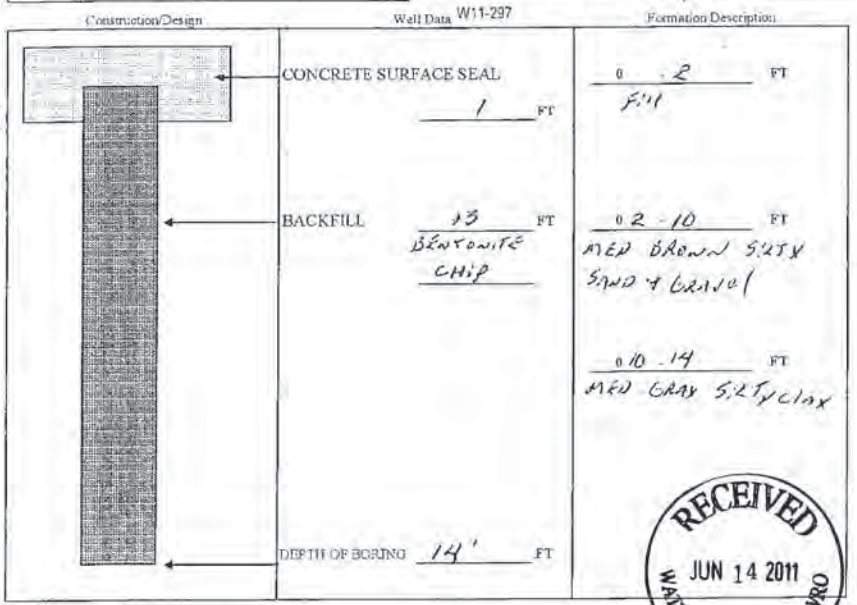


22-4E-2J

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 417076
 Type of Well
 Resource Protection
 Geotechnical Soil Boring
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number EED 2010
 Property Owner The Boeing Company
 Site Address 20403 68th Ave S
 City Kent County 17-King
 Consulting Firm Landau Associates-Edmonds
 Unique Ecology Well ID Tag No. SWM
 Location 1/4 NE 1/4 SE Sec 2 Town 22N R4E
 Lat/Long (s, l, r) still Required) Lat Deg s Lat Min/Sec s
 Long Deg s Long Min/Sec s
 Tax Parcel No. _____
 Cased or Uncased Diameter 2" State Level 10
 Work/Decommission Start Date 5/20/2011
 Work/Decommission Completed Date 5/20/11
 Driller/Trainer Name (Print) Lynn Goble
 Driller/Trainer Signature _____
 Driller/Trainer License No. 2982
 If trained/licensed driller? _____
 Signature and License No. _____



22-4E-2J

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

Slead Job # 2023

WATER WELL REPORT

STATE OF WASHINGTON

Notice of Intent D 21170

UNIQUE WELL I.D.#

22-4E-2-11P

(1) OWNER: Name The Boeing Realty Corp Address 4060 Lakewood Blvd, Long Beach
Attn: Gary Powley CA 90808-1700

(2) LOCATION OF WELL: County King NW 1/4 SW 1/4 Sec 2811 T. 22N. R. 4E WM

(2a) STREET ADDRESS OF WELL: (or nearest address) Intersection of So 212th St, City of Kent

TAX PARCEL NO.: 02204-9058, 9059, 9044, 9060 & 112204-9087

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other
 DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) 36
 Method: Deepened Dug Bored
 Reconditioned Cable Driven
 Decommission Rotary Jetted

(5) DIMENSIONS: Diameter of well 36 inches
 Drilled 40 feet. Depth of completed well 90 ft.

(6) CONSTRUCTION DETAILS
 Casing Installed:
 Welded Method:
 Liner installed 10 Diam. from 0 ft. to 40 ft.
 Threaded 10 Diam. from 0 ft. to 40 ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No K-Pac Location
 Manufacturer's Name PVC Model No. _____
 Type PVC Slot Size 20 from 20 ft. to 40 ft.
 Diam. 10 Slot Size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: Yes No Size of gravel/sand 3/4 pea
 Material placed from 5 ft. to 40 ft.

Surface seal: Yes No To what depth? 5 ft.
 Material used in seal Native clay
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
 Type _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level 6 ft.
 Static level 9 ft. below top of well Date 5/22
 Artesian pressure _____ lbs. per square inch Date 5/22
 Artesian water is controlled by _____ (Cap. valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

 Date of test _____
 Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Airstest _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG OR DECOMMISSIONING PROCEDURE DESCRIPTION
 Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each stratum. Indicate all water encountered.

MATERIAL	FROM	TO
Brown loess soil	0	4
Dark Brown clay	4	6
Silty Dark Brown sand	6	32
Dark Brown clay	32	40

RECEIVED
 JUN 9 2000
 DEPARTMENT OF ECOLOGY
 WELL DRILLING UNIT

Work Started 5/22 00 Completed 6/15 00

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name Don Whisman License No. 2088
 (Licensed Driller/Engineer)

Trainee Name _____ License No. _____

Drilling Company SLEAD CONSTRUCTION, INC.
 (Signed) _____ License No. 2088
 (Licensed Driller/Engineer)

Address 9021 Waller Rd E., Tacoma, WA 98446-2531
 Contractor's Registration No. SLEADC*325KO Date 6/24/00

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (360) 407-0600. The TDD number is (360) 407-5006.

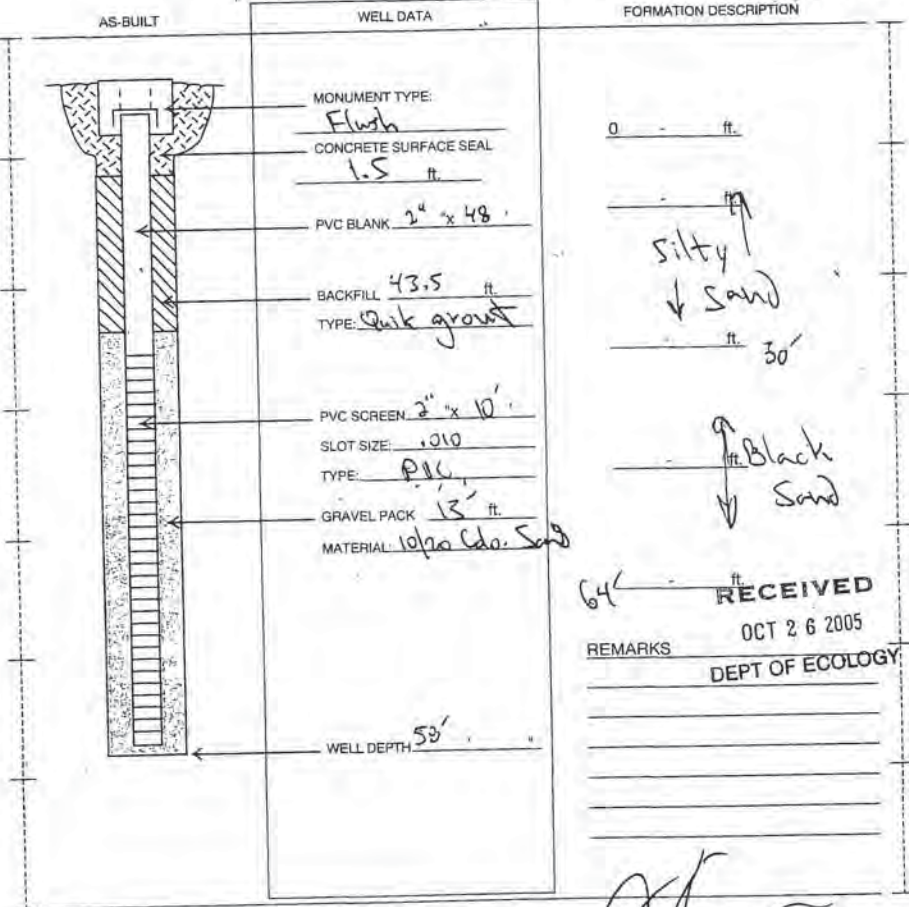
The Department of Ecology does NOT warrant the Data and/or the information on this Well Report.

HOLT DRILLING, INC.

Resource Protection Well Report

Project Name 184324 Tri-State
 Well Identification # MW-1
 Drilling Method 4" HSA
 Driller Pat Terries
 License # 1793

Date 1-19-01
 County King NW 1/4 NW 1/4
 Section 12 T. 22N R. 4E
 Street Address _____
 Start Card R049266
 Consulting Firm Shannon Wilson



Silty sand
 ↓
 Black Sand

RECEIVED
 OCT 26 2005
 DEPT OF ECOLOGY

Signature Pat Terries

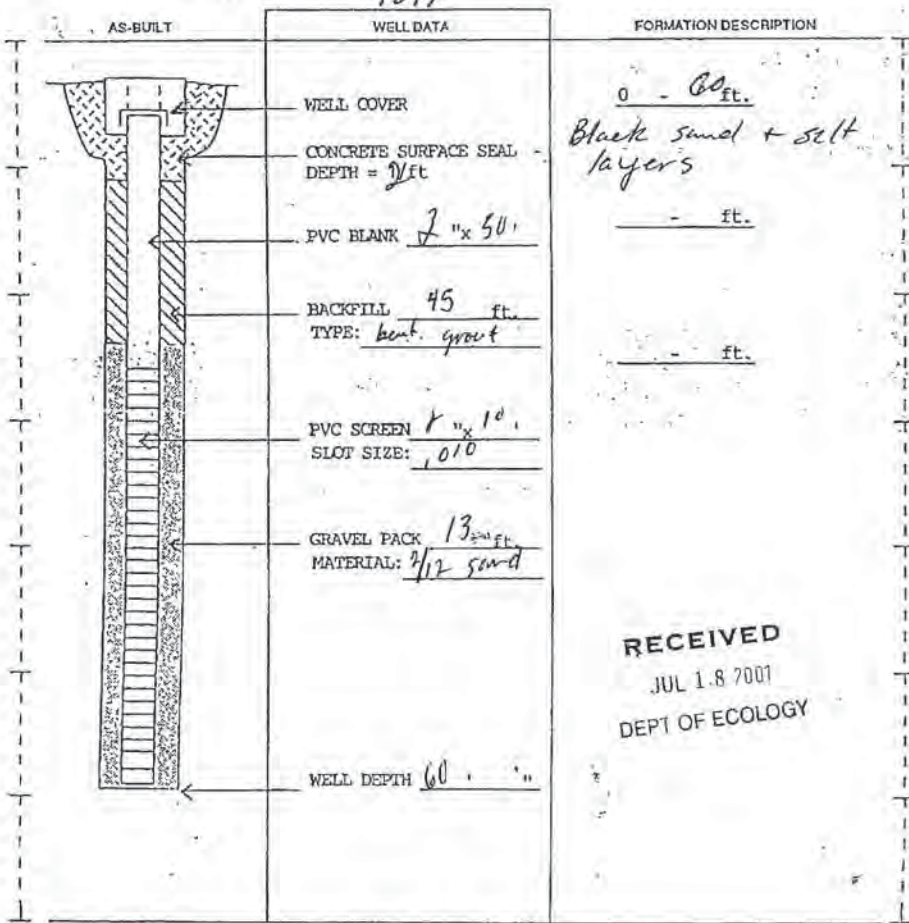
99861
RESOURCE PROTECTION WELL REPORT

START CARD NO. R55377

PROJECT NAME: Construction Site
 WELL IDENTIFICATION NO. AGL 470
 DRILLING METHOD HSA
 DRILLER: Brian G. Coase
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM TriState Construction
 REPRESENTATIVE: Paul Clements

COUNTY: King 22-4E-12D
 LOCATION: NW/4 NW/4 Sec 12 Twn 2N R 4E
 STREET ADDRESS OF WELL: 72nd Ave + 212th St, Kent
 WATER LEVEL ELEVATION 10
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 6/2/07
 DEVELOPED NO

1347



RECEIVED
 JUL 18 2007
 DEPT OF ECOLOGY

SCALE 1" = _____ PAGE _____ OF _____

ECY 050-12 (Rev. 11/09)

99861

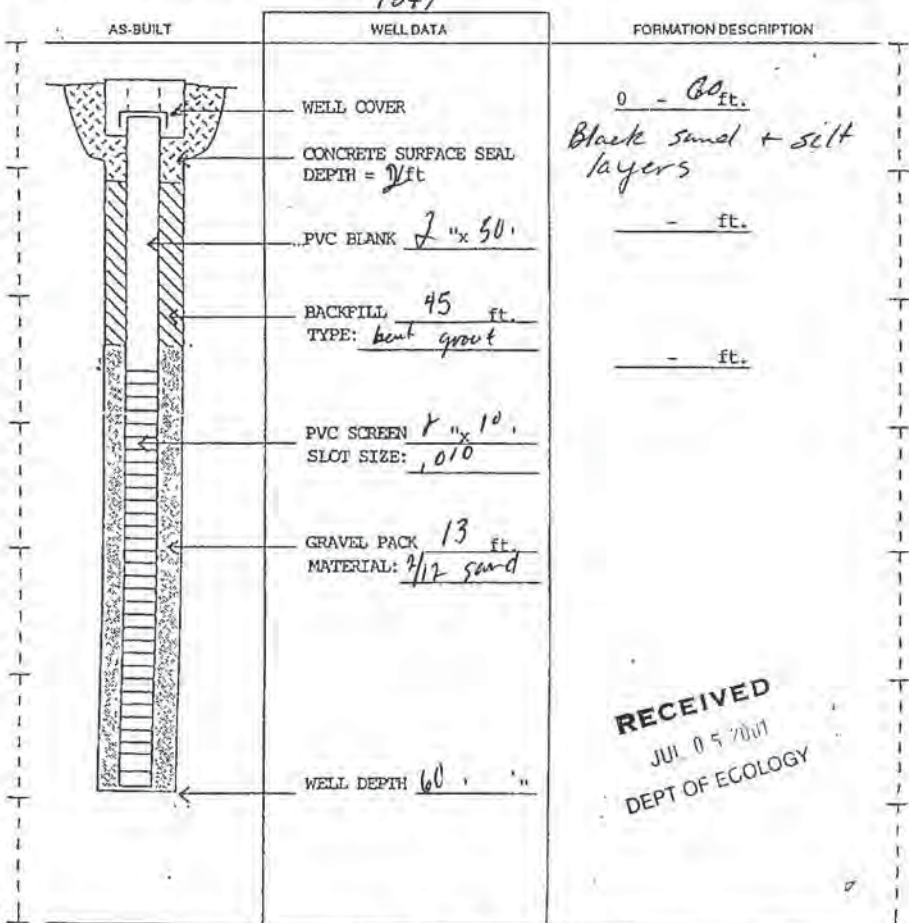
99862
RESOURCE PROTECTION WELL REPORT

START CARD NO. R050565

PROJECT NAME: Construction Site
 WELL IDENTIFICATION NO. AGL 423
 DRILLING METHOD HSA
 DRILLER: Brian G. Coase
 FIRM: Cascade Drilling, Inc.
 SIGNATURE: [Signature]
 CONSULTING FIRM TriState Construction
 REPRESENTATIVE: Paul Clements

COUNTY: King 22-4E-12D
 LOCATION: NW/4 NW/4 Sec 12 Twn 2N R 4E
 STREET ADDRESS OF WELL: 72nd Ave + 212th St, Kent
 WATER LEVEL ELEVATION 10
 GROUND SURFACE ELEVATION: N/A
 INSTALLED: 6/2/07
 DEVELOPED NO

1347



RECEIVED
 JUL 05 2007
 DEPT OF ECOLOGY

SCALE 1" = _____ PAGE _____ OF _____

ECY 050 12 (Rev 11/09)

99862

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

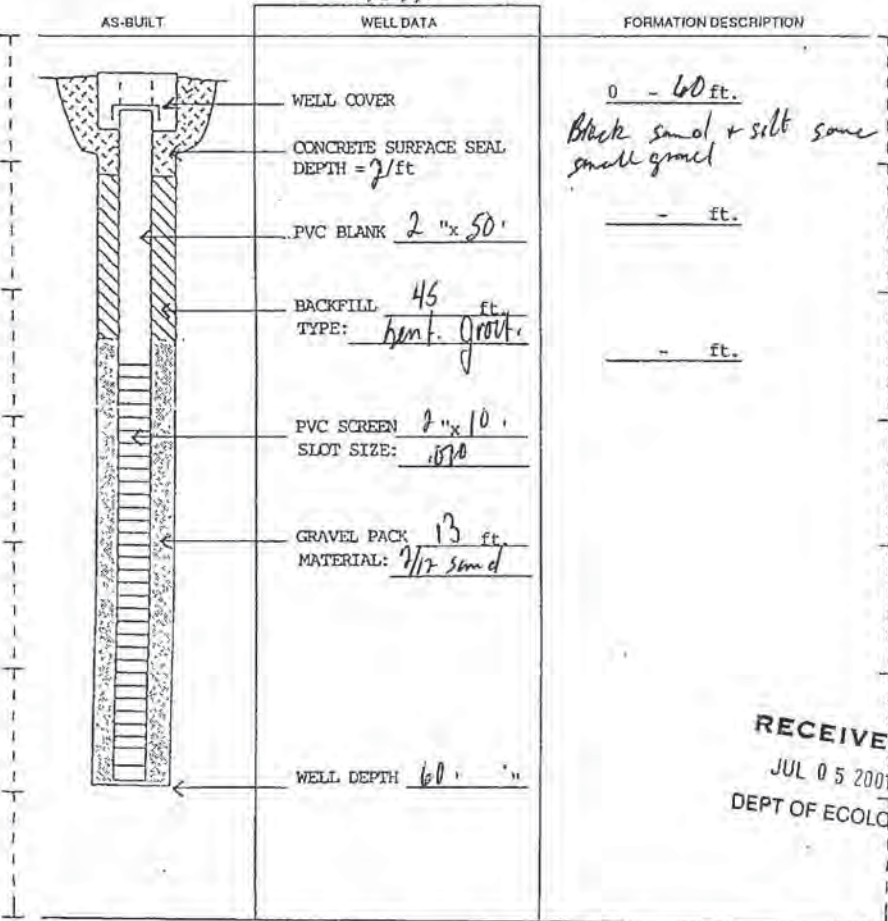
The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

99863
RESOURCE PROTECTION WELL REPORT

START CARD NO. R050565

PROJECT NAME: Construction Site COUNTY: King 22-4E-12D
 WELL IDENTIFICATION NO: AGL 422 LOCATION: NW/4 NW/4 Sec 12 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL: 72nd Ave # 212th St, Kent
 DRILLER: Brian G. Gose WATER LEVEL ELEVATION: 90'
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: [Signature] INSTALLED: 5/25/01
 CONSULTING FIRM: Tri-State Construction DEVELOPED: No
 REPRESENTATIVE: Paul Clements

1347



RECEIVED
 JUL 05 2001
 DEPT OF ECOLOGY

SCALE 1" = _____ PAGE _____ OF _____

ECY 050-12 (Rev 11/09)

99863

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-12D
RE05268

Construction/Decommission 406429

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Consulting Firm PES Environmental

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 04E WWM

Unique Ecology Well ID Tag No. PCM-893

WELL CONSTRUCTION CERTIFICATION: I, the undersigned, accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I understand and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature [Signature]

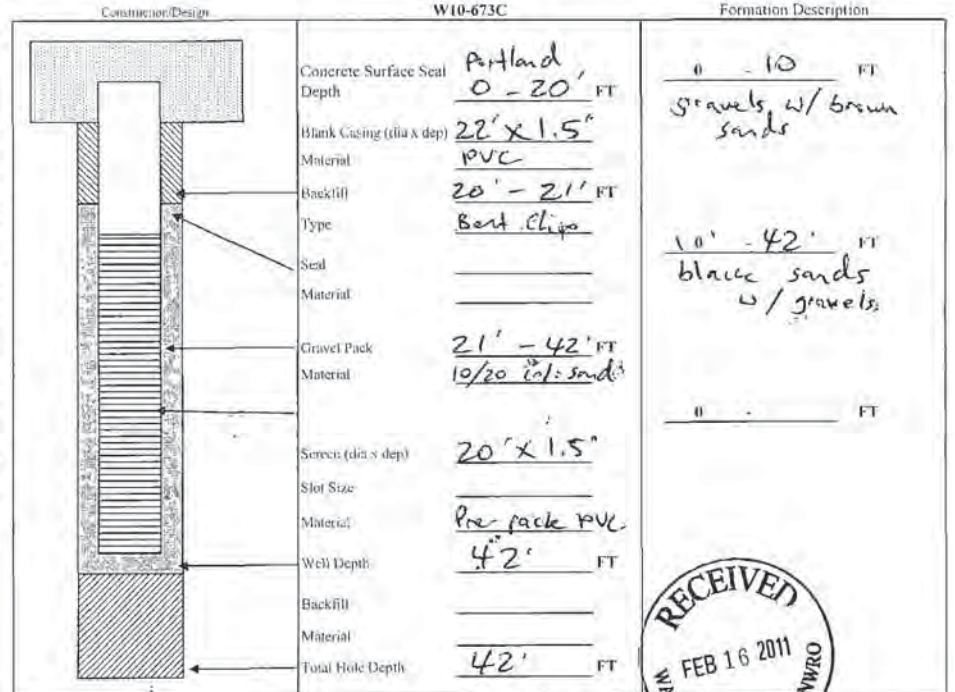
Driller/Trainee License No. 2965

Cased or Uncased Diameter: 3 1/4" Static Level: 12'

Work/Decommission Start Date 01/03/11

If trainee, licensed driller's Signature and License No. _____

Work/Decommission End Date 1-3-11



Scale 1" = _____

Page _____ of _____

RECEIVED
 FEB 16 2011
 WATER RESOURCES - NWRO

ECY 050-12 (Rev 11/09)

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406430
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well 22-4E-120
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Consulting Firm PES Environmental

Unique Ecology Well ID _____
 Tag No. BCM-894

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E of WWM

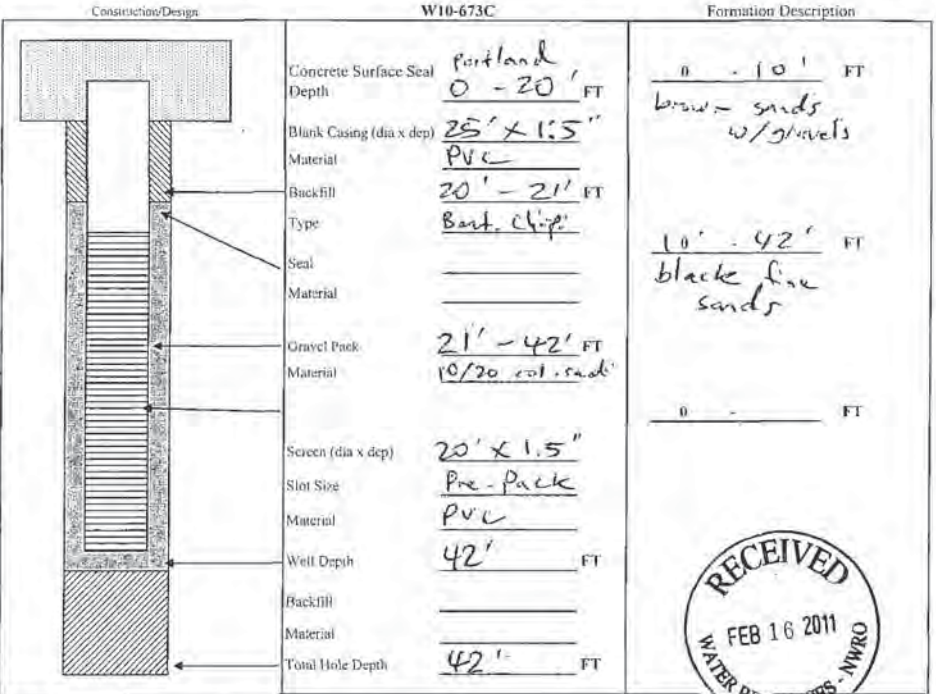
Lat/Long (S, L, T) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2965

If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. _____
 Cased or Uncased Diameter 3 1/4" Static Level 12'
 Work/Decommission Start Date 01/02/11
 Work/Decommission End Date 1-4-11



The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission _____
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well RE10416
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S 212th St
 City Kent County King

Consulting Firm URS Corporation

Unique Ecology Well ID _____
 Tag No. BTD 692

Location 1/4 NW 1/4 NW Sec 12 TWP 22N R 4E of WWM

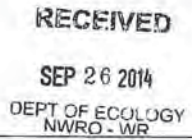
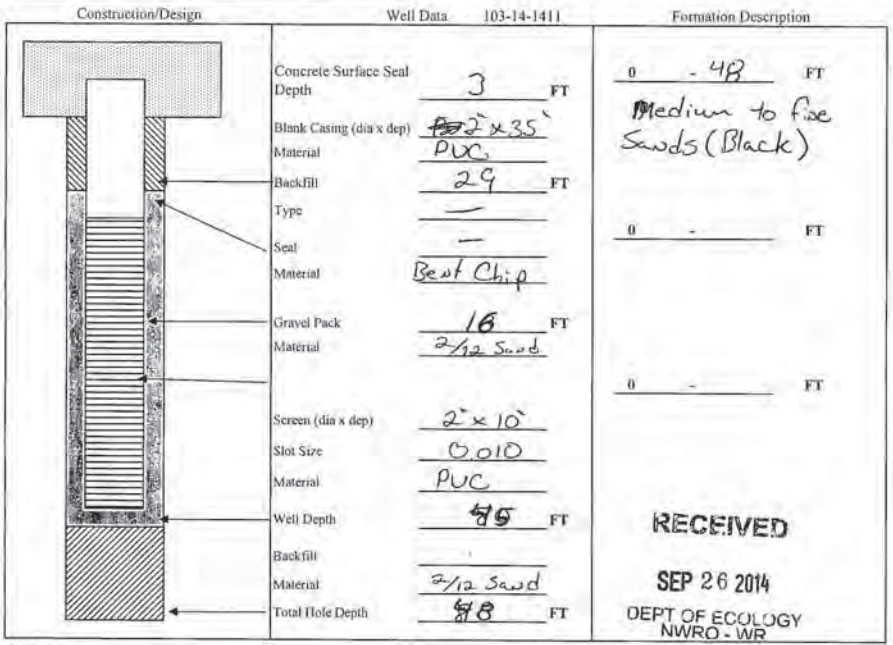
Lat/Long (S, L, T) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Aaron Ocheltree
 Driller/Trainee Signature _____
 Driller/Trainee License No. 3141

If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 8 1/4" Static Level 15'
 Work/Decommission Start Date 9-11-14
 Work/Decommission End Date 9-11-14



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT

Notice of Intent No. RE10416

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm URS Corporation

Property Owner Univar
 Site Address 8201 S 212th St
 City Kent County King

Unique Ecology Well ID Tag No. BID-693

Location 1/4 NW 1/4 NW Sec 12 T2N 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

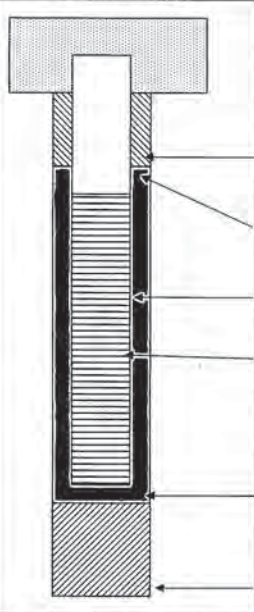
Lat/Long (s, l, r still Required) Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Aaron Ockeltree
 Driller/Trainee Signature _____
 Driller/Trainee License No. 3141

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 8 1/2 Static Level 10'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 9-12-14
 Work/Decommission End Date 9-12-14

Construction/Design	Well Data 103-14-141	Formation Description
	Concrete Surface Seal Depth <u>3</u> FT	<u>0 - 5</u> FT Light Brown Fine To Medium Sands with Small Cobbles
	Blank Casing (dia x dep) Material <u>2" x 25' PUC</u>	
	Backfill <u>30</u> FT	
	Seal Material <u>Best Chip</u>	<u>0 5 - 44</u> FT Five to medium Grey & Black Sands w/ some sandy silty
	Gravel Pack Material <u>1/2" Sand</u>	
	Screen (dia x dep) Slot Size Material <u>2" x 10' .010 PUC</u>	<u>0 44 - 45</u> FT Grey Silty Clay
	Well Depth <u>45</u> FT	
	Backfill Material _____	
	Total Hole Depth <u>45</u> FT	

RECEIVED
 SEP 26 2014
 DEPT OF ECOLOGY
 NWRO - WR

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE35954

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm AECOM

Property Owner Univar
 Site Address 8201 S 212th St
 City Kent County King

Unique Ecology Well ID Tag No. _____

Location 1/4 NW 1/4 NW Sec 12 T2N 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

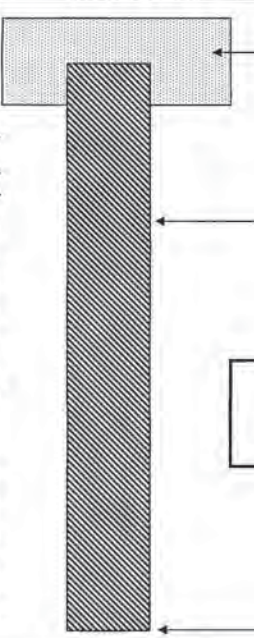
Lat/Long (s, l, r still Required) Lat Deg n/a Lat Min/Sec n/a Long Deg n/a Long Min/Sec n/a

Driller Trainee Name (Print) Frank Scott
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2549

Tax Parcel No. 0
 Cased or Uncased Diameter 2" Static Level _____

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 2-16-16
 Work/Decommission Completed Date 2-16-16

Construction/Design	Well Data 103-16-1034	Formation Description
	Concrete Surface Seal <u>2</u> FT	<u>0 -</u> FT
	Backfill <u>18</u> FT	<u>0 -</u> FT
	Well Depth <u>20</u> FT	

REQUIRED INFORMATION
 (Must get one or both if available)
 DEPT OF ECOLOGY WELL TAG #: AGT 012
 CLIENT WELL ID #: INJ-3

Department of Ecology
 Water Resources Program
 MAR 17 2016

RESOURCE PROTECTION WELL REPORT

SUBMIT ONE WELL REPORT PER WELL INSTALLED

CURRENT

Notice of Intent No. AE35954

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S 212th St
 Consulting Firm AECOM City Kent County King

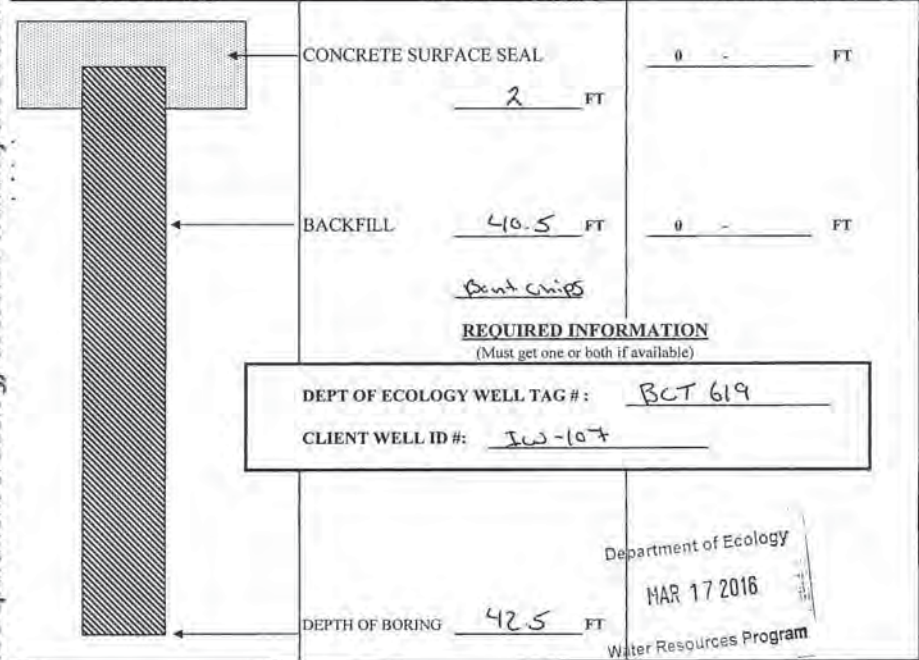
Unique Ecology Well ID _____
 Tag No. _____

Location 1/4 NW 1/4 NW Sec 12 TWN 22N R. 4E of _____
 WWM _____
 Lat/Long (S,L,R) Lat Deg n/a Lat Min/Sec n/a
 still Required) Long Deg n/a Long Min/Sec n/a

Tax Parcel No. 0
 Driller Trainee Name (Print) Frank Scott
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2549

Cased or Uncased Diameter 1 1/2" Static Level _____
 Work/Decommission Start Date 2-16-16
 Work/Decommission Completed Date 2-16-16

Construction/Design Well Data 103-16-1034 Formation Description



RESOURCE PROTECTION WELL REPORT

SUBMIT ONE WELL REPORT PER WELL INSTALLED

CURRENT

Notice of Intent No. AE35954

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S 212th St
 Consulting Firm AECOM City Kent County King

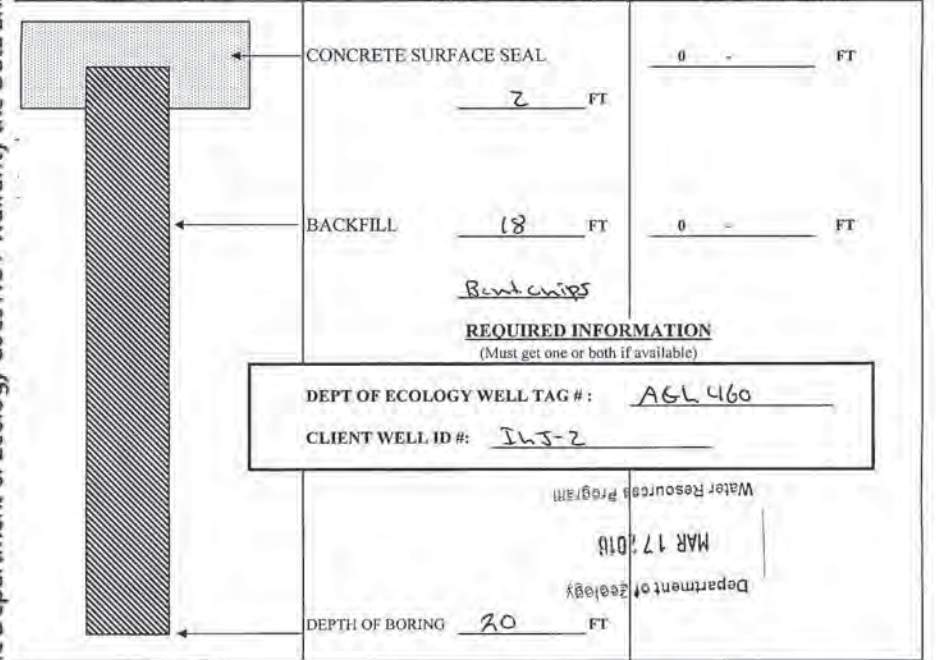
Unique Ecology Well ID _____
 Tag No. _____

Location 1/4 NW 1/4 NW Sec 12 TWN 22N R. 4E of _____
 WWM _____
 Lat/Long (S,L,R) Lat Deg n/a Lat Min/Sec n/a
 still Required) Long Deg n/a Long Min/Sec n/a

Tax Parcel No. 0
 Driller Trainee Name (Print) Frank Scott
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2549

Cased or Uncased Diameter 2" Static Level _____
 Work/Decommission Start Date 2-16-16
 Work/Decommission Completed Date 2-16-16

Construction/Design Well Data 103-16-1034 Formation Description



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

RESOURCE PROTECTION WELL REPORT

SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE35954

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S 212th St
 Consulting Firm AECOM City Kent County King

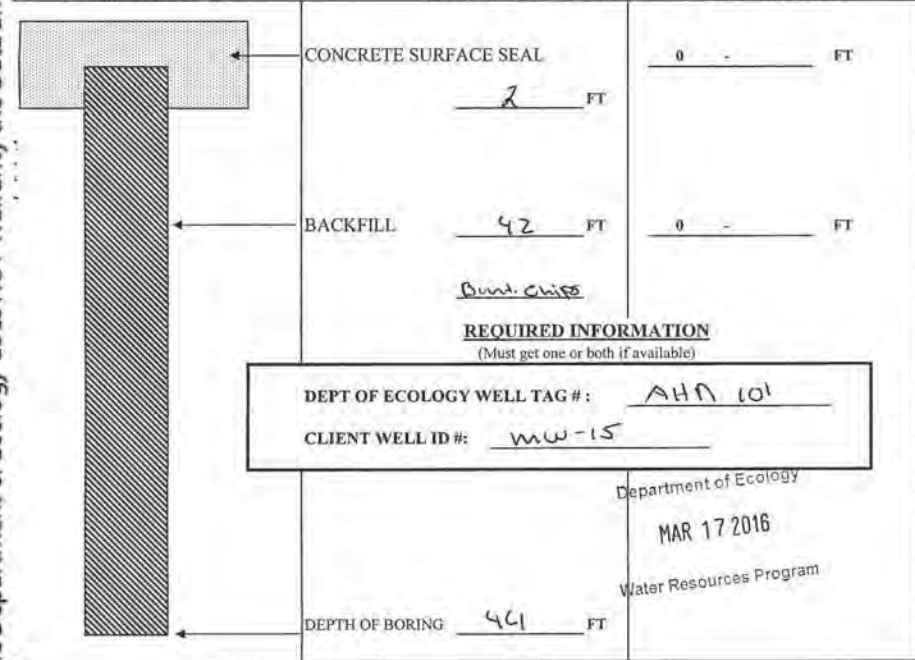
Unique Ecology Well ID _____
 Tag No. _____

Location 1/4 NW 1/4 NW Sec 12 T2N R 4E or WWM
 Lat/Long (s,t,r) Lat Deg n/a Lat Min/Sec n/a
 still Required) Long Deg n/a Long Min/Sec n/a

Tax Parcel No. 0
 Driller Trainee Name (Print) Frank Scott
 Driller/Trainee Signature [Signature] Cased or Uncased Diameter 2" Static Level _____
 Driller/Trainee License No. 2549

Work/Decommission Start Date 2-16-16
 Work/Decommission Completed Date 2-16-16

Construction/Design Well Data 103-16-1034 Formation Description



RESOURCE PROTECTION WELL REPORT

SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE35954

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S 212th St
 Consulting Firm AECOM City Kent County King

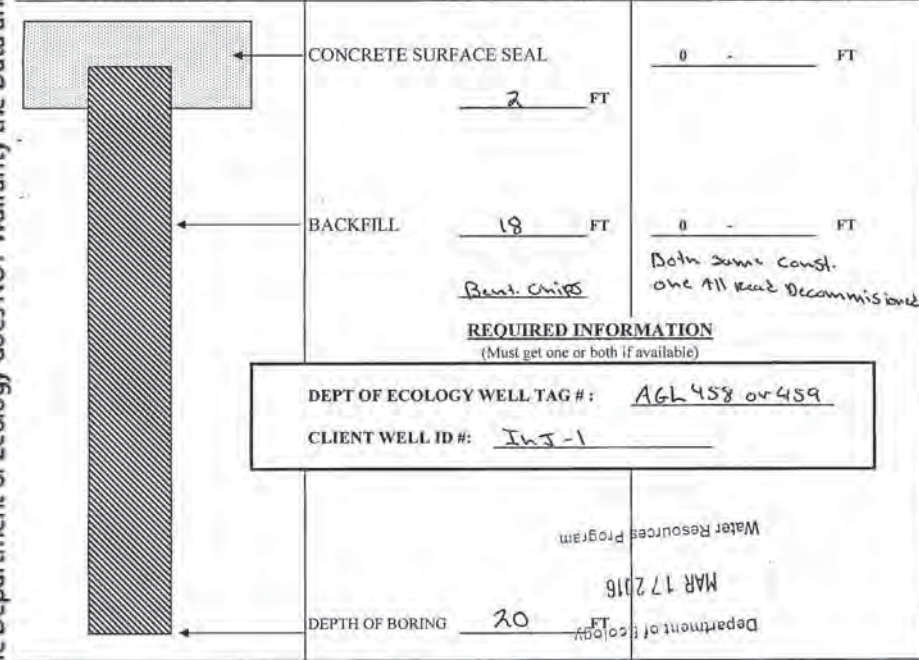
Unique Ecology Well ID _____
 Tag No. _____

Location 1/4 NW 1/4 NW Sec 12 T2N R 4E or WWM
 Lat/Long (s,t,r) Lat Deg n/a Lat Min/Sec n/a
 still Required) Long Deg n/a Long Min/Sec n/a

Tax Parcel No. 0
 Driller Trainee Name (Print) Frank Scott
 Driller/Trainee Signature [Signature] Cased or Uncased Diameter 2" Static Level _____
 Driller/Trainee License No. 2549

Work/Decommission Start Date 2-16-16
 Work/Decommission Completed Date 2-16-16

Construction/Design Well Data 103-16-1034 Formation Description



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE35954

Construction/Decommission

Construction
 Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S 212th St
 City Kent County King

Consulting Firm AECOM

Unique Ecology Well ID Tag No. _____
 Location 1/4 NW 1/4 NW Sec 12 T2N R 4E or WWM

Lat/Long (s,t,r) Lat Deg n/a Lat Min/Sec n/a
 still Required) Long Deg n/a Long Min/Sec n/a

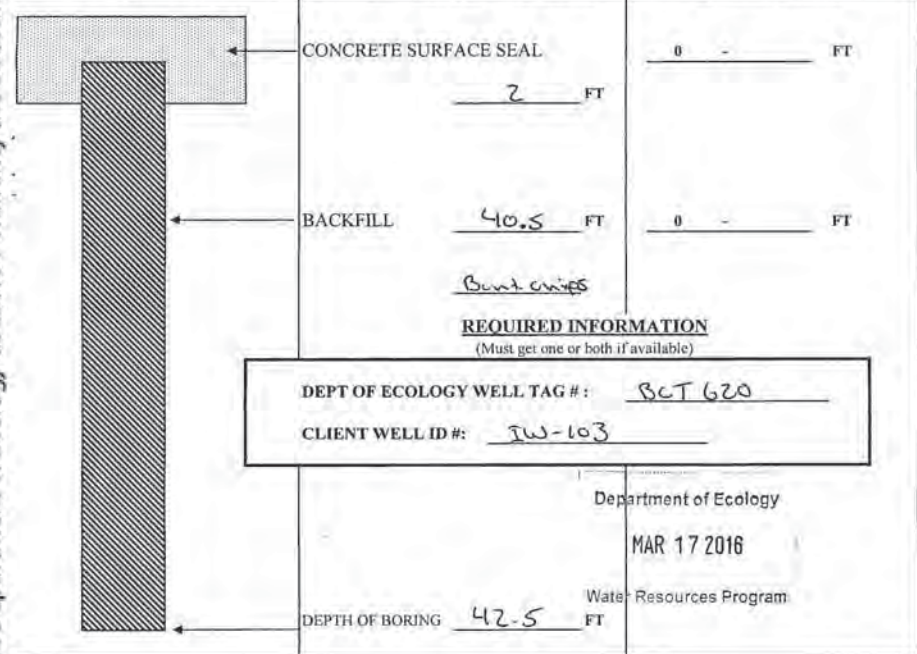
Tax Parcel No. 0

Driller Trainee Name (Print) Frank Scott
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2549

Cased or Uncased Diameter 1 1/2" Static Level _____
 Work/Decommission Start Date 2-16-16
 Work/Decommission Completed Date 2-16-16

Drill trainee, licensed drillers' signature and License No. _____

Construction/Design Well Data 103-16-1034 Formation Description



Department of Ecology
 MAR 17 2016
 Water Resources Program

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. 22-4E-12D AEO9829

Construction/Decommission

Construction
 Decommission *ORIGINAL INSTALLATION Notice of Intent Number* 382514

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S 212th St
 City Kent County King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID Tag No. _____
 Location 1/4 NW 1/4 NW Sec 12 T2N R 4E or WWM

Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

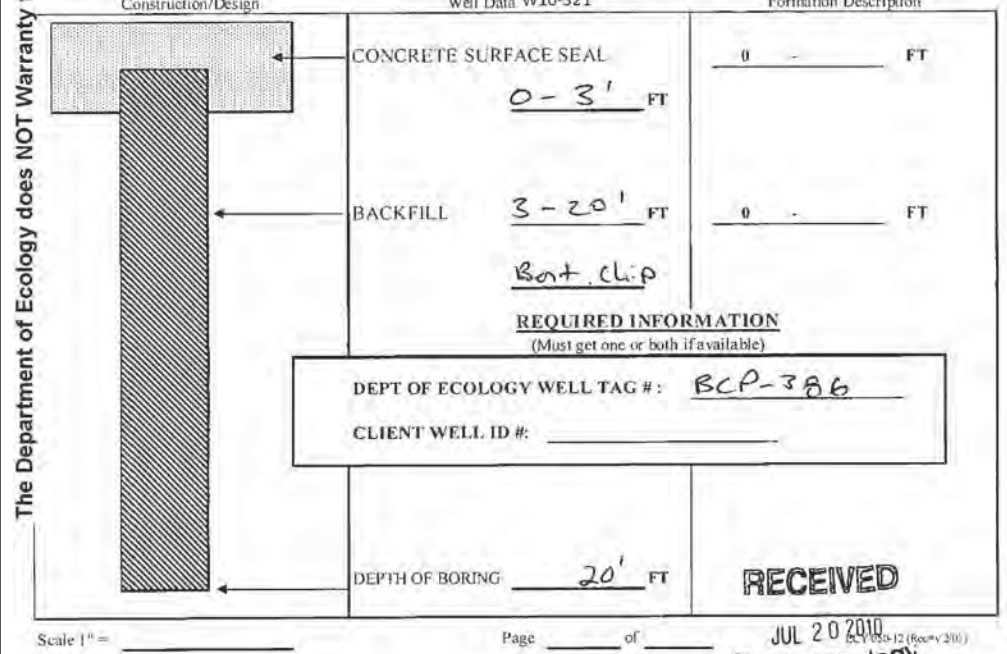
Tax Parcel No. 1222049053

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965T

Cased or Uncased Diameter _____ Static Level _____
 Work/Decommission Start Date 7/6/2010
 Work/Decommission Completed Date 7-6-10

Drill trainee, licensed drillers' signature and License No. _____

Construction/Design Well Data W10-321 Formation Description



Department of Ecology
 JUL 20 2010
 Water Resources Program

RECEIVED
 JUL 20 2010
 Dept of Ecology
 WR-NWRO

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-12 D
 Notice of Intent No. REO 5268

Construction/Decommission 400311
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Unique Ecology Well ID _____
 Tag No. BCT-592

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I hereby certify that the information reported above is true to my best knowledge and belief.

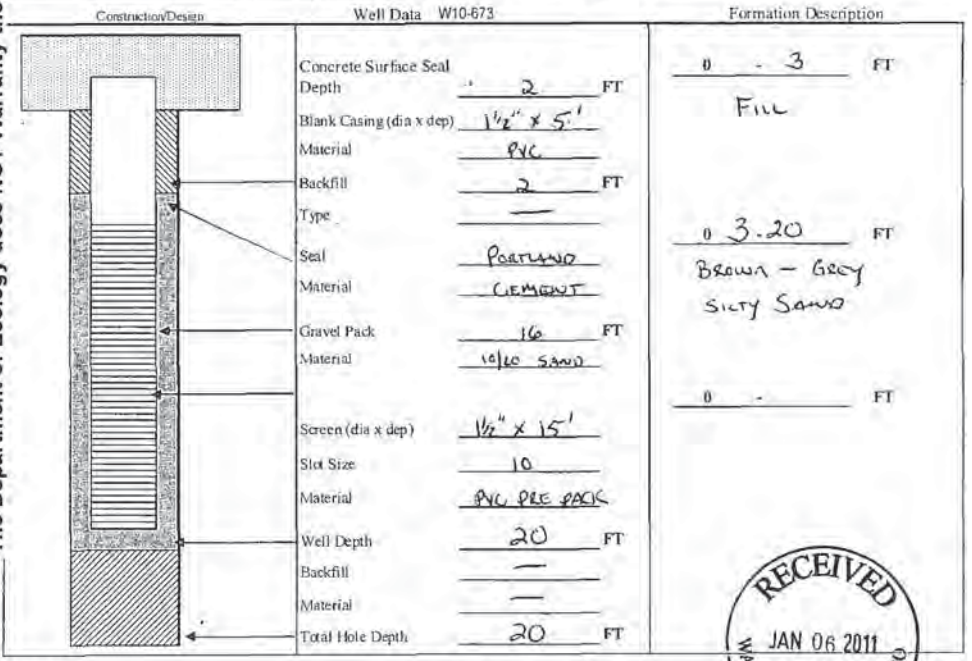
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Tax Parcel No. 1222049053

If trainee, licensed driller's Signature and License No. _____

Cased or Uncased Diameter 3 1/2" Static Level 8'
 Work/Decommission Start Date 12-6-10
 Work/Decommission End Date 12-6-10



Scale 1" = _____ Page _____ of _____



RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-12 D
 Notice of Intent No. REO 5268

Construction/Decommission 400312
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Unique Ecology Well ID _____
 Tag No. BCT-593

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I hereby certify that the information reported above is true to my best knowledge and belief.

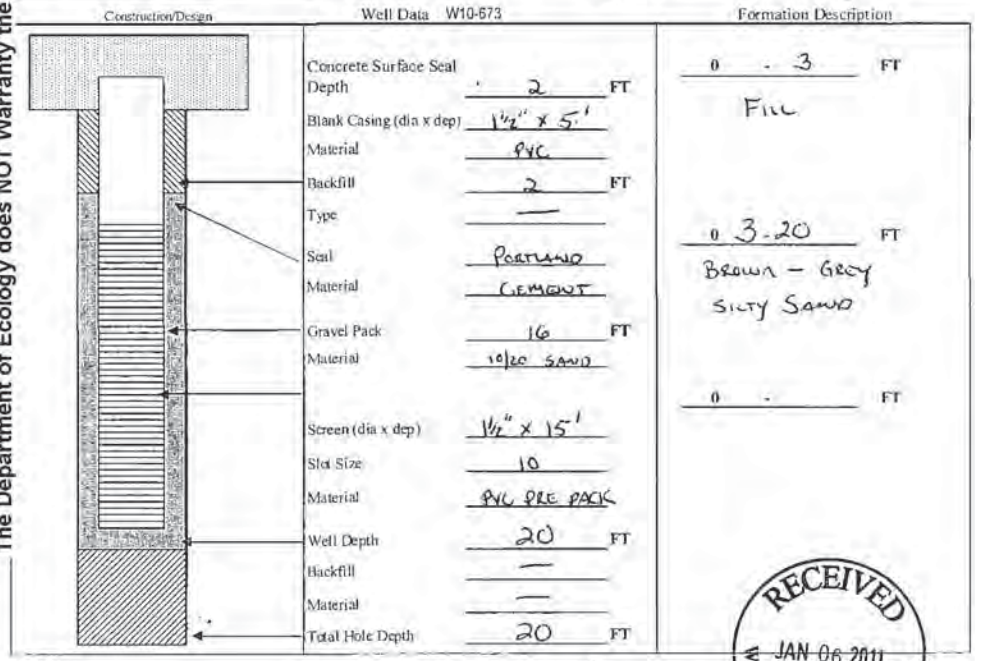
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Tax Parcel No. 1222049053

If trainee, licensed driller's Signature and License No. _____

Cased or Uncased Diameter 3 1/2" Static Level 8'
 Work/Decommission Start Date 12-6-10
 Work/Decommission End Date 12-6-10



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 23-4E-12 D
 Notice of Intent No. REO5268

Construction/Decommission 400313
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

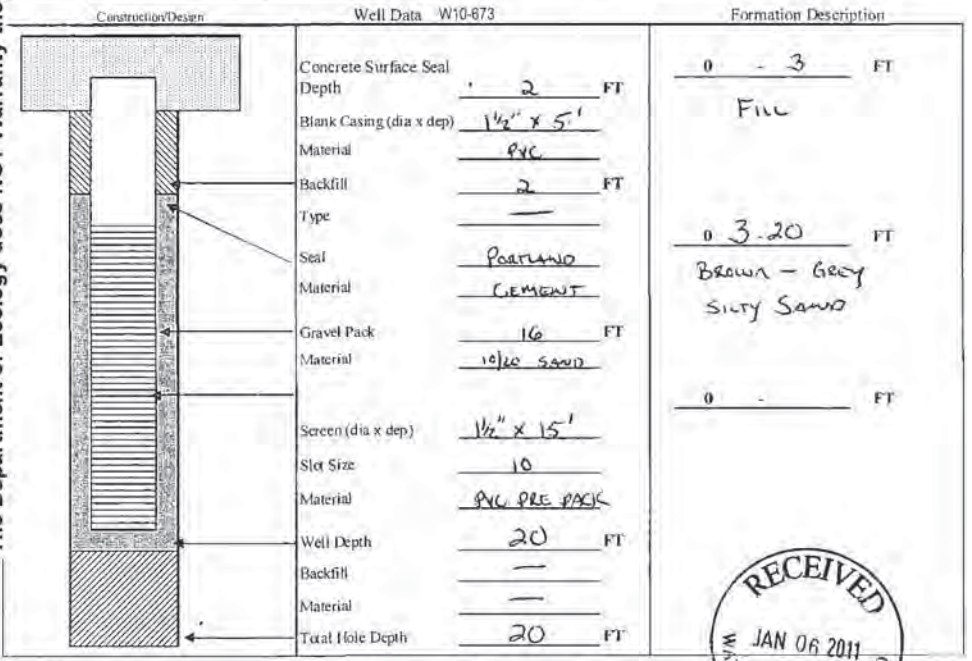
Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-594

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King
 Location 1/4 NW 1/4 NW Sec 12 Twn 22N R. 4E of EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed under state responsibility for construction of a well, and in compliance with all Washington well construction standards. I certify that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501
 If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 3 1/2" Static Level 8'
 Work/Decommission Start Date 12-6-10
 Work/Decommission End Date 12-6-10



Scale 1" = _____ Page _____ of _____

RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 23-4E-12 D
 Notice of Intent No. REO5268

Construction/Decommission 400314
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

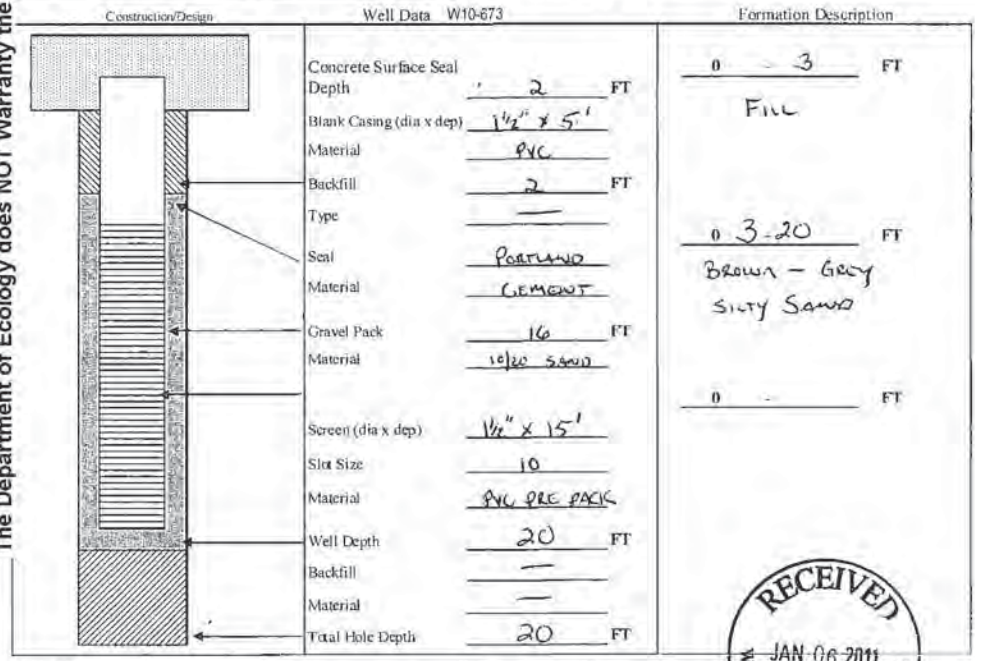
Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-595

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King
 Location 1/4 NW 1/4 NW Sec 12 Twn 22N R. 4E of EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed under state responsibility for construction of a well, and in compliance with all Washington well construction standards. I certify that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501
 If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 3 1/2" Static Level 8'
 Work/Decommission Start Date 12-7-10
 Work/Decommission End Date 12-7-10



Scale 1" = _____ Page _____ of _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 23-48-12 U
REC 5268

Construction/Decommission Tag No. 400315
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle Property Owner Univar
Site Address 8201 S. 212th St City Kent County 17-King

Unique Ecology Well ID Tag No. BCT-596 Location 1/4 NW 1/4 NW Sec 12 T10N 22N R 4E of WWM

Lat/Long (s, l, r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053

Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 2501

Work/Decommission Start Date 12-7-10
Work/Decommission End Date 12-7-10

Construction/Design	Well Data W10-673	Formation Description
Concrete Surface Seal Depth	<u>2</u> FT	<u>0 - 3</u> FT
Blank Casing (dia x dep)	<u>1 1/2" x 5'</u>	<u>Fill</u>
Material	<u>PVC</u>	
Backfill	<u>2</u> FT	
Type	<u>—</u>	
Seal	<u>Portland</u>	<u>0 3-20</u> FT
Material	<u>CEMENT</u>	<u>Brown - Grey</u>
Gravel Pack	<u>16</u> FT	<u>Silty Sand</u>
Material	<u>10/20 SAND</u>	
Screen (dia x dep)	<u>1 1/2" x 15'</u>	<u>0 -</u> FT
Slot Size	<u>10</u>	
Material	<u>PVC PRE PACK</u>	
Well Depth	<u>20</u> FT	
Backfill	<u>—</u>	
Material	<u>—</u>	
Total Hole Depth	<u>20</u> FT	

Scale 1" = _____ Page _____ of _____



RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 23-48-12 U
REC 5268

Construction/Decommission Tag No. 400316
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle Property Owner Univar
Site Address 8201 S. 212th St City Kent County 17-King

Unique Ecology Well ID Tag No. BCT-597 Location 1/4 NW 1/4 NW Sec 12 T10N 22N R 4E of WWM

Lat/Long (s, l, r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053

Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 2501

Work/Decommission Start Date 12-7-10
Work/Decommission End Date 12-7-10

Construction/Design	Well Data W10-673	Formation Description
Concrete Surface Seal Depth	<u>2</u> FT	<u>0 - 3</u> FT
Blank Casing (dia x dep)	<u>1 1/2" x 5'</u>	<u>Fill</u>
Material	<u>PVC</u>	
Backfill	<u>2</u> FT	
Type	<u>—</u>	
Seal	<u>Portland</u>	<u>0 3-20</u> FT
Material	<u>CEMENT</u>	<u>Brown - Grey</u>
Gravel Pack	<u>16</u> FT	<u>Silty Sand</u>
Material	<u>10/20 SAND</u>	
Screen (dia x dep)	<u>1 1/2" x 15'</u>	<u>0 -</u> FT
Slot Size	<u>10</u>	
Material	<u>PVC PRE PACK</u>	
Well Depth	<u>20</u> FT	
Backfill	<u>—</u>	
Material	<u>—</u>	
Total Hole Depth	<u>20</u> FT	

Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-12 D
REC 5268

Construction/Decommission
 Construction 400317
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. BCT 598

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E of EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I (or myself) and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I have used and the information reported above are based on my best knowledge and belief.

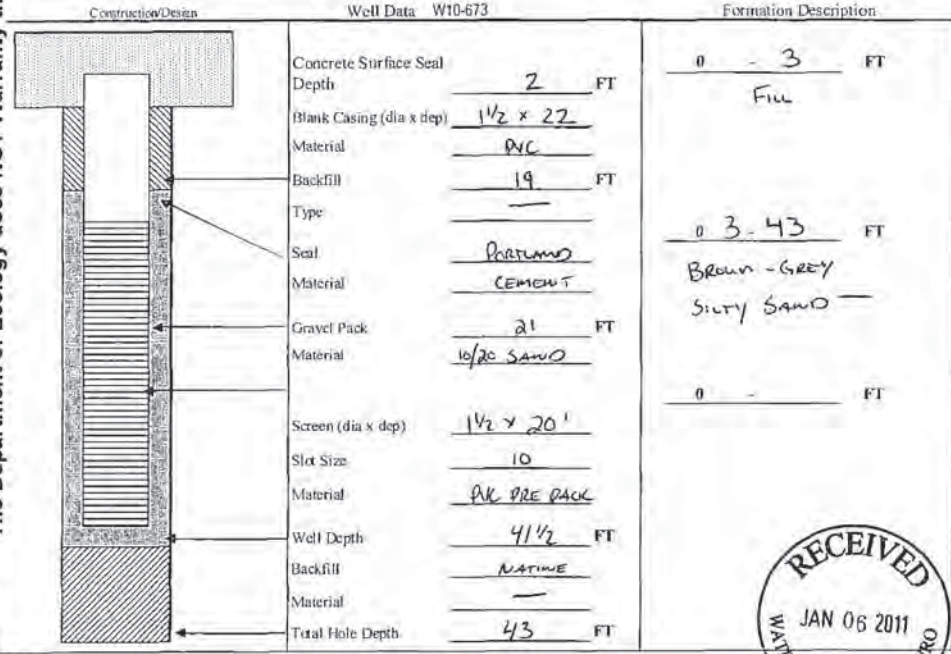
Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 3 1/4 Static Level 6'

If trainee, licensed driller's signature and license No. _____

Work/Decommission Start Date 12-9-10
 Work/Decommission End Date 12-9-10



Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-12 D
REC 5268

Construction/Decommission
 Construction 400318
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Unique Ecology Well ID
 Tag No. BCT-599

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E of EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I (or myself) and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I have used and the information reported above are based on my best knowledge and belief.

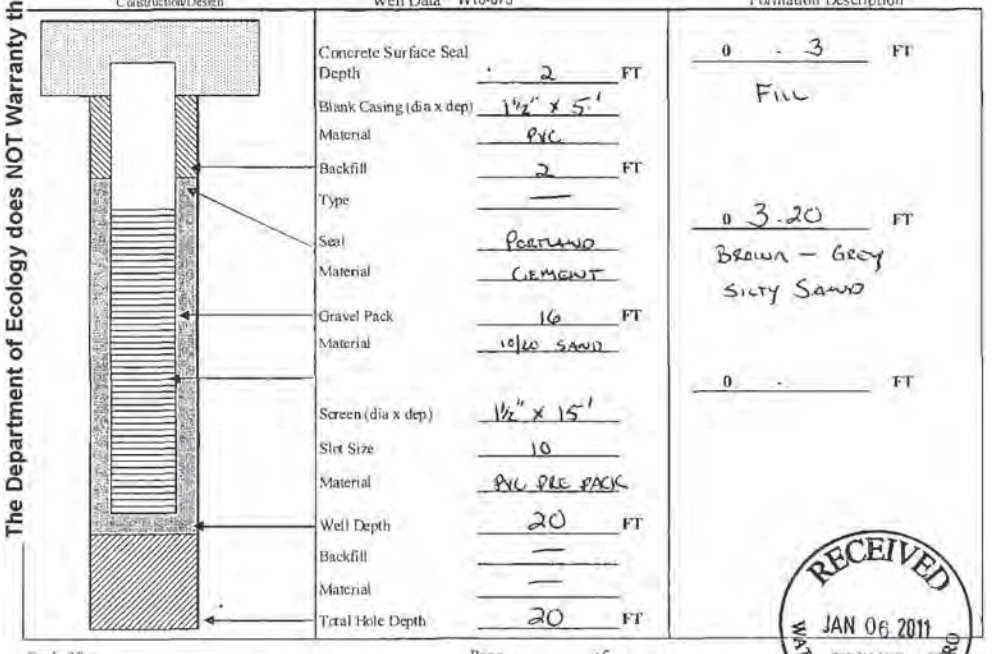
Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2501

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 3 1/2 Static Level 8'

If trainee, licensed driller's signature and license No. _____

Work/Decommission Start Date 12-10-10
 Work/Decommission End Date 12-10-10



Scale 1" = _____ Page _____ of _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4B-12 D
 Notice of Intent No. REO5268

Construction/Decommission 400319
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

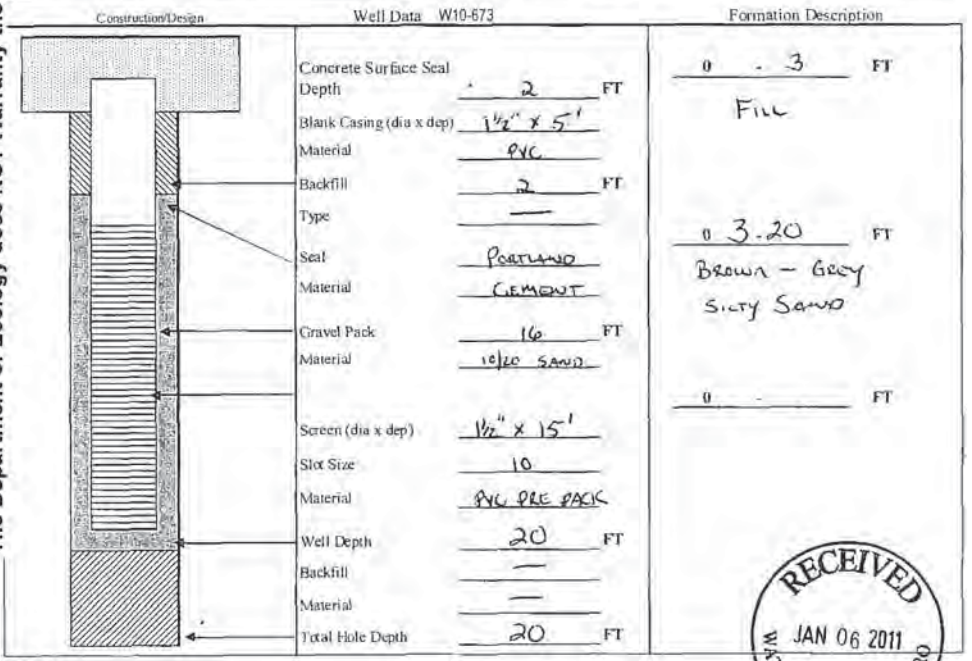
Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-600

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King
 Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E of EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I understand and accept responsibility for the construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501
 If trainee, licensed driller's Signature and License No. _____

Lat/Long (s, r Lat Deg _____ Lat Min/Sec _____ still Required) Long Deg _____ Long Min/Sec _____
 Tax Parcel No. 1222049053
 Cased or Uncased Diameter 3 1/2" Static Level 8'
 Work/Decommission Start Date 12-10-10
 Work/Decommission End Date 12-10-10



Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4B-12 D
 Notice of Intent No. REO5268

Construction/Decommission 400320
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

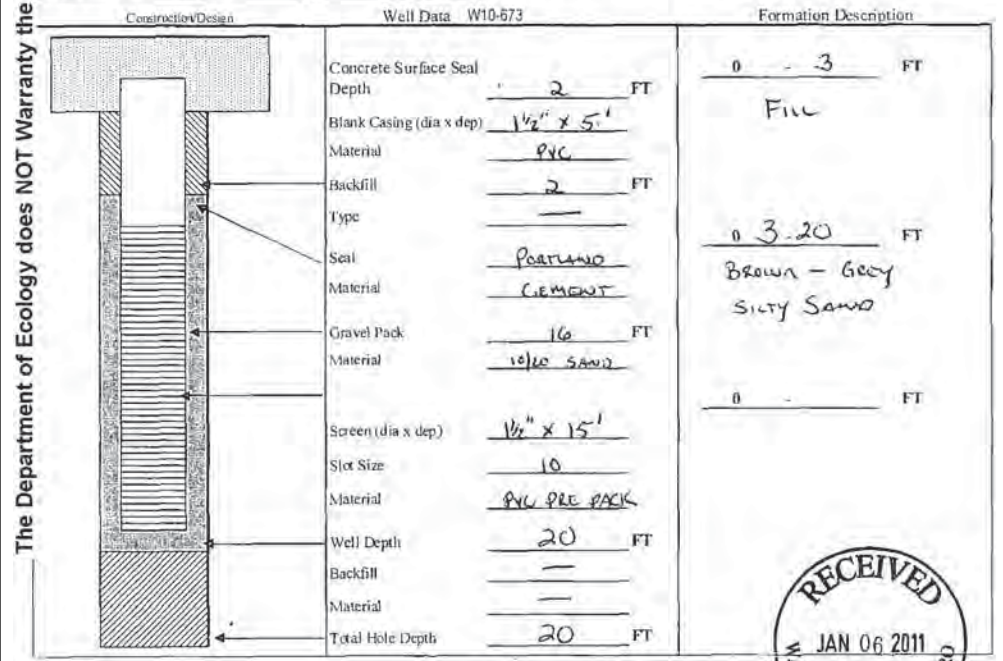
Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-601

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King
 Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E of EWM or WWM

WELL CONSTRUCTION CERTIFICATION: I understand and accept responsibility for the construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501
 If trainee, licensed driller's Signature and License No. _____

Lat/Long (s, r Lat Deg _____ Lat Min/Sec _____ still Required) Long Deg _____ Long Min/Sec _____
 Tax Parcel No. 1222049053
 Cased or Uncased Diameter 3 1/2" Static Level 8'
 Work/Decommission Start Date 12-10-10
 Work/Decommission End Date 12-10-10



Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-12 D
Notice of Intent No. REC 526R

Construction/Decommission 400321
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

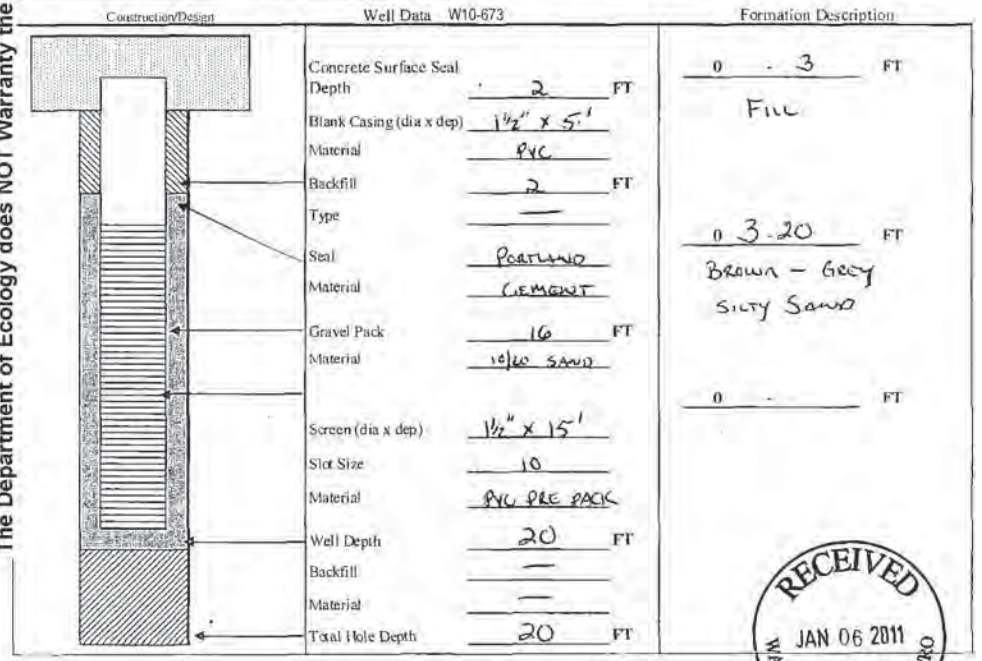
Consulting Firm PES Environmental-Seattle
Unique Ecology Well ID
Tag No. BCT-602

Property Owner Univar
Site Address 8201 S. 212th St
City Kent County 17-King
Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2501
If trainee, licensed driller's Signature and License No. _____

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____
Tax Parcel No. 1222049053
Cased or Uncased Diameter 3 1/2" Static Level 8'
Work/Decommission Start Date 12-10-10
Work/Decommission End Date 12-10-10



Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-12 D
Notice of Intent No. REC 526R

Construction/Decommission 400322
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

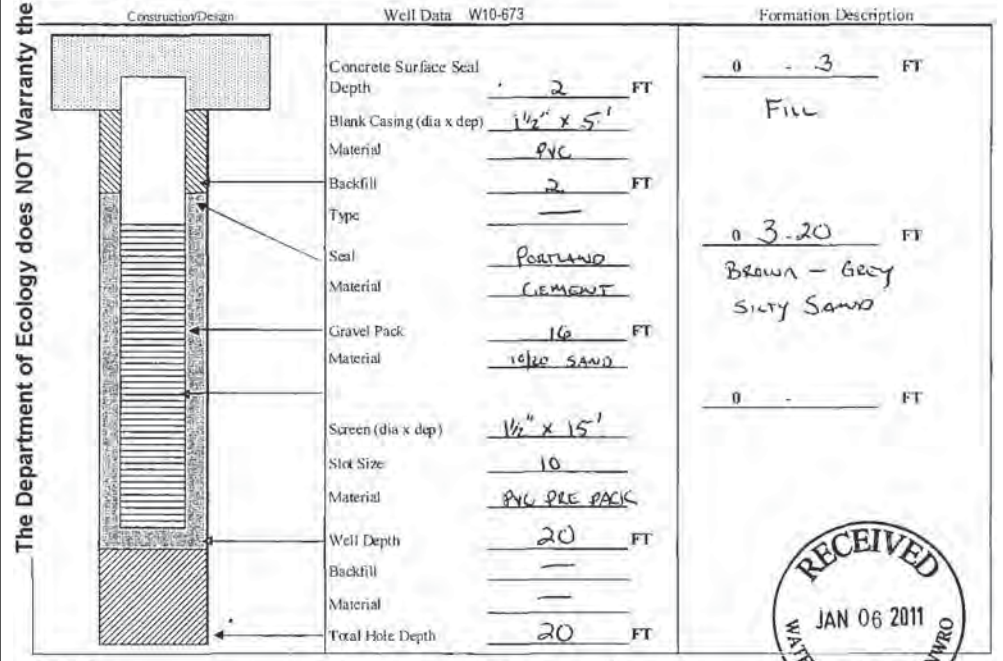
Consulting Firm PES Environmental-Seattle
Unique Ecology Well ID
Tag No. BCT-603

Property Owner Univar
Site Address 8201 S. 212th St
City Kent County 17-King
Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I am licensed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2501
If trainee, licensed driller's Signature and License No. _____

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
still Required) Long Deg _____ Long Min/Sec _____
Tax Parcel No. 1222049053
Cased or Uncased Diameter 3 1/2" Static Level 8'
Work/Decommission Start Date 12-13-10
Work/Decommission End Date 12-13-10



Scale 1" = _____ Page _____ of _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

22-4E-12 D

RE0526R

Construction/Decommission

400323

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County 17-King

Unique Ecology Well ID

Tag No. BCT-604

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R. 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I hereby swear the information reported above is true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg Lat Min/Sec still Required) Long Deg Long Min/Sec

Tax Parcel No. 1222049053

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature *[Signature]*

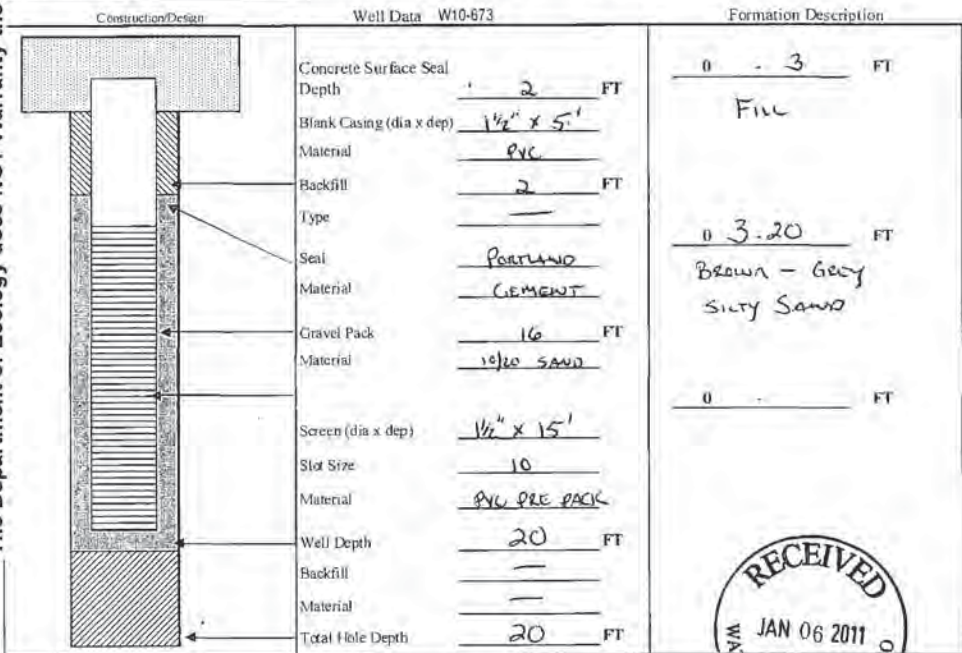
Driller/Trainee License No. 2501

Cased or Uncased Diameter 3 1/2" Static Level 8'

If trainee, licensed driller's Signature and License No.

Work/Decommission Start Date 12-13-10

Work/Decommission End Date 12-13-10



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No.

22-4E-12 D

RE0526R

Construction/Decommission

400324

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well

Resource Protection

Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County 17-King

Unique Ecology Well ID

Tag No. BCT-605

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R. 4E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I hereby swear the information reported above is true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg Lat Min/Sec still Required) Long Deg Long Min/Sec

Tax Parcel No. 1222049053

Driller Trainee Name (Print) Kasey Goble

Driller/Trainee Signature *[Signature]*

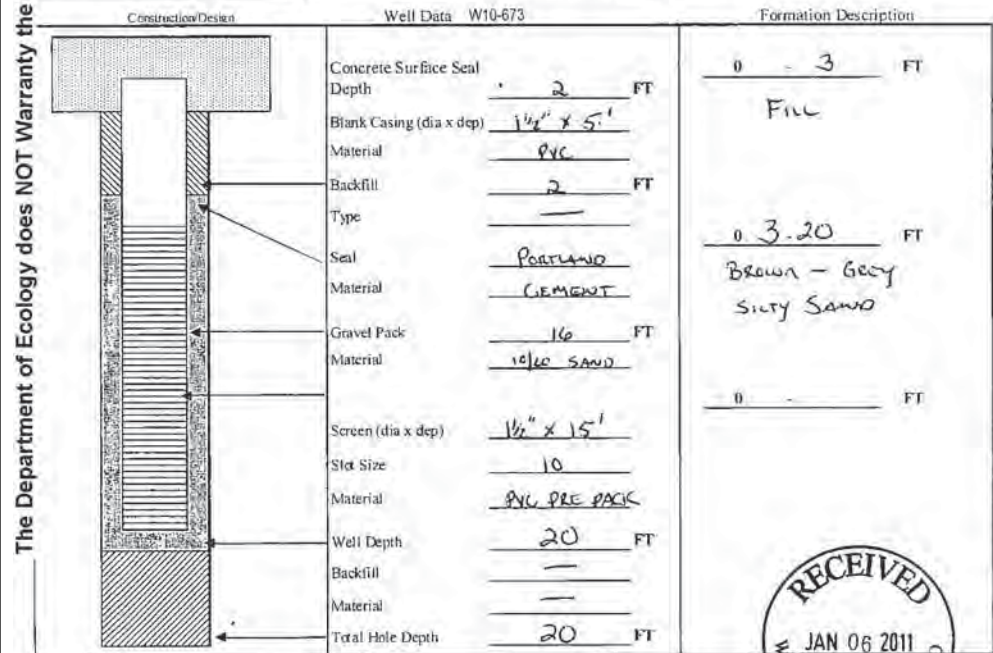
Driller/Trainee License No. 2501

Cased or Uncased Diameter 3 1/2" Static Level 8'

If trainee, licensed driller's Signature and License No.

Work/Decommission Start Date 12-13-10

Work/Decommission End Date 12-13-10



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-13 0
REO 5268

Construction/Decommission Tag No. 400325
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle
 Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Unique Ecology Well ID Tag No. BCT-606
 Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E EWM
 or WWM

WELL CONSTRUCTION CERTIFICATION: I am aware and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I understand and the information reported above are to the best of my knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501

Work/Decommission Start Date 12-13-10
 Work/Decommission End Date 12-13-10

Construction/Design	Well Data W10-673	Formation Description
	Concrete Surface Seal Depth <u>2</u> FT	<u>0 - 3</u> FT
	Blank Casing (dia x dep) <u>1 1/2" x 5'</u>	<u>Fill</u>
	Material <u>PVC</u>	
	Backfill <u>2</u> FT	
	Type _____	
	Seal <u>Portland</u>	<u>0 3-20</u> FT
	Material <u>CEMENT</u>	<u>Brown - Grey</u>
	Gravel Pack <u>16</u> FT	<u>Silty Sand</u>
	Material <u>10/16 SAND</u>	
	Screen (dia x dep) <u>1/2" x 15'</u>	<u>0 -</u> FT
	Slot Size <u>10</u>	
	Material <u>PVC PRE PACK</u>	
	Well Depth <u>20</u> FT	
	Backfill _____	
	Material _____	
	Total Hole Depth <u>20</u> FT	

Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-13 0
REO 5268

Construction/Decommission Tag No. 400326
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle
 Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Unique Ecology Well ID Tag No. BCT-607
 Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E EWM
 or WWM

WELL CONSTRUCTION CERTIFICATION: I am aware and accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I understand and the information reported above are to the best of my knowledge and belief.

Driller Trainee Name (Print) Kasey Goble
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2501

Work/Decommission Start Date 12-14-10
 Work/Decommission End Date 12-14-10

Construction/Design	Well Data W10-673	Formation Description
	Concrete Surface Seal Depth <u>2</u> FT	<u>0 - 3</u> FT
	Blank Casing (dia x dep) <u>1 1/2" x 5'</u>	<u>Fill</u>
	Material <u>PVC</u>	
	Backfill <u>2</u> FT	
	Type _____	
	Seal <u>Portland</u>	<u>0 3-20</u> FT
	Material <u>CEMENT</u>	<u>Brown - Grey</u>
	Gravel Pack <u>16</u> FT	<u>Silty Sand</u>
	Material <u>10/16 SAND</u>	
	Screen (dia x dep) <u>1/2" x 15'</u>	<u>0 -</u> FT
	Slot Size <u>10</u>	
	Material <u>PVC PRE PACK</u>	
	Well Depth <u>20</u> FT	
	Backfill _____	
	Material _____	
	Total Hole Depth <u>20</u> FT	

Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-12 0
REO 5268

Construction/Decommission 400327

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

Unique Ecology Well ID
Tag No. BCT-608

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E of EWM WWM

WELL CONSTRUCTION CERTIFICATION: I construct and/or accept responsibility for construction of this well, and in compliance with all Washington well construction standards. Materials used in the information reported above are true to my best knowledge and belief.

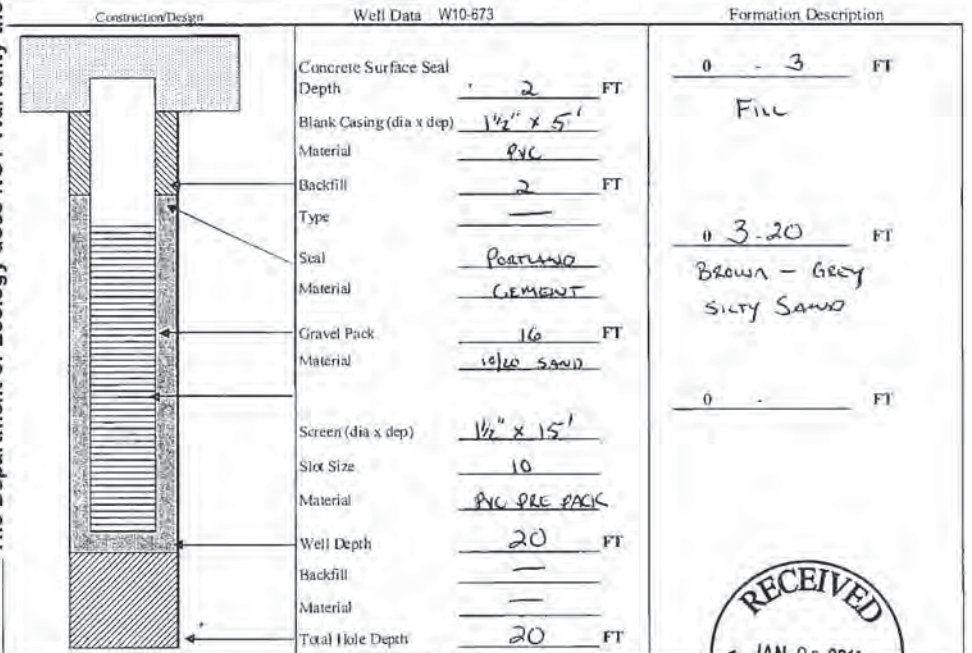
Lat/Long (s, l, r still Required) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 2501

Tax Parcel No. 1222049053
Cased or Uncased Diameter 3 1/2" Static Level 8'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 12-14-10
Work/Decommission End Date 12-14-10



Scale 1" = _____ Page _____ of _____



RESURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-12 0
REO 5268

Construction/Decommission 400328

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

Unique Ecology Well ID
Tag No. BCT-609

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E of EWM WWM

WELL CONSTRUCTION CERTIFICATION: I construct and/or accept responsibility for construction of this well, and in compliance with all Washington well construction standards. Materials used in the information reported above are true to my best knowledge and belief.

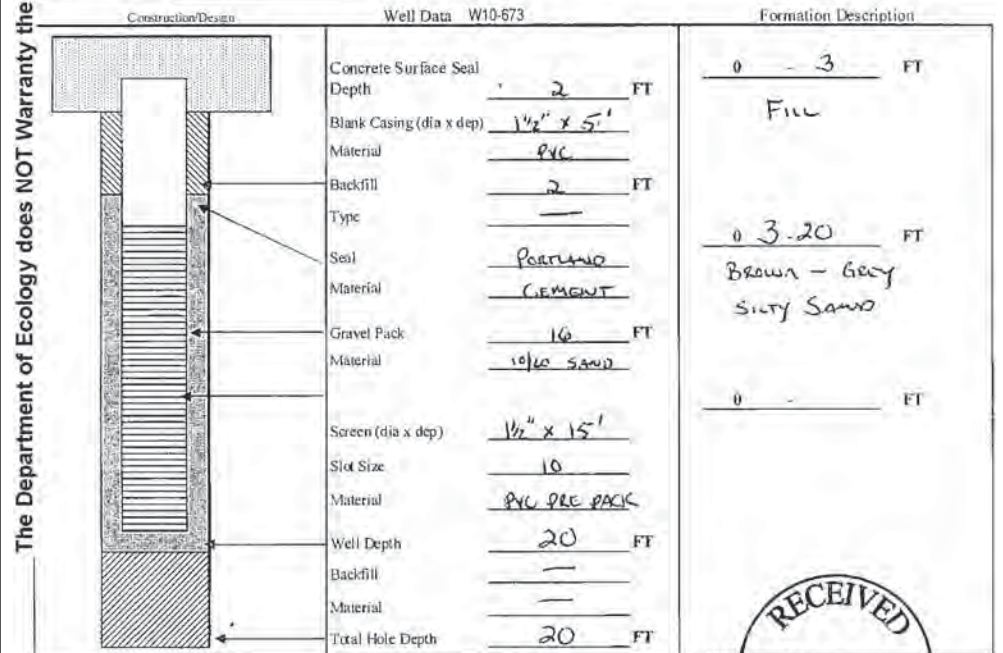
Lat/Long (s, l, r still Required) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Driller Trainee Name (Print) Kasey Goble
Driller/Trainee Signature _____
Driller/Trainee License No. 2501

Tax Parcel No. 1222049053
Cased or Uncased Diameter 3 1/2" Static Level 8'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 12-14-10
Work/Decommission End Date 12-14-10



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

SOURCE PROTECTION WELL REPORT

(LIMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-13D
 Notice of Intent No. RE05268

Construction/Decommission 403976
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID BCT-610
 Tag No. _____

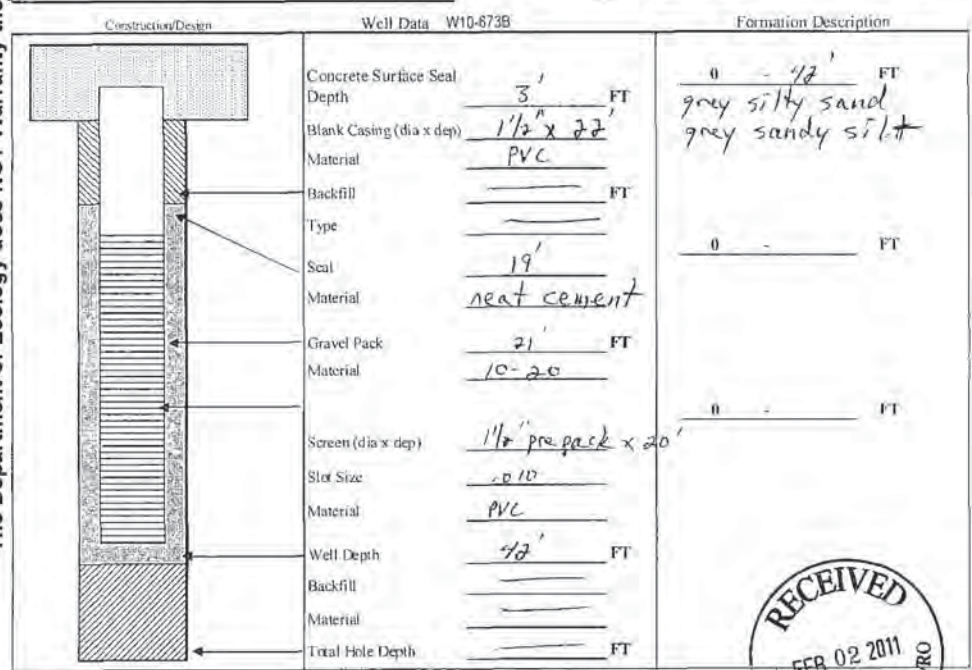
Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E
 of WWM
 WWM

Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-20-10
 Work/Decommission End Date 12-20-10

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



SOURCE PROTECTION WELL REPORT

(LIMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-13D
 Notice of Intent No. RE05268

Construction/Decommission 403977
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID BCT-611
 Tag No. _____

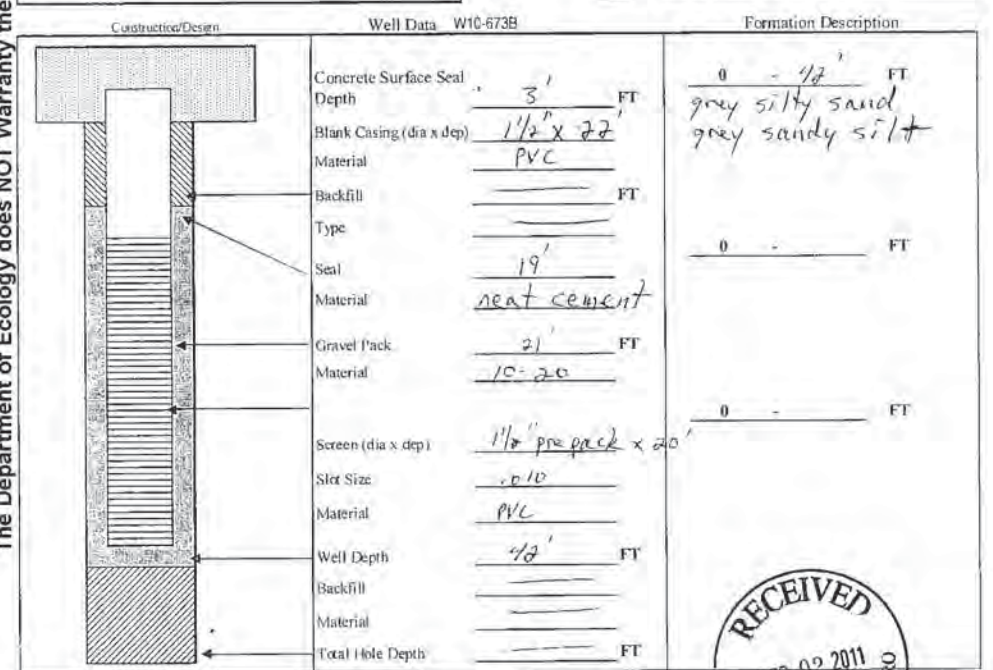
Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E
 of WWM
 WWM

Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-20-10
 Work/Decommission End Date 12-20-10

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

SOURCE PROTECTION WELL REPORT
(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-48-130
 Notice of Intent No. RED5268

Construction/Decommission 403978
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID
 Tag No. BCT-612

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E of EWM WWM

Lat/Long (s.t.r. Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

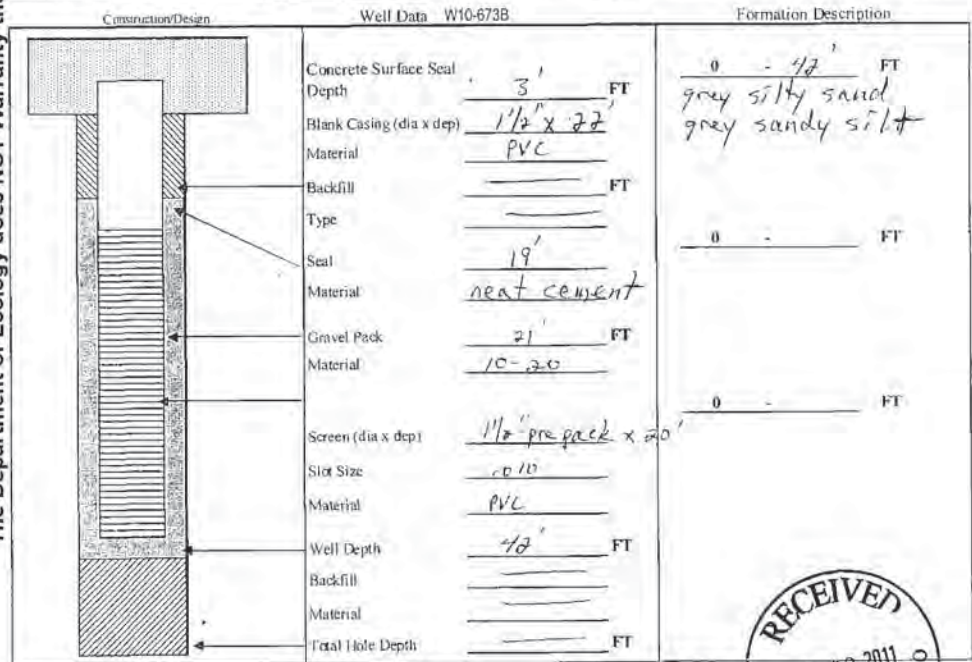
Tax Parcel No. 1222049053

Cased or Uncased Diameter 7" Static Level 10'

Work/Decommission Start Date 12-21-10
 Work/Decommission End Date 12-21-10

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's
 Signature and License No. _____



SOURCE PROTECTION WELL REPORT
(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-48-130
 Notice of Intent No. RED5268

Construction/Decommission 403979
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID
 Tag No. BCT-613

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E of EWM WWM

Lat/Long (s.t.r. Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

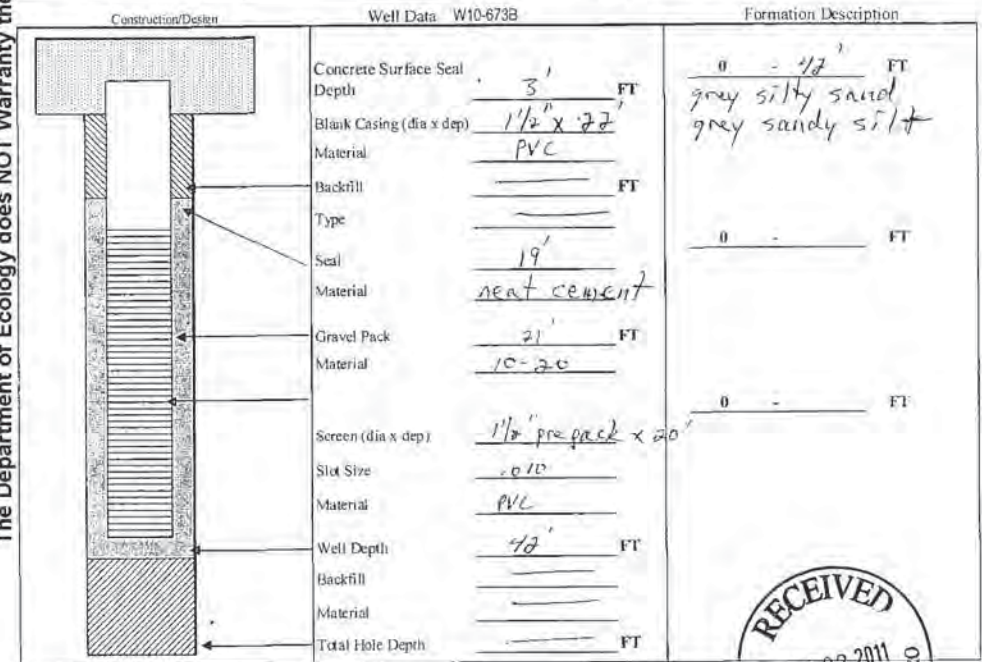
Tax Parcel No. 1222049053

Cased or Uncased Diameter 7" Static Level 10'

Work/Decommission Start Date 12-21-10
 Work/Decommission End Date 12-21-10

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's
 Signature and License No. _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

SOURCE PROTECTION WELL REPORT
(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-48-120
 Notice of Intent No. RE05268

Construction/Decommission 403982
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

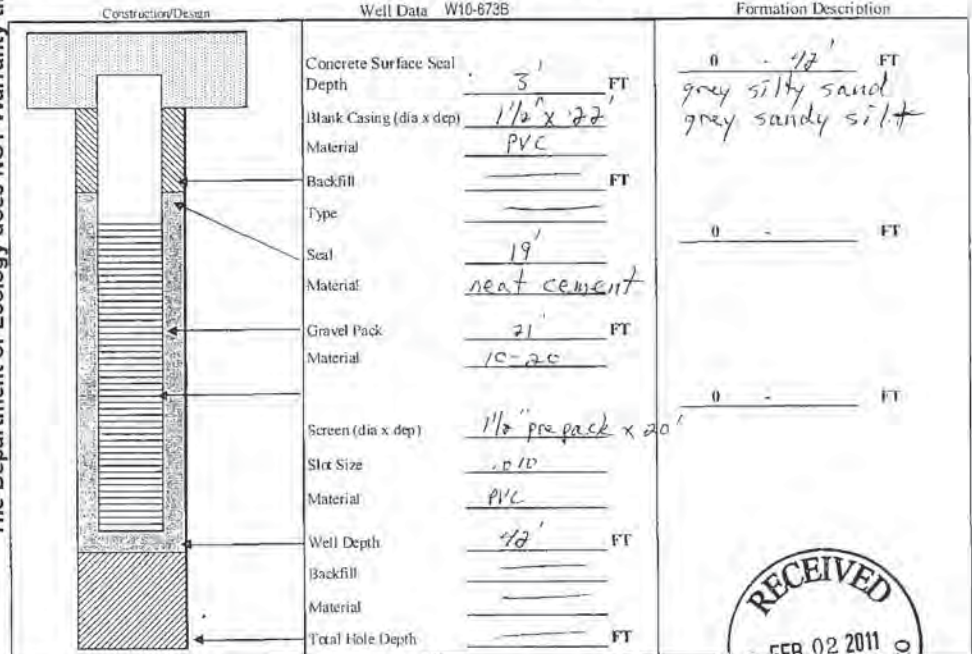
Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-616

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are to the best of my knowledge and belief.

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E or WWM
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____
 Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-22-10
 Work/Decommission End Date 12-22-10



SOURCE PROTECTION WELL REPORT
(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-48-120
 Notice of Intent No. RE05268

Construction/Decommission 403983
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

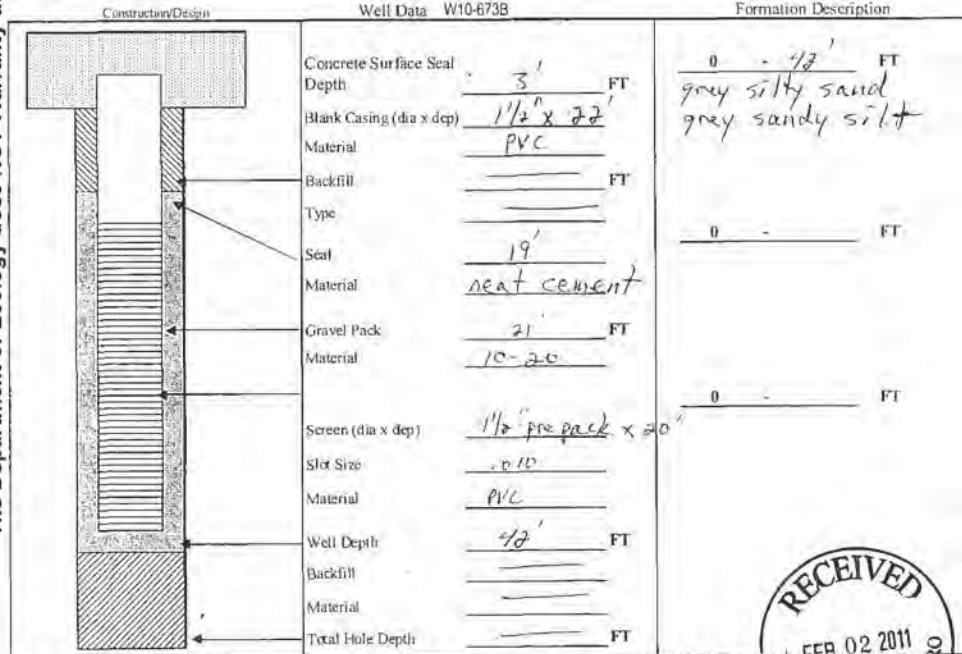
Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-617

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are to the best of my knowledge and belief.

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E or WWM
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____
 Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-27-10
 Work/Decommission End Date 12-27-10



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

SOURCE PROTECTION WELL REPORT

(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-48-120
REQ5268

Construction/Decommission 403984
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-618

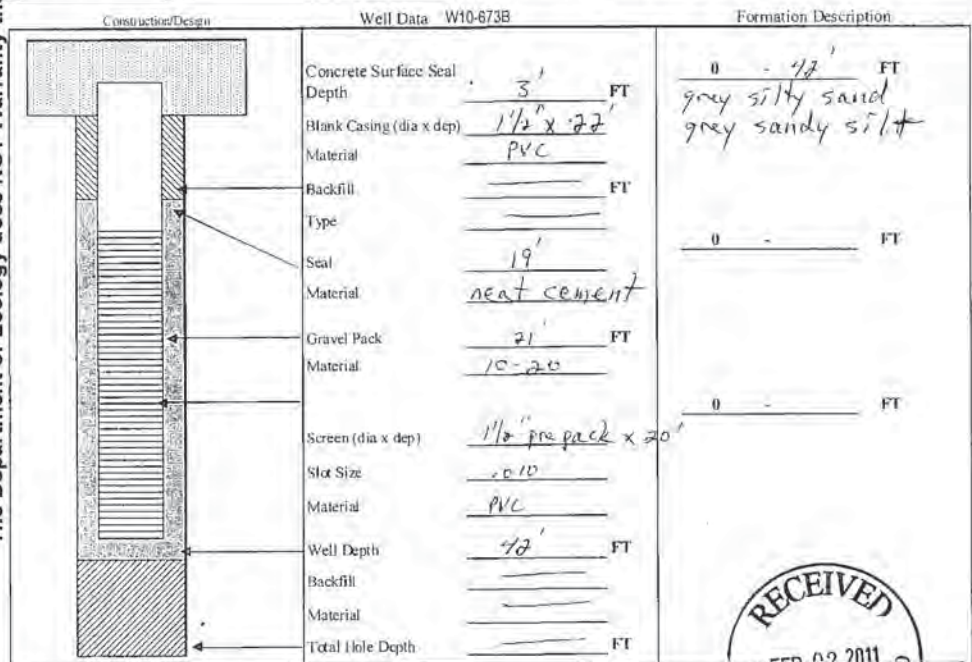
Location 1/4 NW 1/4 NW Sec 12 Twa 22N R. 4E
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053

Work/Decommission Start Date 12-27-10
 Work/Decommission End Date 12-27-10

Driller/Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



SOURCE PROTECTION WELL REPORT

(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-48-120
REQ5268

Construction/Decommission 403985
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-619

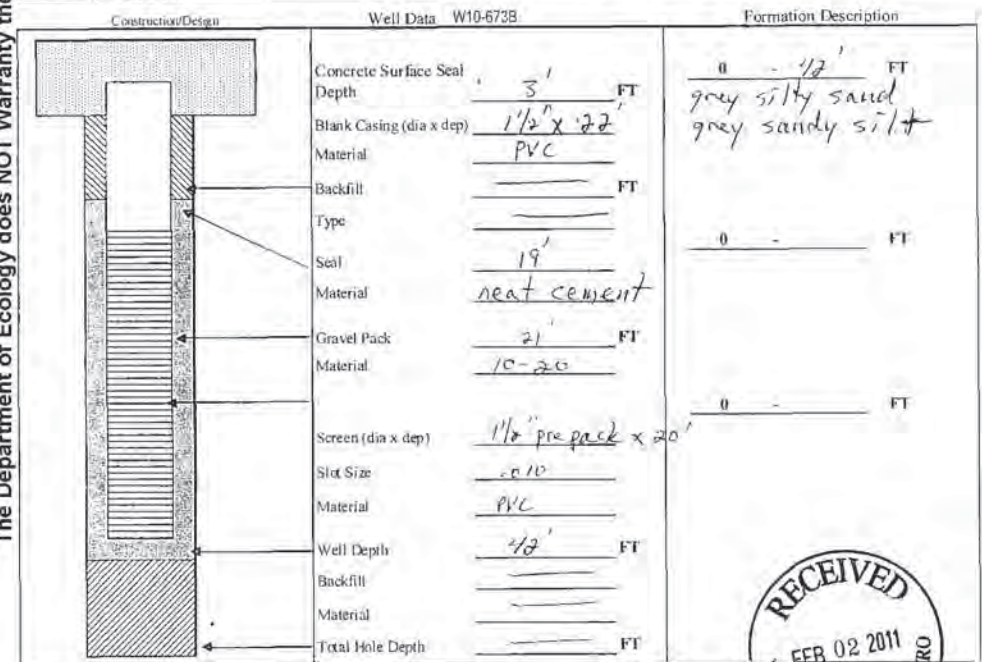
Location 1/4 NW 1/4 NW Sec 12 Twa 22N R. 4E
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053

Work/Decommission Start Date 12-27-10
 Work/Decommission End Date 12-27-10

Driller/Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

SOURCE PROTECTION WELL REPORT

(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

22-48-12D

Notice of Intent No. RE05268

Construction/Decommission 403986
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-620

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E of EWM WWM
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-28-10
 Work/Decommission End Date 12-28-10

Construction/Design	Well Data W10-673B	Formation Description
	Concrete Surface Seal Depth <u>3'</u> FT	<u>0 - 42'</u> FT
	Blank Casing (dia x dep) <u>1 1/2" x 22'</u>	<u>grey silty sand</u>
	Material <u>PVC</u>	<u>grey sandy silt</u>
	Backfill _____ FT	
	Type _____	
	Seal <u>19'</u> FT	<u>0 - _____</u> FT
	Material <u>neat cement</u>	
	Gravel Pack <u>21'</u> FT	
	Material <u>10-20</u>	
	Screen (dia x dep) <u>1 1/2" pre pack x 20'</u>	<u>0 - _____</u> FT
	Slot Size <u>.010</u>	
	Material <u>PVC</u>	
	Well Depth <u>42'</u> FT	
	Backfill _____	
	Material _____	
	Total Hole Depth _____ FT	

Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

SOURCE PROTECTION WELL REPORT

(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

22-48-12D

Notice of Intent No. RE05268

Construction/Decommission 403987
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-621

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E of EWM WWM
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-28-10
 Work/Decommission End Date 12-28-10

Construction/Design	Well Data W10-673B	Formation Description
	Concrete Surface Seal Depth <u>3'</u> FT	<u>0 - 42'</u> FT
	Blank Casing (dia x dep) <u>1 1/2" x 22'</u>	<u>grey silty sand</u>
	Material <u>PVC</u>	<u>grey sandy silt</u>
	Backfill _____ FT	
	Type _____	
	Seal <u>19'</u> FT	<u>0 - _____</u> FT
	Material <u>neat cement</u>	
	Gravel Pack <u>21'</u> FT	
	Material <u>10-20</u>	
	Screen (dia x dep) <u>1 1/2" pre pack x 20'</u>	<u>0 - _____</u> FT
	Slot Size <u>.010</u>	
	Material <u>PVC</u>	
	Well Depth <u>42'</u> FT	
	Backfill _____	
	Material _____	
	Total Hole Depth _____ FT	

Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

SOURCE PROTECTION WELL REPORT

(LIMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-48-120
RE05268

Construction/Decommission 403988
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

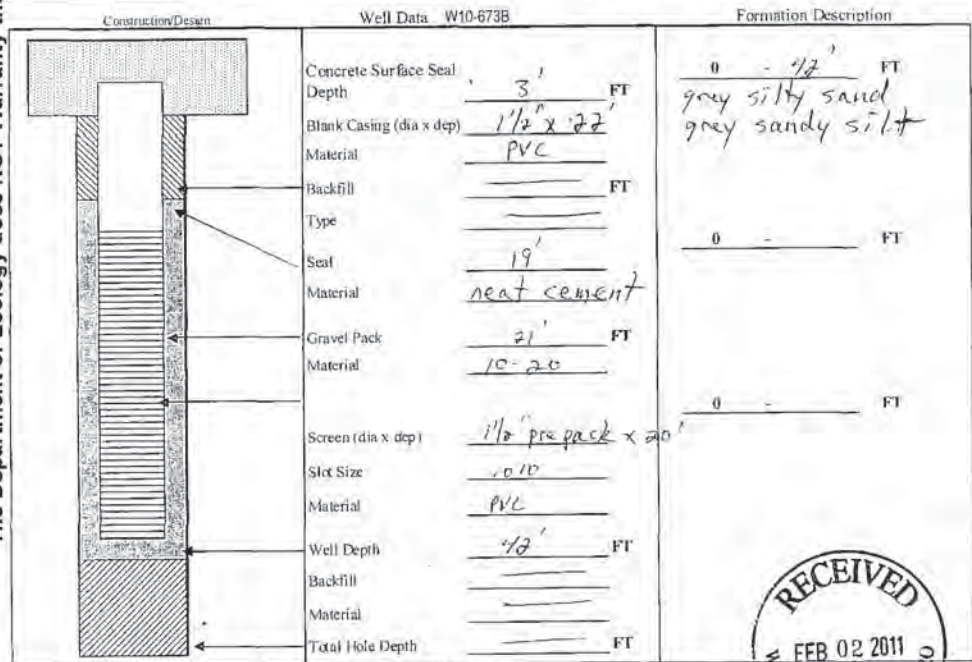
Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-622

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-28-10
 Work/Decommission End Date 12-28-10

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761
 If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

SOURCE PROTECTION WELL REPORT

(LIMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-48-120
RE05268

Construction/Decommission 403989
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

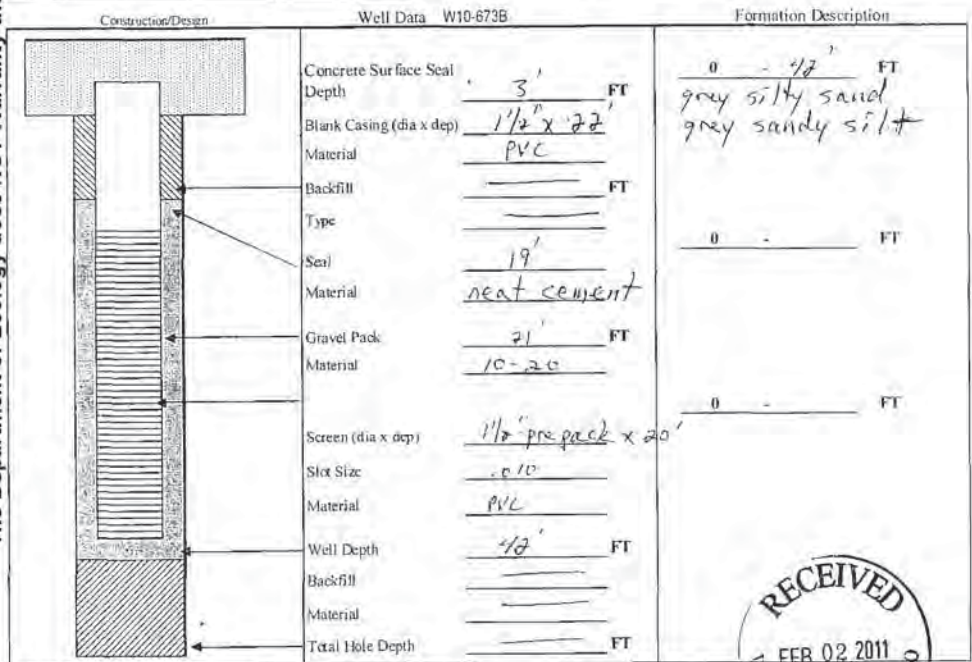
Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle
 Unique Ecology Well ID Tag No. BCT-623

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E
 Lat/Long (s,t,r) Lat Deg _____ Lat Min/Sec _____
 still Required) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" Static Level 10'
 Work/Decommission Start Date 12-29-10
 Work/Decommission End Date 12-29-10

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761
 If trainee, licensed driller's Signature and License No. _____



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

SOURCE PROTECTION WELL REPORT
(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-120
 Notice of Intent No. REQ5268

Construction/Decommission 403990
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID Tag No. BCT-624

WELL CONSTRUCTION CERTIFICATION: I, undersigned and/or accept responsibility for construction of this well, and its compliance with all Washington state well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

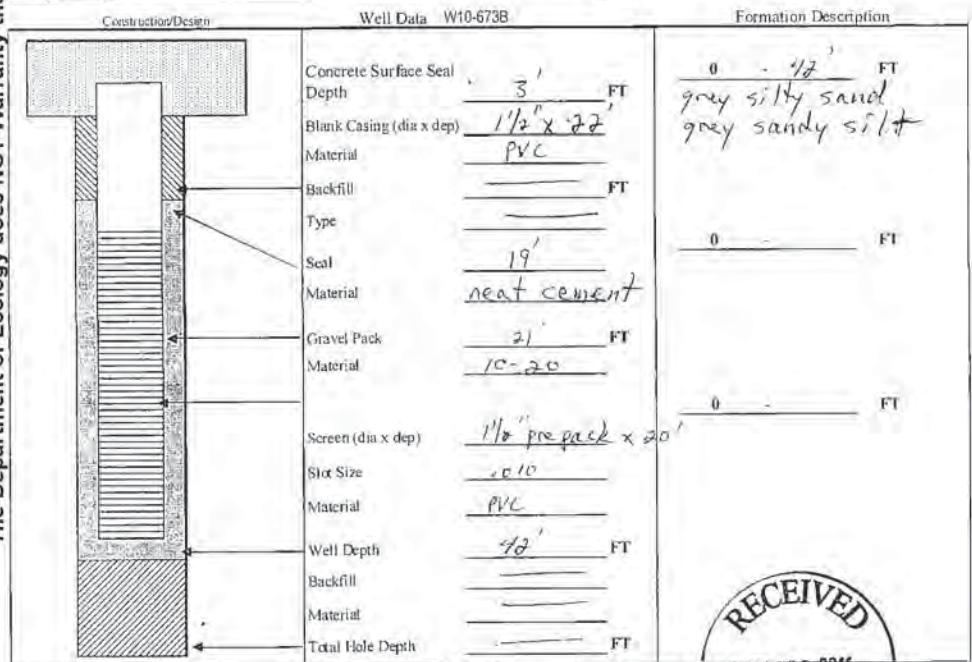
Driller Trainee Name (Print) Andy Flegan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. 1222049053

Cased or Uncased Diameter 7" Static Level 10'

Work/Decommission Start Date 12-29-10
 Work/Decommission End Date 12-29-10



Scale 1" = _____ Page _____ of _____

SOURCE PROTECTION WELL REPORT
(BMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT 22-4E-120
 Notice of Intent No. REQ5268

Construction/Decommission 403991
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID Tag No. BCT-625

WELL CONSTRUCTION CERTIFICATION: I, undersigned and/or accept responsibility for construction of this well, and its compliance with all Washington state well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

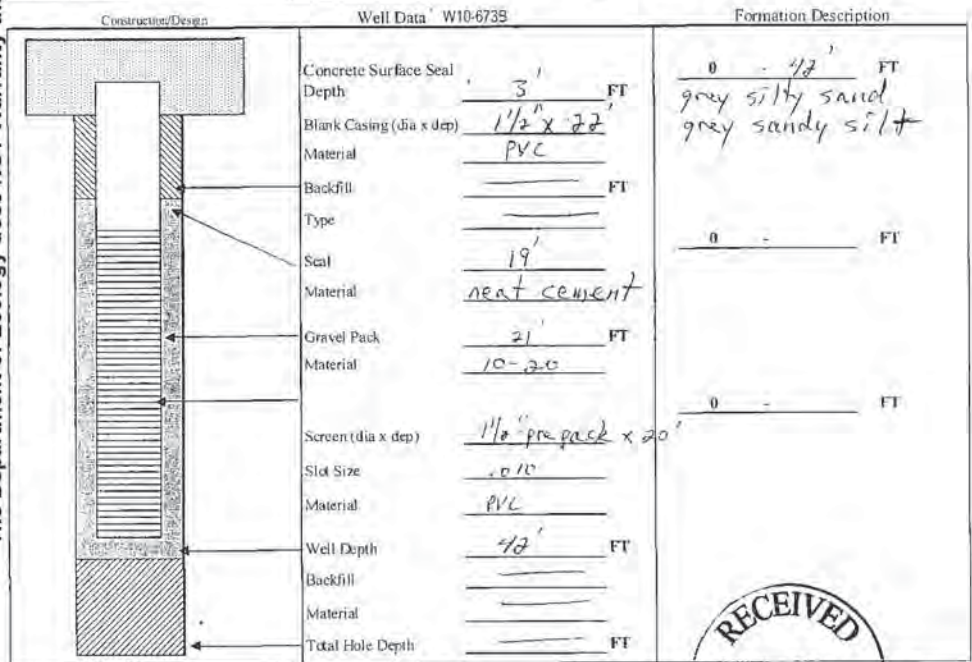
Driller Trainee Name (Print) Andy Flegan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. 1222049053

Cased or Uncased Diameter 7" Static Level 10'

Work/Decommission Start Date 12-30-10
 Work/Decommission End Date 12-30-10



Scale 1" = _____ Page _____ of _____

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-120
RE05268

Construction/Decommission 403992
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID Tag No. BCT-626
 Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 4E EWM
WWM

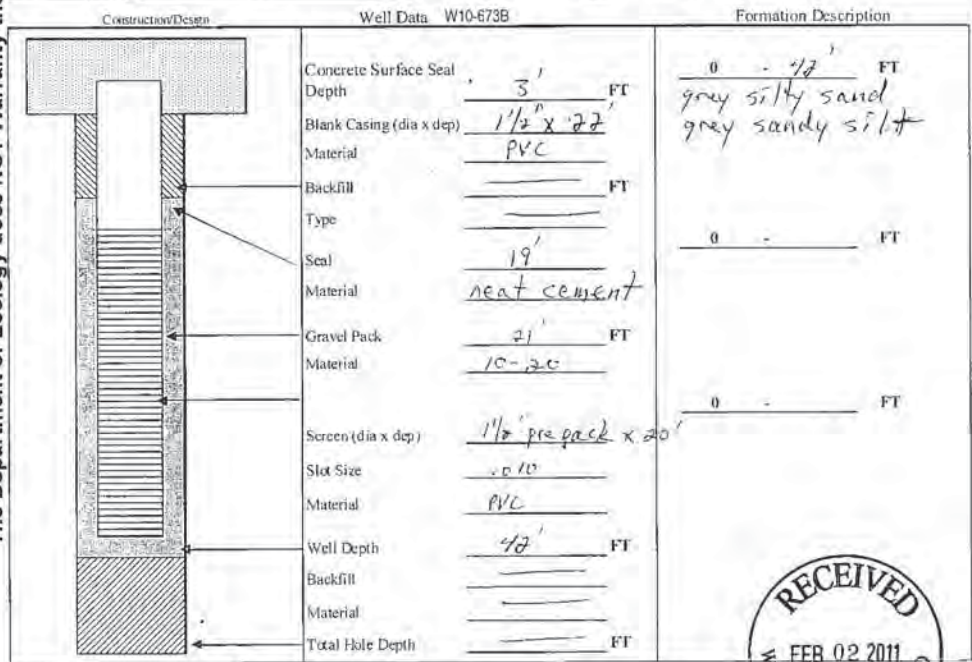
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Andy Flagan
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2761

Tax Parcel No. 1222049053
 Cased or Uncased Diameter 7" State Level 10'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 12-30-10
 Work/Decommission End Date 12-30-10



Scale 1" = _____ Page _____ of _____



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. 22-4E-120
RE05268

Construction/Decommission 406431
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID Tag No. BCM-895
 Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E EWM
WWM

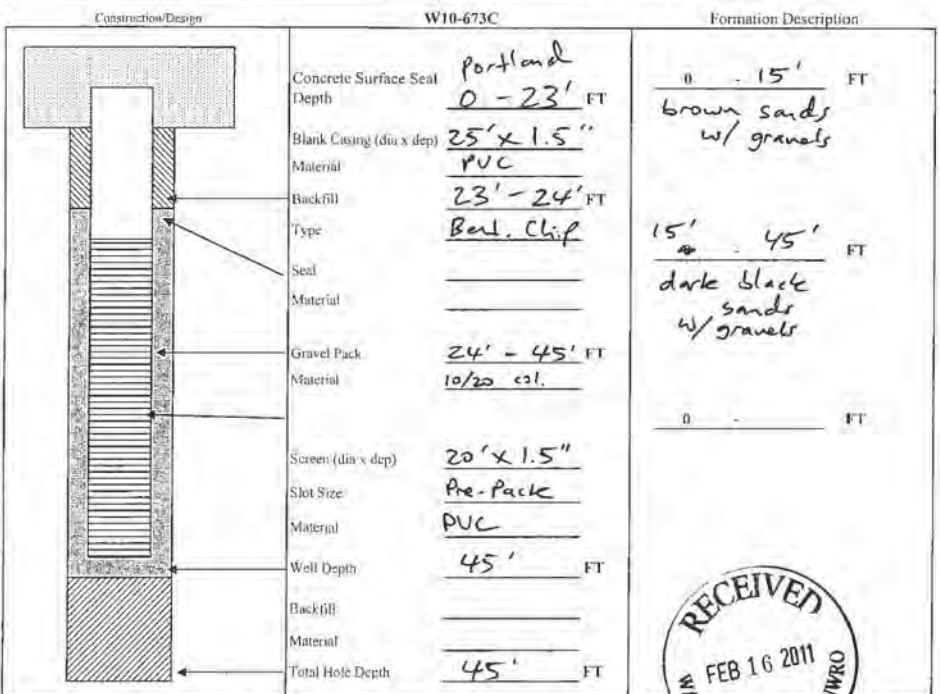
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 8 1/4" State Level 12'

If trainee, licensed driller's Signature and License No. _____

Work/Decommission Start Date 05/01/11
 Work/Decommission End Date 1-5-11



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-12D

CURRENT Notice of Intent No. RE05268

Construction/Decommission
 Construction 406432
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. BCM-898

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWM

WELL CONSTRUCTION CERTIFICATION: I, the undersigned, accept responsibility for construction of this well and its compliance with all Washington well construction standards. State this and the information reported above to the best of my knowledge and belief.

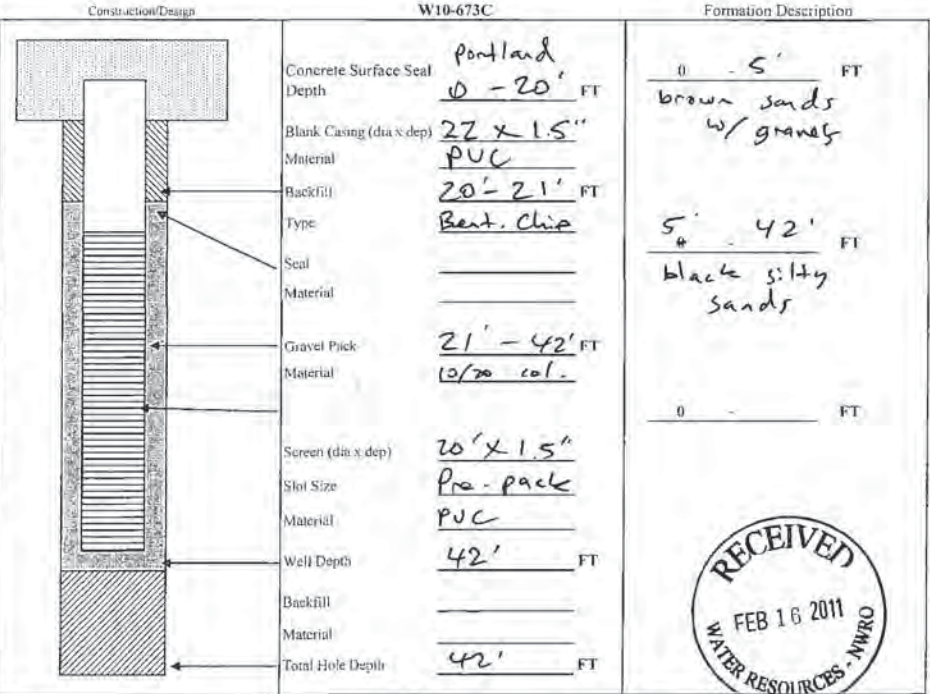
Lat/Long (S, L, R) Lat Deg. Long Deg.
 still Required) Long Deg. Lat Min/Sec Long Min/Sec

Driller Trainee Name (Print) Steve Slivers
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 8 1/4 Static Level 12'
 Work/Decommission Start Date 01/06/11

If trainee, licensed driller's Signature and License No. _____

Work/Decommission End Date 1-6-11



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-12D

CURRENT Notice of Intent No. RE05268

Construction/Decommission
 Construction 406433
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. BCM-899

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWM

WELL CONSTRUCTION CERTIFICATION: I, the undersigned, accept responsibility for construction of this well, and its compliance with all Washington well construction standards. State this and the information reported above to the best of my knowledge and belief.

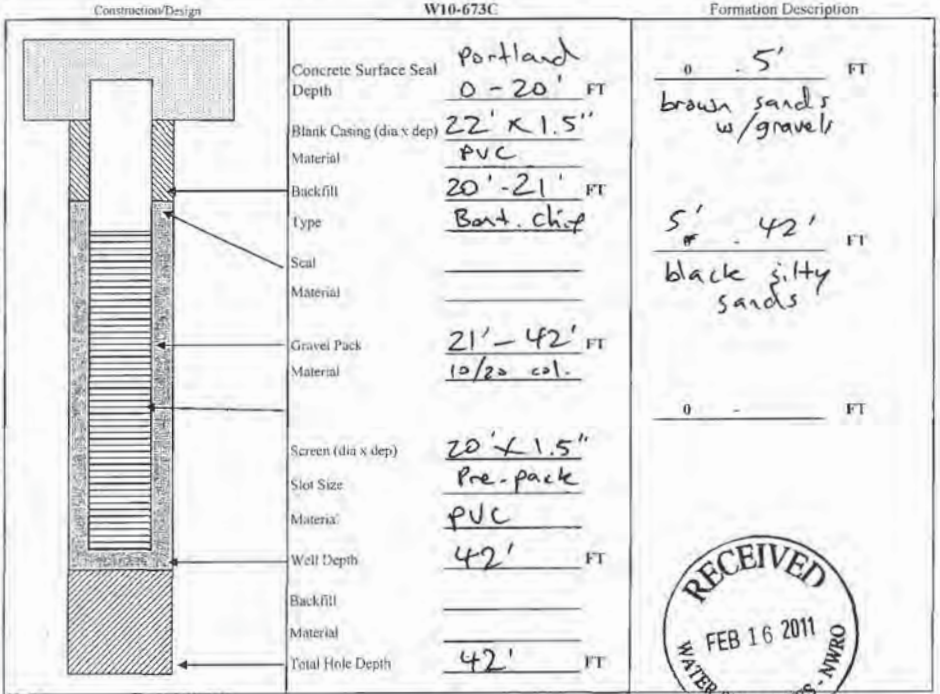
Lat/Long (S, L, R) Lat Deg. Long Deg.
 still Required) Long Deg. Lat Min/Sec Long Min/Sec

Driller Trainee Name (Print) Steve Slivers
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 8 1/4 Static Level 12'
 Work/Decommission Start Date 01/06/11

If trainee, licensed driller's Signature and License No. _____

Work/Decommission End Date 1-6-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-12D

CURRENT
Notice of Intent No. RE05268

Construction/Decommission
 Construction 406434
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well
 Resource Protection
 Geotechnical Soil Boring

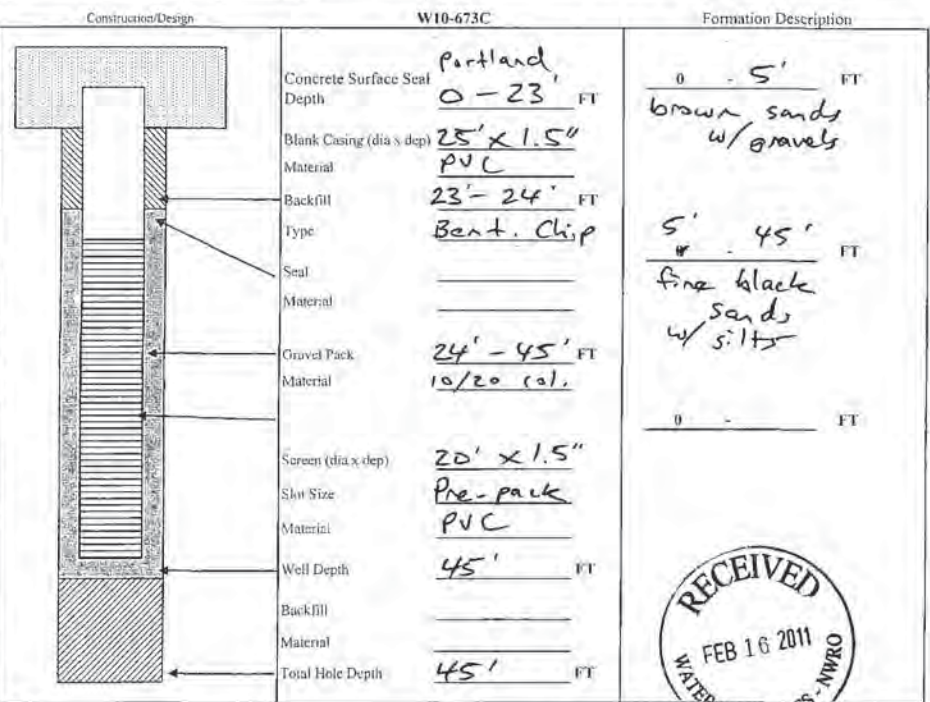
Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County King

Consulting Firm PES Environmental
Unique Ecology Well ID
Tag No. BCM-900

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E WWM
Lat/Long (s,t,r) Lat Deg x Lon Min/Sec x
still Required) Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION I fabricated and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Steve Stivers
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2965
Cased or Uncased Diameter 8 1/4 Static Level 12
Work/Decommission Start Date 01/08/11

If trainee, licensed driller's Signature and License No. _____
Work/Decommission End Date 1-7-11



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-12D

CURRENT
Notice of Intent No. RE05268

Construction/Decommission
 Construction 406435
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well
 Resource Protection
 Geotechnical Soil Boring

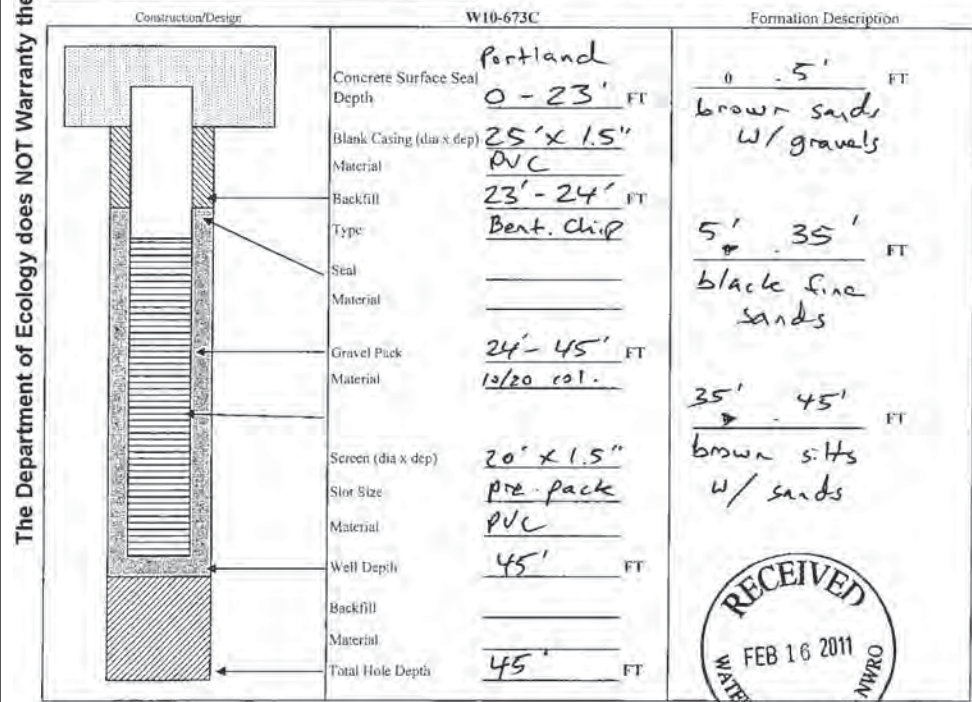
Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County King

Consulting Firm PES Environmental
Unique Ecology Well ID
Tag No. BCM-901

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E WWM
Lat/Long (s,t,r) Lat Deg x Lon Min/Sec x
still Required) Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION I fabricated and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
 Driller Trainee Name (Print) Steve Stivers
Driller/Trainee Signature [Signature]
Driller/Trainee License No. 2965
Cased or Uncased Diameter 8 1/4 Static Level 12
Work/Decommission Start Date 01/08/11

If trainee, licensed driller's Signature and License No. _____
Work/Decommission End Date 1-7-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-120

CURRENT

Notice of Intent No. RE05268

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 406436

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. BCM-902

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

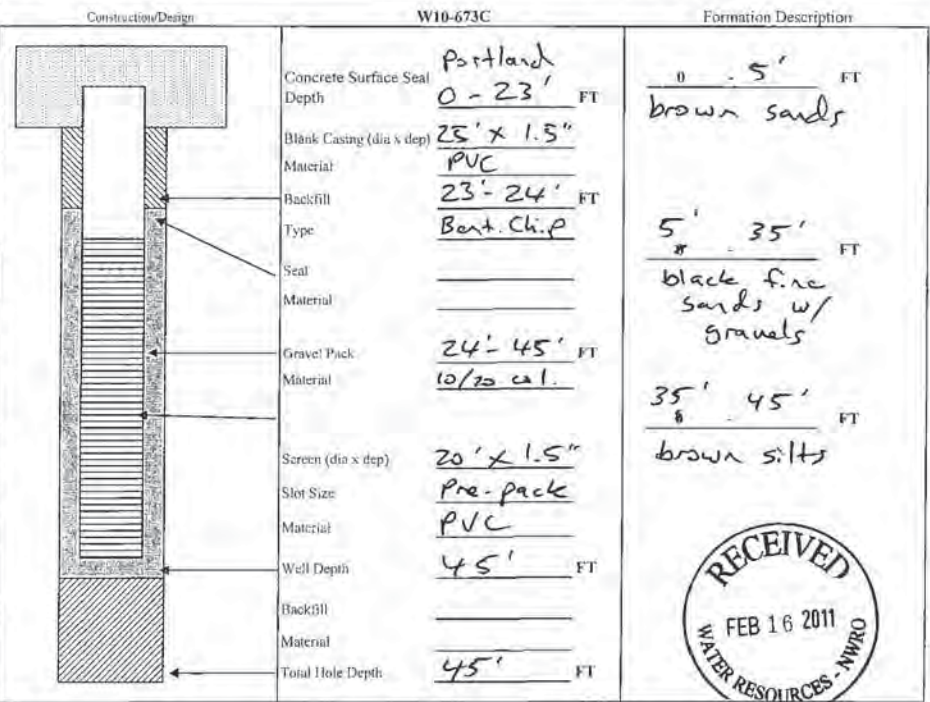
Lat/Long (s.t.r.) Lat Deg s Lat Min/Sec s
 still Required) Long Deg s Long Min/Sec s

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 8 1/4 Static Level 12'

If trainee, licensed driller's
 Signature and License No. _____

Work/Decommission Start Date 01/02/11
 Work/Decommission End Date 1-7-11



RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-120

CURRENT

Notice of Intent No. RE05268

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number 466437

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. BCM-903

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

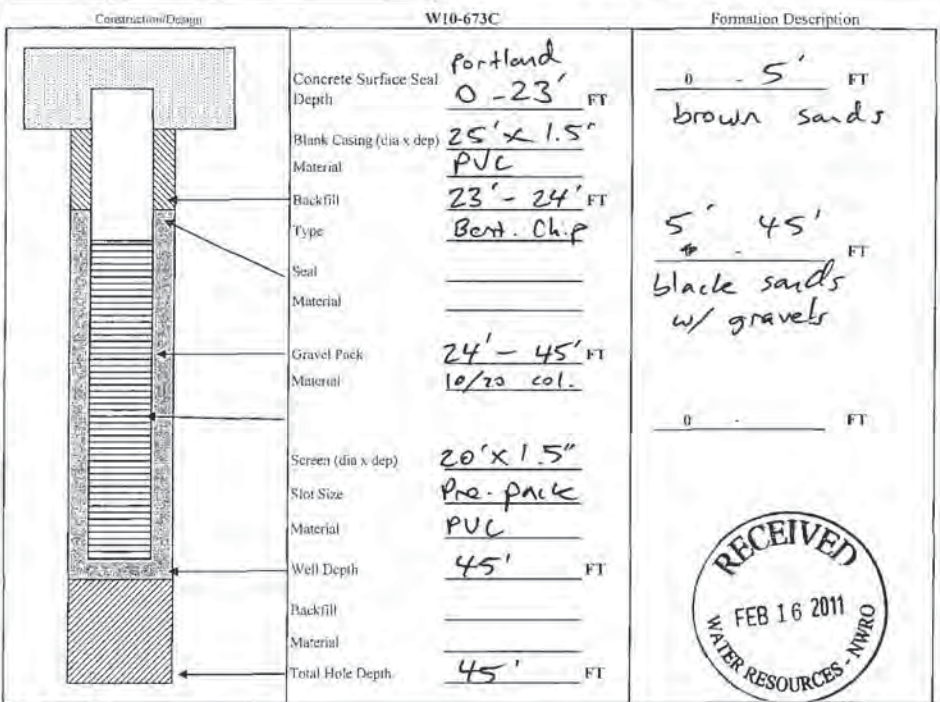
Lat/Long (s.t.r.) Lat Deg s Lat Min/Sec s
 still Required) Long Deg s Long Min/Sec s

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 8 1/4 Static Level 12'

If trainee, licensed driller's
 Signature and License No. _____

Work/Decommission Start Date 01/07/11
 Work/Decommission End Date 1-10-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

406438

CURRENT

Notice of Intent No. RE05268

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Unique Ecology Well ID Tag No. BCM-904

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I swear that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature: *[Signature]*

Driller/Trainee License No. 2965

If trainee, licensed driller's Signature and License No.:

Property Owner: Univar
 Site Address: 8201 S. 212th St.
 City: Kent County: King

Location: 1/4 NW 1/4 NW Sec 12 Twn 22N R 04E WWM

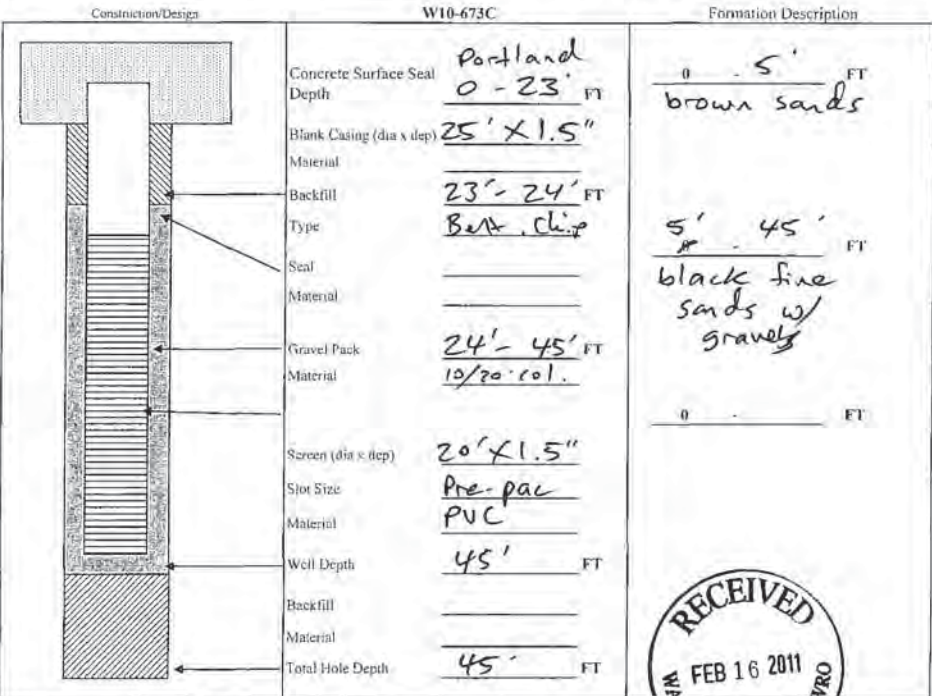
Lat/Long (S, L, R) Lat Deg: x Lat Min/Sec: x
 still Required) Long Deg: x Long Min/Sec: x

Tax Parcel No.:

Cased or Uncased Diameter: 8 1/4 Static Level: 12'

Work/Decommission Start Date: 01/08/11

Work/Decommission End Date: 1-10-11



Scale 1" = _____ Page _____ of _____



22-4E-12 D

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number

406439

CURRENT

Notice of Intent No. RE05268

Type of Well

Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Unique Ecology Well ID Tag No. BCM-905

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I swear that the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature: *[Signature]*

Driller/Trainee License No. 2965

If trainee, licensed driller's Signature and License No.:

Property Owner: Univar
 Site Address: 8201 S. 212th St.
 City: Kent County: King

Location: 1/4 NW 1/4 NW Sec 12 Twn 22N R 04E WWM

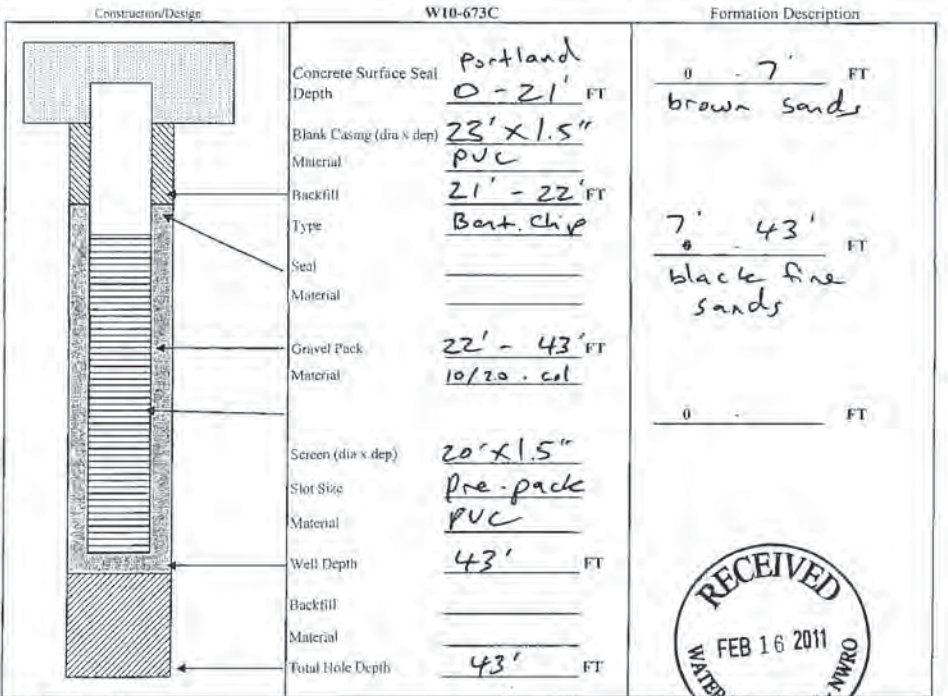
Lat/Long (S, L, R) Lat Deg: x Lat Min/Sec: x
 still Required) Long Deg: x Long Min/Sec: x

Tax Parcel No.:

Cased or Uncased Diameter: 8 1/4 Static Level: 12'

Work/Decommission Start Date: 01/08/11

Work/Decommission End Date: 1-11-11



Scale 1" = _____ Page _____ of _____



22-4E-12 D

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 466440
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT Notice of Intent No. RE05268

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID Tag No. BCM-906

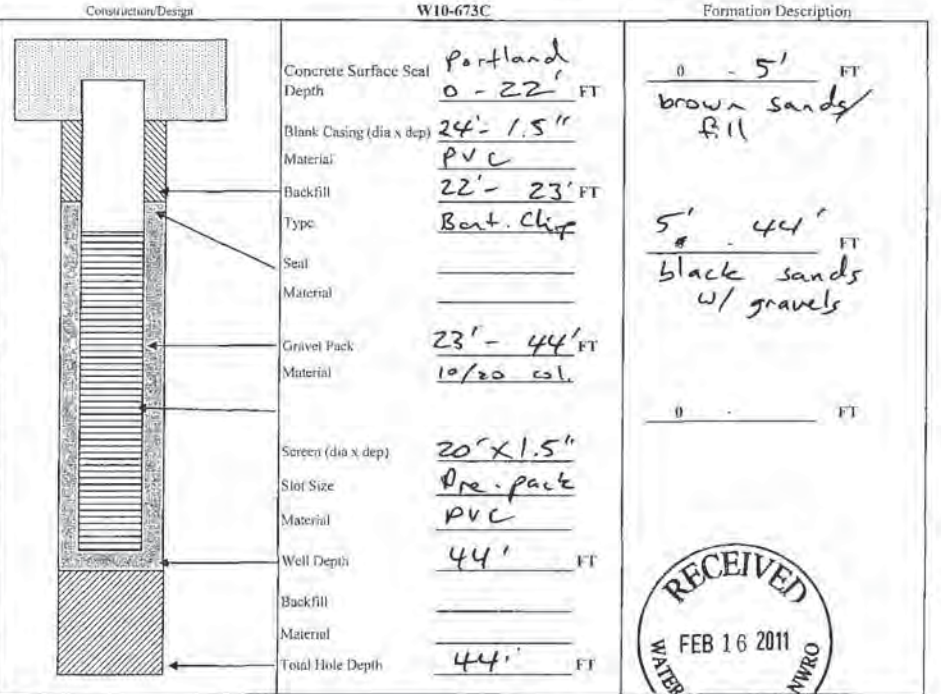
Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWSM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2965
 If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. _____
 Cased or Uncased Diameter 8 1/4 Static Level 12'
 Work/Decommission Start Date 11/01/11
 Work/Decommission End Date 1-11-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 466441
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT Notice of Intent No. RE05268

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID Tag No. BCM-907

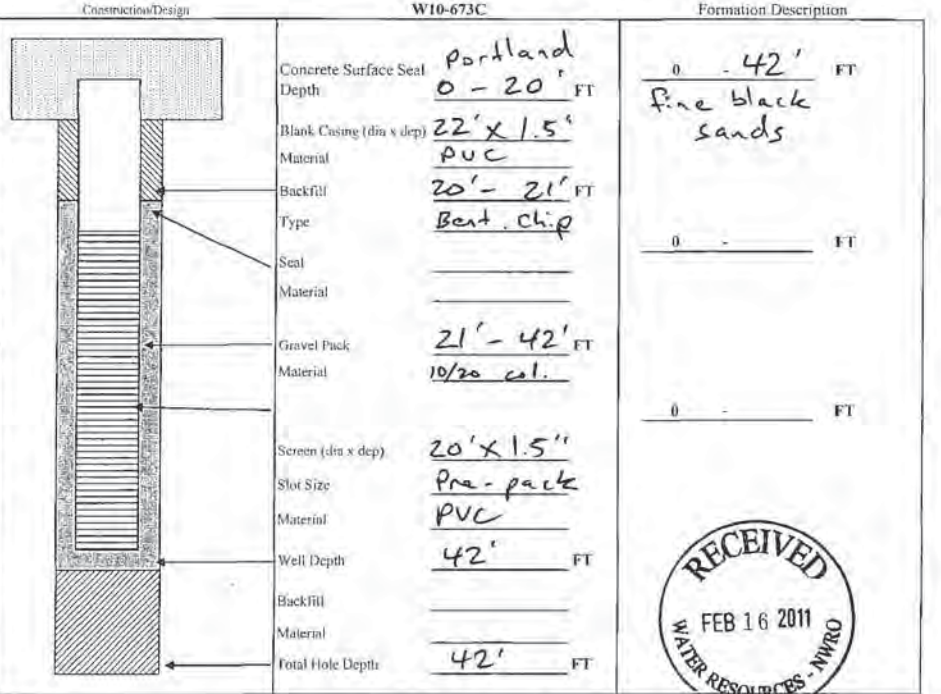
Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWSM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2965
 If trainee, licensed driller's Signature and License No. _____

Tax Parcel No. _____
 Cased or Uncased Diameter 8 1/4 Static Level 12'
 Work/Decommission Start Date 11/01/11
 Work/Decommission End Date 1-11-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406442
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT 22-4E-120
 Notice of Intent No. RE05268

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. BCM-930

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

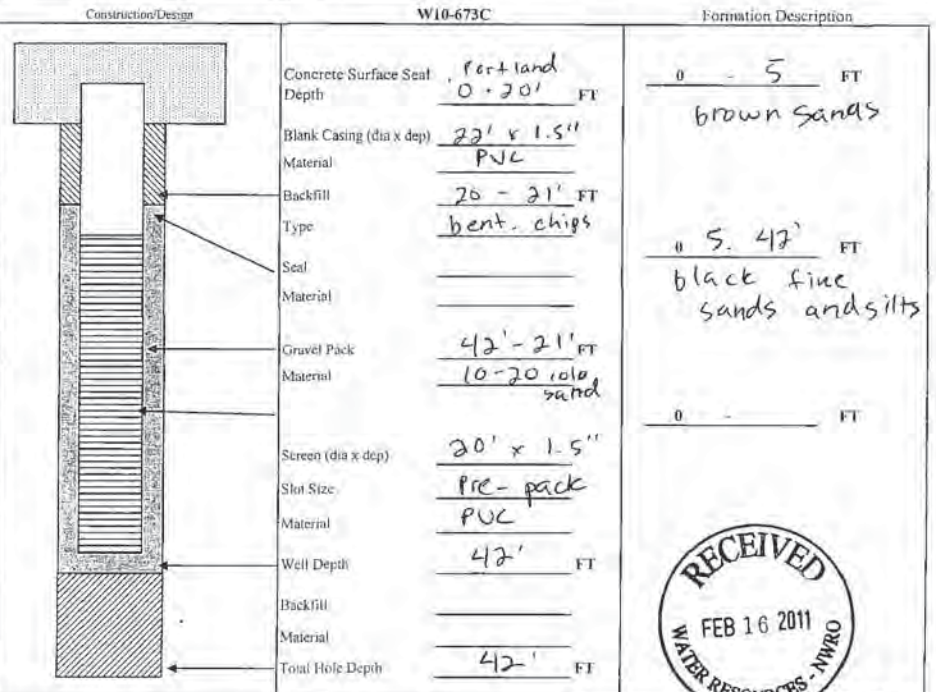
Lat/Long (s,r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 8' 1/4 Static Level N/A
 Work/Decommission Start Date 01/05/11

If trainee, licensed driller's
 Signature and License No. _____

Work/Decommission End Date 1-17-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 406443
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT 22-4E-120
 Notice of Intent No. RE05268

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. BCM-931

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

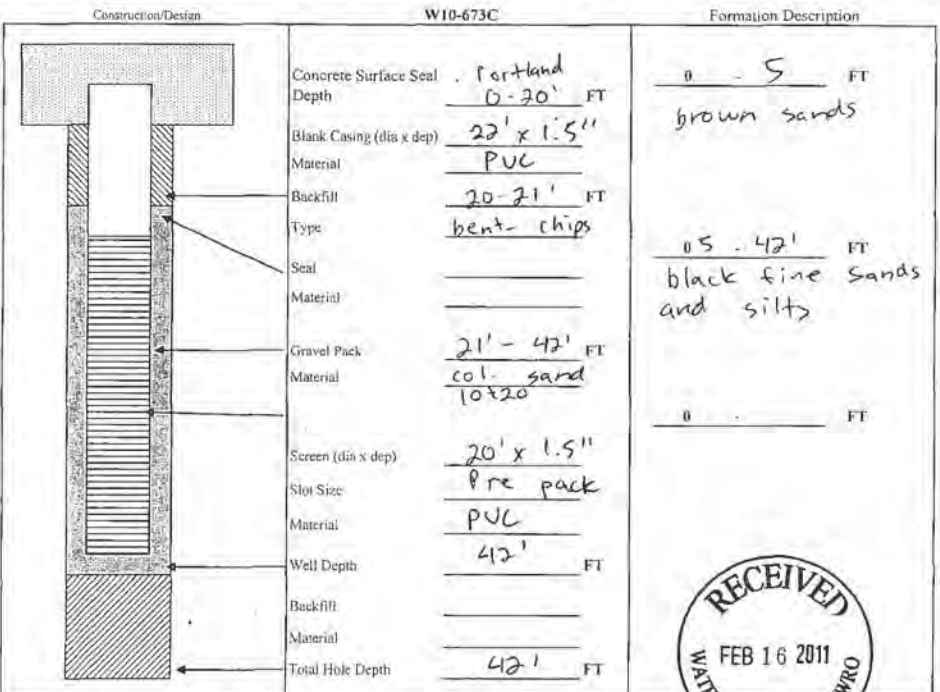
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 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Steve Stivers
 Driller/Trainee Signature _____
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 8' 1/4 Static Level N/A
 Work/Decommission Start Date 01/05/11

If trainee, licensed driller's
 Signature and License No. _____

Work/Decommission End Date 1-17-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction 406444
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm PES Environmental

Unique Ecology Well ID Tag No. BCM-932

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2965

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. RE05268

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County King State WA

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWM

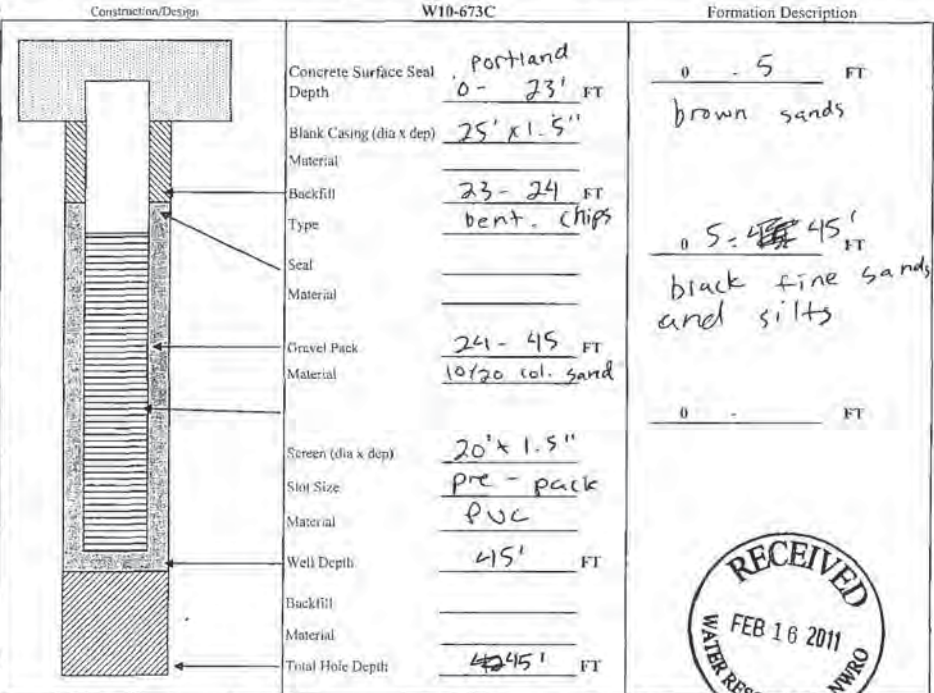
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 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 8 1/4 Static Level N/A

Work/Decommission Start Date 17 01/03/11

Work/Decommission End Date 1-17-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction 406445
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm PES Environmental

Unique Ecology Well ID Tag No. BCM-933

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2965

If trainee, licensed driller's Signature and License No. _____

CURRENT

Notice of Intent No. RE05268

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County King State WA

Location 1/4 NW 1/4 NW Sec 12 Twp 22N R 04E or WWM

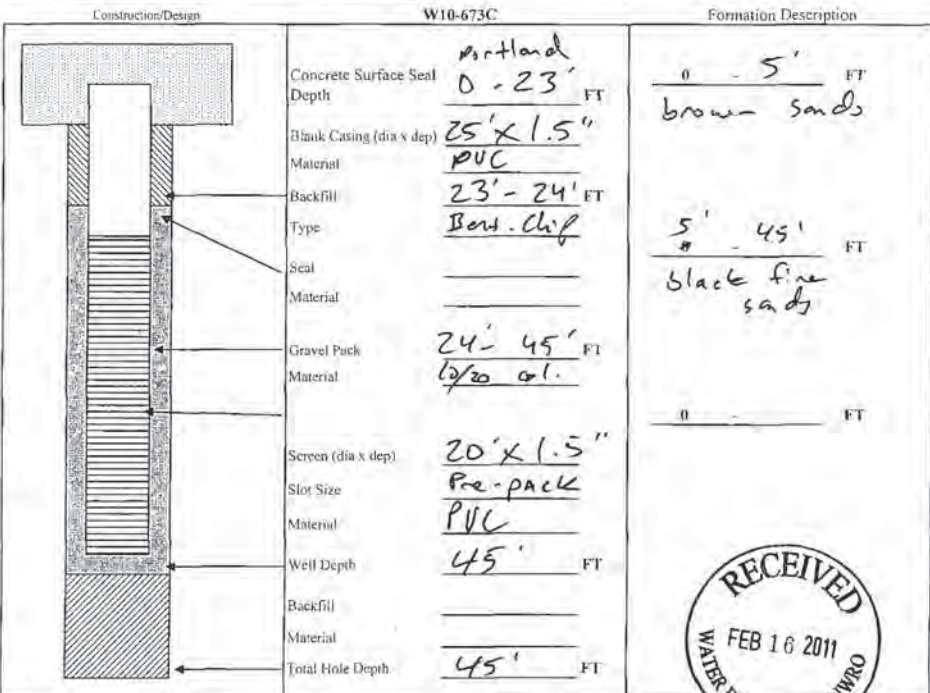
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 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 8 1/4 Static Level 12'

Work/Decommission Start Date 18 01/05/11

Work/Decommission End Date 1-18-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-46-120

CURRENT Notice of Intent No. RE05268

Construction/Decommission
 Construction 415061

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm PES Environmental

Unique Ecology Well ID Tag No. BCM-896

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature: *Steve Stivers*

Driller/Trainee License No. 2965

If trainee, licensed driller's Signature and License No.

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County King

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 04E or WWM

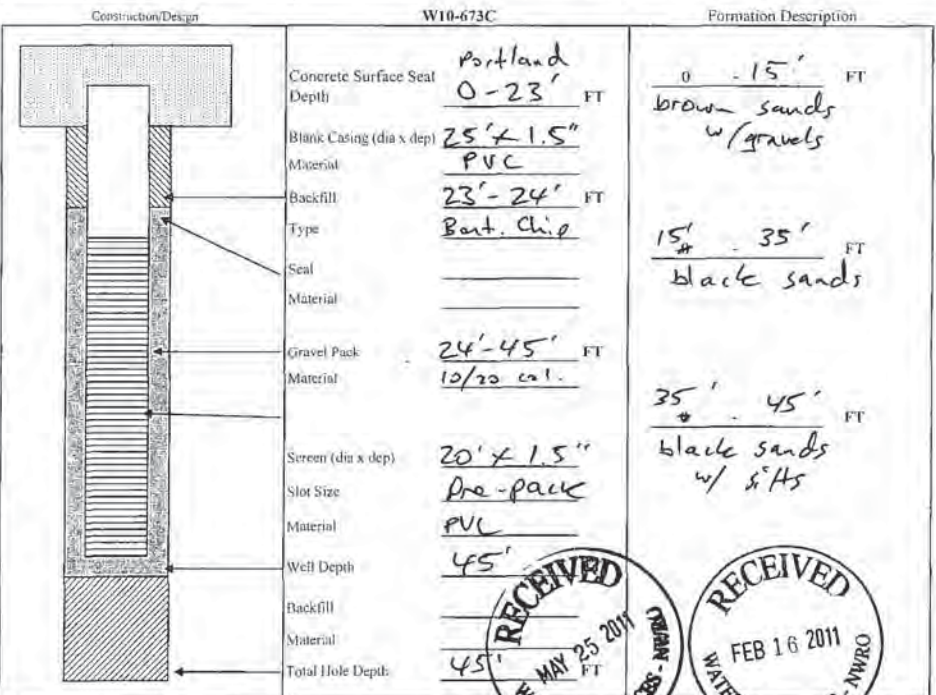
Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 8 1/4 Static Level 12'

Work/Decommission Start Date 5 01/05/11

Work/Decommission End Date 1-5-11



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-46-120

CURRENT Notice of Intent No. RE05268

Construction/Decommission
 Construction 415062

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Consulting Firm PES Environmental

Unique Ecology Well ID Tag No. BCM-897

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature: *Steve Stivers*

Driller/Trainee License No. 2965

If trainee, licensed driller's Signature and License No.

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County King

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 04E or WWM

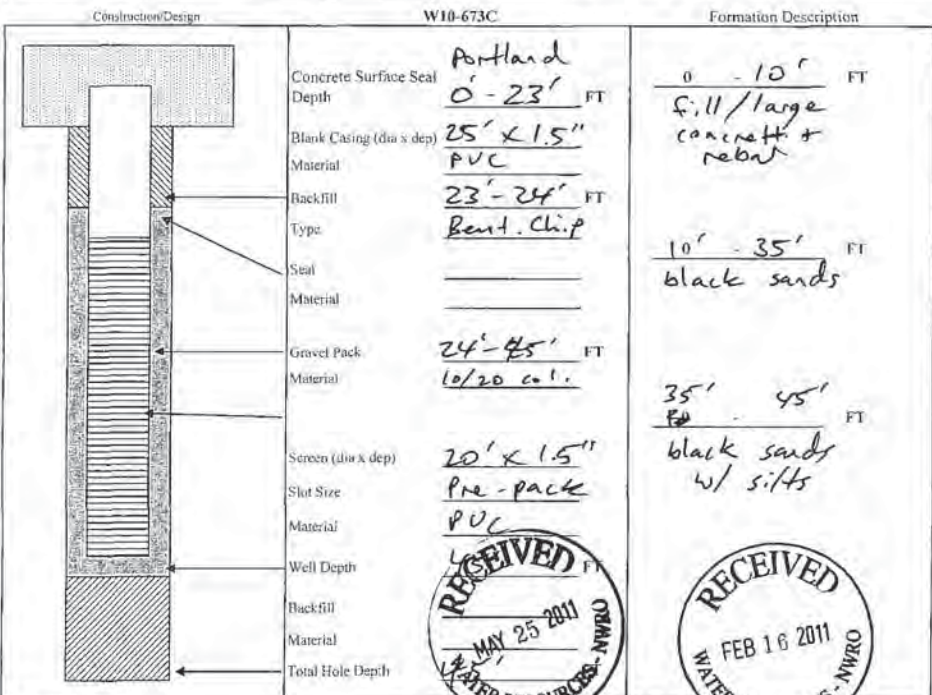
Lat/Long (s, l, r) Lat Deg x Lat Min/Sec x
still Required) Long Deg x Long Min/Sec x

Tax Parcel No.

Cased or Uncased Diameter 8 1/4 Static Level 12'

Work/Decommission Start Date 5 01/05/11

Work/Decommission End Date 1-5-11



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number

415063

Consulting Firm PES Environmental

Unique Ecology Well ID
Tag No. BCM-892

WELL CONSTRUCTION CERTIFICATION I (co-)insured and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers
Driller/Trainee Signature
Driller/Trainee License No. 2965

If trainee, licensed driller's
Signature and License No.

CURRENT

Notice of Intent No. RE05268

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County King

Location 1/4 NW 1/4 NW Sec. 12 Twp. 22N R. 04E of WWM
WWM

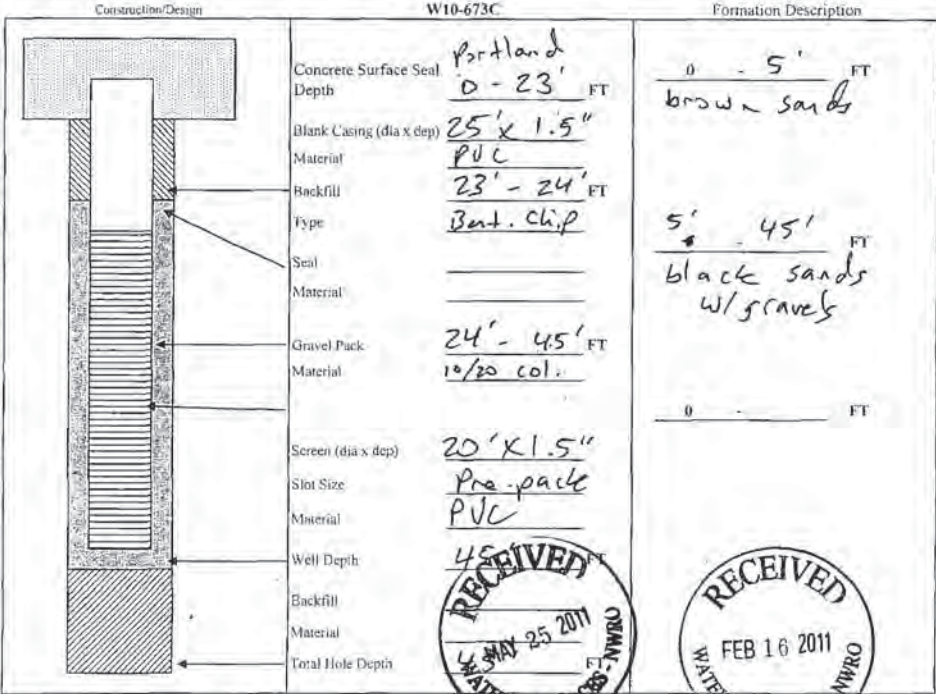
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still Required) Long Deg. x Lat Min/Sec x Long Min/Sec x

Tax Parcel No.
Cased or Uncased Diameter 8 1/4 Static Level 12'

Work/Decommission Start Date 01/13/11

Work/Decommission End Date 1-13-11

22-4E-120



Scale 1" =

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(ECY 030-12 (Rev. 2/04))



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission

Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number

415064

Consulting Firm PES Environmental

Unique Ecology Well ID
Tag No. BCM-908

WELL CONSTRUCTION CERTIFICATION I (co-)insured and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stivers
Driller/Trainee Signature
Driller/Trainee License No. 2965

If trainee, licensed driller's
Signature and License No.

CURRENT

Notice of Intent No. RE05268

Type of Well

Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County King

Location 1/4 NW 1/4 NW Sec. 12 Twp. 22N R. 04E of WWM
WWM

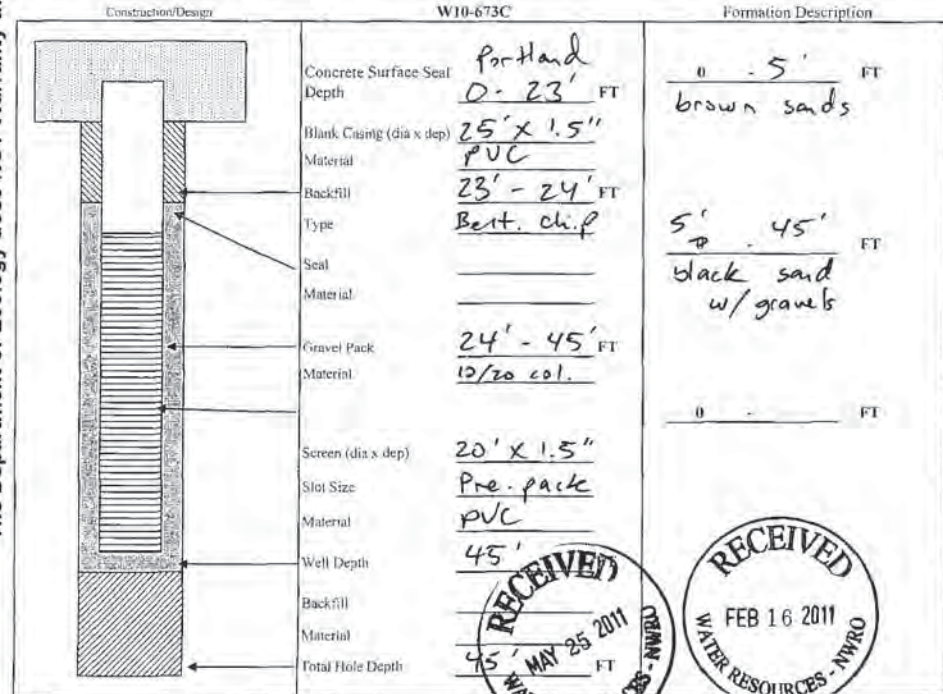
Lat/Long (S, L) Lat Deg. x Long Deg. x
still Required) Long Deg. x Lat Min/Sec x Long Min/Sec x

Tax Parcel No.
Cased or Uncased Diameter 8 1/4 Static Level 12'

Work/Decommission Start Date 01/13/11

Work/Decommission End Date 1-13-11

22-4E-120



Scale 1" =

Page

(ECY 030-12 (Rev. 2/04))



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

22-4E-120

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 417083

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID
 Tag No. BHB 420

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used for construction (see table below) are true to my best knowledge and belief.

Driller/Trainer Name (Print) Elijah Floyd
 Driller/Trainer Signature Eli Floyd
 Driller/Trainer License No. 2842

Cased or Un-cased Diameter 1 1/2 State Level 4'

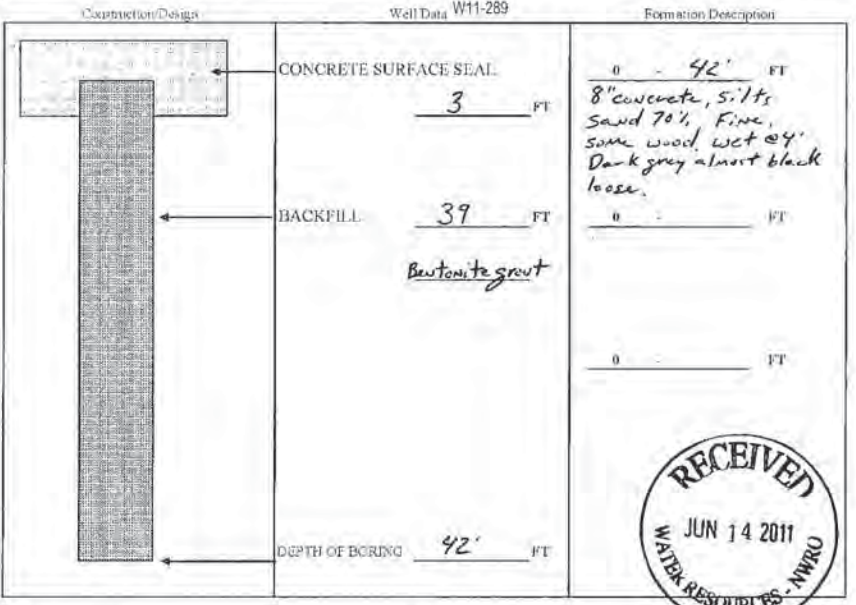
Work/Decommission Start Date 5/17/2011
 Work/Decommission Completed Date 5/20/2011

CURRENT
 Notice of Intent No. RE05882

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E EWM
 Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
 (still Required) Long Deg x Long Min/Sec x

Tax Parcel No. 1222049053



22-4E-120

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission 417084

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID
 Tag No. BHB 421

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used for construction (see table below) are true to my best knowledge and belief.

Driller/Trainer Name (Print) Elijah Floyd
 Driller/Trainer Signature Eli Floyd
 Driller/Trainer License No. 2842

Cased or Un-cased Diameter 1 1/2 State Level 4'

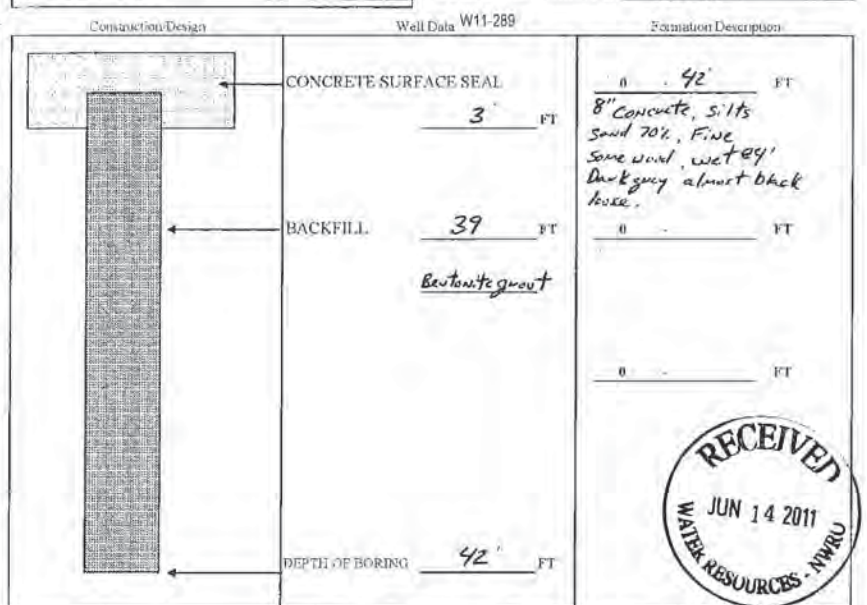
Work/Decommission Start Date 5/17/2011
 Work/Decommission Completed Date 5/20/2011

CURRENT
 Notice of Intent No. RE05882

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E EWM
 Lat/Long (s,t,r) Lat Deg x Lat Min/Sec x
 (still Required) Long Deg x Long Min/Sec x

Tax Parcel No. 1222049053



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

22-4E-130

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RC05802

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 417085

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

Unique Ecology Well ID
Tag No. BHB 422

Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E

WELL CONSTRUCTION CERTIFICATION: I warrant and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (N, E, W) still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x
Tax Parcel No. 1222049053

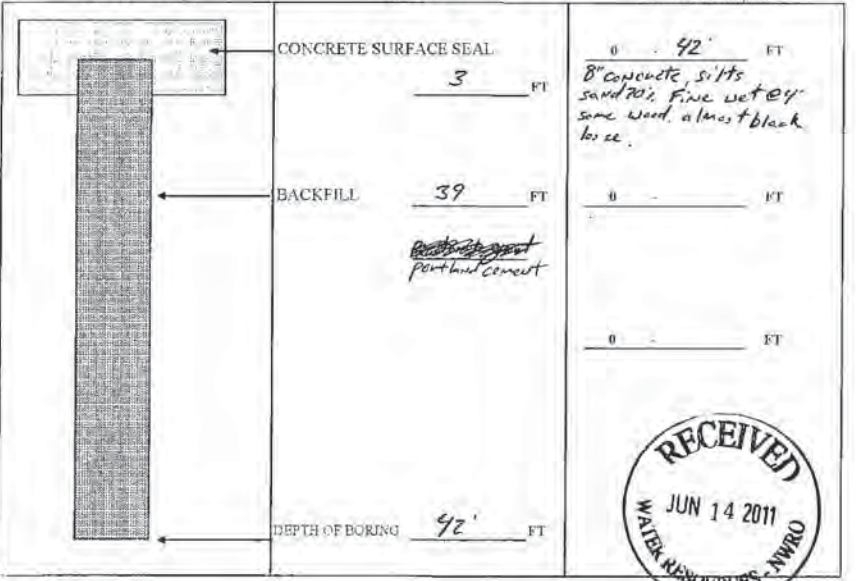
Driller Trainer Name (Print) Elijah Floyd
Driller/Trainer Signature: Elijah Floyd
Driller/Trainer License No. 2842

Cased or Uncased Diameter 1 1/2 State Level 4

If name, licensed driller:
Signature and License No. _____

Work/Decommission Start Date 5/17/2011
Work/Decommission Completed Date 5/20/2011

Construction/Design Well Data W11-289 Formation Description



22-4E-130

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RC05802

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 417086

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle

Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

Unique Ecology Well ID
Tag No. BHB 423

Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E

WELL CONSTRUCTION CERTIFICATION: I warrant and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (N, E, W) still Required) Lat Deg x Lat Min/Sec x
Long Deg x Long Min/Sec x
Tax Parcel No. 1222049053

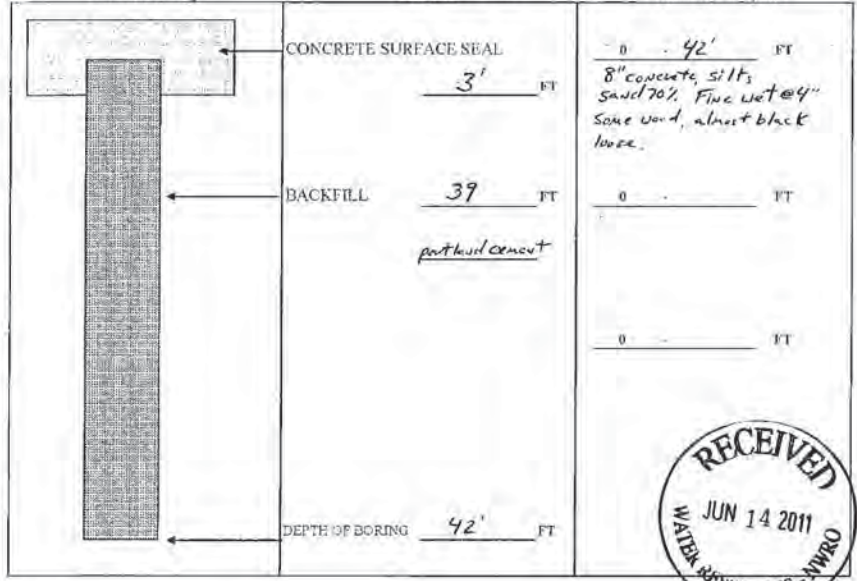
Driller Trainer Name (Print) Elijah Floyd
Driller/Trainer Signature: Elijah Floyd
Driller/Trainer License No. 2842

Cased or Uncased Diameter 1 1/2 State Level 4

If name, licensed driller:
Signature and License No. _____

Work/Decommission Start Date 5/17/2011
Work/Decommission Completed Date 5/20/2011

Construction/Design Well Data W11-289 Formation Description



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

22-4E-120

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE05882

Construction/Decommission 417087
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID
 Tag No. BH8424

Location: 1/4NW 1/4NW Sec 12 Town 22N R4E EWM
 (WWM)

Lat/Long (N.T., still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

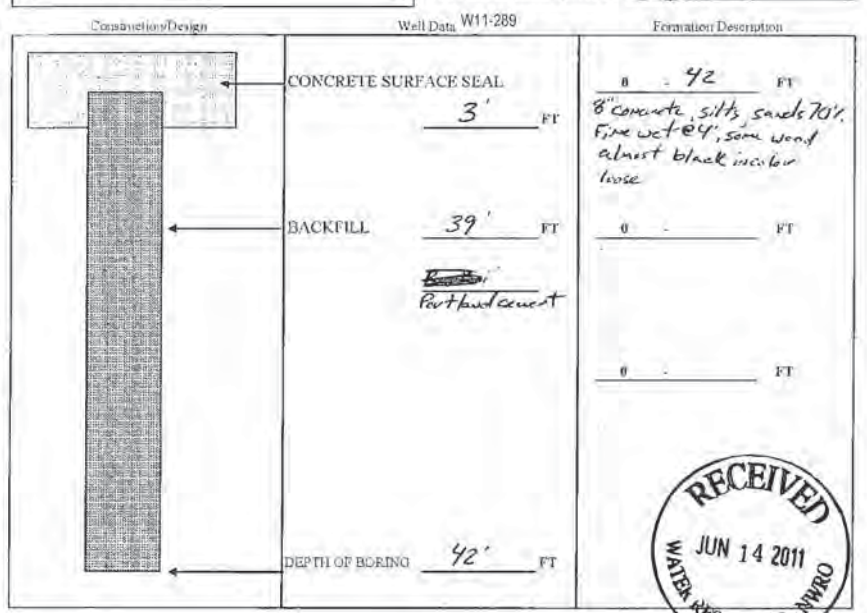
Tax Parcel No. 1222049053

Cased or Uncased Diameter 1 1/2" Static Level 4'

Work/Decommission Start Date 5/17/2011

Work/Decommission Completed Date 5/23/2011

If/When, licensed driller:
 Signature and License No. _____



Scale 1" = _____ Page _____ of _____

22-4E-120

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE05882

Construction/Decommission 417088
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Property Owner Univar
 Site Address 8201 S. 212th St.
 City Kent County 17-King

Consulting Firm PES Environmental-Seattle

Unique Ecology Well ID
 Tag No. BH8425

Location: 1/4NW 1/4NW Sec 12 Town 22N R4E EWM
 (WWM)

Lat/Long (N.T., still Required) Lat Deg x Lat Min/Sec x
 Long Deg x Long Min/Sec x

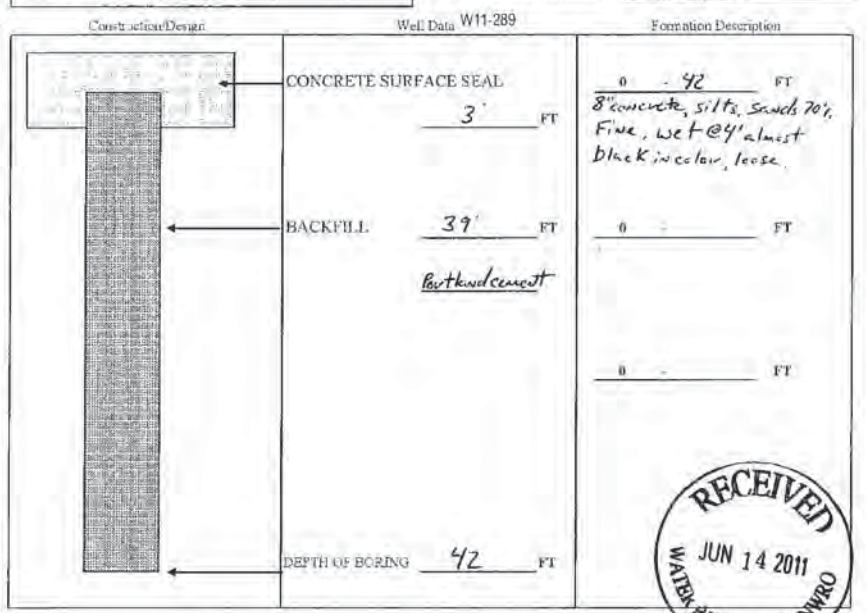
Tax Parcel No. 1222049053

Cased or Uncased Diameter 1 1/2" Static Level 4'

Work/Decommission Start Date 5/17/2011

Work/Decommission Completed Date 5/23/2011

If/When, licensed driller:
 Signature and License No. _____



Scale 1" = _____ Page _____ of _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

22-4E12D

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE05882

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number 417089

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle
Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

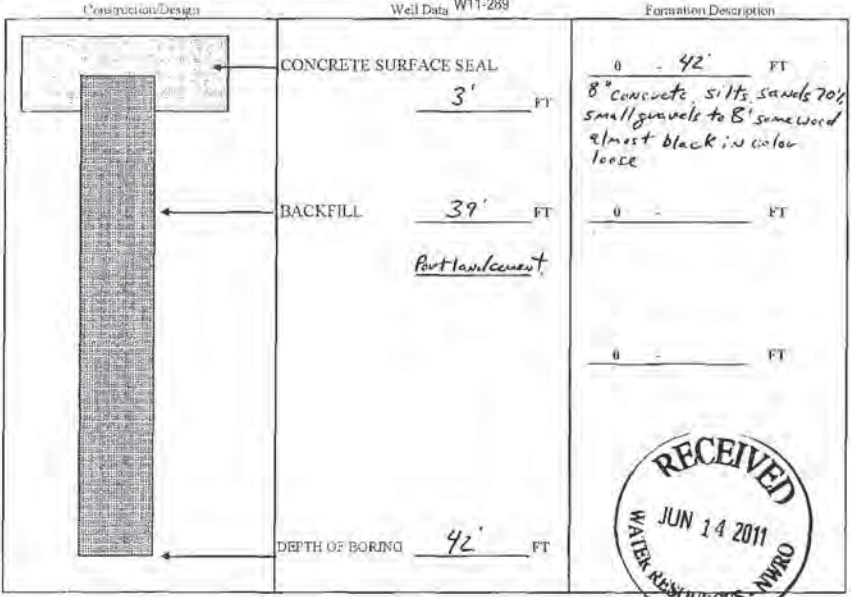
Unique Ecology Well ID
Tag No. BHB 426
Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E (EWM)

WELL CONSTRUCTION CERTIFICATION: I constructed or the accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I warrant and the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Elijah Floyd
Driller/Trainee Signature Eli Floyd
Driller/Trainee License No. 2842

Cased or Uncased Diameter 1 1/2 Static Level 4'
Work/Decommission Start Date 5/17/2011

If cased, finished driller's
Signature and License No. _____
Work/Decommission Completed Date 5/24/2011



22-4E12D

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE13252

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number RE05882

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle
Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

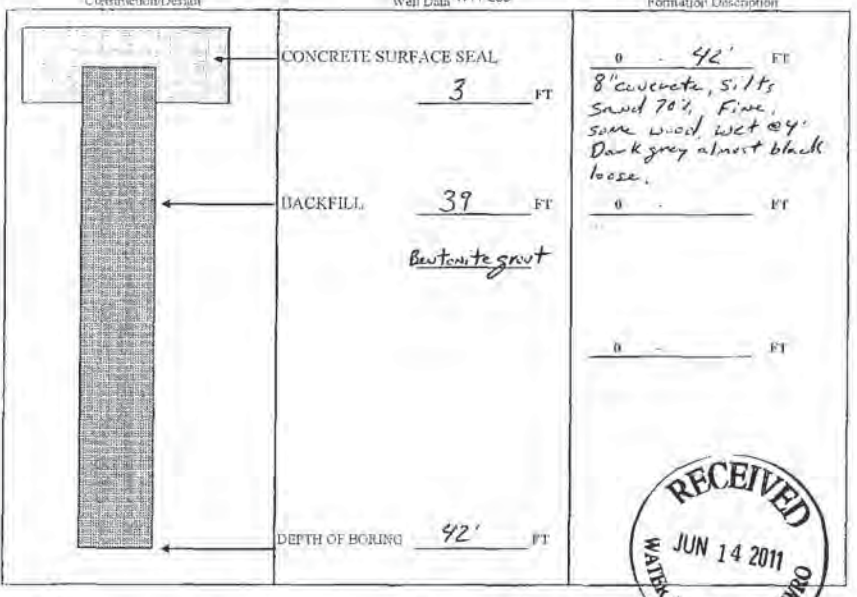
Unique Ecology Well ID
Tag No. BHB 420
Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E (EWM)

WELL CONSTRUCTION CERTIFICATION: I constructed or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. I warrant and the information reported above is true to my best knowledge and belief.

Driller Trainee Name (Print) Elijah Floyd
Driller/Trainee Signature Eli Floyd
Driller/Trainee License No. 2842

Cased or Uncased Diameter 1 1/2 Static Level 4'
Work/Decommission Start Date 5/17/2011

If cased, finished driller's
Signature and License No. _____
Work/Decommission Completed Date 5/20/2011



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

22-4E-130

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE13252

Construction/Decommission

Construction

417091

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice of Intent Number RE05882

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County 17-King

Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E

Lat/Long (s,r) Lat Deg x Lat Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No. 1222049053

Cased or Uncased Diameter 1 1/2 Static Level 4'

Well/Decommission Start Date 5/17/2011

Well/Decommission Completed Date 5/20/2011

Unique Ecology Well ID

Tag No. BHB 421

WELL CONSTRUCTION CERTIFICATION: I am not held liable or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

I attest to and the information reported above are true to my best knowledge and belief.

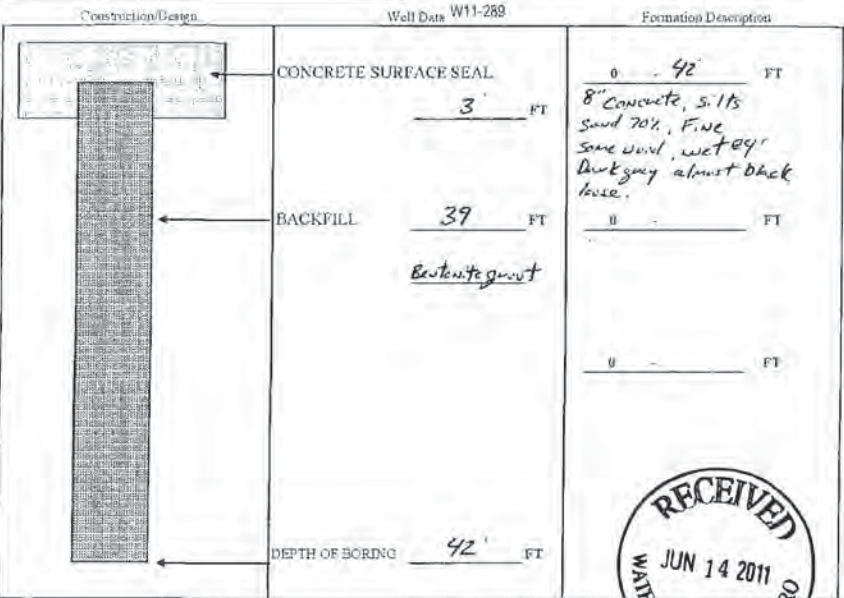
Driller Drainer Name (Print) Elijah Floyd

Driller/Drainer Signature E.F. Floyd

Driller/Drainer License No. 2842

If trained, licensed driller's Signature and License No. _____

Signature and License No. _____



Scale 1" = _____

Page _____ of _____



22-4E-130

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE13252

Construction/Decommission

Construction

417092

Type of Well

Resource Protection

Geotechnical Soil Boring

Decommission ORIGINAL INSTALLATION Notice of Intent Number RE05882

Property Owner Univar

Site Address 8201 S. 212th St.

City Kent County 17-King

Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E

Lat/Long (s,r) Lat Deg x Lat Min/Sec x

still Required) Long Deg x Long Min/Sec x

Tax Parcel No. 1222049053

Cased or Uncased Diameter 1 1/2 Static Level 4'

Well/Decommission Start Date 5/17/2011

Well/Decommission Completed Date 5/20/2011

Unique Ecology Well ID

Tag No. BHB 422

WELL CONSTRUCTION CERTIFICATION: I am not held liable or accept responsibility for construction of this well, and its compliance with all Washington well construction standards.

I attest to and the information reported above are true to my best knowledge and belief.

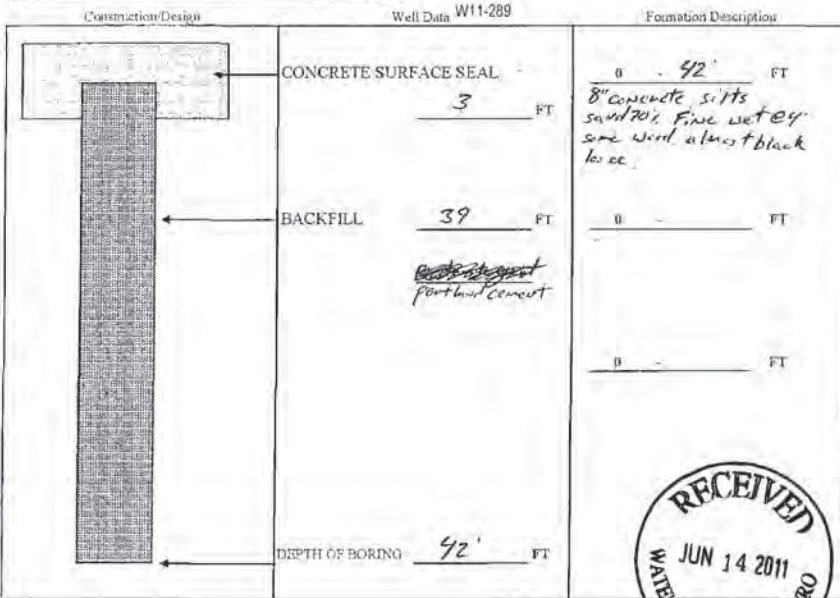
Driller Drainer Name (Print) Elijah Floyd

Driller/Drainer Signature E.F. Floyd

Driller/Drainer License No. 2842

If trained, licensed driller's Signature and License No. _____

Signature and License No. _____



Scale 1" = _____

Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

22-4E-120

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE13252

Construction/Decommission
Construction 417093
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number RE05882

Type of Well
 Resource Protection
 Geotechnical Soil Boring

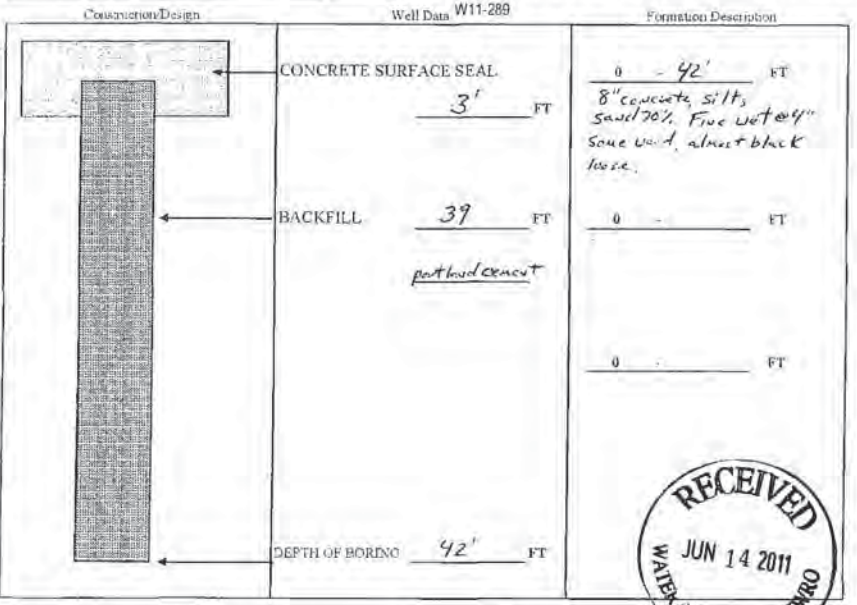
Consulting Firm PES Environmental-Seattle Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

Unique Ecology Well ID BHB 423 Location 1/4NW 1/4NW Sec 12 Town 22N R4E
Tag No. BHB 423

Lat/Long (N, E) Lat Deg x Lat Min/Sec x
still Required Long Deg k Long Min/Sec x

Tax Parcel No. 1222049053
Cased or Uncased Diameter 1 1/2" Stage Level 4
Work/Decommission Start Date 5/17/2011

Work/Decommission Completed Date 5/20/2011
If trained, licensed driller:
Signature and License No.



22-4E-120

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE13252

Construction/Decommission
Construction 417094
 Decommission ORIGINAL INSTALLATION Notice
of Intent Number RE05882

Type of Well
 Resource Protection
 Geotechnical Soil Boring

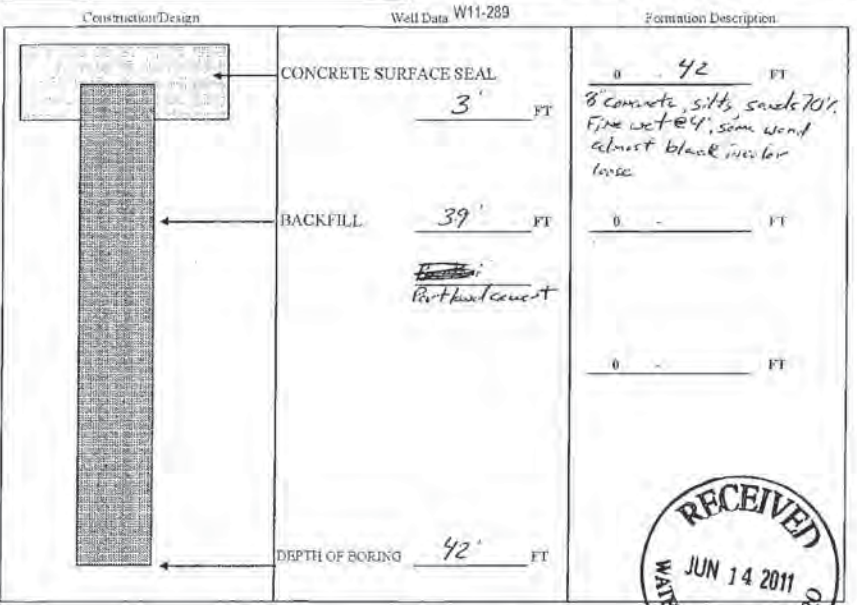
Consulting Firm PES Environmental-Seattle Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

Unique Ecology Well ID BHB 424 Location 1/4NW 1/4NW Sec 12 Town 22N R4E
Tag No. BHB 424

Lat/Long (N, E) Lat Deg x Lat Min/Sec x
still Required Long Deg x Long Min/Sec x

Tax Parcel No. 1222049053
Cased or Uncased Diameter 1 1/2" Stage Level 4
Work/Decommission Start Date 5/17/2011

Work/Decommission Completed Date 5/23/2011
If trained, licensed driller:
Signature and License No.



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

22-4E120

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE13252

Construction/Decommission
Construction
 Decommission (ORIGINAL INSTALLATION Notice of Intent Number RE05882)

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle
Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

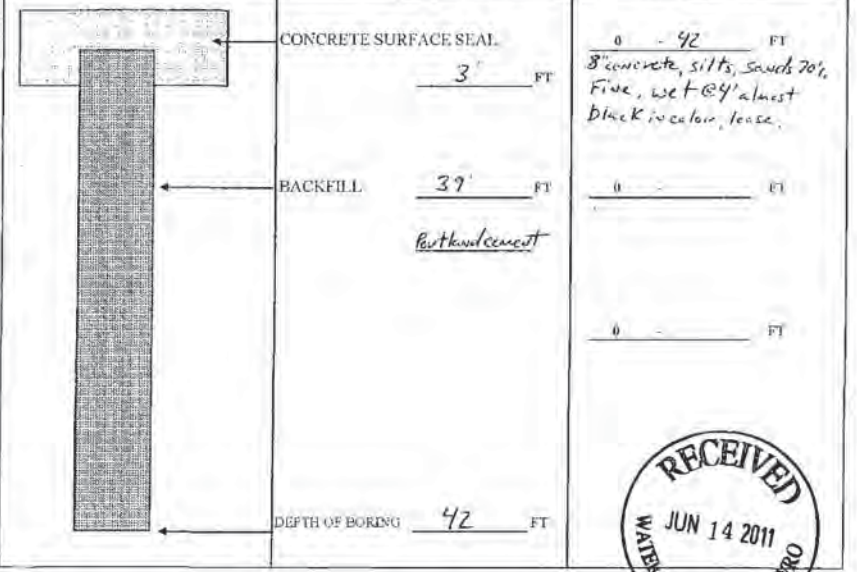
Unique Ecology Well ID
Tag No. BHB425
Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E (EWM) (WWM)

Lat/Long (N/E) Lat Deg s Lat Min/Sec s
still Required) Long Deg s Long Min/Sec s
Tax Parcel No. 1222049053

Driller Trainee Name (Print) Elijah Floyd
Driller/Trainee Signature Eli Floyd
Driller/Trainee License No. 2842

Cased or Uncased Diameter 1 1/2 State Level 4'
Work/Decommission Start Date 5/17/2011
Work/Decommission Completed Date 5/23/2011

If trainee, licensed drillers' Signature and License No.



22-4E120

RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE13252

Construction/Decommission
Construction
 Decommission (ORIGINAL INSTALLATION Notice of Intent Number RE05882)

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES Environmental-Seattle
Property Owner Univar
Site Address 8201 S. 212th St.
City Kent County 17-King

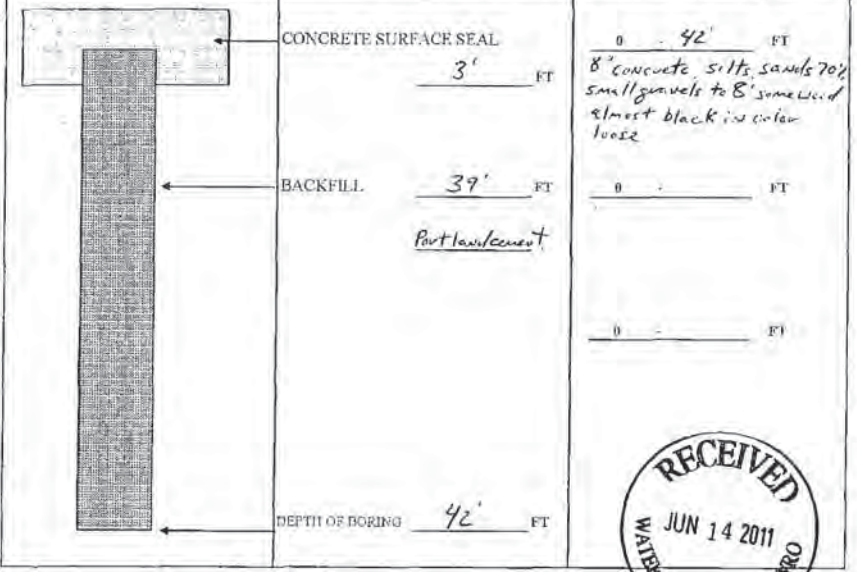
Unique Ecology Well ID
Tag No. BHB426
Location 1/4 NW 1/4 NW Sec 12 Town 22N R4E (EWM) (WWM)

Lat/Long (N/E) Lat Deg s Lat Min/Sec s
still Required) Long Deg s Long Min/Sec s
Tax Parcel No. 1222049053

Driller Trainee Name (Print) Elijah Floyd
Driller/Trainee Signature Eli Floyd
Driller/Trainee License No. 2842

Cased or Uncased Diameter 1 1/2 State Level 4'
Work/Decommission Start Date 5/17/2011
Work/Decommission Completed Date 5/24/2011

If trainee, licensed drillers' Signature and License No.



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-12 D

CURRENT

Notice of Intent No. SE08820

Construction/Decommission 400568

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES ENVIRONMENTAL

Property Owner Univac
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. N/A

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E

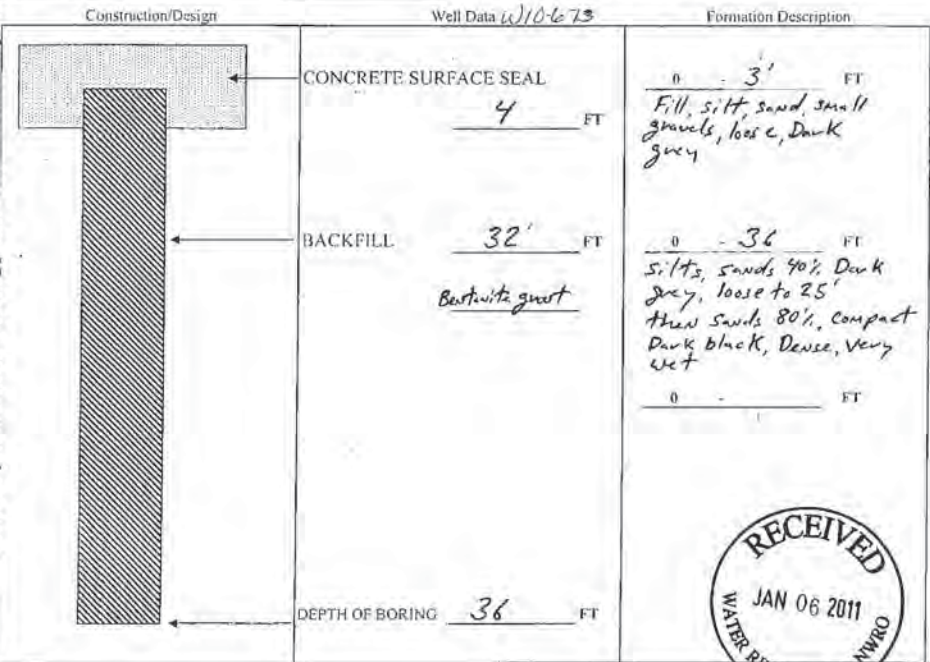
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and in compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Elijah Floyd
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2842

Cased or Uncased Diameter 3/4 Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 12/8/2010
 Work/Decommission Completed Date 12/8/2010



The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-12 D

CURRENT

Notice of Intent No. AE11681

Construction/Decommission 400569

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number SE08820

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES ENVIRONMENTAL

Property Owner Univac
 Site Address 8201 S. 212th St.
 City Kent County King

Unique Ecology Well ID
 Tag No. N/A

Location 1/4 NW 1/4 NW Sec 12 Twn 22N R 4E

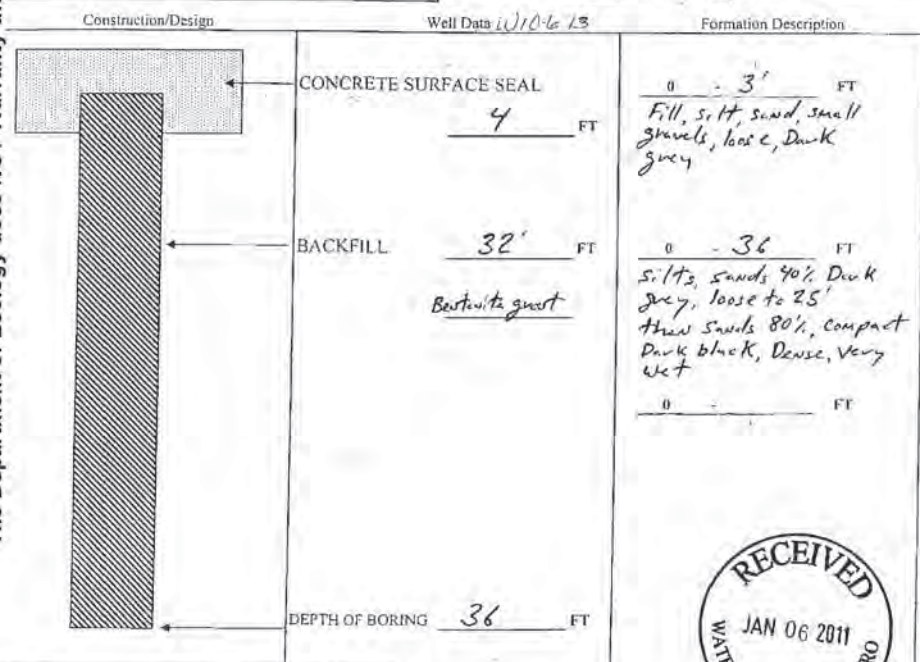
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and in compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Elijah Floyd
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2842

Cased or Uncased Diameter 3/4 Static Level 8'

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 12/8/2010
 Work/Decommission Completed Date 12/8/2010



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-2D

CURRENT

Notice of Intent No. 5E0967

Construction/Decommission 466446

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Tanivan

Site Address 8201 S. 212th St.

City Kent County King

Location 1/4 NW 1/4 N4 Sec 12 Twn 22 R 4E

Lat/Long (S, L, R) Lat Deg 46 Lat Min/Sec 4

Long Deg 122 Long Min/Sec 4

Tax Parcel No.

Cased or Uncased Diameter 3 1/4" Static Level -

Work/Decommission Start Date 1-3-11

Work/Decommission Completed Date 1-3-11

Consulting Firm PES Environmental

Unique Ecology Well ID

Tag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

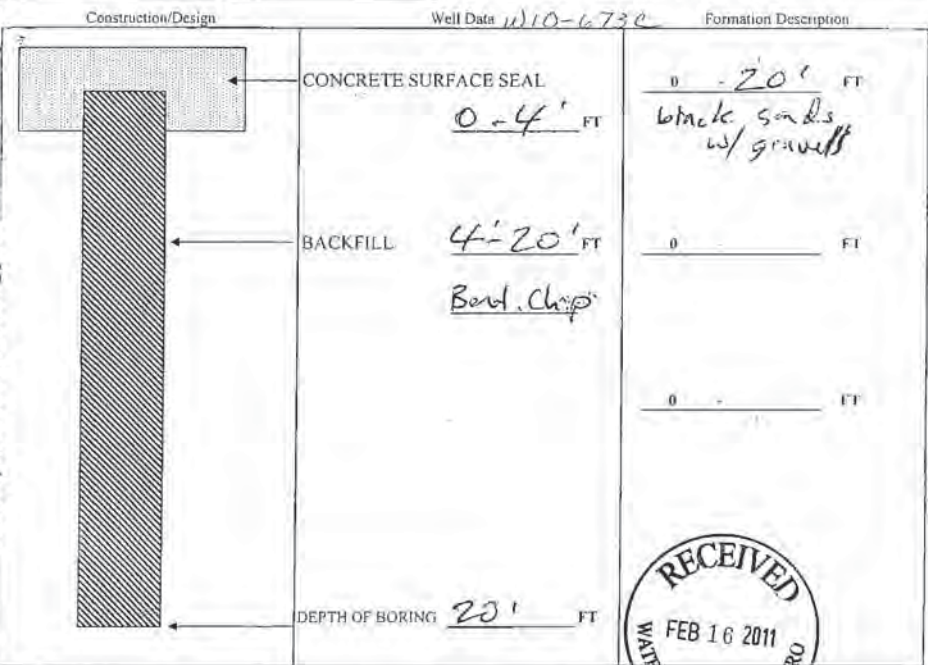
Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2965

If trainee, licensed driller's

Signature and License No.



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-2D

CURRENT

Notice of Intent No. 5E0967

Construction/Decommission 406447

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number

Type of Well

Resource Protection

Geotechnical Soil Boring

Property Owner Tanivan

Site Address 8201 S. 212th St.

City Kent County King

Location 1/4 NW 1/4 N4 Sec 12 Twn 22 R 4E

Lat/Long (S, L, R) Lat Deg 46 Lat Min/Sec 4

Long Deg 122 Long Min/Sec 4

Tax Parcel No.

Cased or Uncased Diameter 3 1/4" Static Level -

Work/Decommission Start Date 1-4-11

Work/Decommission Completed Date 1-4-11

Consulting Firm PES

Unique Ecology Well ID

Tag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

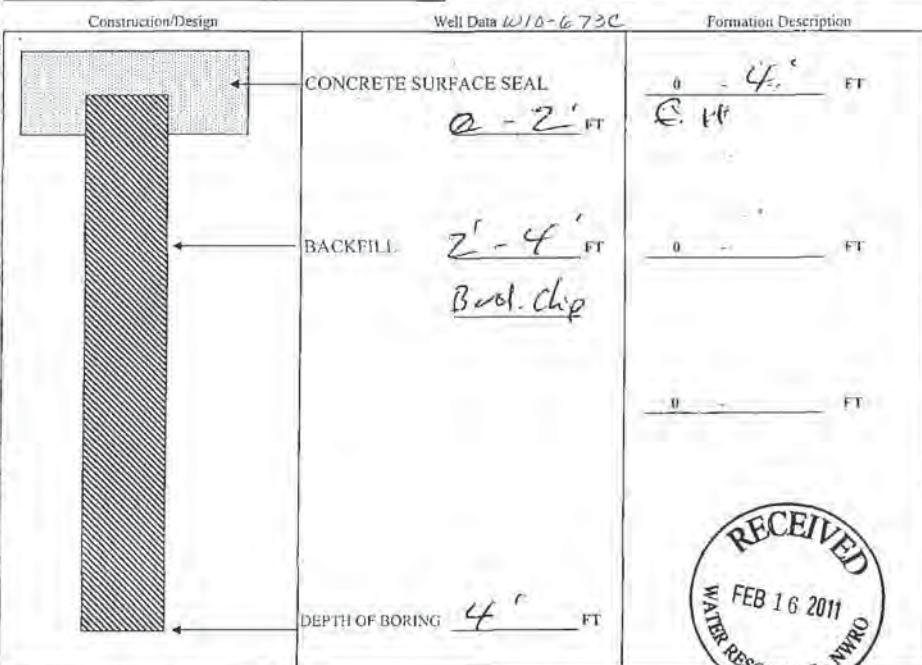
Driller Trainee Name (Print) Steve Stivers

Driller/Trainee Signature [Signature]

Driller/Trainee License No. 2965

If trainee, licensed driller's

Signature and License No.



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-120

CURRENT

Notice of Intent No. SEA9007

Construction/Decommission 406448

Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

Consulting Firm ~~PES~~ PES

Unique Ecology Well ID Tag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stewart
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

If trainee, licensed drillers' Signature and License No. _____

Property Owner T. Brown
 Site Address 8201 S. 215th St.
 City Kent County King

Location 1/4 NW 1/4 N2 Sec 12 Twn 22N R 4E EWM

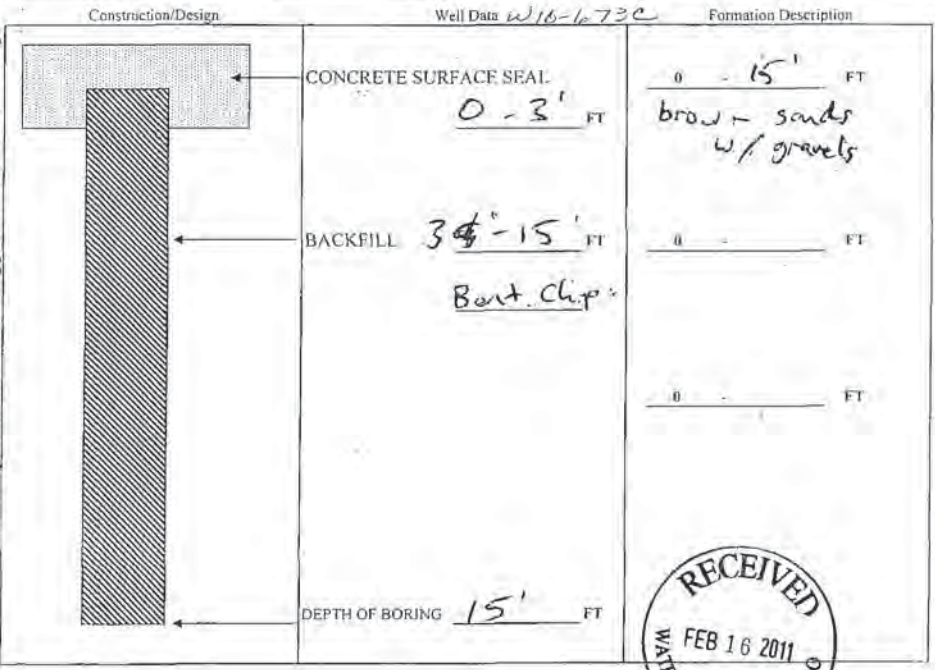
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 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 3 1/4" Static Level _____

Work/Decommission Start Date 1-4-11

Work/Decommission Completed Date 1-4-11



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warrant the Data and/or the information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

22-4E-120

CURRENT

Notice of Intent No. AE11955

Construction/Decommission 406449

Decommission ORIGINAL INSTALLATION Notice of Intent Number SEA9007

Consulting Firm PES Environmental

Unique Ecology Well ID Tag No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Trainee Name (Print) Steve Stewart
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

If trainee, licensed drillers' Signature and License No. _____

Property Owner T. Brown
 Site Address 8201 S. 215th St.
 City Kent County King

Location 1/4 NW 1/4 N2 Sec 12 Twn 22 R 4E EWM

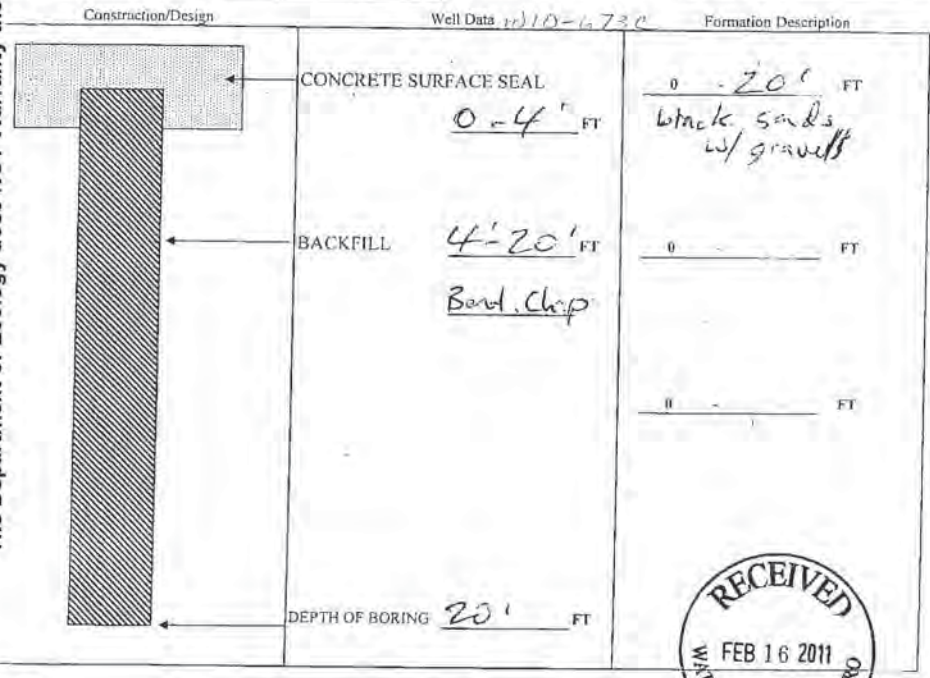
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 still Required) Long Deg x Long Min/Sec x

Tax Parcel No. _____

Cased or Uncased Diameter 3 1/4" Static Level _____

Work/Decommission Start Date 1-3-11

Work/Decommission Completed Date 1-3-11



Scale 1" = _____ Page _____ of _____



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE11955

22-4E-12D

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE09007

406450

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES

Property Owner Thimmas
 Site Address 8001 S 212th St
 City Kent County King

Unique Ecology Well ID
 Tag No. N/A

Location 1/4 NW 1/4 Sec 12 Twn 22N R 4E

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

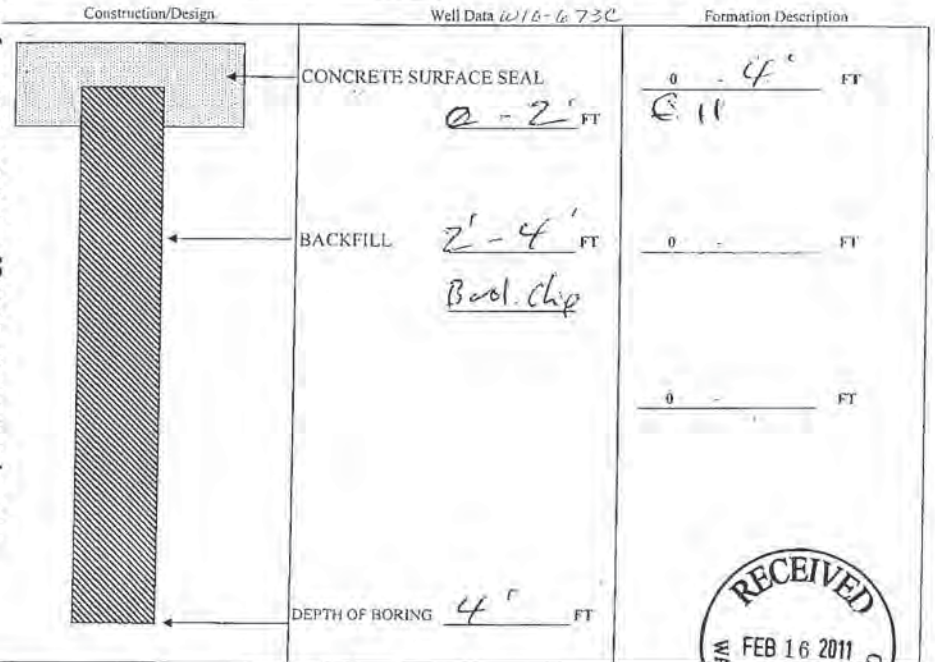
Lat/Long (s,r) Lat Deg x Lat Min/Sec x
 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Steve Stival
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 3 1/4" Static Level -

If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 1-4-11
 Work/Decommission Completed Date 1-4-11



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. AE11955

22-4E-12D

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice
 of Intent Number SE09007

406451

Type of Well
 Resource Protection
 Geotechnical Soil Boring

Consulting Firm PES

Property Owner Thimmas
 Site Address 8001 S 212th St
 City Kent County King

Unique Ecology Well ID
 Tag No. N/A

Location 1/4 NW 1/4 Sec 12 Twn 22N R 4E

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

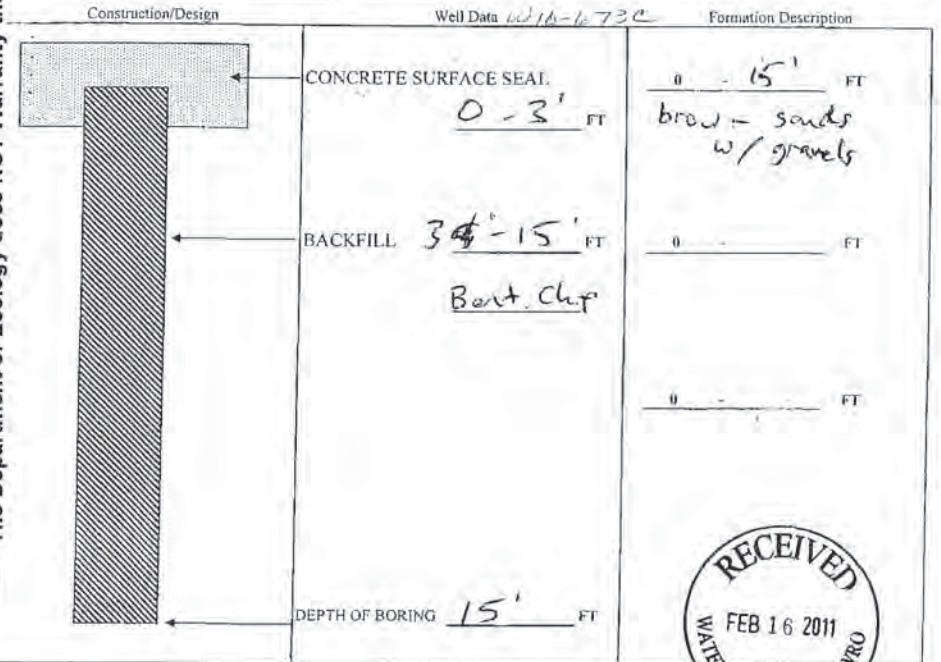
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 still Required) Long Deg x Long Min/Sec x

Driller Trainee Name (Print) Steve Stival
 Driller/Trainee Signature [Signature]
 Driller/Trainee License No. 2965

Tax Parcel No. _____
 Cased or Uncased Diameter 3 1/4" Static Level -

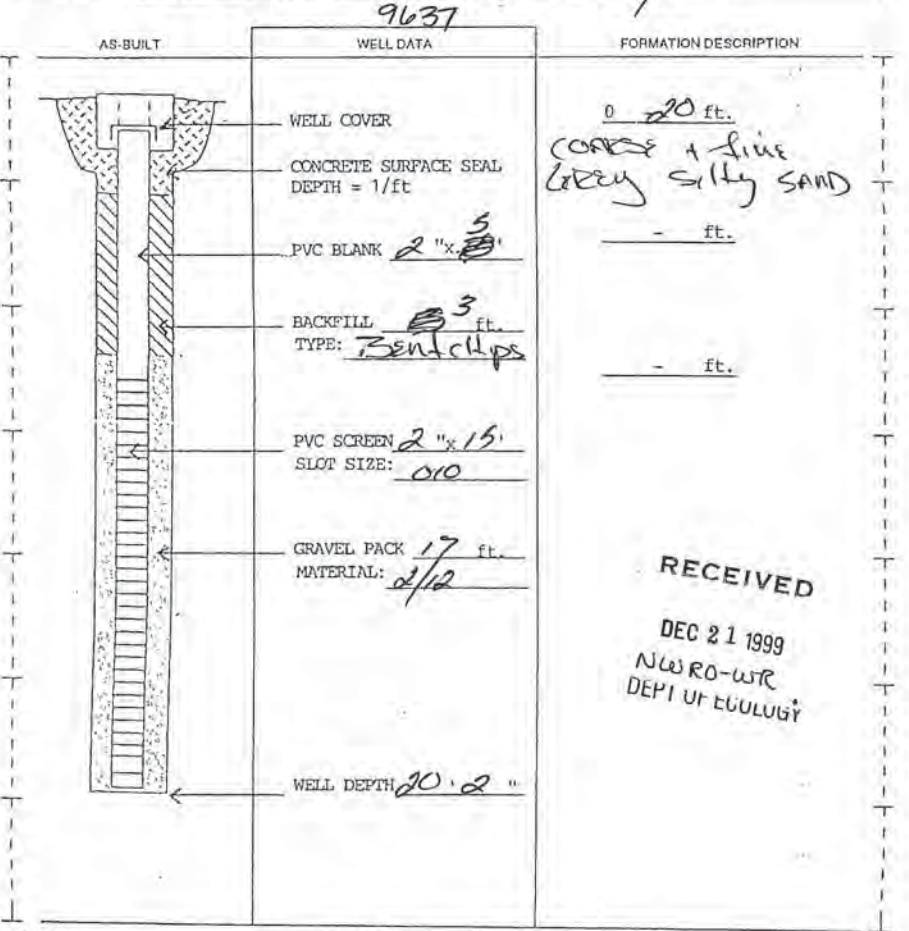
If trainee, licensed drillers' Signature and License No. _____

Work/Decommission Start Date 1-4-11
 Work/Decommission Completed Date 1-4-11

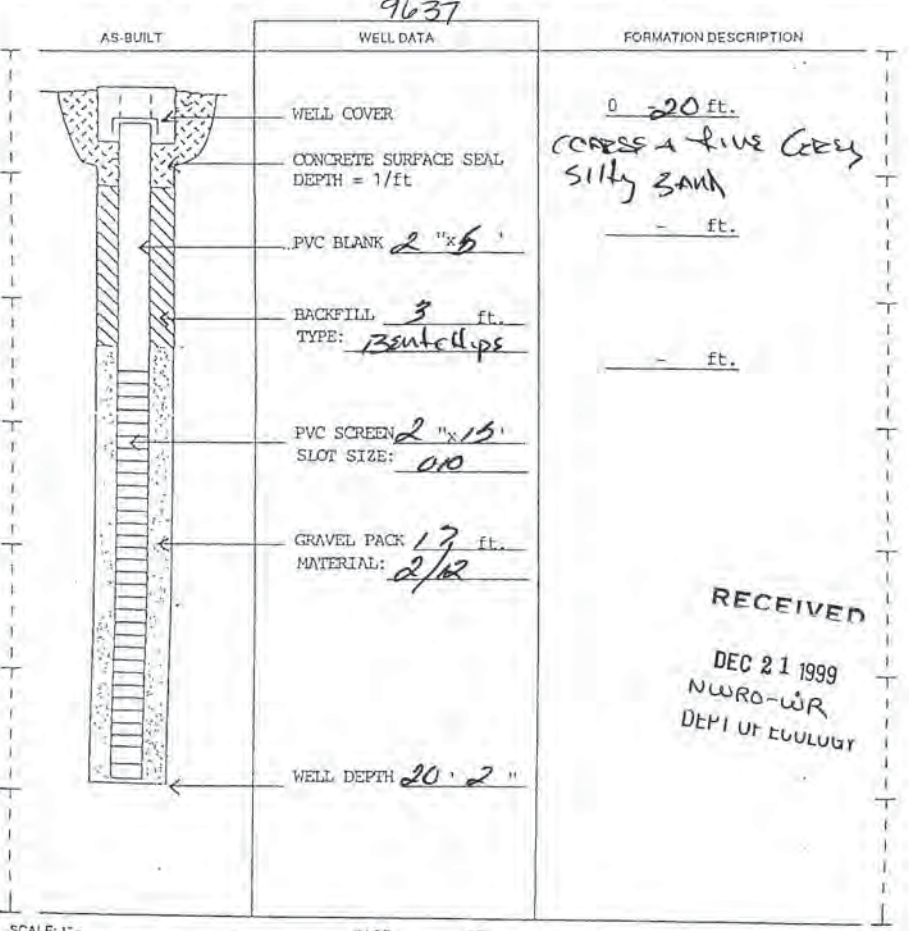


The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

118765 RESOURCE PROTECTION WELL REPORT **ENTERED**
 22-4E-1E START CARD NO. R44458
 PROJECT NAME: U.S. WEST-KENT GARAGE COUNTY: KING
 WELL IDENTIFICATION NO. AFG-362 LOCATION: SW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL:
 DRILLER: Steve Hughes 19616-68th Ave S Kent
 FIRM: Cascade Drilling, Inc. WATER LEVEL ELEVATION: 15
 SIGNATURE: [Signature] GROUND SURFACE ELEVATION: N/A
 CONSULTING FIRM: AGRA E&E INSTALLED: 11/17/99
 REPRESENTATIVE: Dec Gardiner DEVELOPED: [Signature]



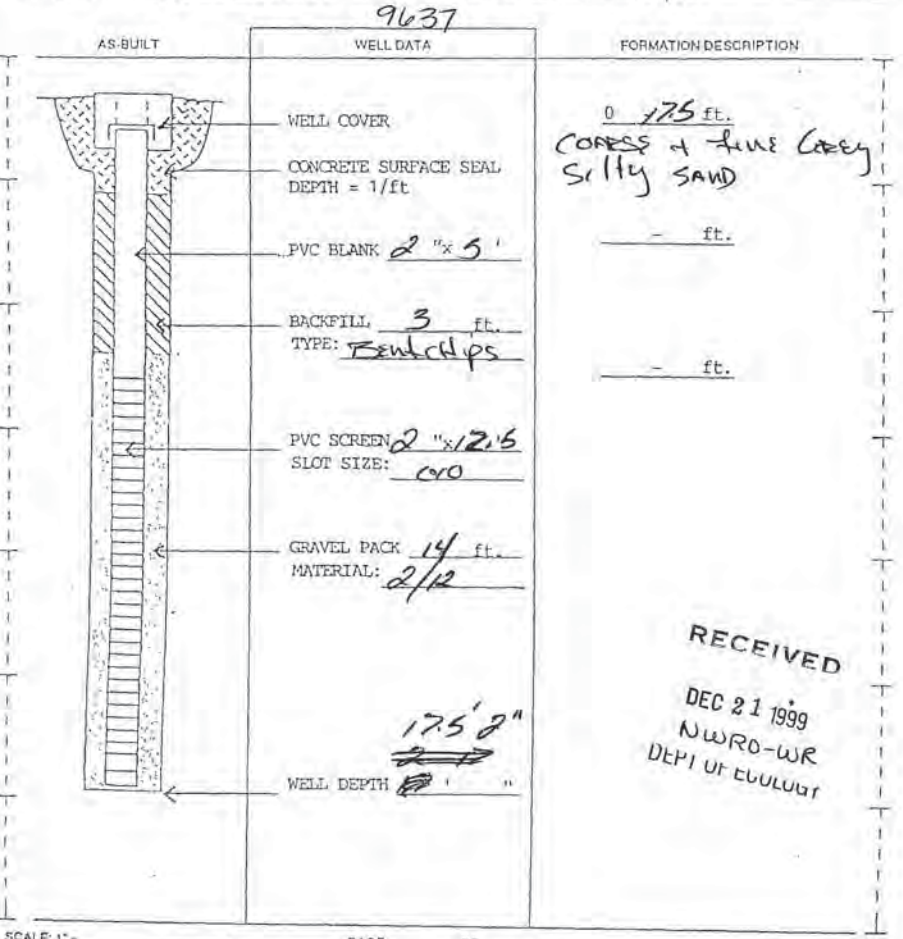
118767 RESOURCE PROTECTION WELL REPORT **ENTERED**
 22-4E-1E START CARD NO. R44458
 PROJECT NAME: U.S. WEST-KENT GARAGE COUNTY: KING
 WELL IDENTIFICATION NO. AFG-364 LOCATION: SW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL:
 DRILLER: Steve Hughes 19616-68th Ave S Kent
 FIRM: Cascade Drilling, Inc. WATER LEVEL ELEVATION: 15
 SIGNATURE: [Signature] GROUND SURFACE ELEVATION: N/A
 CONSULTING FIRM: AGRA E&E INSTALLED: 11/17/99
 REPRESENTATIVE: Dec Gardiner DEVELOPED: [Signature]



The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

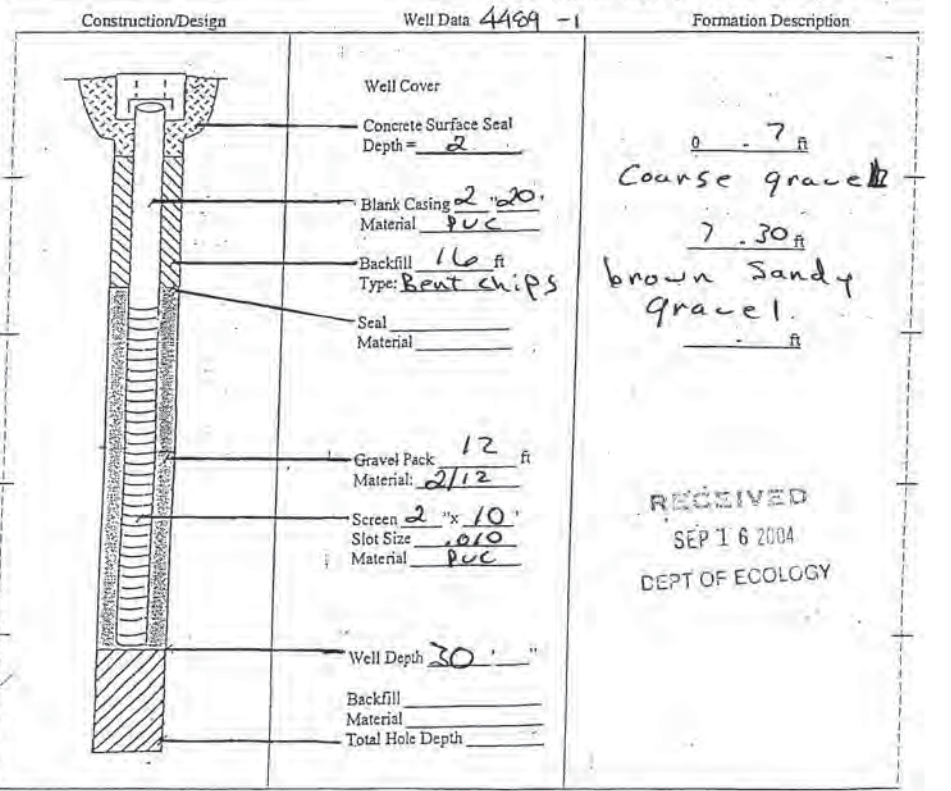
11-8-766
RESOURCE PROTECTION WELL REPORT **ENTERED**
 22-4E-1E START CARD NO. R41458
 PROJECT NAME: U.S. WEST-KENT GARAGE COUNTY: KING
 WELL IDENTIFICATION NO. AFG 363 LOCATION: SW 1/4 NW 1/4 Sec 1 Twn 22N R 4E
 DRILLING METHOD: HSA STREET ADDRESS OF WELL: 19616-68th AVE S, Kent
 DRILLER: Steve Hughes WATER LEVEL ELEVATION: 15
 FIRM: Cascade Drilling, Inc. GROUND SURFACE ELEVATION: N/A
 SIGNATURE: [Signature] INSTALLED: 11/17/99
 CONSULTING FIRM: AGRA E&E DEVELOPED: N/A
 REPRESENTATIVE: Dec Gardiner



SCALE: 1" = _____ PAGE _____ OF _____
 ECY 050-12 (Rev 11/03)

RESOURCE PROTECTION WELL REPORT Notice of Intent No. R 66331
 (SUBMIT ONE WELL REPORT PER WELL INSTALLED) 22-4E-2F

Construction/Decommission ("x" in circle) 155824
 Construction
 Decommission Original Construction Notice of Intent Number MW-8
 Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring
 Property Owner Vacant Lot Site Address S. 20th St & Frager Rd
 Unique Ecology Well ID Tag No. AKB 923 City Kent County: King
 Consulting Firm Fardhan Location SE 1/4-1/4 NW 1/4 Sec 2 Twn 22N R 4E or one WWM
 Driller or Trainee Name Scott Krueger Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
 Driller or Trainee Signature [Signature] Long Deg _____ Long Min/Sec _____
 Driller or Trainee License No. 2073 Tax Parcel No. _____
 If trainee, licensed driller's Signature and License no. _____
 Cased or Uncased Diameter 2" Static Level: 7
 Work/Decommission Start Date 8/12/04
 Work/Decommission Completed Date 8/12/04



SCALE: 1" = _____ PAGE _____ OF _____
 ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT warrant the Data and/or the Information on this Well Report.

ENTERED

RESOURCE PROTECTION WELL REPORT

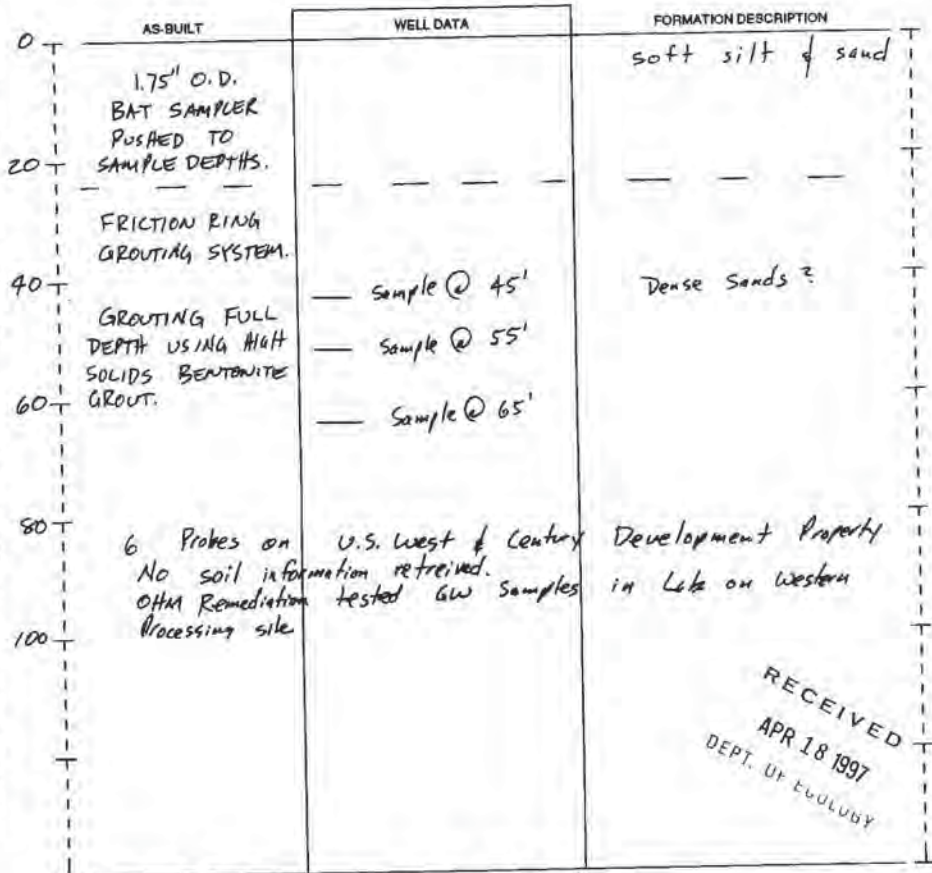
22-4-1 E

A 02549

START CARD NO. R 26166

PROJECT NAME: WESTERN PROCESSING
WELL IDENTIFICATION NO. PROBES #1-6
DRILLING METHOD: DIRECT PUSH
DRILLER: KEITH BROWN
FIRM: NORTHWEST CONE EXPLORATION
SIGNATURE: Keith Brown
CONSULTING FIRM: OHM REMEDIATION
REPRESENTATIVE: JIM BET-LANDAU

COUNTY: KING
LOCATION: SW 1/4 NW 1/4 Sec 1, Twn 22N R 4E
STREET ADDRESS OF WELL: 7190 SOUTH 196th ST
WATER LEVEL ELEVATION: UNKNOWN ~ ABOUT 12'
GROUND SURFACE ELEVATION: UNKNOWN
INSTALLED: 3-20-97
DEVELOPED: 3-20-97



SCALE: 1" = 20'

PAGE 1 OF 1

ECY 080-12 (Rev. 11/89)

RECEIVED APR 18 1997 DEPT. OF ECOLOGY

WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

Start Card # 22178

(1) OWNER/PROJECT: WELL NO. RP-18
Name: Western Processing
Address: 20015 72nd AVE. SO.
City: Kent WA 98022

(6) LOCATION OF WELL By legal description

Well Location: County King
Township 22 (N of S) Range 4 (E of W) Section 1
1. SW 1/4 of NW 1/4 of above section.
2. Either Street address of well location 20015 72nd AVE. SO., Kent, Wa.

(2) TYPE OF WORK.

[X] New construction [] Alteration (Repair/Recondition)
[] Conversion [] Deepening [] Abandonment

(3) DRILLING METHOD

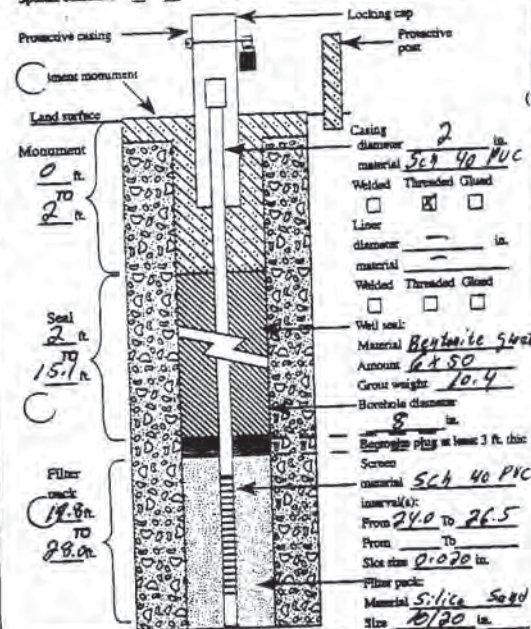
[] Rotary Air [] Rotary Mud [X] Cable
[] Hollow Stem Auger [] Other

(7) STATIC WATER LEVEL:

8 Ft. below land surface. Date 7/14/97
Artesian Pressure (lb./sq. in.) (lb./sq. in.)

(4) BORE HOLE CONSTRUCTION

Special Standards Yes No Depth of completed well 26.5' ft.



(8) WATER BEARING ZONES:

Table with columns: From, To, Est. Flow Rate, SWL. Row 1: 20, 27, 2 gpm, 8

(9) WELL LOG:

Table with columns: Material, From, To, SWL. Rows include: Medium sand (0-5), Silt (5-20), Sand, medium-pine with silt layers (20-27), Silt (27-27.5), Bentonite grout (27.5-31), Gravel (31-49.20)

(5) WELL TEST:

[] Pump [] Bailer [] Air [] Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water *FC Depth artesian flow found ft.
Was water analysis done? Yes No
By whom?
Depth of strata to be analyzed. From ft to ft
Remarks:

Date started 7/14/97 Completed 7/15/97

Name of supervising Geologist/Engineer Jim Bet
ORIGINAL & FIRST COPY Dept of Ecology

Signature: Jim Bet Date: 7/15/97
SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

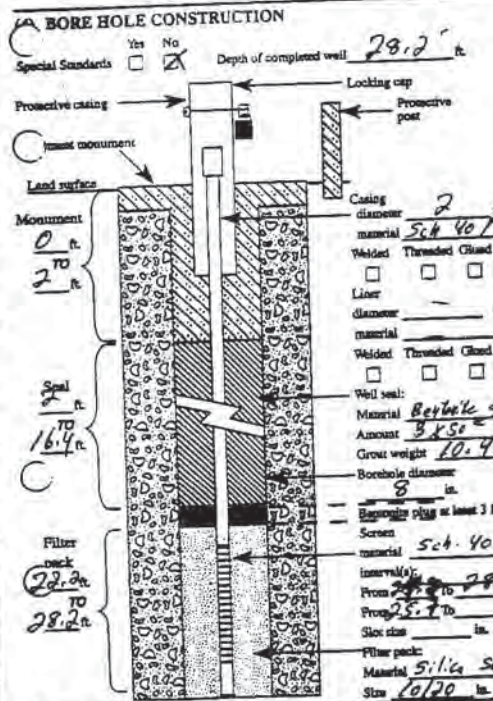
WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

Start Card # 22178

(1) OWNER/PROJECT: WELL NO. M-58
Name: Western Processings
Address: 20015 72nd AVE. So.
City: Kent State WA - Zip 98022

(2) TYPE OF WORK:
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

(3) DRILLING METHOD:
 Rotary Air
 Rotary Mud
 Cable
 Hollow Stem Auger
 Other



(5) WELL TEST:
 Pump
 Bailer
 Air
 Flowing Artesian
Permeability: _____ Yield: _____ GPM
Conductivity: _____ PH: _____
Temperature of water: _____ °F/C
Depth artesian flow found: _____ ft.
Was water analysis done? Yes No
By whom? _____
Depth of screen to be analyzed: From _____ ft to _____ ft
Remarks: _____

Name of supervising Geologist/Engineer: JIM Bet
ORIGINAL & FIRST COPY Dept of Ecology

(6) LOCATION OF WELL By legal description
Well Location: County King
Township 22 (N or S) Range 4 (E or W) Section 1
1. SW 1/4 of NW 1/4 of above section.
2. Either Street address of well location 20015 72nd AVE. So., Kent, Wa.
or Tax lot number of well location

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow. OPTIONAL

(7) STATIC WATER LEVEL:
8 ft. below land surface. Date 7/17/97
Artesian Pressure lb/sq. in. _____ Date _____

(8) WATER BEARING ZONES:
Depth at which water was first found 8'

From	To	Est. Flow Rate	SWL
8'	9'	2 gpm	8'

(9) WELL LOG: Ground elevation 216'

Material	From	To	SWL
Sand, silty	0	9	8
Silt, sandy-brown	9	21	8
Sand, medium-fine with silt layers	21	27	

Date started 7/17/97
Completed 7/17/97
Signed [Signature] Date 7/30/97
SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

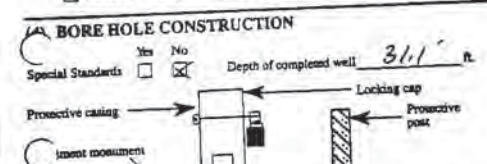
WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

Start Card # 22178

(1) OWNER/PROJECT: WELL NO. S-16
Name: Western Processings
Address: 20015 72nd AVE. So.
City: Kent State WA - Zip 98022

(2) TYPE OF WORK:
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

(3) DRILLING METHOD:
 Rotary Air
 Rotary Mud
 Cable
 Hollow Stem Auger
 Other



(9) WELL LOG: Ground elevation 216'

Material	From	To	SWL
gravel, sandy fine sand	0	8	8
sand, medium-fine with silt layers	8	21	8
	21	30	

(5) WELL TEST:
 Pump
 Bailer
 Air
 Flowing Artesian
Permeability: _____ Yield: _____ GPM
Conductivity: _____ PH: _____
Temperature of water: _____ °F/C
Depth artesian flow found: _____ ft.
Was water analysis done? Yes No
By whom? _____
Depth of screen to be analyzed: From _____ ft to _____ ft
Remarks: _____

Name of supervising Geologist/Engineer: JIM Bet
ORIGINAL & FIRST COPY Dept of Ecology

(6) LOCATION OF WELL By legal description
Well Location: County King
Township 22 (N or S) Range 4 (E or W) Section 1
1. SW 1/4 of NW 1/4 of above section.
2. Either Street address of well location 20015 72nd AVE. So., Kent, Wa.
or Tax lot number of well location

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow. OPTIONAL

(7) STATIC WATER LEVEL:
8 ft. below land surface. Date 7/17/97
Artesian Pressure lb/sq. in. _____ Date _____

(8) WATER BEARING ZONES:
Depth at which water was first found 8'

From	To	Est. Flow Rate	SWL
8'	31.5'	3 gpm	8'

(9) WELL LOG: Ground elevation 216'

Material	From	To	SWL
gravel, sandy fine sand	0	8	8
sand, medium-fine with silt layers	8	21	8
	21	30	

Date started 7/17/97
Completed 7/17/97
Signed [Signature] Date 7/30/97
SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

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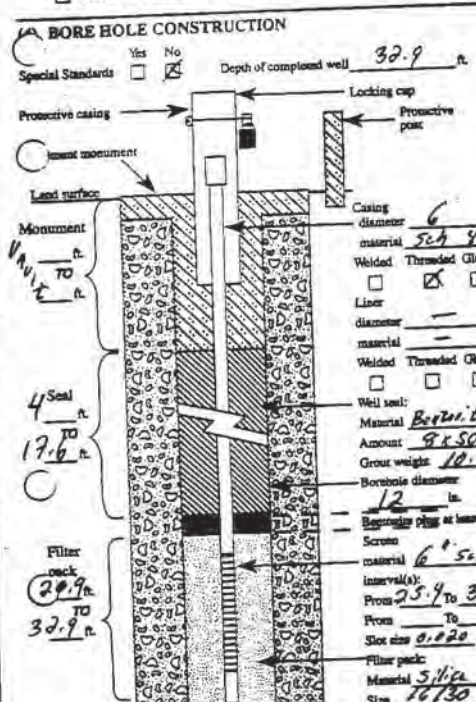
WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

Street Card # 22178

(1) OWNER/PROJECT: WELL NO. 5-17 Name: Western Processing Address: 20015 72nd AVE. SO. City: Kent WA 98022

(2) TYPE OF WORK: New construction Conversion Alteration (Repair/Recondition) Deepening Abandonment

(3) DRILLING METHOD: Rotary Air Rotary Mud Cable Hollow Stem Auger Other



(5) WELL TEST: Pump Beiler Flowing Artesian Permeability Yield Conductivity PH Temperature of water Depth artesian flow found

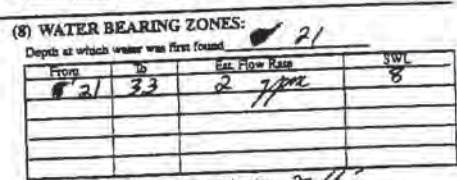
Name of supervising Geologist/Engineer: Jim Bact Date: 7/10/97

(6) LOCATION OF WELL By legal description

Well Location: County King Township 22 (by S) Range 4 (by W) Section 1 SW 1/4 of NW 1/4 of above section. 2. Either Street address of well location 20015 72nd AVE. SO., Kent, Wa.

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximations scale and north arrow. OPTIONAL

(7) STATIC WATER LEVEL: 8 Ft. below land surface Date: 7/10/97



(9) WELL LOG: Ground elevation ~16'. Material log showing layers of silt and sand with casing depth markers from 0 to 33 ft.

Date started: 7/4/97 Completed: 7/10/97

WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

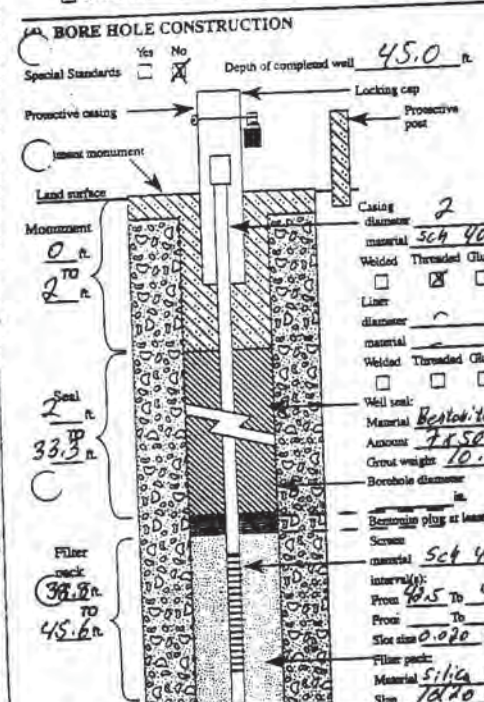
Street Card # 22178

22-4-1E

(1) OWNER/PROJECT: WELL NO. P-57 Name: Western Processing Address: 20015 72nd AVE. SO. City: Kent WA 98022

(2) TYPE OF WORK: New construction Conversion Alteration (Repair/Recondition) Deepening Abandonment

(3) DRILLING METHOD: Rotary Air Rotary Mud Cable Hollow Stem Auger Other



(5) WELL TEST: Pump Beiler Flowing Artesian Permeability Yield Conductivity PH Temperature of water Depth artesian flow found

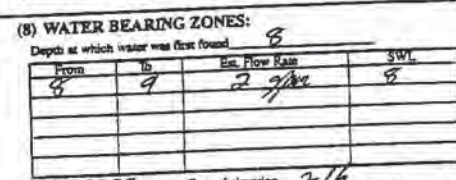
Name of supervising Geologist/Engineer: Jim Bact Date: 7/16/97

(6) LOCATION OF WELL By legal description

Well Location: County King Township 22 (by S) Range 4 (by W) Section 1 SW 1/4 of NW 1/4 of above section. 2. Either Street address of well location 20015 72nd AVE. SO., Kent, Wa.

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximations scale and north arrow. OPTIONAL

(7) STATIC WATER LEVEL: 8 Ft. below land surface Date: 7/16/97



(9) WELL LOG: Ground elevation ~16'. Material log showing layers of silt and sand with casing depth markers from 0 to 30 ft.

Date started: 7/16/97 Completed: 8/16/97

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

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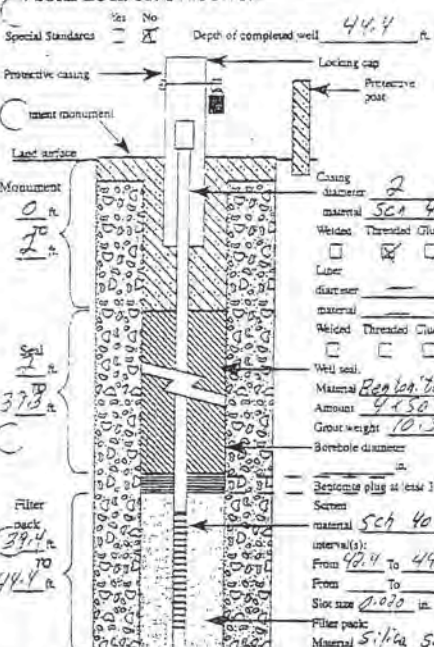
Start Card # R 2217

(1) OWNER/PROJECT: WELL NO. P2-53
 Name Weston Processing
 Address 20015 73rd Ave So
 City Kent Site W-1 Zip 98032

(2) TYPE OF WORK.
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

(3) DRILLING METHOD
 Rotary Air
 Hollow Stem Auger
 Rotary Mud
 Rotary Mole
 Cable
 Other

(4) BORE HOLE CONSTRUCTION



(5) WELL TEST:
 Pump
 Bailer
 Air
 Flowing Artesian
 Permeability _____ Yield _____ GPM
 Conductivity _____ PH _____
 Temperature of water _____ °F/C
 Depth artesian flow found _____ ft
 Was water analysis done? Yes No
 By whom?
 Depth of strata to be analyzed: From _____ ft to _____ ft
 Remarks:

(6) LOCATION OF WELL By legal description
 Well Location: County King
 Township 22 (R or S) Range 4 (E or W) Section 1
 1. SW 1/4 of NW 1/4 of above section.
 2. Either Street address of well location 20015 73rd Ave So or Tax lot number of well location Kent, wa

(7) STATIC WATER LEVEL:
 _____ ft. below land surface. Date 6/17/97
 Artesian Pressure _____ lb/sq. in.

(8) WATER BEARING ZONES:
 Depth at which water was first found: 19

From	To	Est. Flow Rate	SWL
19	25	2 gpm	5

(9) WELL LOG: Ground elevation 215

Material	From	To	SWL
gravel - sandy	0	3	
silt, brown, sandy	3	14	
sand fine, med. sm with silt layers	14	25	5
silt clay	25	35	
silt, medium	35	44.4	

Date started 6/10/97 Completed 6/17/97
 Signed James Vignati Date 7/3/79
 0987

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

ENTERED

12214

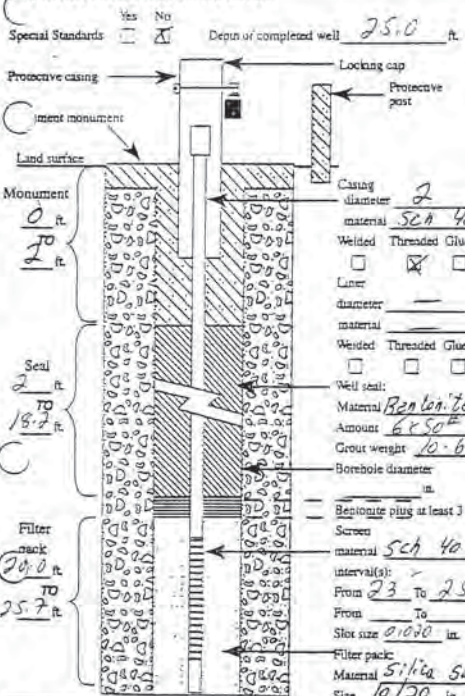
Start Card # R 22177

(1) OWNER/PROJECT: WELL NO. P2-44
 Name Weston Processing
 Address 20015 73rd Ave So
 City Kent Site W-1 Zip 98032

(2) TYPE OF WORK.
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

(3) DRILLING METHOD
 Rotary Air
 Hollow Stem Auger
 Rotary Mud
 Rotary Mole
 Cable
 Other

(4) BORE HOLE CONSTRUCTION



(5) WELL TEST:
 Pump
 Bailer
 Air
 Flowing Artesian
 Permeability _____ Yield _____ GPM
 Conductivity _____ PH _____
 Temperature of water _____ °F/C
 Depth artesian flow found _____ ft
 Was water analysis done? Yes No
 By whom?
 Depth of strata to be analyzed: From _____ ft to _____ ft
 Remarks:

(6) LOCATION OF WELL By legal description
 Well Location: County King
 Township 22 (R or S) Range 4 (E or W) Section 1
 1. SW 1/4 of NW 1/4 of above section.
 2. Either Street address of well location 20015 73rd Ave So or Tax lot number of well location Kent, wa

(7) STATIC WATER LEVEL:
 _____ ft. below land surface. Date 6/14/97
 Artesian Pressure _____ lb/sq. in.

(8) WATER BEARING ZONES:
 Depth at which water was first found: 15

From	To	Est. Flow Rate	SWL
15	26	2 gpm	5

(9) WELL LOG: Ground elevation 216

Material	From	To	SWL
gravel - sandy	0	6	
silt, brown, sandy	6	15	
sand fine, med. sm with silt layers	15	26	5

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 FEB 23 2000
 DEPT OF ECOLOGY

Date started 6/10/97 Completed 6/17/97
 Signed James Vignati Date 7/3/79
 0987

Date started 6/10/97 Completed 6/17/97
 Signed James Vignati Date 7/3/79
 0987

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WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

22-4E-1E
Start Card # R 22177

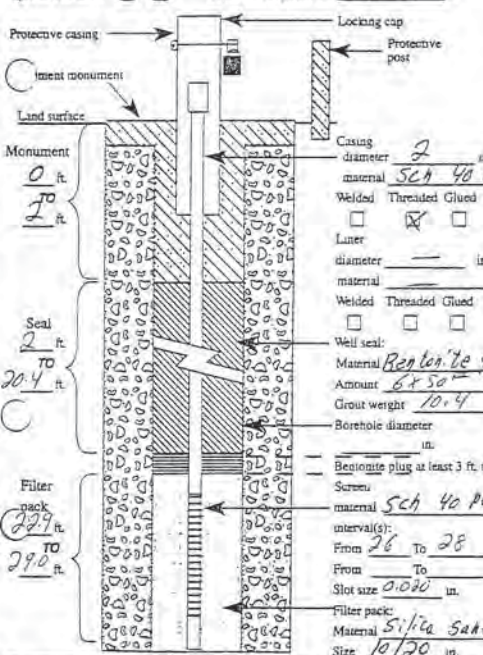
12215
12215
ENTERED
(1) OWNER/PROJECT: WELL NO. P22177
Name: Western Processing
Address: 20015 72nd Ave So.
City: Kent State: WA Zip: 98032

(2) TYPE OF WORK:
 New construction
 Conversion
 Alteration (Repair/Recondition)
 Deepening
 Abandonment

(3) DRILLING METHOD:
 Rotary Air
 Rotary Mud
 Cable
 Hollow Stem Auger
 Other

(4) BORE HOLE CONSTRUCTION

Special Standards: Yes No
Depth of completed well: 28.0 ft



(5) WELL TEST:
 Pump
 Bailer
 Air
 Flowing Artesian
Permeability: Yield: GPM
Conductivity: PH
Temperature of water: °F/C Depth artesian flow found: ft
Was water analysis done? Yes No
By whom?
Depth of strata to be analyzed: From: ft to: ft
Remarks:

Name of supervising Geologist/Engineer: Jim Bet
Signed: James V... Date: 7/31/97

(6) LOCATION OF WELL: By legal description
Well location: County: King
Range: 4 (E or W) Section: 1
SW 1/4 of NW 1/4 of above section.
2. Either Street address of well location: 20015 72nd Ave So. Kent, WA
or Tax lot number of well location:

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow. OPTIONAL

(7) STATIC WATER LEVEL:
8 Ft. below land surface. Date: 6/20/97
Artesian Pressure: lb/sq. in. Date:

(8) WATER BEARING ZONES:

Depth at which water was first found: 14'

From	To	Est. Flow Rate	SWL
14	28	2 gpm	5

(9) WELL LOG:

Material	From	To	SWL
gravel sand	0	8	
silt, clay, sandy	8	14	
sandy silt, clay with silt layers	14	28	5

Date started: 6/10/97 Completed: 6/20/97
Signed: James V... Date: 7/31/97

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

468333

RESOURCE PROTECTION WELL REPORT CURRENT Notice of Intent No. AE19354

Please print, sign and return to the Department of Ecology
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)
Construction/Decommission ("x" in box)
 Construction
 Decommission
Type of Well ("x" in box)
 Resource Protection
 Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number:
Property Owner: Western Processing
Site Address: End of 72 Ave so
City: Kent County: King
Unique Ecology Well ID Tag No.: Landau Associated, Inc.
Location: SW 1/4-1/4 NW 1/4 Sec 1 Twn 22 N R 4

WELL CONSTRUCTION CERTIFICATION: I, constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
Name (Print Last, First Name): Hansen, Eric
Driller/Engineer / Trainee Signature
Driller or Trainee License No.: 0710

If trainee, licensed driller's Signature and License Number:
C. Hansen 0710

Construction Design Well Data Formation Description

		Formation Description well ID: 5M4D well depth: 145' 4" pvc Well was drilled to state standards according to well log and abandoned with 75 gallons of grout.
		RECEIVED FEB 23 2008 DEPT OF ECOLOGY RECEIVED NOV 07 2012 DEPT OF ECOLOGY NWRO WR

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

468334

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
 Decommission

ORIGINAL INSTALLATION Notice of Intent Number: _____

Consulting Firm Landau Associates, Inc.

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name) Hansen, Eric
 Driller/Engineer /Trainee Signature _____
 Driller or Trainee License No. 0710

If trainee, licensed driller's Signature and License Number: _____
[Signature] 0710

CURRENT Notice of Intent No. AE19354

Type of Well ("x" in box)

- Resource Protection
 Geotech Soil Boring

Property Owner Western Processing

Site Address End of 72 Ave so

City Kent County WA KING

Location sw 1/4-1/4 nw 1/4 Sec 1 Twn 22n R 4

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date Oct 15 2012

Work/Decommission Completed Date Oct 15 2012

Construction Design	Well Data	Formation Description
		well ID: 5M4C well depth: 100' 4" pvc Well was drilled to state standards according to log, and abandoned with 75 gallons of grout via tremie pipe. <div style="text-align: center;"> RECEIVED NOV 07 2012 DEPT OF ECOLOGY NWRC - WA </div>

SCALE: 1"= _____ PAGE _____ OF _____

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

468335

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
 Decommission

ORIGINAL INSTALLATION Notice of Intent Number: _____

Consulting Firm Landau Associates, Inc.

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name) Hansen, Eric
 Driller/Engineer /Trainee Signature _____
 Driller or Trainee License No. 0710

If trainee, licensed driller's Signature and License Number: _____
[Signature] 0710

CURRENT Notice of Intent No. AE19354

Type of Well ("x" in box)

- Resource Protection
 Geotech Soil Boring

Property Owner Western Processing

Site Address End of 72 Ave so

City Kent County WA KING

Location sw 1/4-1/4 nw 1/4 Sec 1 Twn 22n R 4

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date Oct 15 2012

Work/Decommission Completed Date Oct 15 2012

Construction Design	Well Data	Formation Description
		well ID: 6B3C well depth: 75' 4" pvc Well was drilled to state standards according to log and was abandoned with 55 gallons of grout. <div style="text-align: center;"> RECEIVED NOV 07 2012 DEPT OF ECOLOGY NWRC - WA </div>

SCALE: 1"= _____ PAGE _____ OF _____

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468336

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE19354

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number: _____

Consulting Firm Landau Associates, Inc.

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name) Hansen, Eric
 Driller/Engineer /Trainee Signature _____
 Driller or Trainee License No. 0710

If trainee, licensed driller's Signature and License Number: [Signature] 0710

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Western Processing

Site Address End of 72 Ave so

City Kent County King

Location sw 1/4-1/4 nw 1/4 Sec 1 Twn 22n R 4

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date Oct 15, 2012

Work/Decommission Completed Date Oct 15, 2012

Construction Design

Well Data

Formation Description

Empty box for Construction Design.

Empty box for Well Data.

well ID: 5M20B
 well depth: 62'
 2" pvc
 Well was drilled to state standards according to log and was abandoned with 24 gallons of grout.

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SCALE: 1"= _____ PAGE _____ OF _____

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468337

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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE19354

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in box)

- Construction
- Decommission

ORIGINAL INSTALLATION Notice of Intent Number: _____

Consulting Firm Landau Associates, Inc.

Unique Ecology Well ID Tag No. _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee
 Name (Print Last, First Name) Hansen, Eric
 Driller/Engineer /Trainee Signature _____
 Driller or Trainee License No. 0710

If trainee, licensed driller's Signature and License Number: [Signature] 0710

Type of Well ("x" in box)

- Resource Protection
- Geotech Soil Boring

Property Owner Western Processing

Site Address End of 72 Ave so

City Kent County King

Location sw 1/4-1/4 nw 1/4 Sec 1 Twn 22n R 4

EWM or WWM

Lat/Long (s, t, r) Lat Deg _____ Min _____ Sec _____

still REQUIRED) Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date Oct 15, 2012

Work/Decommission Completed Date Oct 15, 2012

Construction Design

Well Data

Formation Description

Empty box for Construction Design.

Empty box for Well Data.

well ID: 5M20D
 well depth: 134'
 4" pvc
 Well was drilled to state standards according to well log and was abandoned with 80 gallons of grout.

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 DEPT. OF ECOLOGY
 NWRT

SCALE: 1"= _____ PAGE _____ OF _____

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468338

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RESOURCE PROTECTION WELL REPORT
(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT Notice of Intent No. AE19354

Construction/Decommission ("x" in box)

Construction Resource Protection

Decommission Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number: _____

Property Owner Western Processing

Site Address End of 72 Ave so

City Kent County KING

Location sw 1/4-1/4 nw 1/4 Sec 1 Twn 22n R 4

EWM or WWM

Lat/Long (s, l, r) Lat Deg Min Sec

still REQUIRED) Long Deg Min Sec

Tax Parcel No. _____

Cased or Uncased Diameter _____ Static Level _____

Work/Decommission Start Date Oct 15, 2012

Work/Decommission Completed Date Oct 15, 2012

If trainee, licensed driller's Signature and License Number:

[Signature] - 0710

Construction Design	Well Data	Formation Description
	well ID: 5M4D well depth: 145' 4" pvc Well was drilled to state standards according to well log and was abandoned with 75 gallons of grout.	well ID: 5M4D well depth: 145' 4" pvc Well was drilled to state standards according to well log and was abandoned with 75 gallons of grout.

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NOV 07 2012
DEPT. OF ECOLOGY

SCALE: 1" = _____ PAGE _____ OF _____

RESOURCE PROTECTION WELL REPORT

R 16768
START CARD NO. _____

22/4E/2

PROJECT NAME: Western Processing facility

WELL IDENTIFICATION NO. SED-1

DRILLING METHOD: HSA AUGER

DRILLER: Mike Frankling

FIRM: Jacoma Pump & Drilling Co. Inc.

SIGNATURE: Mustard [Signature]

CONSULTING FIRM: Rust Remedial Services Inc.

REPRESENTATIVE: John Lamanna

LOCATION: T22N R 41E SEC 2

DISTANCE: 100' FT. FROM N/S SECTION LINE
200' FT. FROM E/W SECTION LINE

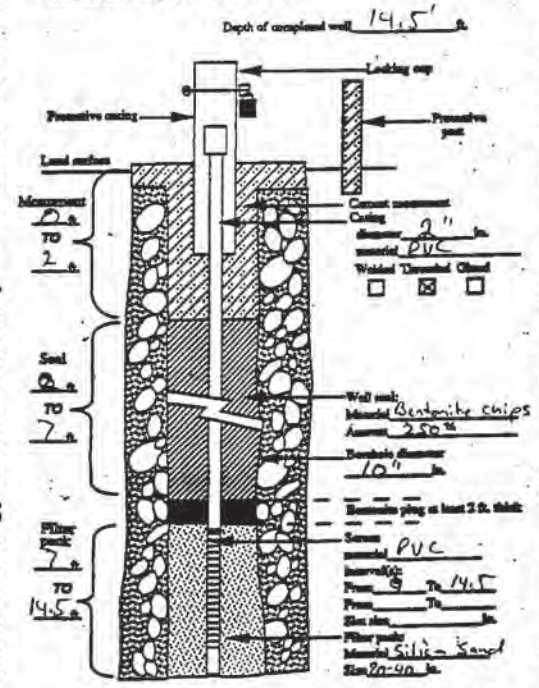
DATUM: _____

WATER LEVEL ELEVATION: 6' B.G.S.

INSTALLED: January 4, 1995

DEVELOPED: January 5, 1995

BORE HOLE CONSTRUCTION



WELL LOG:

Material	From	To	SWL
Topsoil	0	1'	
Sandy Clay (Grey)	1'	4'	
Fine Grey Sand	4'	6' 6"	
Silty Grey Sand	6'	11'	
Med Sand (Grey)	11'	145'	

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DEPT. OF ECOLOGY

Date installed 1-4-95 Completed 1-5-95

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The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

ENTERED

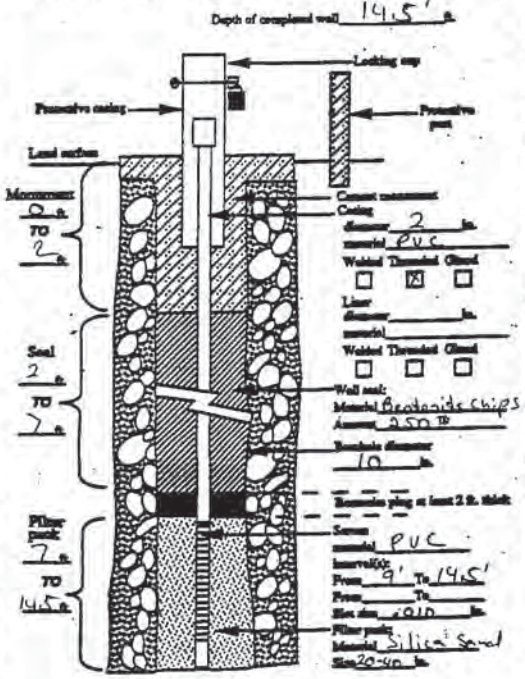
RESOURCE PROTECTION WELL REPORT

R-16768
START CARD NO. _____

PROJECT NAME: Western Processing Facility
WELL IDENTIFICATION NO. SE0-2
DRILLING METHOD: HSA AUGER
DRILLER: Mike Branklin
FIRM: Jacobs Pump Drilling Co. Inc.
SIGNATURE: [Signature]
CONSULTING FIRM: Rust Remedial Services Inc.
REPRESENTATIVE: John Zamora

LOCATION: T 22N R 4E SEC 2
DISTANCE: 100' FT. FROM N/S SECTION LINE
200' FT. FROM E/W SECTION LINE
DATUM: _____
WATER LEVEL ELEVATION: 6' B.G.S.
INSTALLED: January 7, 1995
DEVELOPED: January 5, 1995

BORE HOLE CONSTRUCTION



WELL LOG:

Material	From	To	SWL
Topsoil	0	1'	
Gray Sandy Clay	1'	6'	6'
Fine Gray Sand	6'	11'	
Silt			
med Sand (Gray)	11'	14.5'	

Date started 7-4-95 Completed 1-5-95

RECEIVED
FEB 23 1995
DEPT. OF ECOLOGY

ENTERED

WASHINGTON STATE RESOURCE PROTECTION WELL REPORT

22-4E-1E
Start Card # A16375

(1) OWNER/PROJECT: WELL NO. 171
Name Western Processing Superfund Facility
Address 20015 72nd Ave South
City Kent State WA Zip 98032

(6) LOCATION OF WELL By legal description
Well Location: County King
Township 22N (N or S) Range 4E (E or W) Section 1
1. SW 1/4 of NW 1/4 of above section.
2. Either Street address of well location: 20015 72nd Ave South Kent, WA 98032

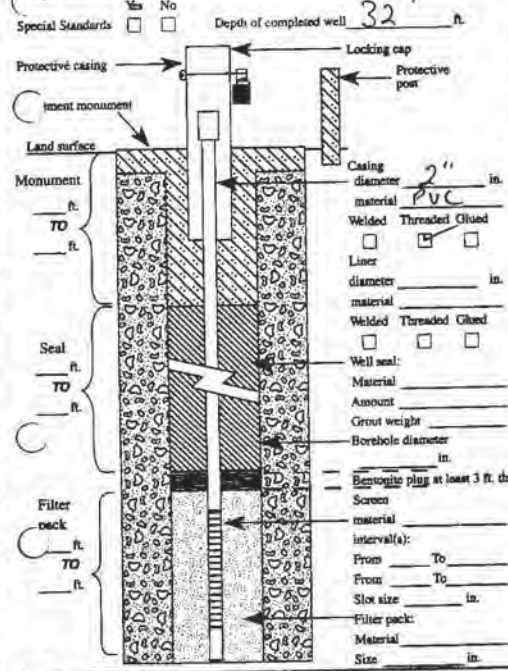
(2) TYPE OF WORK:
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

or The lot number of well location
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow. OPTIONAL

(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stem Auger Other _____

(7) STATIC WATER LEVEL:
_____ Ft. below land surface. Date _____
Artesian Pressure _____ lb/sq. in. Date _____

(A) BORE HOLE CONSTRUCTION



(8) WATER BEARING ZONES:
Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG: Ground elevation _____

Material	From	To	SWL
Overdrill using 10.25" HSA to 32' - Pull Back Auger Flashes White Pumping 400 LBS of Grout and 7 bags of Chips			

(5) WELL TEST:
 Pump Bailor Air Flowing Artesian
Permeability _____ Yield _____ GPM
Conductivity _____ PH _____
Temperature of water _____ °F/C Depth artesian flow found _____ ft.
Was water analysis done? Yes No
By whom? _____
Depth of arms to be analyzed. From _____ ft. to _____ ft.
Remarks: _____

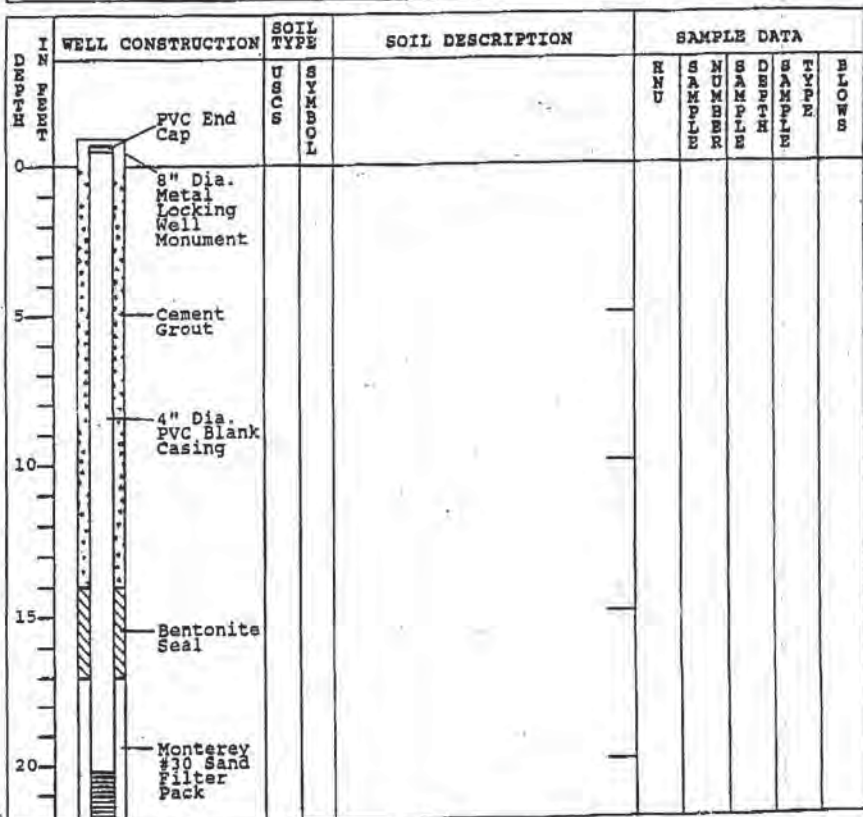
Date started 11-14-96 Completed 11-15-96

Name of supervising Geologist/Engineer _____
ORIGINAL & FIRST COPY Dept of Ecology

Signed [Signature] Date 11-15-96
SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

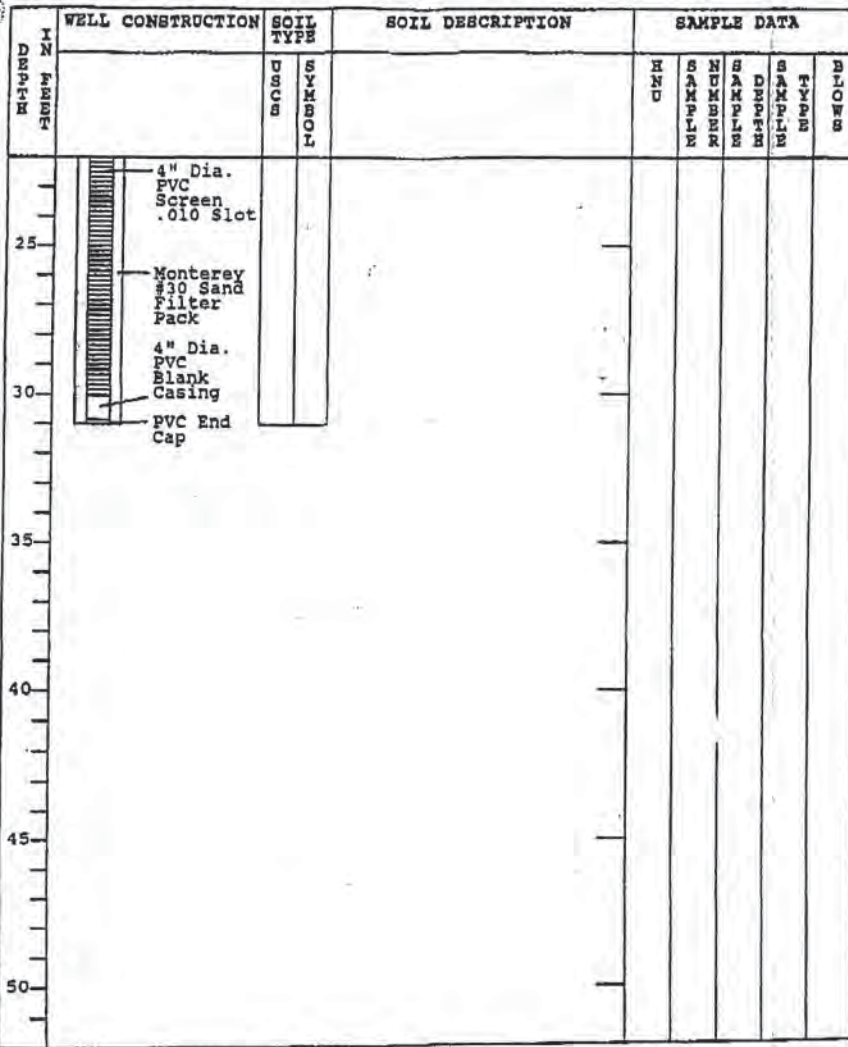
The Department of Ecology does NOT Warranty the Data and/or the information on this Well Report.

WELL: 8-M-8-A		BORING:	
PROJECT NAME: WESTERN PROCESSING		PROJECT NO.512-146.01	
LOCATION/COORDINATES: N/A		RIG TYPE: Cable Tool	
SCHEDULE		SAMPLING METHOD: SS	
INITIATED: 11-04-87	WATER LEVEL	DRILLING CO: Hokkaido	
COMPLETED: 11-04-87	DEPTH: 9.0'	DRILLED BY: Bob Carper	
BACKFILLED: N/A	DATE: 11-04-87	LOGGED BY: Doug Hayes	
CASING ELEVATION: 22.02	TIME: N/A	SHEET 1 OF 2	
WELL DEPTH: 31.0'	GROUND ELEVATION: 20.8	BORING DEPTH: 31.0'	



EEI ENGINEERING ENTERPRISES, INC.

WELL: 8-M-8-A		Cont.		BORING:		Cont.		SHEET 2 OF 2			
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EEI ENGINEERING ENTERPRISES, INC.

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WELL: 8-M-8-D Cont. BORING: Cont. SHEET 5 OF 5

DEPTH IN FEET	WELL CONSTRUCTION	SOIL TYPE	SOIL DESCRIPTION	SAMPLE DATA				
				DEPTH	NUMBER	DEPTH	DEPTH	BLINDS
115	4" Dia. PVC Blank Casing	SP	SAND: Gray; fine to medium; trace shell fragments; trace silt; wet	542	115.0	115.5	SS	N/A
	Cement Grout			543	120.0	121.5	SS	N/A
120	Bentonite Seal		Little shell fragments	544	125.0	126.5	SS	N/A
125	Monterey #16 Sand Filter Pack			545	130.0	131.5	SS	N/A
130	4" Dia. PVC Screen .010 Slot	SM	SAND: Gray; fine to medium; trace shell fragments; little silt; wet	546	135.0	136.5	SS	N/A
135	4" Dia. PVC Blank Casing	SP		547	140.0	141.5	SS	N/A
140	PVC End Cap							

EEI ENGINEERING ENTERPRISES, INC.

WELL: 8-M-8-D Cont. BORING: Cont. SHEET 4 OF 5

DEPTH IN FEET	WELL CONSTRUCTION	SOIL TYPE	SOIL DESCRIPTION	SAMPLE DATA				
				DEPTH	NUMBER	DEPTH	DEPTH	BLINDS
85		SP	SAND: Gray; fine to medium; trace shell fragments; trace silt; wet	536	85.0	86.5	SS	N/A
90	Cement Grout			537	90.0	91.5	SS	N/A
95			Trace organics; little peat	538	95.0	96.5	SS	N/A
100	4" Dia. PVC Blank Casing			539	100.0	101.5	SS	N/A
105			Trace organics; little peat	540	105.0	106.5	SS	N/A
110				541	110.0	111.5	SS	N/A

EEI ENGINEERING ENTERPRISES, INC.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL: 8-M-8-D Cont. BORING: Cont. SHEET 3 OF 5

DEPTH IN FEET	WELL CONSTRUCTION	SOIL TYPE	SOIL DESCRIPTION	SAMPLE DATA				
				DEPTH	MOISTURE	LIQUIDITY	PLASTICITY	UNIFORMITY
55	Cement Grout 4" Dia. PVC Blank Casing	SM	SAND: Gray; fine to medium; trace shell fragments; little silt; wet	530	55.0	SS	N/A	
		SP						
60			Trace silt	531	60.0	SS	N/A	
				532	65.0	SS	N/A	
70				533	70.0	SS	N/A	
75		CL	SILTY CLAY: Light gray; some organics; trace peat; trace sand; wet	534	75.0	SS	N/A	
80		SP	SAND: Gray; fine to medium; little shell fragments; trace silt; wet	535	80.0	SS	N/A	

EEI ENGINEERING ENTERPRISES, INC.

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WELL: 8-M-8-D Cont. BORING: Cont. SHEET 2 OF 5

DEPTH IN FEET	WELL CONSTRUCTION	SOIL TYPE	SOIL DESCRIPTION	SAMPLE DATA				
				DEPTH	MOISTURE	LIQUIDITY	PLASTICITY	UNIFORMITY
35	Cement Grout 4" Dia. PVC Blank Casing	CL	SILTY SAND: Gray; fine to medium; trace shell fragments; trace silt; wet	524	25.0	SS	N/A	
		SM						
30			SAND: Gray; fine to medium; trace shell fragments; wet	525	30.0	SS	N/A	
				526	35.0	SS	N/A	
40				527	40.0	SS	N/A	
45		SM	SILTY SAND: Gray; fine to very fine; some organics; trace peat; wet	528	45.0	SS	N/A	
50		SM	SAND: Gray; fine to medium; trace shell fragments; wet	529	50.0	SS	N/A	
			SILTY SAND: Gray; fine to medium; trace shell fragments; wet					

EEI ENGINEERING ENTERPRISES, INC.

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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WELL: 8-M-8-D BORING:	
PROJECT NAME: WESTERN PROCESSING	
LOCATION/COORDINATES: N/A	PROJECT NO. 512-146.01
SCHEDULE	
INITIATED: 10-27-87	WATER LEVEL
COMPLETED: 10-29-87	DEPTH: 9.0'
BACKFILLED: N/A	DATE: 10-27-87
CASING ELEVATION: 21.77	TIME: N/A
WELL DEPTH: 141.0'	BORING DEPTH: 141.0'
RIG TYPE: Cable Tool	
SAMPLING METHOD: SS	
DRILLING CO: Hokkaido	
DRILLED BY: Bob Carper	
LOGGED BY: Doug Hayes	
SHEET 1 OF 5	

DEPTH (FEET)	WELL CONSTRUCTION	SOIL TYPE		SOIL DESCRIPTION	SAMPLE DATA													
		SYMBOL	DESCRIPTION		DEPTH	WATER	TEMP.	PH	SS	SL	CL	SP						
0	PVC End Cap																	
0-1.5	8" Dia. Metal Locking Well Monument	CL		SILTY SAND; Light gray; some organics; trace root material; little sand; moist	520	5.0	6.5	SS	N/A									
5	Cement Grout																	
10-11.5	4" Dia. PVC Blank Casing	ML		CLAYEY SILT; Light gray; some organics; little sand; wet	521	10.0	11.5	SS	N/A									
15-16.5		SM		SILTY SAND; Gray; fine to very fine; some clay stringers; trace organics; wet	522	15.0	16.5	SS	N/A									
20-21.5		CL		SILTY CLAY; Light gray; some organics; some peat; little sand; wet	523	20.0	21.5	SS	N/A									

EEI ENGINEERING ENTERPRISES, INC.

PROJECT NAME: WESTERN PROCESSING		PROJECT NUMBER: 00053-006-102	
WELL NUMBER 08-M-031-C		BORING NUMBER:	
CASING ELEV.: 22.64	RIG TYPE: CABLE TOOL	SAMPL. METHOD: SPLIT SPOON	
GROUND ELEV.: 21.7	DRILLING CO.: STACO WELL SERVICE	START DATE: 7-22-88	
WELL DEPTH: 74.5'	DRILLED BY: STEVE STADEL	COMPL. DATE: 7-25-88	
BORING DEPTH: 75.5'	LOGGED BY: JERRY COSTAN	SHEET 1 OF 3	

DEPTH (FEET)	WELL CONSTRUCTION	SYM.	USCS ID; SOIL DESCRIPTION	SAMPLE DATA		REMARKS
				SAMPLE DEPTH	SAMPLE NUMBER	
0	PVC END CAP					
0-1.5	12" DIA. METAL LOCKING WELL MONUMENT		SM SILTY SAND GREY SLIGHTLY MOIST, SOME SILT, TRACE ORGANICS FINE TO VERY FINE SAND	0.0'-1.5'		
5	CEMENT GROUT					
5-6.5			ML CLAYEY SANDY SILT DARK BROWN MOIST, LITTLE CLAY, LITTLE FINE SAND	5.0'-6.5'		
10	4" DIA. PVC BLANK CASING					
10-11.5			ML CLAYEY SILT DARK BROWN, WET, TRACE FINE SAND, SOME CLAY	10.0'-11.5'		
15	10" DIA BORE HOLE					
15-16.5			SM SILTY SAND DARK GREY MOIST TO VERY MOIST, SOME SILT, FINE SAND	15.0'-16.5'		
20-21.5			TRACE ORGANICS LITTLE SILT	20.0'-21.5'		

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

HDR ENGINEERING

PROJECT NAME: WESTERN PROCESSING PROJECT NUMBER: 00053-006-102
 WELL NUMBER 08-M-031-C BORING NUMBER: SHEET 2 OF

DEPTH (FEET)	WELL CONSTRUCTION	GEOLOGICAL LOG		SAMPLE DATA		
		SYM.	USCS ID; SOIL DESCRIPTION	SAMPLE DEPTH	SAMPLE NUMBER	REMARKS
25.0' - 26.5'		MH	CLAYEY SILT DARK GREY VERY MOIST SOME CLAY			
30.0' - 31.5'		SP	SAND BLACK VERY MOIST TRACE ORGANICS FINE TO MEDIUM SAND			
35.0' - 36.5'		MH	CLAYEY SILT DARK GREY, MOIST TO VERY MOIST, TRACE ORGANICS, SOME CLAY			
35.0' - 36.5'		SH	SILTY SAND BLACK VERY MOIST SOME SILT, FINE SAND			
35.0' - 36.5'		MH	SANDY CLAYEY SILT DARK GREY SLIGHTLY MOIST TRACE ORGANICS, TRACE FINE SAND, SOME CLAY			
40.0' - 41.5'		SP	SILTY SAND DARK BROWN, WET, TRACE ORGANICS AND COARSE SAND, FINE TO MEDIUM SAND LITTLE SILT			
45.0' - 46.5'		SP	SAND DARK GREY TO BLACK, WET, TRACE ORGANICS SILT, FINE TO MEDIUM SAND			
55.0' - 56.5'		MH	CLAYEY SILT DARK GREY SLIGHTLY MOIST TO MOIST LITTLE CLAY			

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

PROJECT NAME: WESTERN PROCESSING PROJECT NUMBER: 00053-006-102
 WELL NUMBER 08-M-031-C BORING NUMBER: SHEET 3 OF

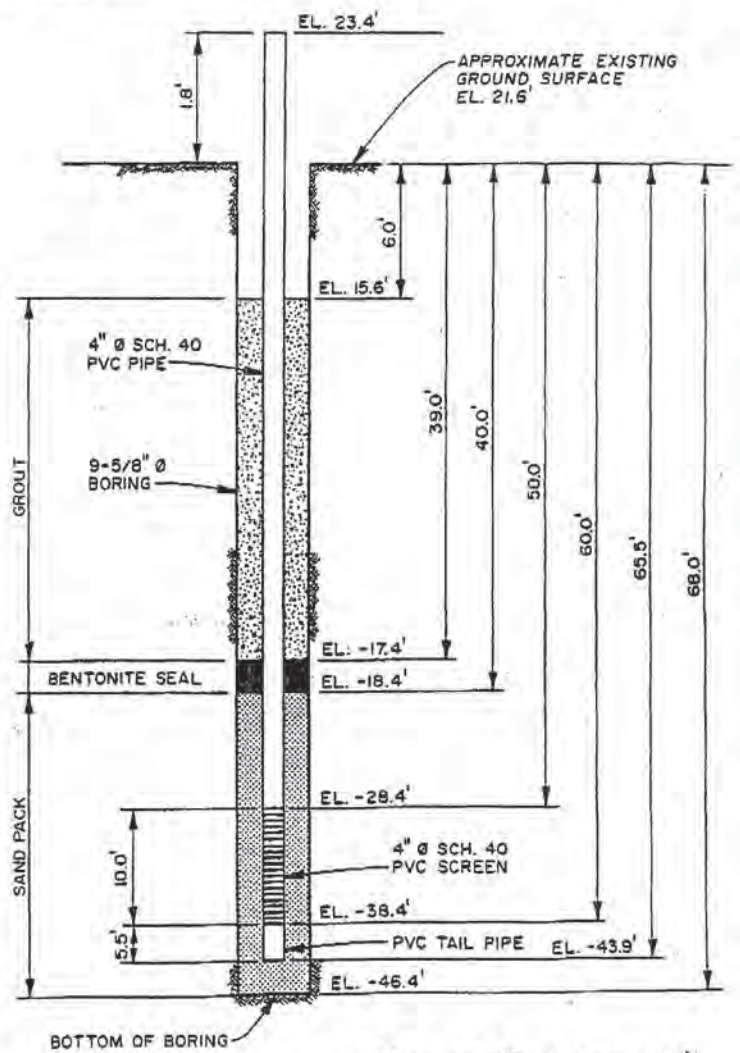
DEPTH (FEET)	WELL CONSTRUCTION	GEOLOGICAL LOG		SAMPLE DATA		
		SYM.	USCS ID; SOIL DESCRIPTION	SAMPLE DEPTH	SAMPLE NUMBER	REMARKS
60.0' - 61.5'	4" DIA PVC BLANK CASING BENTONITE SEAL	SP	SAND DARK GREY TO BLACK, WET, TRACE SILT, FINE SAND			
65.0' - 66.5'	FRAC SAND FILTER BACK		TRACE ORGANICS, FINE TO MEDIUM SAND			
70.0' - 71.5'	4" DIA PVC SLOTTED CASING (0.010" SLOT) PVC END CAP		TRACE CLAY STRINGERS TRACE ORGANICS		8802451	
75.0' - 76.5'						HOLE TERMINATED AT 76.5'

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

TRANS/BARRIER WELL INSTALLATION SKETCH

PROJECT NAME WESTERN PROCESSING INSTALLED BY E.B. DATE 3-28-88
 PROJECT NO. 84-076-09 CHECKED BY M.R.H. DATE 5-18-88
 WELL NO. B-7



Canonie Environmental

STATE OF WASHINGTON MONITORING WELL REPORT

111864

22-4E-1E

Well ID# AQJ680 Start Card # R049093

(1) OWNER/PROJECT Name Western Processing WELL NO. RP-10
 Address 20015 72nd Ave. S.
 City Kent State Wa. Zip _____

(6) LOCATION OF WELL By legal description:
 County King Latitude _____ Longitude _____
 Township 22N (N or S) Range 4E (E or W) Section 1
 SW 1/4 of NW 1/4 of above section.
 Street address of well location 20015 72nd Ave. S.

(2) TYPE OF WORK
 New construction Alteration (Repair/Recondition)
 Conversion Deepening Abandonment

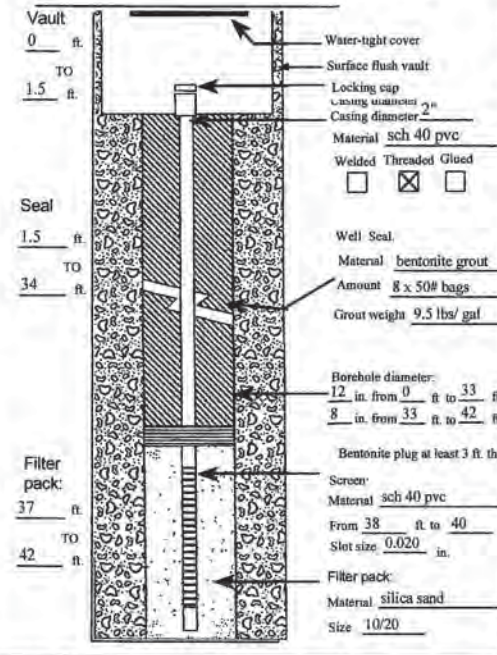
(3) DRILLING METHOD
 Rotary Air Rotary Mud Cable
 Hollow Stein Auger Other _____

(7) STATIC WATER LEVEL:
9 Ft below land surface Date 4/2/02
 Artesian Pressure _____ lb/sq. in. Date _____

(4) BORE HOLE CONSTRUCTION:
 Depth of Completed Well 41.3 ft

(8) WATER BEARING ZONES:
 Depth at which water was first found 9'

From	To	Est. Flow Rate	SWL
9	12	.5 gpm	9'
15	33	2 gpm	9'
39	42	1 gpm	9'



(9) WELL LOG:
 Ground Elevation 20'

Material	From	To	SWL
unsorted silt, sand, & gravel: silty, brown	0	8	
fine sand; orange-gray	8	12	9
silt; sandy, gray	12	15	
fine sand; silty, brown	15	33	9
silt; gray	33	39	
fine sand; brown	39	42	9

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Date started 3/27/02 Completed 4/3/02

(5) WELL TESTS:
 Pump Bailor Air Flowing Artesian
 Permeability _____ Yield _____ GPM
 Conductivity _____ PH _____
 Temperature of water _____ OF/C Depth artesian flow found _____ ft
 Was water analysis done? Yes No
 By whom? Landau Associates
 Depth of strata to be analyzed From _____ ft to _____ ft
 Remarks _____
 Name of Supervising Geologist/Engineer Victoria England

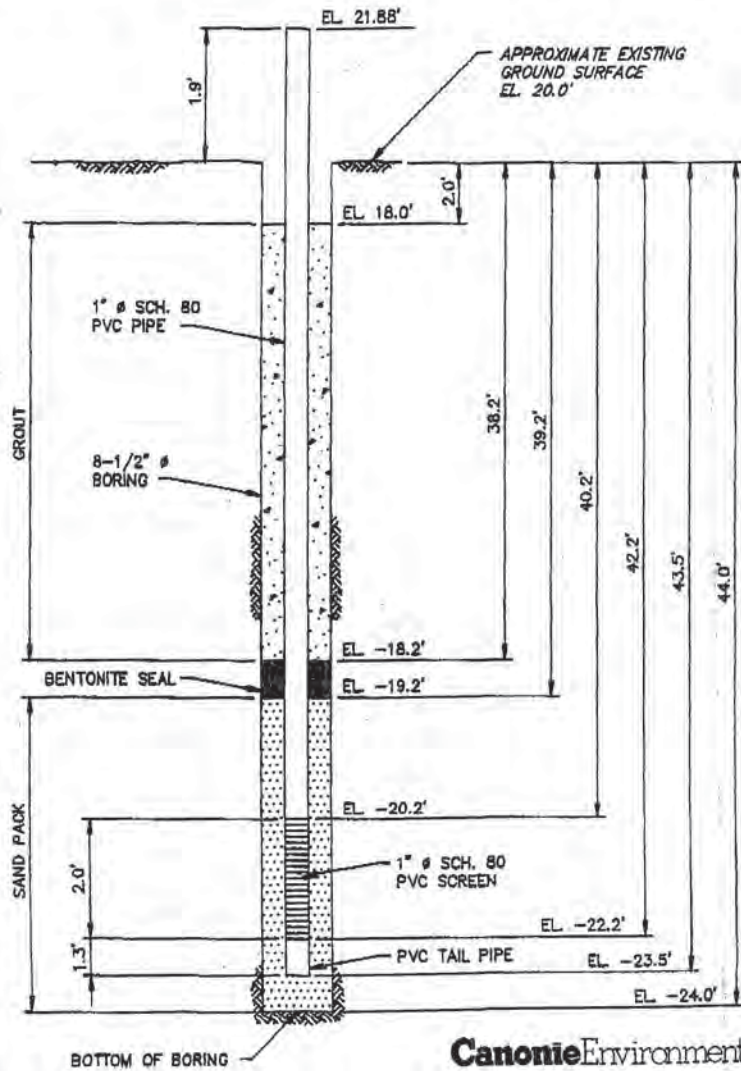
WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name James Vignali License No. 0987
 Trainee Name Malcolm Lester License No. _____
 Drilling Company Tacoma Pump & Drilling
 (Signed) James Vignali License No. 0987
 Address 30316 Mt. Hwy., Graham Wa. 98338
 Registration No. TACOMPD203PF Date 4/5/02

PIEZOMETER INSTALLATION SKETCH

8-10

PROJECT NAME WESTERN PROCESSING INSTALLED BY EB DATE 10-28-88
 PROJECT NO. 84-076-08 CHECKED BY PMW DATE 11-9-88
 PIEZOMETER NO. P10



Canonie Environmental

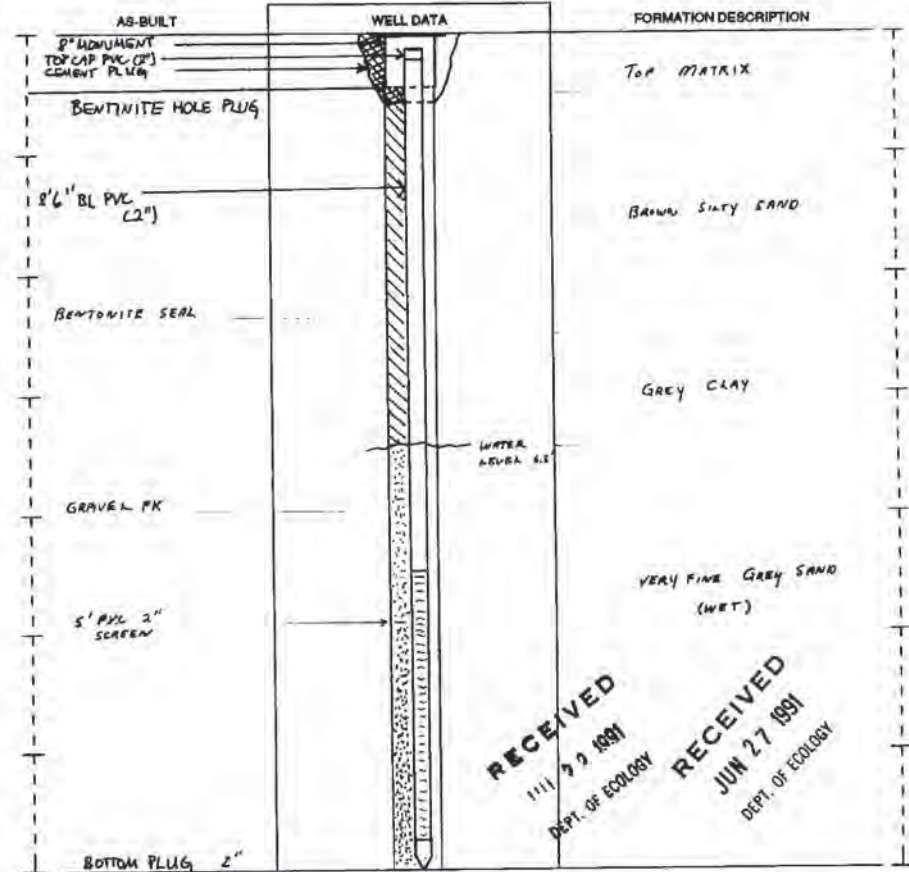
RESOURCE PROTECTION WELL REPORT

START CARD NO. 025124
22/45/12-D

PROJECT NAME: WILSEY + HAM PACIFIC
 WELL IDENTIFICATION NO. M-2
 DRILLING METHOD: HSA
 DRILLER: JOHN W. DOLAN
 FIRM: JOHN W. DOLAN + ASSOC. INC
 SIGNATURE: John W. Dolan
 CONSULTING FIRM: WILSEY + HAM PACIFIC
 REPRESENTATIVE: DAVID M. PECK

COUNTY: KING
 LOCATION: NW 1/4 NW 1/4 Sec 12 Twn 22N R 4E
 STREET ADDRESS OF WELL: 212th S + WEST
VALLEY, KENT, WA
 WATER LEVEL ELEVATION: 6.5 FT
 GROUND SURFACE ELEVATION: _____
 INSTALLED: 14 FT
 DEVELOPED: N/A

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.



SCALE: 1" = 2'

PAGE 1 OF 1

ECY 050-12 (Rev. 11/89)

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RECEIVED
JUN 27 1991
DEPT. OF ECOLOGY

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)
 Construction 212955
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT
Notice of Intent No. 224E118
529071

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner WGP, LLC

Site Address 62TH AVE S

City KENT County: KEND

Location N/4 NE 1/4 Sec 11 Twn 22N R 4E WWM or 1/4

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Tax Parcel No _____

Cased or Uncased Diameter 2" Static Level UNKNOWN

Work/Decommission Start Date 11/04/06

Work/Decommission Completed Date 11/04/06

Consulting Firm TERRA ASSOCIATES, INC

Unique Ecology Well ID _____

Tag No: N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) JAMES DRENT

Driller/Engineer/Trainee Signature _____

Driller or Trainee License No. 2865T

If trainee, licensed driller's Signature and License no. 2735
Keith Brewer

Construction/Design	Well Data	Formation Description
CPT-01	NO WELL INSTALLED	SILT & CLAY
CPT TO 40 FT		SAND
1.5" Ø PROBE w/ 2" Ø RING		CLAY
HOLE BACKFILLED w/ BENTONITE CHIPS		SAND
		BOTTOM OF HOLE = 40'

Scale 1" = 10

Page 1 of 1

ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)
 Construction 212953
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT
Notice of Intent No. 224E118
529071

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner WGP, LLC

Site Address 62TH AVE S

City KENT County: KEND

Location N/4 NE 1/4 Sec 11 Twn 22N R 4E WWM or 1/4

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____

Tax Parcel No _____

Cased or Uncased Diameter 2" Static Level UNKNOWN

Work/Decommission Start Date 11/04/06

Work/Decommission Completed Date 11/04/06

Consulting Firm TERRA ASSOCIATES, INC

Unique Ecology Well ID _____

Tag No: N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) JAMES DRENT

Driller/Engineer/Trainee Signature _____

Driller or Trainee License No. 2865T

If trainee, licensed driller's Signature and License no. 2735
Keith Brewer

Construction/Design	Well Data	Formation Description
CPT-02	NO WELL INSTALLED	SILT & CLAY
CPT TO 40 FT		SAND
1.5" Ø PROBE w/ 2" Ø RING		CLAY
HOLE BACKFILLED w/ BENTONITE CHIPS		SAND
		BOTTOM OF HOLE = 40'

Scale 1" = 10

Page 1 of 1

ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warrant the Data and/or the Information on this Well Report.

RESOURCE PROTECTION WELL REPORT

CURRENT
Notice of Intent No. A 129557 22-4E 118

Construction/Decommission ("x" in circle) 212959
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 529071

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner WVGP LLC

Site Address 6274 AVE S

City KENT County: KECK

Location NW 1/4 NE 1/4 Sec 11 Twn 22N R 1E EW or WWM

Lat/Long (s, t, r) still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level WVGP

Work/Decommission Start Date 11/27/06

Work/Decommission Completed Date 11/27/06

Consulting Firm TERRA ASSOCIATES, LLC

Unique Ecology Well ID _____

Tag No: ALIA

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) JAMES DRAKE

Driller/Engineer/Trainee Signature _____

Driller or Trainee License No. 2860T

If trainee, licensed driller's Signature and License no. 2735 Keith Brown

Construction/Design	Well Data	Formation Description
CM-01 LIT TO 40 FT 1.5" ϕ PROBE W/ 2" ϕ REIN HOLE BACKFILLED W/ BENTONITE CHIPS	No WELL INSTALLED RECEIVED DEC 04 2006 DEPT. OF ECOLOGY	SILT & CLAY SAND CLAY SAND BOTTOM OF HOLE = 40'

RESOURCE PROTECTION WELL REPORT

CURRENT
Notice of Intent No. A 129557 22-4E 118

Construction/Decommission ("x" in circle) 212960
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 529071

Type of Well ("x" in circle)
 Resource Protection
 Geotech Soil Boring

Property Owner WVGP LLC

Site Address 6274 AVE S

City KENT County: KECK

Location NW 1/4 NE 1/4 Sec 11 Twn 22N R 1E EW or WWM

Lat/Long (s, t, r) still REQUIRED) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level WVGP

Work/Decommission Start Date 11/27/06

Work/Decommission Completed Date 11/27/06

Consulting Firm TERRA ASSOCIATES, LLC

Unique Ecology Well ID _____

Tag No: ALIA

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) JAMES DRAKE

Driller/Engineer/Trainee Signature _____

Driller or Trainee License No. 2860T

If trainee, licensed driller's Signature and License no. 2735 Keith Brown

Construction/Design	Well Data	Formation Description
CM-02 LIT TO 40 FT 1.5" ϕ PROBE W/ 2" ϕ REIN HOLE BACKFILLED W/ BENTONITE CHIPS	No WELL INSTALLED RECEIVED DEC 04 2006 DEPT. OF ECOLOGY	SILT & CLAY SAND CLAY SAND BOTTOM OF HOLE = 40'

Appendix C

2017 RI Analytical Data and Validation Reports



DATA VALIDATION REPORT

BOEING KENT SPACE CENTER STORM WATER SAMPLING

Prepared for:

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EcoChem Project: C8105-1

February 28, 2017

Approved for Release:

A handwritten signature in black ink that reads "Christina Mott Frans".

Christina Mott Frans
Senior Project Manager
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of the summary validation (Stage 2A) performed on storm water samples and the associated laboratory and field quality control samples for the Boeing Kent Space Center. A complete list of samples is provided in the **Sample Index**.

Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. The analytical method and EcoChem project chemists are listed in the following table:

ANALYSIS	METHOD OF ANALYSIS	PRIMARY REVIEW	SECONDARY REVIEW
Volatile Organic Compounds (VOC)	SW8260C	R. Frans	C. Frans
Polynuclear Aromatic Hydrocarbon Compounds (PAH)	SW8270D-SIM		
PCB Aroclors	SW8082A		
Total Petroleum Hydrocarbons – Diesel & Oil Range	NWTPH-Dx		
Total Petroleum Hydrocarbons – Gasoline Range	NWTPH-Gx		
Total & Dissolved Metals and Mercury	EPA 200.8 & SW7470A		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; the sampling and analysis plan (SAP) for the *Remedial Investigation Work Plan Boeing Kent Space Center Facility, Ecology Review Draft* (Landau Associates, July 29, 2016); *USEPA National Functional Guidelines for Organic Data Review* (EPA, 1999 & 2008); and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 2004 & 2010).

EcoChem’s goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as **Appendix A**. A Qualified Data Summary Table is included in **Appendix B**. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Boeing Kent Space Center

SDG	Sample ID	Lab Sample ID	NWTPH-Gx	NWTPH-Dx	VOCs	PAHs	PCB	Total Metals
17A0195	KSC-MH-20.237-W	17A0195-01	✓	✓	✓	✓	✓	✓
	KSC-MH-20.235-W	17A0195-02	✓	✓	✓	✓	✓	✓
	KSC-MH-16.12-W	17A0195-03	✓	✓	✓	✓	✓	✓
	KSC-MH-15.10-W	17A0195-04	✓	✓	✓	✓	✓	✓
	KSC-OF-16-W	17A0195-05	✓	✓	✓	✓	✓	✓
	KSC-OF-NDP-W	17A0195-06	✓	✓	✓	✓	✓	✓
	Trip Blank	17A0195-07	✓		✓			
	KSC-MH-20.237-W	17A0195-08						
	KSC-MH-20.235-W	17A0195-09						
	KSC-MH-16.12-W	17A0195-10						
	KSC-MH-15.10-W	17A0195-11						
	KSC-OF-16-W	17A0195-12						
	KSC-OF-NDP-W	17A0195-13						
17A0243	KSC-OF20-W	17A0243-01	✓	✓	✓	✓	✓	✓
	KSC-OF20-W	17A0243-02						
	Trip Blank		✓		✓			

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Volatile Organic Compounds - Method SW8260C
Vinyl Chloride & 1,1-DCE - Method SW8260C-SIM

This report documents the review of analytical data from the analyses of storm water samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed Analytical Resources, Incorporated, Tukwila, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17A0195	6 storm water samples and 1 trip blank	Stage 2A
17A0243	1 storm water sample and 1 trip blank	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

SDG 17A0195: Results for the analytes, vinyl chloride and 1,1-dichloroethane were inadvertently omitted from the laboratory data package for the Trip Blank sample. The laboratory was contacted and provided the missing results.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	✓	Reporting Limits
✓	Surrogate Compounds	✓	Reported Results
✓	Laboratory Control Samples (LCS)	✓	Target Analyte List
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*
 1 *Quality control outliers are discussed below, but no data were qualified.*
 2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be analyzed within 14 days for aqueous samples.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding time.

Field Blanks

Trip blanks were included with both SDGs; target analytes were not detected in the trip blank samples.

Field Duplicates

Field duplicates were not submitted with this data set.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

The laboratory reported a subset of the analytes twice in the EDD. Vinyl chloride and 1,1-dichloroethene were requested to be analyzed using the selected ion monitoring (SIM) technique, however, several other analytes were also reported from this analysis. The full scan analysis had vinyl chloride and 1,1-dichloroethane results included. The laboratory was contacted and indicated that this was an error in the generation of the EDD and that only one result for each analyte for each sample should have been reported. The erroneous entries have been removed from the database.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the surrogate, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) recovery values and precision was acceptable as demonstrated by the LCS/LCSD and MS/MSD RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Polynuclear Aromatic Hydrocarbons - Method SW8270D-SIM

This report documents the review of analytical data from the analyses of storm water samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17A0195	6 storm water samples	Stage 2A
17A0243	1 storm water sample	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
1	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	✓	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*
 1 *Quality control outliers are discussed below, but no data were qualified.*
 2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 7 days for aqueous samples and extracts must be analyzed within 40 days of extraction.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding times.

Field Blanks

Field blanks were not submitted with this data set.

Surrogate Compounds

The surrogate compounds dibenzo[a,h]anthracene-d14, 2-Methylnaphthalene-d10, and fluoranthene-d10, were added to all field and batch QC samples. When two or more surrogate %R values are below the control limits and indicate a potential low bias, associated results for the affected fraction are estimated (J/UJ-13L). When two or more surrogate %R values are greater than the control limit and indicate a potential high bias, only the positive results in a fraction for a sample are estimated (J-13H). If there is one surrogate outlier in a fraction that is less than 10% recovery, the reporting limits for that fraction are rejected (R-13L) and the detections are estimated (J-13L). With the exceptions noted below, all surrogate spike recoveries were within the laboratory control limits.

SDGs 17A0195 and 17A0243: The percent recoveries (%R) for fluoranthene-d10 in Samples KSC-OF-16-W and KSC-OF 20-W were less than the lower control limit; because there was only one outlier in the fraction; no results were qualified.

Field Duplicates

Field duplicates were not submitted with this data set.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate, laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) recovery values. Precision was also acceptable as demonstrated by the MS/MSD RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Polychlorinated Biphenyl Compounds - Method SW8082A

This report documents the review of analytical data from the analyses of storm water samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17A0195	6 storm water samples	Stage 2A
17A0243	1 storm water sample	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Preservation and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	1	Reported Results
✓	Matrix Spikes/Matrix Spike Duplicates		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed

1 Quality control outliers are discussed below, but no data were qualified.

2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 7 days for aqueous samples and extracts must be analyzed within 40 days of extraction.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding times.

Field Blanks

No field blanks were submitted with this sampling event.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

All SDGs: Results were reported from both the primary and confirmation column analyses. The results for the confirmation column were flagged as do-not-report (DNR-11) to indicate which results from multiple reported results should not be used.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the surrogate, laboratory control sample (LCS), and matrix spike/matrix spike duplicate (MS/MSD) percent recovery values. Precision was also acceptable as demonstrated by the MS/MSD and field duplicate relative percent difference values.

Results were flagged as do-not-report (DNR) to indicate which result, from multiple analyses, should not be used; data that have been flagged as DNR should not be used for any purpose.

All other data, as reported, are acceptable for use. A useable result remains for all analytes in all sample; completeness is unaffected.

DATA VALIDATION REPORT

DOF – Boeing Kent Space Center

Gasoline Range Organics - Method NWTPH-Gx

This report documents the review of analytical data from the analyses of storm water samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17A0195	6 storm water and 1 trip blank	Stage 2A
17A0243	1 storm water and 1 trip blank	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
1	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	✓	Reported Results
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.

1 Quality control results are discussed below, but no data were qualified.

2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be analyzed within 14 days for aqueous samples.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding time.

Field Blanks

Trip blanks were included with both SDGs; GRO was not detected in the trip blank samples.

Surrogate Compounds

The %R for surrogate compound 4-bromofluorobenzene, was less than the lower control limit in LCS-15503; the sample was a QC sample, therefore, no results qualified.

Field Duplicates

Field duplicates were not submitted with this data set.

Target Analyte List

The target analyte as specified in the QAPP/SAP was reported.

Reporting Limits

The target analyte reporting limit specified in the QAPP/SAP was met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exception noted above, accuracy was acceptable as demonstrated by the surrogate, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) recovery values. Precision was acceptable as demonstrated by the LCS/LCSD and MS/MSD RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT

DOF – Boeing Kent Space Center

Diesel Range Organics - Method NWTPH-Dx

This report documents the review of analytical data from the analyses of storm water samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17A0195	6 storm water samples	Stage 2A
17A0243	1 storm water sample	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Preservation and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	✓	Reported Results
✓	Matrix Spikes/Matrix Spike Duplicates		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed

1 Quality control outliers are discussed below, but no data were qualified.

2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 7 days for aqueous samples and extracts must be analyzed within 40 days of extraction.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding times.

Field Blanks

No field blanks were submitted with this sampling event.

Field Duplicates

Field duplicates were not submitted with this data set.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the surrogate, laboratory control sample (LCS), and matrix spike/matrix spike duplicate MS/MSD) percent recovery values. Precision was also acceptable as demonstrated by the MS/MSD relative percent difference values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Total & Dissolved Metals - Method EPA 200.8 & SW7470A

This report documents the review of analytical data from the analyses of storm water samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES AND MATRIX	VALIDATION LEVEL
17A0195	6 storm water samples	Stage 2A
17A0243	1 storm water sample	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
✓	Laboratory Control Samples (LCS)	✓	Target Analyte List
✓	Matrix Spikes (MS)	✓	Reporting Limits
1	Field Blanks	✓	Reported Results

- ✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*
- 1 *Quality control outliers are discussed below, but no data were qualified.*
- 2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be analyzed within 28 days for aqueous mercury samples and within 180 days for aqueous ICP-MS metals samples.

All coolers were received at the laboratory within the advisory temperature range. All samples were analyzed within the required holding times.

Field Blanks

Field blanks were not submitted with this data set.

Field Duplicates

Field duplicates were not submitted with this data set.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the laboratory control sample (LCS) and matrix spike (MS) recovery values. Precision was acceptable as demonstrated by the laboratory duplicate RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.



APPENDIX A

DATA QUALIFIER DEFINITIONS REASON CODES AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES

Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.
-----	-----------------------------------------------------------------------------------------

DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L) ¹ where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L) ¹ where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L) ¹ for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L) ¹ where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L) ¹ where appropriate
	12	Reference Material Use bias flags (H,L) ¹ where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L) ¹ where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L) ¹ where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2 nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

¹H = high bias indicated

L = low bias indicated

Volatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8260C)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C Aqueous: HCl to pH < 2 Current SW846 criterion is ≤ 6° C ⁽³⁾	NFG ⁽¹⁾ Method ⁽³⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use PJ for temp outliers; see TM20 if pH ≤ 2, reject 2-chloroethyl vinyl ether (R-1) some projects may require methanol preserved soils/seds
Holding Time	Aqueous: 14 days preserved 7 Days: unpreserved Solid: 14 Days	NFG ⁽¹⁾ Method ⁽³⁾	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	BFB Beginning of each 12 hour period Use method or project acceptance criteria	NFG ⁽¹⁾ Method ⁽³⁾	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration Sensitivity	Minimum 5 standards RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders * RRF ≥ 0.005 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5A	TM-06 EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance PJ - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration Stability	%RSD ≤ 20% except: %RSD ≤ 40% poor responders * %RSD ≤ 50% 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %RSD > limit	5A	
Initial Calibration Verification	Second source analyzed immediately after ICAL %R 70% - 130%	Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L) ⁴	QAPP may have overriding accuracy limits.
Continuing Calibration Sensitivity	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders * RRF ≥ 0.005 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration Stability	%D ≤ 25% except: %D ≤ 40% poor responders * %D ≤ 50% 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L) ⁴	

Volatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8260C)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Blank Contamination					
Method Blank (MB)	<u>MB: One per matrix per batch (of ≤ 20 samples)</u> No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	7	10X action level for methylene chloride, acetone, & 2-butanone. 5X for all other target analytes Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review TB, qualify as needed #3 - Review FB, qualify as needed Note: Actions as per NFG 1999
	No TICs present		R (pos) TICs using 10X rule		
Trip Blank (TB)	No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	6	
Field Blank (FB)	No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L) ⁴	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits.
LCS/LCSD RPD	If LCSD analyzed RPD < lab limits	Method ⁽³⁾	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ⁴	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Surrogates	Added to all samples Within method/laboratory control limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %R >UCL J (pos)/UJ (ND) if %R <LCL J (pos)/R (ND) if <10%	13 (H,L) ⁴	No action if there are 4+ surrogates and only 1 outlier Qualify all compounds if qualification is required.
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Qualify compounds quantified using particular internal standard

**Volatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8260C)**

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L) ⁴	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) If RPD > control limit	9	Qualify parent sample only
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification and Quantitation					
Retention Time Relative Ion Intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG ⁽¹⁾ Method ⁽³⁾	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG ⁽¹⁾ Method ⁽³⁾	NJ TIC R (pos) if common laboratory contaminants	4	Common laboratory contaminants: aldol condensation products, solvent preservatives, and reagent contaminants
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Organic Data Review, June, 2008² National Functional Guidelines for Organic Data Review, Oct, 1999³ Method SW846 8260C Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)⁴ NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

* "Poor responder" compounds: Acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, cyclohexane, 1,2-dibromoethane, dichlorodifluoromethane, cis-1,2-dichloroethene, 1,2-dichloropropane, 1,2-dibromo-3-chloropropane, 2-hexanone, isopropylbenzene, methyl acetate, methylene chloride, methylcyclohexane, 4-methyl-2-pentanone, methyl tert-butyl ether, trans-1,2-dichloroethene, trichlorofluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane **criterion is 0.010 RRF**; 1,4-dioxane RRF **criterion is 0.005**.

(pos): Positive Result

(ND): Non-detect

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG ⁽¹⁾ Method ⁽³⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use PJ for temp outliers; see TM20 Current SW846 criterion is ≤ 6° C ⁽³⁾
Holding Time	Extraction Aqueous: 7 days from collection Extraction Solid: 14 days from collection Analysis (all matrices): 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG ⁽¹⁾ Method ⁽³⁾	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG ⁽¹⁾ Method ⁽³⁾	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration Sensitivity	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5A	TM-06 EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance PJ - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration Stability	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * or co-efficient of determination (r ²) > 0.99	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %RSD > limit or r ² value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L) ⁴	QAPP may have overriding accuracy limits.

DATA VALIDATION CRITERIA

Table: NFG-SVOC-GCMS
 Revision No.: 8
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Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration Sensitivity	RRF \geq 0.05 except: RRF \geq 0.01 poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration Stability	Prior to sample analysis and every 12 hours %D \leq 25% except: %D \leq 40.0% poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L) ⁴	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of \leq 20 samples) No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review FB , qualify as needed Note: Actions as per 1999 NFG
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of \leq 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L) ⁴	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method ⁽³⁾	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result \pm 20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ⁴	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of \leq 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L) ⁴	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of \leq 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L) ⁴	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Qualify compounds quantified using particular internal standard
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG ⁽¹⁾ Method ⁽³⁾	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG ⁽¹⁾ Method ⁽³⁾	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Organic Data Review, June, 2008

(pos): Positive Result(s)

² National Functional Guidelines for Organic Data Review, October, 1999

(ND): Non-detects

³ Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.

⁴ NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG ⁽¹⁾ Method ⁽²⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C ⁽³⁾
Holding Time	Extraction Aqueous: 7 days from collection Extraction Solid: 14 days from collection Extraction Tissue/Sediment (frozen): 1 year Analysis (all matrices): 40 days from extraction	NFG ⁽¹⁾ Method ⁽²⁾	If required by project: J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Use PJ to qualify for holding time outlier. Current SW846 does not have an extraction holding time limit. ⁽³⁾ Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Aroclors (± 0.07)	NFG ⁽¹⁾	NJ (pos)/R (ND) results for analytes with RT shifts	24	
Initial Calibration	Minimum 5 point with RSD ≤ 20% OR correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with co-efficient of determination (r ² -value) ≥ 0.99	NFG ⁽¹⁾ Method ⁽⁴⁾	J (pos) if %RSD greater than 20% OR r-value < 0.995 OR r ² -value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) ⁽⁵⁾ where appropriate
Initial Calibration Verification (ICV)	No NFG criteria. Project specific.	Project	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) where appropriate
Continuing Calibration (Prior to each 12 hr. shift)	%D ± 20%	Method ⁽²⁾	If > 20% (high bias): J (pos) If < 20% (low bias): J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L) where appropriate
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is less than appropriate 5X action level.	7	Hierarchy of blank review: #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed Note: Actions as per NFG 1999 Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG ⁽¹⁾	U (pos) if result is less than appropriate 5X action level.	7	

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) AR1016 and AR1260: %R = 29% - 135%, or project limits	NFG ⁽¹⁾ Method ⁽²⁾	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria. No action if native analyte conc. > 5x the amount spiked. Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in parent sample.
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) AR1016: RPD < 15%, AR1260: RPD < 20% or project limits	NFG ⁽¹⁾ Method ⁽²⁾	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND.
LCS	One per lab batch (of ≤ 20 samples) AR1016 and AR1260: %R = 50% - 150%, or project limits	NFG ⁽¹⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in associated samples.
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG ⁽¹⁾	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Precision and Accuracy					
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% or project limits	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (sample dilution is a factor), use PJ Use bias flags (H,L) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method ⁽²⁾	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	use project limits if specified

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info.
Calibration Range	on column concentration < high calibration standard	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 Rev. 1 for additional info.
Sample Clean-up					
GPC/Sulfur/ Florisil/Acid	No criteria - cleanups are optional	NFG ⁽¹⁾ Method ⁽²⁾	Use Professional Judgment	14	special cleanups may be required for project cleanup standards may be associated with GPC/florisil cleanups

¹ National Functional Guidelines for Organic Data Review, June, 2008

² Polychlorinated Biphenyls (PCBs) by Gas Chromatography USEPA Method SW846 8082A, Feb 2007, Rev. 1

³ SW846, Chapter 4, Organic Analytes

⁴ Determinative Chromatographic Separations, Method 8000C, March 2003, Rev.3

⁵ "H" = high bias indicated; "L" = low bias indicated

**EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Gasoline Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Gx,
 June 1997, Wa DOE & Oregon DEQ)**

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling				
Cooler Temperature & Preservation	4°C±2°C Water: HCl to pH < 2	J(+)/UJ(-) if greater than 6°C	1	
Holding Time	Waters: 14 days preserved 7 days unpreserved Solids: 14 Days	J(+)/UJ(-) if hold times exceeded J(+)/R(-) if exceeded > 3X	1	Professional Judgement
Instrument Performance				
Initial Calibration	5 calibration points (All within 15% of true value) Linear Regression: $r^2 \geq 0.990$ If used, RSD of response factors $\leq 20\%$	Narrate if fewer than 5 calibration levels or if %R > 15% J(+)/UJ(-) if $r^2 < 0.990$ J(+)/UJ(-) if %RSD > 20%	5A	
Mid-range Calibration Check Std.	Analyzed before and after each analysis shift & every 20 samples. Recovery range 80% to 120%	Narrate if frequency not met. J(+)/UJ(-) if %R < 80% J(+) if %R > 120%	5B	
Blank Contamination				
Method Blank	At least one per batch (≤ 10 samples) No results > RL	U (at the RL) if sample result is < RL & < 5X blank result.	7	
		U (at reported sample value) if sample result is \geq RL and < 5X blank result	7	
Trip Blank (if required by project)	No results > RL	Action is same as method blank for positive results remaining in trip blank after method blank qualifiers are assigned.	18	
Field Blanks (if required by project)	No results > RL	Action is same as method blank for positive results remaining in field blank after method and trip blank qualifiers are assigned.	6	

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Gasoline Range
(Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Gx,
June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy				
MS samples (accuracy) (if required by project)	%R within lab control limits	Qualify parent only, unless other QC indicates systematic problems. J(+) if both %R > upper control limit (UCL) J(+)/UJ(-) if both %R < lower control limit (LCL) No action if parent conc. >5X the amount spiked.	8	Use Professional Judgement if only one %R outlier
Precision: MS/MSD or LCS/LCSD or sample/dup	At least one set per batch (≤10 samples) RPD ≤ lab control limit	J(+) if RPD > lab control limits	9	
LCS (not required by method)	%R within lab control limits	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10%	10	Professional Judgement
Surrogates	Bromofluorobenzene and/or 1,4-difluorobenzene added to all samples (inc. QC samples). %R = 50-150%	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10% No action if 2 or more surrogates are used, and only one is outside control limits.	13	Professional Judgement
Pattern Identification	Compare sample chromatogram to standard chromatogram to ensure range and pattern are reasonable match. Laboratory may flag results which have poor match.	J(+)	2	
Field Duplicates	Use project control limits, if stated in QAPP EcoChem default: water: RPD < 35% solids: RPD < 50%	Narrate outliers If required by project, qualify with J(+)/UJ(-)	9	
Compound ID and Calculation				
Two analyses for one sample (e.g., dilution)	Report only one result per analyte	"DNR" (or client requested qualifier) all results that should not be reported.	11	See EcoChem TM-04

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling				
Cooler Temperature & Preservation	4°C±2°C Water: HCl to pH < 2	J(+)/UJ(-) if greater than 6 deg. C	1	
Holding Time	Ext. Waters: 14 days preserved 7 days unpreserved Ext. Solids: 14 Days Analysis: 40 days from extraction	J(+)/UJ(-) if hold times exceeded J(+)/R(-) if exceeded > 3X	1	Professional Judgement
Instrument Performance				
Initial Calibration	5 calibration points (All within 15% of true value) Linear Regression: $r^2 \geq 0.990$ If used, RSD of response factors $\leq 20\%$	Narrate if fewer than 5 calibration levels or if %R > 15% J(+)/UJ(-) if $r^2 < 0.990$ J(+)/UJ(-) if %RSD > 20%	5A	
Mid-range Calibration Check Std.	Analyzed before and after each analysis shift & every 20 samples. Recovery range 85% to 115%	Narrate if frequency not met. J(+)/UJ(-) if %R < 85% J(+) if %R > 115%	5B	
Blank Contamination				
Method Blank	At least one per batch (≤ 20 samples) No results > RL	U (at the RL) if sample result is < RL & < 5X blank result.	7	
		U (at reported sample value) if sample result is \geq RL and < 5X blank result	7	
Field Blanks (if required by project)	No results > RL	Action is same as method blank for positive results remaining in the field blank after method blank qualifiers are assigned.	6	

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy				
MS samples (accuracy) (if required by project)	%R within lab control limits	Qualify parent only, unless other QC indicates systematic problems. J(+) if both %R > upper control limit (UCL) J(+)/UJ(-) if both %R < lower control limit (LCL) No action if parent conc. >5X the amount spiked.	8	Use Professional Judgement if only one %R outlier
Precision: MS/MSD or LCS/LCSD or sample/dup	At least one set per batch (≤10 samples) RPD ≤ lab control limit	J(+) if RPD > lab control limits	9	
LCS (not required by method)	%R within lab control limits	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10%	10	Professional Judgement
Surrogates	2-fluorobiphenyl, p-terphenyl, o-terphenyl, and/or pentacosane added to all samples (inc. QC samples). %R = 50-150%	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10% No action if 2 or more surrogates are used, and only one is outside control limits.	13	Professional Judgement
Pattern Identification	Compare sample chromatogram to standard chromatogram to ensure range and pattern are reasonable match. Laboratory may flag results which have poor match.	J(+)	2	
Field Duplicates	Use project control limits, if stated in QAPP EcoChem default: water: RPD < 35% solids: RPD < 50%	Narrate (Use Professional Judgement to qualify)	9	

**EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)**

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound ID and Calculation				
Two analyses for one sample (dilution)	Report only one result per analyte	"DNR" (or client requested qualifier) all results that should not be reported.	11	See EcoChem TM-04

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG ⁽¹⁾ Method ⁽²⁾	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C ⁽⁴⁾ No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	All matrices: 180 days from date sampled Frozen soils, sediments, tissues (-20°C) - HT extended to 1 year	NFG ⁽¹⁾ Method ⁽²⁾ EcoChem standard policy	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Tune	Analyzed prior to ICAL tuningsolution analyzed 5 times with Std. Dev. ≤ 5% Mass calibration < 0.1 amu difference from target mass Resolution < 0.9 amu @ 10% peak height	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) if tune criteria not met	5A	Use PJ to evaluate tune. Alternate Resolution criteria may apply based on instrument specs (i.e <0.75 amu at 5% peak height)
Initial Calibration (ICAL)	Based on instrument requirements, blank + 1 standard minimum requirement for calibration If more than 1 standard used, r ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R >111%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard Low Level ICV/CCV	concentration at RL %R = 70%-130%	Method ⁽²⁾	J (pos) < 2x RL / R (ND) if %R <50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance cont'd					
Continuing Calibration Verification (CCV)	Immediately following ICV/ICB, then every two hours or ten samples, and at end of run. %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R = 75% - 89% J (pos) if %R > 111%	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Interference Check Samples (ICSA / ICSAB)	ICSAB %R 80% - 120% for all spiked elements ICSA < MDL for all unspiked elements	NFG ⁽¹⁾ Method ⁽²⁾	For samples with Al, Ca, Fe, Mg > ICS levels: ICSAB: J(pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R = 50% - 79% J (pos) if %R > 120% ICSA: J (pos) < 2x ICSA/UJ (ND) for ICSA < Neg MDL J (pos) < 2x ICSA for ICSA > MDL	17 (H,L) ³	Use PJ and molecular interferences to evaluate ICSA to determine if bias is present. Refer to TM-14 for additional information.
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blks: 7 Neg Blks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB , qualify as needed #3 - Review FB , qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
Internal Standards (IS)	Added to all samples. All analytes must be associated with an internal standard 60-125% of cal blank IS	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) all analytes associated with IS outlier	19	6020A criteria - IS >70% of ICAL std
LCS (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG Limits 70% -130%
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%, unless post digestion spike analyzed, J (pos)/UJ (ND) if post digestion spike %R OK	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Post Digestion Spikes	If MS is outside 75-125%, post-spike should be analyzed %R 80%-120% (method); 75%-125% (NFG)	NFG ⁽¹⁾ Method ⁽²⁾	Only used to support MS qualification decisions	NA	No qualifiers assigned based solely on this element.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.

**Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)**

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy cont'd					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Serial Dilution	Analyze one sample per matrix at a 5x dilution %D <10% for original sample conc. > 50x MDL	NFG ⁽¹⁾	J(pos)/UJ(ND) if %D > 10% and native sample concentration > 50x MDL	16	Note serial dilutions for soil are reported in ug/L, but the MDL is in mg/kg. The units need to be adjusted. Qualify all samples in batch.
Field Duplicate	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project (EcoChem PJ) Qualify only field duplicate samples J(pos)/UJ(ND)	9	QAPP may have overriding precision limits.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² Method SW846 6020A Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Revision 1, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result

(ND): Not detected

Mercury by CVAA
(Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG ⁽¹⁾ Method ⁽²⁾	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C (4) No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	28 days from date sampled Frozen solids and tissues HT extended to 6 months	NFG ⁽¹⁾ Method ⁽²⁾ EcoChem standard policy	J (pos)/UJ (ND) if HT exceeded	1	
Instrument Performance					
Initial Calibration (ICAL)	Daily Calibration Blank + 5 standards, one ≤ RL Correlation coefficient (r) ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if r < 0.995	5A (H,L) ³	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after ICAL %R within ± 15% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R(pos/ND) if %R < 70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard	Conc = RL %R = 70-130%	Method ⁽²⁾	J (pos) < 2x RL / R (ND) if %R < 50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	At beginning of run, every ten samples, and again after last sample. %R within ± 15% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R(pos/ND) if %R < 70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994

Mercury by CVAA
 (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blanks: 7 Neg Blanks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.
Precision and Accuracy					
Laboratory Control Sample (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG does not address LCS
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
Matrix Spike/Matrix Spike Duplicate MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R < 75% J (pos)/R (ND) if %R < 30%	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration > 4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.

Mercury by CVAA
(Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Field Duplicate	Solids: RPD <50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² Method SW846 7470A Mercury in Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994.
 Method SW846 7471B Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result
 (ND): Not Detected



APPENDIX B

QUALIFIED DATA SUMMARY TABLE

**Qualified Data Summary Table
Boeing Kent Space Center**

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason	
17A0195	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1260		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1254		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1268		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1221		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1232		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1248		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1016		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1262		ug/L	U	DNR	11	
	KSC - MH-15.10 - W	17A0195-04	SW8082A	Aroclor 1242		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1260		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1254		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1268		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1221		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1232		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1248		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1016		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1262		ug/L	U	DNR	11	
	KSC - MH-16.12 - W	17A0195-03	SW8082A	Aroclor 1242		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1260		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1254	0.013	ug/L			DNR	11
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1268		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1221		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1232		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1248		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1016		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1262		ug/L	U	DNR	11	
	KSC - MH-20.235 - W	17A0195-02	SW8082A	Aroclor 1242		ug/L	U	DNR	11	
	KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1260		ug/L	U	DNR	11	
	KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1254		ug/L	U	DNR	11	
	KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1268		ug/L	U	DNR	11	
	KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1221		ug/L	U	DNR	11	
	KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1232		ug/L	U	DNR	11	
	KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1248		ug/L	U	DNR	11	
KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1016		ug/L	U	DNR	11		
KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1262		ug/L	U	DNR	11		
KSC - MH-20.237 - W	17A0195-01	SW8082A	Aroclor 1242		ug/L	U	DNR	11		

**Qualified Data Summary Table
Boeing Kent Space Center**

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
17A0195	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1260		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1254		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1268		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1221		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1232		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1248		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1016		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1262		ug/L	U	DNR	11
	KSC - OF-16 - W	17A0195-05	SW8082A	Aroclor 1242		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1260		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1254		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1268		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1221		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1232		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1248		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1016		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1262		ug/L	U	DNR	11
	KSC - OF-NDP - W	17A0195-06	SW8082A	Aroclor 1242		ug/L	U	DNR	11
	17A0243	KSC - OF 20 - W	17A0243-01	SW8082A	Aroclor 1260		ug/L	U	DNR
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1254		ug/L	U	DNR	11
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1268		ug/L	U	DNR	11
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1221		ug/L	U	DNR	11
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1232		ug/L	U	DNR	11
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1248		ug/L	U	DNR	11
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1016		ug/L	U	DNR	11
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1262		ug/L	U	DNR	11
KSC - OF 20 - W		17A0243-01	SW8082A	Aroclor 1242		ug/L	U	DNR	11



DATA VALIDATION REPORT

BOEING KENT SPACE CENTER SOIL & GROUND WATER SAMPLING

Prepared for:

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Approved for Release:

A handwritten signature in black ink that reads "Christina Mott Frans". The signature is written in a cursive style.

Christina Mott Frans
Senior Project Manager
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PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of the summary validation (Stage 2A) performed on soil and groundwater samples and the associated laboratory and field quality control samples for the Boeing Kent Space Center. A complete list of samples is provided in the **Sample Index**.

Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania and Analytical Resources, Incorporated, Tukwila, Washington. The analytical method and EcoChem project chemists are listed in the following table:

ANALYSIS	METHOD OF ANALYSIS	PRIMARY REVIEW	SECONDARY REVIEW
Volatile Organic Compounds (VOC)	SW8260C	R. Frans	C. Frans
Total Petroleum Hydrocarbons – Diesel & Residual Range	NWTPH-Dx		
Total Petroleum Hydrocarbons – Mineral Oil Range	NWTPH-Dx		
Total Petroleum Hydrocarbons – Gasoline Range	NWTPH-Gx		
Total & Dissolved Metals and Mercury	EPA 200.8, SW6020A & SW7470A		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; the sampling and analysis plan (SAP) for the *Remedial Investigation Work Plan Boeing Kent Space Center Facility, Ecology Review Draft* (Landau Associates, July 29, 2016); *USEPA National Functional Guidelines for Organic Data Review* (EPA, 1999 & 2008); and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 2010 & 2014).

EcoChem's goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as **Appendix A**. A Qualified Data Summary Table is included in **Appendix B**. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Boeing Kent Space Center

SDG	Sample ID	Lab Sample ID	NWTPH-Gx	NWTPH-Dx	Mineral Oil	VOCs	Total Metals	Dissolved Metals	Moisture
17A0322	KSC-SB9-GW	17A0322-01			✓				
	KSC-SB10-GW	17A0322-02			✓				
	KSC-SB11-GW	17A0322-03			✓				
	KSC-SB12-GW	17A0322-04			✓				
1759258	KSC-SB1-GW	8807826						✓	
	KSC-SB2-GW	8807827						✓	
	KSC-SB6-GW	8807828		✓		✓			
	KSC-SB7-GW	8807829		✓		✓			
	KSC-SB8-GW	8807830		✓		✓			
	KSC-SB8-GW	8807831						✓	
	KSC-SB9-GW	8807832		✓					
	KSC-SB10-GW	8807833		✓					
	KSC-SB11-GW	8807834		✓					
	KSC-SB12-GW	8807835		✓					
	KSC-SB12-GW	8807836						✓	
	KSC-SB19-GW	8807840	✓			✓			
	KSCRI-SB1-(11.5-12.5)	8807838					✓		✓
	KSCRI-SB2-(11.5-12.5)	8807839					✓		✓
Trip Blank	8807837				✓				
1759583	KSC-SB3-GW	8809605		✓					
	KSC-SB3-GW	8809607						✓	
	KSC-SB4-GW	8809606		✓					
	KSC-SB5-GW	8809608		✓					
	KSC-SB18-GW	8809609	✓			✓			
	KSC-SB20-GW	8809610	✓			✓			
	Trip Blank	8809611	✓			✓			
	KSCRI-SB3-(8.5-9.5')	8809612		✓			✓		✓
	KSCRI-SB4-(8-9')	8809613		✓					✓
	KSCRI-SB5-(11-12')	8809614		✓					✓

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Volatile Organic Compounds - Method SW8260C
Vinyl Chloride - Method SW8260C-SIM

This report documents the review of analytical data from the analyses of groundwater samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1759258	3 groundwater samples and 1 trip blank	Stage 2A
1759583	2 groundwater sample and 1 trip blank	Stage 2A
1759584	3 groundwater sample and 1 trip blank	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

SDG 1759584: Sample KSC-SBD1-GW listed on the COC was logged in and reported in the laboratory report and the EDD as KSC-SBDI-GW. The client was contacted and verified the COC was correct. The EDD was updated correct sample ID.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
✓	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	✓	Reporting Limits
✓	Surrogate Compounds	✓	Reported Results
✓	Laboratory Control Samples (LCS)	✓	Target Analyte List
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

- ✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*
- 1 *Quality control outliers are discussed below, but no data were qualified.*
- 2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be analyzed within 14 days for aqueous samples.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding time.

Field Blanks

Trip blanks were included with all SDGs; target analytes were not detected in the trip blank samples.

Field Duplicates

SDG 1759584: One field duplicate set was submitted with this SDG: KSC-SB13-GW & KSC-SBD1-GW. Field precision was acceptable.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

No anomalies were noted during validation for evaluated results

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the surrogate, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) recovery values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Gasoline Range Organics - Method NWTPH-Gx

This report documents the review of analytical data from the analyses of and groundwater samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1759258	1 groundwater sample	Stage 2A
1759583	2 groundwater samples and 1 trip blank	Stage 2A
1759584	3 groundwater samples and 1 trip blank	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

SDG 1759584: Sample KSC-SBD1-GW listed on the COC was logged in and reported in the laboratory report and the EDD as KSC-SBDI-GW. The client was contacted and verified the COC was correct. The EDD was updated correct sample ID.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	✓	Reported Results
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.

1 Quality control results are discussed below, but no data were qualified.

2 Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be analyzed within 14 days for aqueous samples.

All coolers were received at the laboratory within the advisory temperature range. All samples were analyzed within the required holding time.

Field Blanks

SDG 1759258: A trip blank was not included with this SDG.

SDG 1759583 and 1759584: Trip blanks were included with both SDGs; GRO was not detected in the trip blank samples.

Field Duplicates

SDG 1759584: One field duplicate set was submitted with this SDG: KSC-SB13-GW & KSC-SBD1-GW. Field precision was acceptable.

Target Analyte List

The target analyte as specified in the QAPP/SAP was reported.

Reporting Limits

The target analyte reporting limit specified in the QAPP/SAP was met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exception noted above, accuracy was acceptable as demonstrated by the surrogate, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) recovery values. Precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Diesel Range Organics - Method NWTPH-Dx

This report documents the review of analytical data from the analyses of soil and groundwater samples and the associated field and laboratory quality control (QC) samples. Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1759258	8 groundwater samples	Stage 2A
1759583	3 groundwater samples and 3 soil samples	Stage 2A
1759584	5 groundwater samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

SDG 1759584: Sample KSC-SBD1-GW listed on the COC was logged in and reported in the laboratory report and the EDD as KSC-SBDI-GW. The client was contacted and verified the COC was correct. The EDD was updated correct sample ID.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	1	Matrix Spikes/Matrix Spike Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
2	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	2	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed*

1 *Quality control outliers are discussed below, but no data were qualified.*

2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 7 days for aqueous samples and extracts must be analyzed within 40 days of extraction.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding times.

SDG 1759258: All samples were re-extracted and re-analyzed due to low surrogate recoveries. The samples were re-extracted out of holding time, both sets of sample results were reported in the sample delivery group for comparability.

Field Blanks

No field blanks were submitted with this sampling event.

Surrogate Compounds

SDG 1759258: The surrogate percent recovery (%R) for chlorobenzene was less than the lower control limit in Sample KCS-SB11-GW indicating a potential low bias; the result was qualified (J-13L).

The surrogate %R for chlorobenzene was also less than the lower control limit in the method blank, laboratory control sample and the laboratory control sample duplicate; the samples were QC; therefore no results were qualified.

Field Duplicates

SDG 1759584: One field duplicate set was submitted with this SDG: KSC-SB13-GW & KSC-SBD1-GW. Field precision was acceptable.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

SDG 1759258: Results were reported from both the original and re-extracted analysis batches. The re-extracted results were flagged as do-not-report (DNR-11) to indicate which results from multiple reported results should not be used.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the surrogate, laboratory control sample/laboratory control sample duplicate (LCS/LCSD), and matrix spike/matrix spike duplicate (MS/MSD) percent recovery values. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and laboratory and field duplicate relative percent difference values.

One result was estimated due to a surrogate recovery outlier.

Results were flagged as do-not-report (DNR) to indicate which result, from multiple analyses, should not be used. Data that have been flagged as DNR should not be used for any purpose.

All other data, as qualified, are acceptable for use. A useable result remains for all analytes in all samples; completeness is unaffected.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Mineral Oil Range Organics - Method NWTPH-Dx

This report documents the review of analytical data from the analyses of groundwater samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17A0322	4 groundwater samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The laboratory originally submitted this data package with mineral oil and diesel range organic (DRO) results reported. Upon request by the client, the DRO results were removed from the package to avoid confusion as this analyte was being tested and reported by a different laboratory. The laboratory only spikes the laboratory control sample (LCS) with DRO and with removal of DRO as a target analyte; the LCS results were no longer included in the updated data package. The LCS results were evaluated from the original pdf laboratory package.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Preservation and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	✓	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates		

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed*

1 *Quality control outliers are discussed below, but no data were qualified.*

2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Preservation and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 7 days for aqueous samples and extracts must be analyzed within 40 days of extraction.

All coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding times.

Field Blanks

No field blanks were submitted with this data set.

Matrix Spikes/Matrix Spike Duplicates

There were no matrix spike samples analyzed with this SDG.

Field Duplicate Samples

There were no field duplicates identified in this SDG.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Compound Identification

No anomalies were noted during validation for compound identification.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the surrogate and laboratory control sample percent recovery values. Precision could not be evaluated with this data set.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Total & Dissolved Metals - Method EPA 200.8 & SW6020A

This report documents the review of analytical data from the analyses of soil and groundwater samples and the associated field and laboratory quality control (QC) samples. Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES AND MATRIX	VALIDATION LEVEL
1759258	4 groundwater samples and 2 soil samples	Stage 2A
1759583	1 ground water sample and 1 soil sample	Stage 2A
1759584	4 groundwater samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

SDG 1759584: Sample KSC-SBD1-GW listed on the COC was logged in and reported in the laboratory report and the EDD as KSC-SBDI-GW. The client was contacted and verified the COC was correct. The EDD was updated with the correct sample ID.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
✓	Laboratory Control Samples (LCS)	✓	Target Analyte List
2	Matrix Spikes (MS)	✓	Reporting Limits
1	Field Blanks	✓	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*
 1 *Quality control outliers are discussed below, but no data were qualified.*
 2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be analyzed within 180 days for aqueous and solid ICP-MS metals samples.

All coolers were received at the laboratory within the advisory temperature range. All samples were analyzed within the required holding times.

Matrix Spikes

SDG 1759253: Sample KSCRI-SB3-(8.5-9.5) was used for the matrix spike analyses. The percent recovery for arsenic in the matrix spike sample was greater than the upper control limit. The matrix spike duplicate was within control limits; no results were qualified based on this single outlier.

The RPD value for this MS/MSD pair was greater than the control limit; associated samples in the batch (including samples from SDG 1759258) were estimated (J-9).

Field Blanks

Field blanks were not submitted with this data set.

Field Duplicates

SDG 1759584: One field duplicate set was submitted with this SDG: KSC-SB13-GW & KSC-SBD1-GW. Field precision was acceptable.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) recovery values. Precision was acceptable as demonstrated by the MS/MSD and laboratory and field duplicate RPD values.

Results were qualified based on a matrix spike precision outlier.

All data, as qualified, are acceptable for use.



APPENDIX A

DATA QUALIFIER DEFINITIONS REASON CODES AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES

Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.
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DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L) ¹ where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L) ¹ where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L) ¹ for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L) ¹ where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L) ¹ where appropriate
	12	Reference Material Use bias flags (H,L) ¹ where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L) ¹ where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L) ¹ where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2 nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

¹H = high bias indicated

L = low bias indicated

Volatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8260C)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C Aqueous: HCl to pH < 2 Current SW846 criterion is ≤ 6° C ⁽³⁾	NFG ⁽¹⁾ Method ⁽³⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use PJ for temp outliers; see TM20 if pH ≤ 2, reject 2-chloroethyl vinyl ether (R-1) some projects may require methanol preserved soils/seds
Holding Time	Aqueous: 14 days preserved 7 Days: unpreserved Solid: 14 Days	NFG ⁽¹⁾ Method ⁽³⁾	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	BFB Beginning of each 12 hour period Use method or project acceptance criteria	NFG ⁽¹⁾ Method ⁽³⁾	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration Sensitivity	Minimum 5 standards RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders * RRF ≥ 0.005 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5A	TM-06 EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance PJ - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration Stability	%RSD ≤ 20% except: %RSD ≤ 40% poor responders * %RSD ≤ 50% 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %RSD > limit	5A	
Initial Calibration Verification	Second source analyzed immediately after ICAL %R 70% - 130%	Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L) ⁴	QAPP may have overriding accuracy limits.
Continuing Calibration Sensitivity	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders * RRF ≥ 0.005 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration Stability	%D ≤ 25% except: %D ≤ 40% poor responders * %D ≤ 50% 1,4-dioxane	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L) ⁴	

Volatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8260C)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Blank Contamination					
Method Blank (MB)	<u>MB: One per matrix per batch (of ≤ 20 samples)</u> No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	7	10X action level for methylene chloride, acetone, & 2-butanone. 5X for all other target analytes Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review TB, qualify as needed #3 - Review FB, qualify as needed Note: Actions as per NFG 1999
	No TICs present		R (pos) TICs using 10X rule		
Trip Blank (TB)	No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	6	
Field Blank (FB)	No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L) ⁴	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits.
LCS/LCSD RPD	If LCSD analyzed RPD < lab limits	Method ⁽³⁾	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ⁴	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Surrogates	Added to all samples Within method/laboratory control limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %R >UCL J (pos)/UJ (ND) if %R <LCL J (pos)/R (ND) if <10%	13 (H,L) ⁴	No action if there are 4+ surrogates and only 1 outlier Qualify all compounds if qualification is required.
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Qualify compounds quantified using particular internal standard

**Volatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
(Based on NFG 1999 & 2008 and SW-846 Method 8260C)**

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L) ⁴	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) If RPD > control limit	9	Qualify parent sample only
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification and Quantitation					
Retention Time Relative Ion Intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG ⁽¹⁾ Method ⁽³⁾	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG ⁽¹⁾ Method ⁽³⁾	NJ TIC R (pos) if common laboratory contaminants	4	Common laboratory contaminants: aldol condensation products, solvent preservatives, and reagent contaminants
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Organic Data Review, June, 2008² National Functional Guidelines for Organic Data Review, Oct, 1999³ Method SW846 8260C Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)⁴ NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

* "Poor responder" compounds: Acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, cyclohexane, 1,2-dibromoethane, dichlorodifluoromethane, cis-1,2-dichloroethene, 1,2-dichloropropane, 1,2-dibromo-3-chloropropane, 2-hexanone, isopropylbenzene, methyl acetate, methylene chloride, methylcyclohexane, 4-methyl-2-pentanone, methyl tert-butyl ether, trans-1,2-dichloroethene, trichlorofluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane **criterion is 0.010 RRF**; 1,4-dioxane RRF **criterion is 0.005**.

(pos): Positive Result

(ND): Non-detect

**EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Gasoline Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Gx,
 June 1997, Wa DOE & Oregon DEQ)**

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling				
Cooler Temperature & Preservation	4°C±2°C Water: HCl to pH < 2	J(+)/UJ(-) if greater than 6°C	1	
Holding Time	Waters: 14 days preserved 7 days unpreserved Solids: 14 Days	J(+)/UJ(-) if hold times exceeded J(+)/R(-) if exceeded > 3X	1	Professional Judgement
Instrument Performance				
Initial Calibration	5 calibration points (All within 15% of true value) Linear Regression: $r^2 \geq 0.990$ If used, RSD of response factors $\leq 20\%$	Narrate if fewer than 5 calibration levels or if %R > 15% J(+)/UJ(-) if $r^2 < 0.990$ J(+)/UJ(-) if %RSD > 20%	5A	
Mid-range Calibration Check Std.	Analyzed before and after each analysis shift & every 20 samples. Recovery range 80% to 120%	Narrate if frequency not met. J(+)/UJ(-) if %R < 80% J(+) if %R > 120%	5B	
Blank Contamination				
Method Blank	At least one per batch (≤ 10 samples) No results > RL	U (at the RL) if sample result is < RL & < 5X blank result.	7	
		U (at reported sample value) if sample result is \geq RL and < 5X blank result	7	
Trip Blank (if required by project)	No results > RL	Action is same as method blank for positive results remaining in trip blank after method blank qualifiers are assigned.	18	
Field Blanks (if required by project)	No results > RL	Action is same as method blank for positive results remaining in field blank after method and trip blank qualifiers are assigned.	6	

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Gasoline Range
(Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Gx,
June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy				
MS samples (accuracy) (if required by project)	%R within lab control limits	Qualify parent only, unless other QC indicates systematic problems. J(+) if both %R > upper control limit (UCL) J(+)/UJ(-) if both %R < lower control limit (LCL) No action if parent conc. >5X the amount spiked.	8	Use Professional Judgement if only one %R outlier
Precision: MS/MSD or LCS/LCSD or sample/dup	At least one set per batch (≤10 samples) RPD ≤ lab control limit	J(+) if RPD > lab control limits	9	
LCS (not required by method)	%R within lab control limits	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10%	10	Professional Judgement
Surrogates	Bromofluorobenzene and/or 1,4-difluorobenzene added to all samples (inc. QC samples). %R = 50-150%	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10% No action if 2 or more surrogates are used, and only one is outside control limits.	13	Professional Judgement
Pattern Identification	Compare sample chromatogram to standard chromatogram to ensure range and pattern are reasonable match. Laboratory may flag results which have poor match.	J(+)	2	
Field Duplicates	Use project control limits, if stated in QAPP EcoChem default: water: RPD < 35% solids: RPD < 50%	Narrate outliers If required by project, qualify with J(+)/UJ(-)	9	
Compound ID and Calculation				
Two analyses for one sample (e.g., dilution)	Report only one result per analyte	"DNR" (or client requested qualifier) all results that should not be reported.	11	See EcoChem TM-04

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling				
Cooler Temperature & Preservation	4°C±2°C Water: HCl to pH < 2	J(+)/UJ(-) if greater than 6 deg. C	1	
Holding Time	Ext. Waters: 14 days preserved 7 days unpreserved Ext. Solids: 14 Days Analysis: 40 days from extraction	J(+)/UJ(-) if hold times exceeded J(+)/R(-) if exceeded > 3X	1	Professional Judgement
Instrument Performance				
Initial Calibration	5 calibration points (All within 15% of true value) Linear Regression: $r^2 \geq 0.990$ If used, RSD of response factors $\leq 20\%$	Narrate if fewer than 5 calibration levels or if %R > 15% J(+)/UJ(-) if $r^2 < 0.990$ J(+)/UJ(-) if %RSD > 20%	5A	
Mid-range Calibration Check Std.	Analyzed before and after each analysis shift & every 20 samples. Recovery range 85% to 115%	Narrate if frequency not met. J(+)/UJ(-) if %R < 85% J(+) if %R > 115%	5B	
Blank Contamination				
Method Blank	At least one per batch (≤ 20 samples) No results > RL	U (at the RL) if sample result is < RL & < 5X blank result.	7	
		U (at reported sample value) if sample result is \geq RL and < 5X blank result	7	
Field Blanks (if required by project)	No results > RL	Action is same as method blank for positive results remaining in the field blank after method blank qualifiers are assigned.	6	

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy				
MS samples (accuracy) (if required by project)	%R within lab control limits	Qualify parent only, unless other QC indicates systematic problems. J(+) if both %R > upper control limit (UCL) J(+)/UJ(-) if both %R < lower control limit (LCL) No action if parent conc. >5X the amount spiked.	8	Use Professional Judgement if only one %R outlier
Precision: MS/MSD or LCS/LCSD or sample/dup	At least one set per batch (≤10 samples) RPD ≤ lab control limit	J(+) if RPD > lab control limits	9	
LCS (not required by method)	%R within lab control limits	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10%	10	Professional Judgement
Surrogates	2-fluorobiphenyl, p-terphenyl, o-terphenyl, and/or pentacosane added to all samples (inc. QC samples). %R = 50-150%	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10% No action if 2 or more surrogates are used, and only one is outside control limits.	13	Professional Judgement
Pattern Identification	Compare sample chromatogram to standard chromatogram to ensure range and pattern are reasonable match. Laboratory may flag results which have poor match.	J(+)	2	
Field Duplicates	Use project control limits, if stated in QAPP EcoChem default: water: RPD < 35% solids: RPD < 50%	Narrate (Use Professional Judgement to qualify)	9	

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound ID and Calculation				
Two analyses for one sample (dilution)	Report only one result per analyte	"DNR" (or client requested qualifier) all results that should not be reported.	11	See EcoChem TM-04

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG ⁽¹⁾ Method ⁽²⁾	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C ⁽⁴⁾ No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	All matrices: 180 days from date sampled Frozen soils, sediments, tissues (-20°C) - HT extended to 1 year	NFG ⁽¹⁾ Method ⁽²⁾ EcoChem standard policy	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Tune	Analyzed prior to ICAL tuningsolution analyzed 5 times with Std. Dev. ≤ 5% Mass calibration < 0.1 amu difference from target mass Resolution < 0.9 amu @ 10% peak height	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) if tune criteria not met	5A	Use PJ to evaluate tune. Alternate Resolution criteria may apply based on instrument specs (i.e <0.75 amu at 5% peak height)
Initial Calibration (ICAL)	Based on instrument requirements, blank + 1 standard minimum requirement for calibration If more than 1 standard used, r ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R >111%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard Low Level ICV/CCV	concentration at RL %R = 70%-130%	Method ⁽²⁾	J (pos) < 2x RL / R (ND) if %R <50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance cont'd					
Continuing Calibration Verification (CCV)	Immediately following ICV/ICB, then every two hours or ten samples, and at end of run. %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R = 75% - 89% J (pos) if %R > 111%	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Interference Check Samples (ICSA / ICSAB)	ICSAB %R 80% - 120% for all spiked elements ICSA < MDL for all unspiked elements	NFG ⁽¹⁾ Method ⁽²⁾	For samples with Al, Ca, Fe, Mg > ICS levels: ICSAB: J(pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R = 50% - 79% J (pos) if %R > 120% ICSA: J (pos) < 2x ICSA/UJ (ND) for ICSA < Neg MDL J (pos) < 2x ICSA for ICSA > MDL	17 (H,L) ³	Use PJ and molecular interferences to evaluate ICSA to determine if bias is present. Refer to TM-14 for additional information.
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blks: 7 Neg Blks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
Internal Standards (IS)	Added to all samples. All analytes must be associated with an internal standard 60-125% of cal blank IS	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) all analytes associated with IS outlier	19	6020A criteria - IS >70% of ICAL std
LCS (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG Limits 70% -130%
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%, unless post digestion spike analyzed, J (pos)/UJ (ND) if post digestion spike %R OK	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Post Digestion Spikes	If MS is outside 75-125%, post-spike should be analyzed %R 80%-120% (method); 75%-125% (NFG)	NFG ⁽¹⁾ Method ⁽²⁾	Only used to support MS qualification decisions	NA	No qualifiers assigned based solely on this element.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.

**Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)**

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy cont'd					
Reference Material (RM, SRM, or CRM)	Result \pm 20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Serial Dilution	Analyze one sample per matrix at a 5x dilution %D <10% for original sample conc. > 50x MDL	NFG ⁽¹⁾	J(pos)/UJ(ND) if %D > 10% and native sample concentration > 50x MDL	16	Note serial dilutions for soil are reported in ug/L, but the MDL is in mg/kg. The units need to be adjusted. Qualify all samples in batch.
Field Duplicate	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project (EcoChem PJ) Qualify only field duplicate samples J(pos)/UJ(ND)	9	QAPP may have overriding precision limits.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² Method SW846 6020A Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Revision 1, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result

(ND): Not detected



APPENDIX B

QUALIFIED DATA SUMMARY TABLE

**Qualified Data Summary Table
Boeing Kent Space Center**

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
1759258	KSC-SB9-GW	8807832RE	NWTPH-Dx modified	Diesel/#2 Fuel		mg/l	U	DNR	11
1759258	KSC-SB8-GW	8807830RE	NWTPH-Dx modified	Diesel/#2 Fuel	0.2	mg/l		DNR	11
1759258	KSC-SB10-GW	8807833RE	NWTPH-Dx modified	Diesel/#2 Fuel	0.17	mg/l		DNR	11
1759258	KSC-SB12-GW	8807835RE	NWTPH-Dx modified	Diesel/#2 Fuel	0.2	mg/l		DNR	11
1759258	KSC-SB11-GW	8807834RE	NWTPH-Dx modified	Diesel/#2 Fuel	0.32	mg/l		DNR	11
1759258	KSC-SB11-GW	8807834	NWTPH-Dx modified	Diesel/#2 Fuel	0.29	mg/l		J	13L
1759258	KSC-SB7-GW	8807829RE	NWTPH-Dx modified	Diesel/#2 Fuel	0.12	mg/l		DNR	11
1759258	KSC-SB6-GW	8807828RE	NWTPH-Dx modified	Diesel/#2 Fuel	0.13	mg/l		DNR	11
1759258	KSCRI-SB2-(11.5-12.5)	8807839	SW6020A	Arsenic	8.59	mg/kg		J	9
1759258	KSCRI-SB1-(11.5-12.5)	8807838	SW6020A	Arsenic	7.57	mg/kg		J	9
1759583	KSCRI-SB3-(8.5-9.5')	8809612	SW6020A	Arsenic	6.71	mg/kg		J	9



DATA VALIDATION REPORT

BOEING KENT SPACE CENTER GROUNDWATER & SEDIMENT SAMPLING

Revision 1

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July 11, 2017

Approved for Release:

A handwritten signature in black ink that reads "Christina Mott Frans".

Christina Mott Frans
Senior Project Manager
EcoChem, Inc.

PROJECT NARRATIVE

Basis for the Data Validation

This report summarizes the results of the summary validation (Stage 2A) performed on groundwater and sediment samples and the associated laboratory and field quality control samples for the Boeing Kent Space Center. A complete list of samples is provided in the **Sample Index**.

Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania and Analytical Resources, Incorporated, Tukwila, Washington. The analytical method and EcoChem project chemists are listed in the following table:

ANALYSIS	METHOD OF ANALYSIS	PRIMARY REVIEW	SECONDARY REVIEW
Polynuclear Aromatic Hydrocarbon Compounds (PAH)	SW8270D-SIM	R. Frans	C. Frans
PCB Aroclors	SW8082A		
Total Petroleum Hydrocarbons – Diesel & Residual Range	NWTPH-Dx		
Total & Dissolved Metals and Mercury	EPA 200.8, SW6020A & SW7470A		
Nitrate & Sulfate	EPA 300.0		

The data were reviewed using guidance and quality control criteria documented in the analytical methods; the sampling and analysis plan (SAP) for the *Remedial Investigation Work Plan Boeing Kent Space Center Facility, Ecology Review Draft* (Landau Associates, July 29, 2016); *USEPA National Functional Guidelines for Organic Data Review* (EPA, 1999 & 2008); and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 2010 & 2014).

EcoChem’s goal in assigning data assessment qualifiers is to assist in proper data interpretation. If values are estimated (J or UJ), data may be used for site evaluation and risk assessment purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. If values are assigned an R, the data are to be rejected and should not be used for any site evaluation purposes. If values have no data qualifier assigned, then the data meet the data quality objectives as stated in the documents and methods referenced above.

Data qualifier definitions, reason codes, and validation criteria are included as **Appendix A**. A Qualified Data Summary Table is included in **Appendix B**. Data Validation Worksheets will be kept on file at EcoChem, Inc. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Boeing Kent Space Center

SDG	Sample ID	Lab Sample ID	NWTPH-Dx	PAHs	PCB	Total Metals	Dissolved Metals	Nitrate & Sulfate
1789843	KSCRI-MW1-2.5	8941816				✓		
	KSCRI-MW2-2.5	8941817				✓		
	KSCRI-MW3-2.5	8941818				✓		
	KSCRI-MW4-2.5	8941819				✓		
	KSCRI-MW5-2.5	8941820				✓		
	KSCRI-MW6-2.5	8941821				✓		
	KSCRI-MW7-2.5	8941822				✓		
1797131	KSCRI-MW2-050317	8974896	✓					✓
	KSCRI-MW2-050317	8974897					✓	
	KSCRI-MW3-050317	8974898	✓					✓
	KSCRI-MW3-050317	8974899					✓	
	KSCRI-MW4-050317	8974900	✓					✓
	KSCRI-MW4-050317	8974901					✓	
	KSCRI-MW5-050317	8974902	✓					✓
	KSCRI-MW5-050317	8974903					✓	
	KSCRI-DUP-050317	8974904	✓					✓
KSCRI-DUP-050317	8974905					✓		
1798513	KSCRI-MW1-050417	8981034	✓					✓
	KSCRI-MW1-050417	8981035					✓	
	KSCRI-MW61-050417	8981036	✓					✓
	KSCRI-MW6-050417	8981037					✓	
	KSCRI-MW7-050417	8981038	✓					✓
	KSCRI-MW7-050417	8981039					✓	
17E0094	KSC-OF-16-0.3	17E0094-01	✓	✓	✓	✓		
	KSC-OF-DP-0.3	17E0094-02	✓	✓	✓	✓		

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Polynuclear Aromatic Hydrocarbons - Method SW8270D-SIM

This report documents the review of analytical data from the analyses of sediment samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the Sample Index for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17E0094	2 sediment samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Receipt, Preservation, and Holding Times	1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	✓	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*
 1 *Quality control outliers are discussed below, but no data were qualified.*
 2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 7 days for aqueous samples and extracts must be analyzed within 40 days of extraction.

All samples were received at a temperature greater than the advisory temperature range at 8.6°C. The coolers were received within several hours after the samples were collected preventing sufficient time for cooling; no results qualified.

All samples were extracted and analyzed within the required holding times.

Field Blanks

Field blanks were not submitted with this data set.

Matrix Spike/Matrix Spike Duplicate

No matrix spikes were analyzed with this analytical batch. The laboratory did not perform a laboratory control sample duplicate; therefore, no measure of precision was available for evaluation.

Field Duplicates

Field duplicates were not submitted with this data set.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate and laboratory control sample (LCS) recovery values. No measure of precision was available for evaluation.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT

DOF – Boeing Kent Space Center

Polychlorinated Biphenyl Compounds - Method SW8082A

This report documents the review of analytical data from the analyses of sediment samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
17E0094	2 sediment samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	1	Matrix Spikes/Matrix Spike Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	2	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed*

1 *Quality control outliers are discussed below, but no data were qualified.*

2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 14 days for sediment samples and extracts must be analyzed within 40 days of extraction.

All samples were received at a temperature greater than the advisory temperature range at 8.6°C. The coolers were received within several hours after the samples were collected preventing sufficient time for cooling; no results qualified.

All samples were extracted and analyzed within the required holding times.

Field Blanks

No field blanks were submitted with this sampling event.

Matrix Spikes/Matrix Spike Duplicates

No matrix spikes were analyzed with this analytical batch. The laboratory did not perform a laboratory control sample duplicate; therefore, no measure of precision was available for evaluation.

Field Duplicates

No field duplicates were submitted with this sampling event.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

Results were reported from both the primary and confirmation column analyses in the EDD. The results for the confirmation analysis were flagged as do-not-report (DNR-11) to indicate which results from multiple reported results should not be used.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the surrogate and laboratory control sample (LCS) percent recovery values. No measure of precision was available for evaluation.

Results were flagged as do-not-report (DNR) to indicate which result, from multiple analyses, should not be used; data that have been flagged as DNR should not be used for any purpose.

All other data, as reported, are acceptable for use. A useable result remains for all analytes in all samples; completeness is unaffected.

DATA VALIDATION REPORT

DOF – Boeing Kent Space Center

Diesel Range Organics (DRO) - Method NWTPH-Dx

This report documents the review of analytical data from the analyses of groundwater and sediment samples and the associated field and laboratory quality control (QC) samples. Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania and Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES	VALIDATION LEVEL
1797131	5 groundwater samples	Stage 2A
1798513	3 groundwater samples	Stage 2A
17E0094	2 sediment samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	1	Matrix Spikes/Matrix Spike Duplicates
✓	Laboratory Blanks	2	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	1	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed*

1 *Quality control outliers are discussed below, but no data were qualified.*

2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be extracted within 14 days for preserved aqueous samples and extracts must be analyzed within 40 days of extraction.

With the following exceptions, all coolers were received at the laboratory within the advisory temperature range. All samples were extracted and analyzed within the required holding times.

SDG 1795813: All samples were received at a temperature greater than the advisory temperature range at 13.3°C. Diesel and heavy range organics are stable at this temperature; therefore, no action was taken.

SDG 17E0094: All samples were received at a temperature greater than the advisory temperature range at 8.6°C. The coolers were received within several hours after the samples were collected preventing sufficient time for cooling; no results qualified.

Field Blanks

No field blanks were submitted with this sampling event.

Matrix Spike/Matrix Spike Duplicate

SDGs 1797131 and 1798513: Matrix spikes were not performed for these SDGs. Laboratory control sample/laboratory control sample duplicates were used to evaluate precision.

SDG 17E0094: Matrix spikes were not performed for this SDG. The laboratory did not perform a laboratory control sample duplicate; therefore, no measure of precision was available for evaluation.

Field Duplicates

For water samples, the RPD control limit is 20% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the absolute difference between the sample and replicate must be less than the RL.

SDG 1797131: One field duplicate set was submitted with this SDG: KSCRI-MW4-050317 & KSCRI-DUP-050317. The difference value was greater than the reporting limit for DRO. The parent and duplicate samples were estimated (J/UJ-9).

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

No anomalies were noted during validation for evaluated results.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable, as demonstrated by the surrogate and laboratory control sample/laboratory control sample duplicate (LCS/LCSD) percent recovery values. With the exception previously noted, precision was also acceptable as demonstrated by the LCS/LCSD relative percent difference values.

Two results were estimated based on field duplicate imprecision.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
DOF – Boeing Kent Space Center
Total & Dissolved Metals – EPA Methods 200.8 & 245.1
Total Metals – EPA Method 6020A

This report documents the review of analytical data from the analyses of groundwater and sediment samples and the associated field and laboratory quality control (QC) samples. Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania and Analytical Resources, Incorporated, Tukwila, Washington. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES AND MATRIX	VALIDATION LEVEL
1789843	7 soil samples	Stage 2A
1797131	5 groundwater samples	Stage 2A
1798513	3 groundwater samples	Stage 2A
17E0094	2 sediment samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Receipt, Preservation, and Holding Times	2	Laboratory Duplicates
2	Laboratory Blanks	1	Field Duplicates
✓	Laboratory Control Samples (LCS)	✓	Target Analyte List
2	Matrix Spikes (MS)	✓	Reporting Limits
1	Field Blanks	✓	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

1 *Quality control outliers are discussed below, but no data were qualified.*

2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C and be analyzed within 180 days for aqueous and solid ICP-MS metals samples.

With the following exceptions, all coolers were received at the laboratory within the advisory temperature range. All samples were analyzed within the required holding times.

SDG 1795813: All samples were received at a temperature greater than the advisory temperature range at 13.3°C. Aqueous metals samples do not require temperature preservation; no results qualified.

SDG 17E0094: All samples were received at a temperature greater than the advisory temperature range at 8.6°C. The coolers were received within several hours after the samples were collected preventing sufficient time for cooling; no results qualified.

Method Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level is established at five times (5x) the concentration reported in the blank. If a contaminant is reported in an associated field sample and the concentration is less than the action level, the result is qualified as not detected (U-7). No action is taken if the sample result is greater than the action level, or for non-detected results. For laboratory blanks that are less than the negative MDL, positive results less than the action level of five times the absolute value of the blank concentration are estimated (J-7L) and non-detects are estimated (UJ-7L) to indicate a potential low bias.

Laboratory blanks were analyzed at the appropriate frequency. Contaminant levels, associated samples, and action levels are documented in the data validation worksheets.

SDG 17E0094: Mercury was detected in the method blank at a concentration greater than the method detection limit but less than the reporting limit. The concentration reported for Sample KSC-OF-16-0.3 was less than the action level and was qualified (U-7) as not detected at the reported concentration; all other results were greater than the action level.

Matrix Spikes

SDG 1798513: Sample KSCRI-MW1-050417 was used for the matrix spike analysis. The percent recovery for copper was less than the lower control limit indicating a potential low bias. All samples in the batch were estimated (J/UJ-8L).

SDG 189843: A batch QC sample was used for the matrix spike analysis. The percent recovery for arsenic was greater than the upper control limit indicating a potential high bias. All samples in the batch were estimated (J-8H).

Field Blanks

Field blanks were not submitted with this data set.

Laboratory Duplicates

For laboratory duplicate samples, the RPD control limit is 20% for results greater than 5x the reporting limit (RL). For results less than 5x the RL, the difference between the sample and replicate must be less than the RL.

SDG 1759584: Sample KSCRI-MW1-050417 was used for analysis of the laboratory duplicate. The difference values for copper and zinc were greater than the associated reporting limits. All samples in the batch were estimated (J/UJ-9).

SDG 17E0094: A laboratory duplicate was not performed for this SDG. The laboratory did not perform a laboratory control sample duplicate; therefore, no measure of precision was available for evaluation.

Field Duplicates

SDG 1759584: One field duplicate set was submitted with this SDG: KSC-SB13-GW & KSC-SBD1-GW. Field precision was acceptable.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

SDG 17E0094: Reporting limits were elevated for both samples due to required dilutions.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) recovery values. With the exceptions previously noted, precision was acceptable as demonstrated by the MS/MSD and laboratory and field duplicate RPD values.

The detection limit for one result was elevated due to method blank contamination. Results were estimated based on matrix spike recovery outliers and on laboratory duplicate imprecision.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT

DOF – Boeing Kent Space Center

Nitrate & Sulfate – EPA Method 300.0

This report documents the review of analytical data from the analyses of groundwater samples and the associated field and laboratory quality control (QC) samples. Samples were analyzed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, Pennsylvania. Refer to the **Sample Index** for a complete list of samples.

SDG	NUMBER OF SAMPLES AND MATRIX	VALIDATION LEVEL
1797131	5 groundwater samples	Stage 2A
1798513	3 groundwater samples	Stage 2A

DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

EDD TO HARDCOPY VERIFICATION

All sample IDs and results reported in the electronic data deliverable (EDD) were verified (10% verification) by comparing the EDD to the laboratory data package.

TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

2	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
✓	Laboratory Control Samples (LCS)	✓	Target Analyte List
2	Matrix Spikes (MS)	✓	Reporting Limits
1	Field Blanks	✓	Reported Results

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

1 *Quality control outliers are discussed below, but no data were qualified.*

2 *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

As stated in validation guidance documents, sample shipping coolers should arrive at the laboratory within the advisory temperature range of 0°C-6°C. Aqueous samples must be analyzed within 48 hours for nitrate and within 28 days for sulfate.

With the following exception, all coolers were received at the laboratory within the advisory temperature range. All samples were analyzed within the required holding times.

SDG 1795813: All samples were received at a temperature greater than the advisory temperature range at 13.3°C. In addition, all three samples were analyzed for nitrate 3 days beyond the holding time. Based on the cooler temperature at arrival and the analysis of nitrate outside of the holding time, all sulfate and nitrate results and detection limits have been estimated (J/UJ-1).

Matrix Spikes

SDG 1797131: A sample from another client was used for the matrix spike analysis. The percent recoveries for both nitrate and sulfate were less than the lower control limit indicating a potential low bias. All samples in the batch were estimated (J/UJ-8L).

SDG 1798513: A sample from another client was used for the matrix spike analysis. The percent recoveries for both nitrate and sulfate were greater than the upper control limit indicating a potential high bias. All sulfate results in the batch were estimated (J-8H). Nitrate was not detected in any of the samples in the batch; no qualification was required.

Field Blanks

Field blanks were not submitted with this data set.

Field Duplicates

SDG 1797131: One field duplicate set was submitted with this SDG: KSCRI-MW4-050317 & KSCRI-DUP-050317. Field precision was acceptable.

Target Analyte List

All target analytes as specified in the QAPP/SAP were reported.

Reporting Limits

The target analyte reporting limits specified in the QAPP/SAP were met.

Reported Results

Reporting limits for sulfate were elevated in several samples due to required dilutions.

OVERALL ASSESSMENT

As determined by this evaluation, the laboratory followed the specified analytical methods. With the exceptions previously noted, accuracy was acceptable, as demonstrated by the laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) recovery values. Precision was acceptable as demonstrated by the MS/MSD and laboratory and field duplicate RPD values.

Results were estimated based on cooler temperature upon receipt at the laboratory, holding time, and matrix spike accuracy outliers.

All data, as qualified, are acceptable for use.



APPENDIX A

DATA QUALIFIER DEFINITIONS REASON CODES AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES

Based on National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.
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DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L) ¹ where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L) ¹ where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L) ¹ for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L) ¹ where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L) ¹ where appropriate
	12	Reference Material Use bias flags (H,L) ¹ where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L) ¹ where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L) ¹ where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2 nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

¹H = high bias indicated

L = low bias indicated

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG ⁽¹⁾ Method ⁽³⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use PJ for temp outliers; see TM20 Current SW846 criterion is ≤ 6° C ⁽³⁾
Holding Time	Extraction Aqueous: 7 days from collection Extraction Solid: 14 days from collection Analysis (all matrices): 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG ⁽¹⁾ Method ⁽³⁾	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG ⁽¹⁾ Method ⁽³⁾	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration Sensitivity	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5A	TM-06 EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance PJ - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration Stability	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * or co-efficient of determination (r ²) > 0.99	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %RSD > limit or r ² value <0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L) ⁴	QAPP may have overriding accuracy limits.

DATA VALIDATION CRITERIA

Table: NFG-SVOC-GCMS
 Revision No.: 8
 Last Rev. Date: 01/29/2015
 Page: 2 of 4

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration Sensitivity	RRF \geq 0.05 except: RRF \geq 0.01 poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration Stability	Prior to sample analysis and every 12 hours %D \leq 25% except: %D \leq 40.0% poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L) ⁴	
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of \leq 20 samples) No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review FB , qualify as needed Note: Actions as per 1999 NFG
	No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of \leq 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L) ⁴	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method ⁽³⁾	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy (continued)					
Reference Material (RM, SRM, or CRM)	Result \pm 20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ⁴	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of \leq 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L) ⁴	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of \leq 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L) ⁴	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Qualify compounds quantified using particular internal standard
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG ⁽¹⁾ Method ⁽³⁾	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG ⁽¹⁾ Method ⁽³⁾	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Organic Data Review, June, 2008

(pos): Positive Result(s)

² National Functional Guidelines for Organic Data Review, October, 1999

(ND): Non-detects

³ Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.

⁴ NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG ⁽¹⁾ Method ⁽²⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C ⁽³⁾
Holding Time	Extraction Aqueous: 7 days from collection Extraction Solid: 14 days from collection Extraction Tissue/Sediment (frozen): 1 year Analysis (all matrices): 40 days from extraction	NFG ⁽¹⁾ Method ⁽²⁾	If required by project: J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Use PJ to qualify for holding time outlier. Current SW846 does not have an extraction holding time limit. ⁽³⁾ Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Aroclors (± 0.07)	NFG ⁽¹⁾	NJ (pos)/R (ND) results for analytes with RT shifts	24	
Initial Calibration	Minimum 5 point with RSD ≤ 20% OR correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with co-efficient of determination (r ² -value) ≥ 0.99	NFG ⁽¹⁾ Method ⁽⁴⁾	J (pos) if %RSD greater than 20% OR r-value < 0.995 OR r ² -value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) ⁽⁵⁾ where appropriate
Initial Calibration Verification (ICV)	No NFG criteria. Project specific.	Project	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) where appropriate
Continuing Calibration (Prior to each 12 hr. shift)	%D ± 20%	Method ⁽²⁾	If > 20% (high bias): J (pos) If < 20% (low bias): J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L) where appropriate
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is less than appropriate 5X action level.	7	Hierarchy of blank review: #1 - Review MB and IB, qualify as needed #2 - Review FB , qualify as needed Note: Actions as per NFG 1999 Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG ⁽¹⁾	U (pos) if result is less than appropriate 5X action level.	7	

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) AR1016 and AR1260: %R = 29% - 135%, or project limits	NFG ⁽¹⁾ Method ⁽²⁾	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria. No action if native analyte conc. > 5x the amount spiked. Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in parent sample.
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) AR1016: RPD < 15%, AR1260: RPD < 20% or project limits	NFG ⁽¹⁾ Method ⁽²⁾	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND.
LCS	One per lab batch (of ≤ 20 samples) AR1016 and AR1260: %R = 50% - 150%, or project limits	NFG ⁽¹⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in associated samples.
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG ⁽¹⁾	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Precision and Accuracy					
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% or project limits	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (sample dilution is a factor), use PJ Use bias flags (H,L) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method ⁽²⁾	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	use project limits if specified

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info.
Calibration Range	on column concentration < high calibration standard	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 Rev. 1 for additional info.
Sample Clean-up					
GPC/Sulfur/ Florisil/Acid	No criteria - cleanups are optional	NFG ⁽¹⁾ Method ⁽²⁾	Use Professional Judgment	14	special cleanups may be required for project cleanup standards may be associated with GPC/florisil cleanups

¹ National Functional Guidelines for Organic Data Review, June, 2008

² Polychlorinated Biphenyls (PCBs) by Gas Chromatography USEPA Method SW846 8082A, Feb 2007, Rev. 1

³ SW846, Chapter 4, Organic Analytes

⁴ Determinative Chromatographic Separations, Method 8000C, March 2003, Rev.3

⁵ "H" = high bias indicated; "L" = low bias indicated

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling				
Cooler Temperature & Preservation	4°C±2°C Water: HCl to pH < 2	J(+)/UJ(-) if greater than 6 deg. C	1	
Holding Time	Ext. Waters: 14 days preserved 7 days unpreserved Ext. Solids: 14 Days Analysis: 40 days from extraction	J(+)/UJ(-) if hold times exceeded J(+)/R(-) if exceeded > 3X	1	Professional Judgement
Instrument Performance				
Initial Calibration	5 calibration points (All within 15% of true value) Linear Regression: $r^2 \geq 0.990$ If used, RSD of response factors $\leq 20\%$	Narrate if fewer than 5 calibration levels or if %R > 15% J(+)/UJ(-) if $r^2 < 0.990$ J(+)/UJ(-) if %RSD > 20%	5A	
Mid-range Calibration Check Std.	Analyzed before and after each analysis shift & every 20 samples. Recovery range 85% to 115%	Narrate if frequency not met. J(+)/UJ(-) if %R < 85% J(+) if %R > 115%	5B	
Blank Contamination				
Method Blank	At least one per batch (≤ 20 samples) No results > RL	U (at the RL) if sample result is < RL & < 5X blank result.	7	
		U (at reported sample value) if sample result is \geq RL and < 5X blank result	7	
Field Blanks (if required by project)	No results > RL	Action is same as method blank for positive results remaining in the field blank after method blank qualifiers are assigned.	6	

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy				
MS samples (accuracy) (if required by project)	%R within lab control limits	Qualify parent only, unless other QC indicates systematic problems. J(+) if both %R > upper control limit (UCL) J(+)/UJ(-) if both %R < lower control limit (LCL) No action if parent conc. >5X the amount spiked.	8	Use Professional Judgement if only one %R outlier
Precision: MS/MSD or LCS/LCSD or sample/dup	At least one set per batch (≤10 samples) RPD ≤ lab control limit	J(+) if RPD > lab control limits	9	
LCS (not required by method)	%R within lab control limits	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10%	10	Professional Judgement
Surrogates	2-fluorobiphenyl, p-terphenyl, o-terphenyl, and/or pentacosane added to all samples (inc. QC samples). %R = 50-150%	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10% No action if 2 or more surrogates are used, and only one is outside control limits.	13	Professional Judgement
Pattern Identification	Compare sample chromatogram to standard chromatogram to ensure range and pattern are reasonable match. Laboratory may flag results which have poor match.	J(+)	2	
Field Duplicates	Use project control limits, if stated in QAPP EcoChem default: water: RPD < 35% solids: RPD < 50%	Narrate (Use Professional Judgement to qualify)	9	

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

QC Element	Acceptance Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound ID and Calculation				
Two analyses for one sample (dilution)	Report only one result per analyte	"DNR" (or client requested qualifier) all results that should not be reported.	11	See EcoChem TM-04

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG ⁽¹⁾ Method ⁽²⁾	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C ⁽⁴⁾ No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	All matrices: 180 days from date sampled Frozen soils, sediments, tissues (-20°C) - HT extended to 1 year	NFG ⁽¹⁾ Method ⁽²⁾ EcoChem standard policy	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Tune	Analyzed prior to ICAL tuningsolution analyzed 5 times with Std. Dev. ≤ 5% Mass calibration < 0.1 amu difference from target mass Resolution < 0.9 amu @ 10% peak height	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) if tune criteria not met	5A	Use PJ to evaluate tune. Alternate Resolution criteria may apply based on instrument specs (i.e <0.75 amu at 5% peak height)
Initial Calibration (ICAL)	Based on instrument requirements, blank + 1 standard minimum requirement for calibration If more than 1 standard used, r ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R >111%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard Low Level ICV/CCV	concentration at RL %R = 70%-130%	Method ⁽²⁾	J (pos) < 2x RL / R (ND) if %R <50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance cont'd					
Continuing Calibration Verification (CCV)	Immediately following ICV/ICB, then every two hours or ten samples, and at end of run. %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R = 75% - 89% J (pos) if %R > 111%	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Interference Check Samples (ICSA / ICSAB)	ICSAB %R 80% - 120% for all spiked elements ICSA < MDL for all unspiked elements	NFG ⁽¹⁾ Method ⁽²⁾	For samples with Al, Ca, Fe, Mg > ICS levels: ICSAB: J(pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R = 50% - 79% J (pos) if %R > 120% ICSA: J (pos) < 2x ICSA/UJ (ND) for ICSA < Neg MDL J (pos) < 2x ICSA for ICSA > MDL	17 (H,L) ³	Use PJ and molecular interferences to evaluate ICSA to determine if bias is present. Refer to TM-14 for additional information.
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blks: 7 Neg Blks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.

Metals by ICP-MS
(Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
Internal Standards (IS)	Added to all samples. All analytes must be associated with an internal standard 60-125% of cal blank IS	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) all analytes associated with IS outlier	19	6020A criteria - IS >70% of ICAL std
LCS (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG Limits 70% -130%
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%, unless post digestion spike analyzed, J (pos)/UJ (ND) if post digestion spike %R OK	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Post Digestion Spikes	If MS is outside 75-125%, post-spike should be analyzed %R 80%-120% (method); 75%-125% (NFG)	NFG ⁽¹⁾ Method ⁽²⁾	Only used to support MS qualification decisions	NA	No qualifiers assigned based solely on this element.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.

**Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)**

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy cont'd					
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Serial Dilution	Analyze one sample per matrix at a 5x dilution %D <10% for original sample conc. > 50x MDL	NFG ⁽¹⁾	J(pos)/UJ(ND) if %D > 10% and native sample concentration > 50x MDL	16	Note serial dilutions for soil are reported in ug/L, but the MDL is in mg/kg. The units need to be adjusted. Qualify all samples in batch.
Field Duplicate	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project (EcoChem PJ) Qualify only field duplicate samples J(pos)/UJ(ND)	9	QAPP may have overriding precision limits.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² Method SW846 6020A Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Revision 1, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result

(ND): Not detected

Mercury by CVAA
(Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG ⁽¹⁾ Method ⁽²⁾	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C (4) No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	28 days from date sampled Frozen solids and tissues HT extended to 6 months	NFG ⁽¹⁾ Method ⁽²⁾ EcoChem standard policy	J (pos)/UJ (ND) if HT exceeded	1	
Instrument Performance					
Initial Calibration (ICAL)	Daily Calibration Blank + 5 standards, one ≤ RL Correlation coefficient (r) ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if r < 0.995	5A (H,L) ³	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after ICAL %R within ± 15% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R(pos/ND) if %R < 70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard	Conc = RL %R = 70-130%	Method ⁽²⁾	J (pos) < 2x RL / R (ND) if %R < 50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	At beginning of run, every ten samples, and again after last sample. %R within ± 15% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R(pos/ND) if %R < 70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994

Mercury by CVAA
 (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blanks: 7 Neg Blanks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.
Precision and Accuracy					
Laboratory Control Sample (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG does not address LCS
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
Matrix Spike/Matrix Spike Duplicate MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R < 75% J (pos)/R (ND) if %R < 30%	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration > 4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.

Mercury by CVAA
(Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Field Duplicate	Solids: RPD <50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² Method SW846 7470A Mercury in Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994.
 Method SW846 7471B Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result
 (ND): Not Detected

DATA VALIDATION CRITERIA

Table: CONV-Calibrated
 Revision No.: 0
 Last Rev. Date: 01/14/2015
 Page: 1 of 3

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon) (Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Cooler temperature: 4°C±2°C Preservation: Analyte/Method Specific	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if preservation requirements not met	1	Use PJ to qualify for cooler temp outliers.
Holding Time	Analyte/Method Specific	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Initial Calibration (ICAL)	blank + multiple standards as per method requirements r ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) for r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R method specific	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if %R < lower control limit (LCL) J (pos) if %R > upper control limit (UCL)	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	Immediately following ICV, every 10 samples, and end of run %R method specific	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) if %R < LCL J(pos) if %R > UCL	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994

DATA VALIDATION CRITERIA

Table: CONV-Calibrated
 Revision No.: 0
 Last Rev. Date: 01/14/2015
 Page: 2 of 3

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon) (Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blanks: 7 Neg Blanks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.
Precision and Accuracy					
Laboratory Control Sample (LCS)	One per matrix per batch (of ≤ 20 samples) %R within Method control limits (or Laboratory control limits if none specified in method)	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if %R < LCL J (pos) if %R > UCL	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits.
Reference Materials (RM, CRM, SRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits

DATA VALIDATION CRITERIA

Table: CONV-Calibrated
 Revision No.: 0
 Last Rev. Date: 01/14/2015
 Page: 3 of 3

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon) (Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Where applicable to method; MSD may not be required One per matrix per batch (of ≤ 20 samples) For samples <4x spike level, %R within method control limits (or Laboratory control limits if none specified in method)	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if %R < LCL J (pos) if %R > UCL	8 (H,L)3	Qualify all samples in batch No action if native analyte concentration ≥ 4x spike added. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Laboratory Duplicate (or MS/MSD)	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.
Field Duplicate	Solids: RPD <50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.
Compound Quantitation					
Linear Range	Sample concentrations less than highest calibration standard	NFG ⁽¹⁾ Method ⁽²⁾	If result exceeds linear range & sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² SW846 or EPA Standard Methods

³ "H" = high bias indicated; "L" = low bias indicated

(pos): Positive Result

(ND): Not Detected



APPENDIX B

QUALIFIED DATA SUMMARY TABLE

**Qualified Data Summary Table
Boeing Kent Space Center**

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
1789843	KSCRI-MW1-2.5	8941816	SW6020A	Arsenic	1.31	mg/kg		J	8H
	KSCRI-MW2-2.5	8941817	SW6020A	Arsenic	4.78	mg/kg		J	8H
	KSCRI-MW3-2.5	8941818	SW6020A	Arsenic	3.26	mg/kg		J	8H
	KSCRI-MW4-2.5	8941819	SW6020A	Arsenic	5.76	mg/kg		J	8H
	KSCRI-MW5-2.5	8941820	SW6020A	Arsenic	3.44	mg/kg		J	8H
	KSCRI-MW6-2.5	8941821	SW6020A	Arsenic	4.64	mg/kg		J	8H
	KSCRI-MW7-2.5	8941822	SW6020A	Arsenic	2.93	mg/kg		J	8H
1797131	KSCRI-MW2-050317	8974896	E300.0	Sulfate		mg/l	U	UJ	8L
	KSCRI-DUP-050317	8974904	NWTPH-Dx modified	Diesel Range Organics C12-C24	216	ug/l		J	9
	KSCRI-DUP-050317	8974904	E300.0	Nitrate Nitrogen		mg/l	U	UJ	8L
	KSCRI-DUP-050317	8974904	E300.0	Sulfate	3.1	mg/l		J	8L
	KSCRI-MW4-050317	8974900	NWTPH-Dx modified	Diesel Range Organics C12-C24		ug/l	U	UJ	9
	KSCRI-MW3-050317	8974898	E300.0	Nitrate Nitrogen		mg/l	U	UJ	8L
	KSCRI-MW2-050317	8974896	E300.0	Nitrate Nitrogen		mg/l	U	UJ	8L
	KSCRI-MW4-050317	8974900	E300.0	Nitrate Nitrogen		mg/l	U	UJ	8L
	KSCRI-MW4-050317	8974900	E300.0	Sulfate	3	mg/l		J	8L
	KSCRI-MW3-050317	8974898	E300.0	Sulfate		mg/l	U	UJ	8L
1798513	KSCRI-MW6-050417	8981037	EPA 200.8	Zinc, dissolved		mg/l	U	UJ	9
	KSCRI-MW7-050417	8981038	EPA 300.0	Sulfate	1.2	mg/l		J	1,8H
	KSCRI-MW7-050417	8981038	EPA 300.0	Nitrate Nitrogen		mg/l	U	UJ	1
	KSCRI-MW6-050417	8981037	EPA 200.8	Copper, dissolved		mg/l	U	UJ	8L,9
	KSCRI-MW7-050417	8981039	EPA 200.8	Copper, dissolved	0.0024	mg/l		J	8L,9
	KSCRI-MW7-050417	8981039	EPA 200.8	Zinc, dissolved		mg/l	U	UJ	9
	KSCRI-MW1-050417	8981034	EPA 300.0	Sulfate	1.4	mg/l		J	1,8H
	KSCRI-MW1-050417	8981034	EPA 300.0	Nitrate Nitrogen		mg/l	U	UJ	1
	KSCRI-MW1-050417	8981035	EPA 200.8	Copper, dissolved	0.0398	mg/l		J	8L,9
	KSCRI-MW1-050417	8981035	EPA 200.8	Zinc, dissolved	0.0356	mg/l		J	9
	KSCRI-MW6-050417	8981036	EPA 300.0	Sulfate	14.6	mg/l		J	1,8H
	KSCRI-MW6-050417	8981036	EPA 300.0	Nitrate Nitrogen		mg/l	U	UJ	1
17E0094	KSC-0F-DP-0.3	17E0094-02	SW8082A	Aroclor 1248		ug/kg	U	DNR	11
	KSC-0F-DP-0.3	17E0094-02	SW8082A	Aroclor 1232		ug/kg	U	DNR	11
	KSC-0F-DP-0.3	17E0094-02	SW8082A	Aroclor 1221		ug/kg	U	DNR	11
	KSC-0F-DP-0.3	17E0094-02	SW8082A	Aroclor 1254	130	ug/kg		DNR	11
	KSC-0F-DP-0.3	17E0094-02	SW8082A	Aroclor 1242		ug/kg	U	DNR	11

**Qualified Data Summary Table
Boeing Kent Space Center**

SDG	Sample ID	Laboratory ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
17E0094	KSC-0F-DP-0.3	17E0094-02	SW8082A	Aroclor 1260	62.6	ug/kg		DNR	11
	KSC-0F-DP-0.3	17E0094-02	SW8082A	Aroclor 1016		ug/kg	U	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW8082A	Aroclor 1248		ug/kg	U	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW8082A	Aroclor 1232		ug/kg	U	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW8082A	Aroclor 1221		ug/kg	U	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW8082A	Aroclor 1254		ug/kg	U	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW8082A	Aroclor 1260	9.6	ug/kg	J	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW8082A	Aroclor 1242		ug/kg	U	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW8082A	Aroclor 1016		ug/kg	U	DNR	11
	KSC-0F-16-0.3	17E0094-01	SW7471B	Mercury	0.02258	mg/kg	B	U	7



Analytical Resources, Incorporated
Analytical Chemists and Consultants

02 March 2017

Nick Garson
The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

RE: Boeing Kent Sampling Stormwaters

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
17A0195

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Kelly Bottem, Client Services Manager



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: **17A0196**
 Turn-around Requested: **Normal**
 Date: **1/18/17**
 Page: **1** of **1**
 No. of Coolers: **1**
 Cooler Temps: **1**



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Client Company: **Dalton Olmsted & Fuglevand**
 Phone: **206-660-3466**
 Client Contact: **Tasya Gray / Dave Cooper**
 Client Project Name: **Boeing KSC**
 Client Project #: **B-002**

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested										Notes/Comments							
					Total Metals - As, Ag, Cd, Cr, Cu, Hg, Se, Ni, Pb, Zn	Dissolved Metals - As, Ag, Cd, Cr, Cu, Hg, Se, Ni, Pb, Zn	TPH-G	TPH-D	TPH-O	VOCs	PAHs	PCBs										
KSC - MH-20.237 - W	1/18/2017	0850	water	13	X	X	X	X	X	X	X	X	X	X								
KSC - MH-20.235 - W	1/18/2017	0840	water	13	X	X	X	X	X	X	X	X	X	X	X	X	X					
KSC - MH-16.12 - W	1/19/2017	0945	water	13	X	X	X	X	X	X	X	X	X	X	X	X	X					
KSC - MH-15.10 - W	1/20/2017	0915	water	13	X	X	X	X	X	X	X	X	X	X	X	X	X					
KSC - OF-16 - W	1/21/2017	1000	water	13	X	X	X	X	X	X	X	X	X	X	X	X	X					
KSC - OF-NDP - W	1/22/2017	0810	water	13	X	X	X	X	X	X	X	X	X	X	X	X	X					
Trip Blank	1/23/2017	-	water	3																		
Comments/Special Instructions - Dissolved metals NOT Field filtered	Relinquished by (Signature)	[Signature]																				
	Printed Name:	DG Cooper																				
	Company:	[Company Name]																				
Received by (Signature)	[Signature]																					
	Printed Name:	Tasya Gray																				
	Company:	[Company Name]																				
Date & Time:	1/18/17 1445																					
Relinquished by (Signature)	[Signature]																					
Printed Name:	DG Cooper																					
Company:	[Company Name]																					
Date & Time:	1/18/17 1445																					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Cooler Receipt Form

ARI Client: Baird/DOF

Project Name: Boeing KSC

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 17A0195

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1445 2.2 3.5 4.5 1.8

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DC08276

Cooler Accepted by: JM Date: 1/18/17 Time: 1445

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? B-H YES NO

Date VOC Trip Blank was made at ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

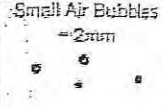
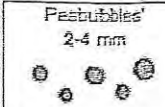
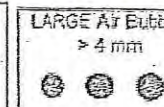
Samples Logged by: B.H. Date: 1/18/17 Time: 15:46

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

VQA: KSC-MH-16-12-W, no time recorded on bottles (3 vial vials)
 HDPE: KSC-MH-16-12-W, no time recorded on bottle
 COC says there were 13 containers given per sample besides the trip blank, we received 15 containers per sample.
 By: B.H. Date: 1/18/17 All dates on bottles 1/18/17, COC had dates ranging from 1/18 to 1/23.

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



WORK ORDER

17A0195

Client: The Boeing Company	Project Manager: Kelly Bottem
Project: Boeing Kent Sampling Non contract	Project Number: [none]

Preservation Confirmation

Container ID	Container Type	pH
17A0195-01 A	VOA Vial, Clear, 40 mL, HCL	
17A0195-01 B	VOA Vial, Clear, 40 mL, HCL	
17A0195-01 C	VOA Vial, Clear, 40 mL, HCL	
17A0195-01 D	VOA Vial, Clear, 40 mL, HCL	
17A0195-01 E	VOA Vial, Clear, 40 mL, HCL	
17A0195-01 F	Glass NM, Amber, 500 mL	
17A0195-01 G	Glass NM, Amber, 500 mL	
17A0195-01 H	Glass NM, Amber, 500 mL	
17A0195-01 I	Glass NM, Amber, 500 mL	
17A0195-01 J	Glass NM, Amber, 500 mL	
17A0195-01 K	Glass NM, Amber, 500 mL	
17A0195-01 L	Glass NM, Amber, 1000 mL	
17A0195-01 M	Glass NM, Amber, 1000 mL	
17A0195-01 N	HDPE NM, 500 mL, 1:1 HNO3	<2 Pass
17A0195-02 A	VOA Vial, Clear, 40 mL, HCL	
17A0195-02 B	VOA Vial, Clear, 40 mL, HCL	
17A0195-02 C	VOA Vial, Clear, 40 mL, HCL	
17A0195-02 D	VOA Vial, Clear, 40 mL, HCL	
17A0195-02 E	VOA Vial, Clear, 40 mL, HCL	
17A0195-02 F	Glass NM, Amber, 500 mL	
17A0195-02 G	Glass NM, Amber, 500 mL	
17A0195-02 H	Glass NM, Amber, 500 mL	
17A0195-02 I	Glass NM, Amber, 500 mL	
17A0195-02 J	Glass NM, Amber, 500 mL	
17A0195-02 K	Glass NM, Amber, 500 mL	
17A0195-02 L	Glass NM, Amber, 1000 mL	
17A0195-02 M	Glass NM, Amber, 1000 mL	
17A0195-02 N	HDPE NM, 500 mL, 1:1 HNO3	<2 Pass
17A0195-03 A	VOA Vial, Clear, 40 mL, HCL	
17A0195-03 B	VOA Vial, Clear, 40 mL, HCL	
17A0195-03 C	VOA Vial, Clear, 40 mL, HCL	

B.H.

1/18/17



WORK ORDER

17A0195

Client: The Boeing Company	Project Manager: Kelly Bottem
Project: Boeing Kent Sampling Non contract	Project Number: [none]

17A0195-03 D	VOA Vial, Clear, 40 mL, HCL	
17A0195-03 E	VOA Vial, Clear, 40 mL, HCL	
17A0195-03 F	Glass NM, Amber, 500 mL	
17A0195-03 G	Glass NM, Amber, 500 mL	
17A0195-03 H	Glass NM, Amber, 500 mL	
17A0195-03 I	Glass NM, Amber, 500 mL	
17A0195-03 J	Glass NM, Amber, 500 mL	
17A0195-03 K	Glass NM, Amber, 500 mL	
17A0195-03 L	Glass NM, Amber, 1000 mL	
17A0195-03 M	Glass NM, Amber, 1000 mL	
17A0195-03 N	HDPE NM, 500 mL, 1:1 HNO3	L2 Pass
17A0195-04 A	VOA Vial, Clear, 40 mL, HCL	
17A0195-04 B	VOA Vial, Clear, 40 mL, HCL	
17A0195-04 C	VOA Vial, Clear, 40 mL, HCL	
17A0195-04 D	VOA Vial, Clear, 40 mL, HCL	
17A0195-04 E	VOA Vial, Clear, 40 mL, HCL	
17A0195-04 F	Glass NM, Amber, 500 mL	
17A0195-04 G	Glass NM, Amber, 500 mL	
17A0195-04 H	Glass NM, Amber, 500 mL	
17A0195-04 I	Glass NM, Amber, 500 mL	
17A0195-04 J	Glass NM, Amber, 500 mL	
17A0195-04 K	Glass NM, Amber, 500 mL	
17A0195-04 L	Glass NM, Amber, 1000 mL	
17A0195-04 M	Glass NM, Amber, 1000 mL	
17A0195-04 N	HDPE NM, 500 mL, 1:1 HNO3	L2 Pass
17A0195-05 A	VOA Vial, Clear, 40 mL, HCL	
17A0195-05 B	VOA Vial, Clear, 40 mL, HCL	
17A0195-05 C	VOA Vial, Clear, 40 mL, HCL	
17A0195-05 D	VOA Vial, Clear, 40 mL, HCL	
17A0195-05 E	VOA Vial, Clear, 40 mL, HCL	
17A0195-05 F	Glass NM, Amber, 500 mL	
17A0195-05 G	Glass NM, Amber, 500 mL	
17A0195-05 H	Glass NM, Amber, 500 mL	
17A0195-05 I	Glass NM, Amber, 500 mL	

B.H.
Reviewed By

1/18/17
Date



WORK ORDER

17A0195

Client: The Boeing Company	Project Manager: Kelly Bottem
Project: Boeing Kent Sampling Non contract	Project Number: [none]

17A0195-05 J	Glass NM, Amber, 500 mL	
17A0195-05 K	Glass NM, Amber, 500 mL	
17A0195-05 L	Glass NM, Amber, 1000 mL	
17A0195-05 M	Glass NM, Amber, 1000 mL	
17A0195-05 N	HDPE NM, 500 mL, 1:1 HNO3	<2 Pass
17A0195-06 A	VOA Vial, Clear, 40 mL, HCL	
17A0195-06 B	VOA Vial, Clear, 40 mL, HCL	
17A0195-06 C	VOA Vial, Clear, 40 mL, HCL	
17A0195-06 D	VOA Vial, Clear, 40 mL, HCL	
17A0195-06 E	VOA Vial, Clear, 40 mL, HCL	
17A0195-06 F	Glass NM, Amber, 500 mL	
17A0195-06 G	Glass NM, Amber, 500 mL	
17A0195-06 H	Glass NM, Amber, 500 mL	
17A0195-06 I	Glass NM, Amber, 500 mL	
17A0195-06 J	Glass NM, Amber, 500 mL	
17A0195-06 K	Glass NM, Amber, 500 mL	
17A0195-06 L	Glass NM, Amber, 1000 mL	
17A0195-06 M	Glass NM, Amber, 1000 mL	
17A0195-06 N	HDPE NM, 500 mL, 1:1 HNO3	<2 Pass
17A0195-07 A	VOA Vial, Clear, 40 mL, HCL	
17A0195-07 B	VOA Vial, Clear, 40 mL, HCL	
17A0195-07 C	VOA Vial, Clear, 40 mL, HCL	
17A0195-08 A	HDPE NM, 500 mL	>2 Fail
17A0195-09 A	HDPE NM, 500 mL	>2 Fail
17A0195-10 A	HDPE NM, 500 mL	>2 Fail
17A0195-11 A	HDPE NM, 500 mL	>2 Fail
17A0195-12 A	HDPE NM, 500 mL	>2 Fail
17A0195-13 A	HDPE NM, 500 mL	>2 Fail

B.H.
Preservation Confirmed By

1/18/17
Date

B.H.
Reviewed By

1/18/17
Date

Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting



Project: 17A0195
Project #: 17T001-004
Client : Analytical Resources, Inc.
Source: Multiple
MTC Sample#: Multiple

Date Received: January 19, 2017
Sampled By: Others
Date Tested: January 20, 2017
Tested By: B. Goble

CASE NARRATIVE

1. Seven samples were submitted for separation of solids by means of centrifuging according to modified Corp of Engineers draft interim guide lines. The samples were centrifuged in a pre-cooled centrifuge (4°C) at 1,000 x g for 30 minutes. The resulting liquid sample was decanted into the original sample bottles.
2. All of the centrifuge bottles and equipment were decontaminated prior to sample preparation.
3. There were no anomalies in this project.

All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Reviewed by: *B. Goble*

Corporate ~ 777 Chrysler Drive • Burlington, WA 98233 • Phone (360) 755-1990 • Fax (360) 755-1980
Regional Offices: Olympia ~ 360.534.9777 Bellingham ~ 360.647.6111 Silverdale ~ 360.698.6787 Tukwila ~ 206.241.1974
Visit our website: www.mtc-inc.net

RE: Boeing Kent

Tasya Gray <ngray@dofnw.com>

Thu 1/19/2017 1:21 PM

To: Kelly Bottem <kellyb@arilabs.com>;

Cc: 'David Cooper' <dcooper@dofnw.com>;

1 attachments (546 KB)

[itadmin@dofnw.com_20170119_122840.pdf](#);

Revised COC attached.

- Corrected dates – all samples collected on 1/18/2017
- Requested analysis of trip blank for VOCs and gas
- Requested a MS/MSD on one of our project samples (if you have enough volume – if you don't we can probably get extra volume when we take that last stormwater sample in the next few days, just tell us how much to get)
- Added methods
- Noted which require SIM and table in QAPP that has reporting limit goals
- Added centrifuge note

Please let me know if you have any questions, hopefully that helps.

Tasya

Tasya Gray, LG
Consulting Geologist

DOF Dalton, Olmsted & Fuglevand

10827 NE 68th St., Suite B

Kirkland, WA 98033

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From: Kelly Bottem [<mailto:kellyb@arilabs.com>]

Sent: Thursday, January 19, 2017 1:05 PM

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98148
206-695-6200 206-695-6201 (fax)



ARI Assigned Number: Date: 1/18/17
 Turn-around Requested: Normal
 Page: 1 of 1
 No. of Coolers:
 No. of Cooler Temps:

ARI Client Company: Dalton Olmsted & Fuglevand
 Phone: 206-660-3466
 Client Contact: Tasya Gray / Dave Cooper
 Client Project Name: Boeing KSC
 Client Project #: B-002
 Samplers: DG Cooper

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested										Notes/Comments		
					Total Metals - As, Ag, Cd, Cr, Cu, Hg, Pb, Ni, Zn	Dissolved Metals - As, Ag, Cd, Cr, Cu, Hg, Pb, Ni, Zn	TPH-G	NWTH-Gx	TPH-D	NWTH-Dx	TPH-O	NWTH-Dx	VOCs * 8200C	PAHs 8230D-SIM		PCBs 8082	
KSC - MH-20.237 - W	1/18/2017	0850	water	13	X	X	X	X	X	X	X	X	X	X	X	X	*VOCs for SIM: 11-DCE, vinyl chloride *see Table B-4 in QAPP for all reporting limit goals
KSC - MH-20.235 - W	1/18/2017	0840	water	13	X	X	X	X	X	X	X	X	X	X	X	X	
KSC - MH-16.12 - W	1/19/2017	0945	water	13	X	X	X	X	X	X	X	X	X	X	X	X	
KSC - MH-15.10 - W	1/20/2017	0915	water	13	X	X	X	X	X	X	X	X	X	X	X	X	
KSC - OF-16 - W	1/24/2017	1000	water	13	X	X	X	X	X	X	X	X	X	X	X	X	
KSC - OF-NDP - W	1/22/2017	0810	water	13	X	X	X	X	X	X	X	X	X	X	X	X	
Trip Blank	1/23/2017	-	water	3			X	X									
	All 1/18/2017																
	361																

Comments/Special Instructions
 - Dissolved metals NOT Field filtered
 - Please perform MS/MSD on at least one sample
 - Centrifuge PAHs & PCBs

Relinquished by: [Signature] Date & Time: 1/18/17 1445
 Printed Name: DG Cooper Company: DOF

Received by: [Signature] Date & Time: 1/19/17 1445
 Printed Name: Tasya Gray Company: DOF

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDD/AFSE/ISMS protocol will be stored frozen for up to one year and then discarded.

Edited 1/19/2017 by Tasya Gray, DOF



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KSC - MH-20.237 - W	17A0195-01	Water	18-Jan-2017 08:50	18-Jan-2017 14:45
KSC - MH-20.235 - W	17A0195-02	Water	18-Jan-2017 08:40	18-Jan-2017 14:45
KSC - MH-16.12 - W	17A0195-03	Water	18-Jan-2017 09:45	18-Jan-2017 14:45
KSC - MH-15.10 - W	17A0195-04	Water	18-Jan-2017 09:15	18-Jan-2017 14:45
KSC - OF-16 - W	17A0195-05	Water	18-Jan-2017 10:00	18-Jan-2017 14:45
KSC - OF-NDP - W	17A0195-06	Water	18-Jan-2017 08:10	18-Jan-2017 14:45
Trip Blank	17A0195-07	Water	18-Jan-2017 00:00	18-Jan-2017 14:45
KSC - MH-20.237 - W	17A0195-08	Water	18-Jan-2017 08:50	18-Jan-2017 14:45
KSC - MH-20.235 - W	17A0195-09	Water	18-Jan-2017 08:40	18-Jan-2017 14:45
KSC - MH-16.12 - W	17A0195-10	Water	18-Jan-2017 09:45	18-Jan-2017 14:45
KSC - MH-15.10 - W	17A0195-11	Water	18-Jan-2017 09:15	18-Jan-2017 14:45
KSC - OF-16 - W	17A0195-12	Water	18-Jan-2017 10:00	18-Jan-2017 14:45
KSC - OF-NDP - W	17A0195-13	Water	18-Jan-2017 08:10	18-Jan-2017 14:45



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Case Narrative

Volatiles - EPA Method SW8260C

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements with the exception of the CCAL which is out of control high for bromoform. All associated samples that contain analyte have been flagged with a "Q" qualifier.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

Volatiles - EPA Method 8260C-SIM (Selected Ion Monitoring)

The sample(s) were run within the recommended holding times.

A revised COC was submitted with the SIM VOCs request.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike were not analyzed as of the sample volumes were consumed during the 8260 analysis. A LCS and LCSD were analyzed with this batch of samples.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.



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Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

All of the associated samples were subcontracted to MTC to be centrifuged before analysis.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

The original COC did not have centrifuge analysis requested and the samples were logged without the request. Upon review of the work submitted the ARI project manager went into the lab to review the work started. All of the associated samples had been started and a centrifuge analysis was not done. Only sample KSC-OF-16-W (ARI sample 17A0195-05) contained a little particulate and the second bottle was sent to MTC for a centrifuge analysis (ARI sample 17A0195-12). This sample was reported twice for your review.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

Total and Dissolved Metals - EPA Method 200.8

The sample(s) were digested and analyzed within the recommended holding times.

The samples for dissolved metals were filtered in the lab.



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Seattle, WA 98124

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Project Number: Boeing Kent Sampling
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Reported:
02-Mar-2017 10:18

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

Gasoline by NWTPH-g (GC/MS)

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT3

Sampled: 01/18/2017 08:50
Analyzed: 01/20/2017 12:47

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0388 Sample Size: 10 mL
Prepared: 01/20/2017 12:47 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	5.22	ug/L	
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT3

Sampled: 01/18/2017 08:50
Analyzed: 01/20/2017 12:47

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	97.9	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	98.1	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	97.6	%	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	102	%	



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT3

Sampled: 01/18/2017 08:50
Analyzed: 01/20/2017 12:47

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0388 Sample Size: 10 mL
Prepared: 01/20/2017 12:47 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	98.1 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	97.6 %		



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
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Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/18/2017 08:50
Analyzed: 01/27/2017 13:02

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	113 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	81.4 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	96.4 %		



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Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/18/2017 08:50
Analyzed: 01/25/2017 13:56

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0320 Sample Size: 500 mL
Prepared: 01/19/2017 12:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0117 Initial Volume: 0.5 mL
Cleaned: 24-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.010	0.012	ug/L	
2-Methylnaphthalene	91-57-6	1	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.010	ND	ug/L	U
Benzo(a)anthracene, Total		1	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.010	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	81.2	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	84.2	%	
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	75.2	%	



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID3

Sampled: 01/18/2017 08:50
Analyzed: 01/25/2017 18:10

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0319 Sample Size: 500 mL
Prepared: 01/19/2017 10:47 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	106	%	



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Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 01/18/2017 08:50
Analyzed: 01/26/2017 18:57

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0316 Sample Size: 1000 mL
Prepared: 01/23/2017 16:50 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0130 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CFA0128 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CFA0129 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>			29-120 %	79.3	%	
<i>Surrogate: Tetrachlorometaxylene</i>			32-120 %	65.1	%	
<i>Surrogate: Decachlorobiphenyl [2C]</i>			29-120 %	75.8	%	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>			32-120 %	49.2	%	



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Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 01/18/2017 08:50

Instrument: ICPMS2

Analyzed: 01/19/2017 16:02

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	1	0.500	ND	ug/L	U
Copper	7440-50-8	1	0.500	2.92	ug/L	
Lead	7439-92-1	1	0.100	0.503	ug/L	
Selenium	7782-49-2	1	2.00	ND	ug/L	U
Silver	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 08:50

Instrument: ICPMS2

Analyzed: 01/19/2017 16:02

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.200	0.373	ug/L	
Cadmium	7440-43-9	1	0.100	ND	ug/L	U
Nickel	7440-02-0	1	0.500	0.608	ug/L	
Zinc	7440-66-6	1	4.00	25.1	ug/L	



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Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-01 (Water)

Metals and Metallic Compounds

Method: EPA 7470A

Sampled: 01/18/2017 08:50

Instrument: CETAC

Analyzed: 01/23/2017 12:50

Sample Preparation:

Preparation Method: TWM EPA 7470A

Preparation Batch: BFA0385

Prepared: 01/20/2017 11:01

Sample Size: 20 mL

Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000100	ND	mg/L	U



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Project: Boeing Kent Sampling Stormwaters
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Reported:
02-Mar-2017 10:18

KSC - MH-20.235 - W
17A0195-02 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT3

Sampled: 01/18/2017 08:40
Analyzed: 01/20/2017 13:13

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0388 Sample Size: 10 mL
Prepared: 01/20/2017 13:13 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	6.27	ug/L	
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT3

Sampled: 01/18/2017 08:40
Analyzed: 01/20/2017 13:13

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	99.8 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	98.6 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	96.7 %		
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	103 %		



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT3

Sampled: 01/18/2017 08:40
Analyzed: 01/20/2017 13:13

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0388 Sample Size: 10 mL
Prepared: 01/20/2017 13:13 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	98.6 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	96.7 %		



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/18/2017 08:40
Analyzed: 01/27/2017 13:25

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	123	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	82.2	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	96.1	%	



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/18/2017 08:40
Analyzed: 01/25/2017 14:27

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0320 Sample Size: 500 mL
Prepared: 01/19/2017 12:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0117 Initial Volume: 0.5 mL
Cleaned: 24-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.010	0.011	ug/L	
2-Methylnaphthalene	91-57-6	1	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.010	0.013	ug/L	
Anthracene	120-12-7	1	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.010	ND	ug/L	U
Benzo(a)anthracene, Total		1	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.010	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	68.0 %		
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	74.3 %		
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	65.1 %		



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID3

Sampled: 01/18/2017 08:40
Analyzed: 01/25/2017 18:34

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0319 Sample Size: 500 mL
Prepared: 01/19/2017 10:47 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	104	%	



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 01/18/2017 08:40
Analyzed: 01/26/2017 19:17

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0316 Sample Size: 1000 mL
Prepared: 01/23/2017 16:50 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0130 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CFA0128 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CFA0129 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.010	0.013	ug/L	
Aroclor 1260	11096-82-5	1	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>			29-120 %	79.7 %		
<i>Surrogate: Tetrachlorometaxylene</i>			32-120 %	62.9 %		
<i>Surrogate: Decachlorobiphenyl [2C]</i>			29-120 %	79.0 %		
<i>Surrogate: Tetrachlorometaxylene [2C]</i>			32-120 %	49.9 %		



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 01/18/2017 08:40

Instrument: ICPMS2

Analyzed: 01/19/2017 17:28

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting		Units	Notes
			Limit	Result		
Chromium	7440-47-3	1	0.500	0.571	ug/L	
Copper	7440-50-8	1	0.500	3.47	ug/L	
Lead	7439-92-1	1	0.100	0.591	ug/L	
Selenium	7782-49-2	1	2.00	ND	ug/L	U
Silver	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - MH-20.235 - W
17A0195-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 08:40

Instrument: ICPMS2

Analyzed: 01/19/2017 17:28

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.200	0.562	ug/L	
Cadmium	7440-43-9	1	0.100	ND	ug/L	U
Nickel	7440-02-0	1	0.500	0.501	ug/L	
Zinc	7440-66-6	1	4.00	47.8	ug/L	



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KSC - MH-20.235 - W
17A0195-02 (Water)

Metals and Metallic Compounds

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 08:40
Analyzed: 01/23/2017 12:55

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0385 Sample Size: 20 mL
Prepared: 01/20/2017 11:01 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000100	ND	mg/L	U



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Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 09:45
Analyzed: 01/19/2017 13:11

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 13:11 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	8.18	ug/L	
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



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Reported:
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KSC - MH-16.12 - W
17A0195-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 09:45
Analyzed: 01/19/2017 13:11

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	94.5 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	97.8 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	97.1 %		
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	101 %		



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Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-03 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 01/18/2017 09:45

Instrument: NT2

Analyzed: 01/19/2017 13:11

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Preparation Batch: BFA0329

Sample Size: 10 mL

Prepared: 01/19/2017 13:11

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	97.8	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	97.1	%	



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Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-03 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/18/2017 09:45
Analyzed: 01/27/2017 13:49

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	124 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	83.4 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	94.9 %		



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Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-03 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/18/2017 09:45
Analyzed: 01/25/2017 14:58

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0320 Sample Size: 500 mL
Prepared: 01/19/2017 12:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0117 Initial Volume: 0.5 mL
Cleaned: 24-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.010	0.012	ug/L	
2-Methylnaphthalene	91-57-6	1	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.010	0.012	ug/L	
Anthracene	120-12-7	1	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.010	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	76.2 %		
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	78.5 %		
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	71.5 %		



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Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-03 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID3

Sampled: 01/18/2017 09:45
Analyzed: 01/25/2017 18:58

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0319 Sample Size: 500 mL
Prepared: 01/19/2017 10:47 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	98.7	%	



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Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-03 (Water)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 01/18/2017 09:45
Analyzed: 01/26/2017 20:16

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0316 Sample Size: 1000 mL
Prepared: 01/23/2017 16:50 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0130 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CFA0128 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CFA0129 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>			29-120 %	78.1	%	
<i>Surrogate: Tetrachlorometaxylene</i>			32-120 %	60.5	%	
<i>Surrogate: Decachlorobiphenyl [2C]</i>			29-120 %	79.6	%	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>			32-120 %	46.6	%	



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Reported:
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KSC - MH-16.12 - W
17A0195-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 01/18/2017 09:45

Instrument: ICPMS2

Analyzed: 01/19/2017 17:33

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	1	0.500	ND	ug/L	U
Copper	7440-50-8	1	0.500	2.46	ug/L	
Lead	7439-92-1	1	0.100	0.229	ug/L	
Selenium	7782-49-2	1	2.00	ND	ug/L	U
Silver	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - MH-16.12 - W
17A0195-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 09:45

Instrument: ICPMS2

Analyzed: 01/19/2017 17:33

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.200	ND	ug/L	U
Cadmium	7440-43-9	1	0.100	ND	ug/L	U
Nickel	7440-02-0	1	0.500	ND	ug/L	U
Zinc	7440-66-6	1	4.00	59.8	ug/L	



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Reported:
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KSC - MH-16.12 - W
17A0195-03 (Water)

Metals and Metallic Compounds

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 09:45
Analyzed: 01/23/2017 12:57

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0385 Sample Size: 20 mL
Prepared: 01/20/2017 11:01 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000100	ND	mg/L	U



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Project: Boeing Kent Sampling Stormwaters
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Reported:
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KSC - MH-15.10 - W
17A0195-04 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 09:15
Analyzed: 01/19/2017 13:31

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 13:31 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	5.67	ug/L	
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



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KSC - MH-15.10 - W
17A0195-04 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 09:15
Analyzed: 01/19/2017 13:31

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	97.9 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	98.1 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	96.8 %		
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	98.3 %		



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Reported:
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KSC - MH-15.10 - W
17A0195-04 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2

Sampled: 01/18/2017 09:15
Analyzed: 01/19/2017 13:31

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 13:31 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	98.1 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	96.8 %		



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Reported:
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KSC - MH-15.10 - W
17A0195-04 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/18/2017 09:15
Analyzed: 01/27/2017 14:12

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	127 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	83.7 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	95.4 %		



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Reported:
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KSC - MH-15.10 - W
17A0195-04 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/18/2017 09:15
Analyzed: 01/25/2017 15:30

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0320 Sample Size: 500 mL
Prepared: 01/19/2017 12:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0117 Initial Volume: 0.5 mL
Cleaned: 24-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.010	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.010	0.013	ug/L	
Anthracene	120-12-7	1	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.010	0.013	ug/L	
Benzo(a)anthracene	56-55-3	1	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.010	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.010	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	76.5 %		
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	81.9 %		
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	68.7 %		



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Reported:
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KSC - MH-15.10 - W
17A0195-04 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID3

Sampled: 01/18/2017 09:15
Analyzed: 01/25/2017 20:10

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0319 Sample Size: 500 mL
Prepared: 01/19/2017 10:47 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	107	%	



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Reported:
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KSC - MH-15.10 - W
17A0195-04 (Water)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 01/18/2017 09:15
Analyzed: 01/26/2017 21:16

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0316 Sample Size: 1000 mL
Prepared: 01/23/2017 16:50 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0130 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CFA0128 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CFA0129 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>			29-120 %	85.3	%	
<i>Surrogate: Tetrachlorometaxylene</i>			32-120 %	66.6	%	
<i>Surrogate: Decachlorobiphenyl [2C]</i>			29-120 %	81.8	%	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>			32-120 %	50.8	%	



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KSC - MH-15.10 - W
17A0195-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 01/18/2017 09:15

Instrument: ICPMS2

Analyzed: 01/19/2017 17:37

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	1	0.500	0.844	ug/L	
Copper	7440-50-8	1	0.500	2.85	ug/L	
Lead	7439-92-1	1	0.100	2.18	ug/L	
Selenium	7782-49-2	1	2.00	ND	ug/L	U
Silver	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - MH-15.10 - W
17A0195-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 09:15

Instrument: ICPMS2

Analyzed: 01/19/2017 17:37

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO₃ matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.200	0.381	ug/L	
Cadmium	7440-43-9	1	0.100	ND	ug/L	U
Nickel	7440-02-0	1	0.500	ND	ug/L	U
Zinc	7440-66-6	1	4.00	21.4	ug/L	



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KSC - MH-15.10 - W
17A0195-04 (Water)

Metals and Metallic Compounds

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 09:15
Analyzed: 01/23/2017 12:58

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0385 Sample Size: 20 mL
Prepared: 01/20/2017 11:01 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000100	ND	mg/L	U



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-05 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 10:00
Analyzed: 01/19/2017 13:51

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 13:51 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	20.2	ug/L	
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-05 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 10:00
Analyzed: 01/19/2017 13:51

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	98.9 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	97.9 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	95.8 %		
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	99.0 %		



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Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-05 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2

Sampled: 01/18/2017 10:00
Analyzed: 01/19/2017 13:51

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 13:51 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	97.9 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	95.8 %		



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Reported:
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KSC - OF-16 - W
17A0195-05 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/18/2017 10:00
Analyzed: 01/27/2017 14:36

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	122	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	85.1	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	96.5	%	



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Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-05 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/18/2017 10:00
Analyzed: 01/25/2017 17:04

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0320 Sample Size: 500 mL
Prepared: 01/19/2017 12:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0117 Initial Volume: 0.5 mL
Cleaned: 24-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.010	0.012	ug/L	
2-Methylnaphthalene	91-57-6	1	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.010	0.034	ug/L	
Anthracene	120-12-7	1	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.010	0.018	ug/L	
Pyrene	129-00-0	1	0.010	0.020	ug/L	
Benzo(a)anthracene	56-55-3	1	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.010	0.010	ug/L	
Benzo(a)pyrene	50-32-8	1	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.010	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	59.9 %		
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	71.9 %		
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	65.0 %		



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Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-05 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID3

Sampled: 01/18/2017 10:00
Analyzed: 01/25/2017 20:34

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0319 Sample Size: 500 mL
Prepared: 01/19/2017 10:47 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)		1	0.200	0.219	mg/L	
HC ID: MOTOR OIL						
<i>Surrogate: o-Terphenyl</i>			50-150 %	105 %		



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Reported:
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KSC - OF-16 - W
17A0195-05 (Water)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 01/18/2017 10:00
Analyzed: 01/26/2017 21:36

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0316 Sample Size: 1000 mL
Prepared: 01/23/2017 16:50 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0130 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CFA0128 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CFA0129 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>			29-120 %	78.7	%	
<i>Surrogate: Tetrachlorometaxylene</i>			32-120 %	62.9	%	
<i>Surrogate: Decachlorobiphenyl [2C]</i>			29-120 %	76.4	%	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>			32-120 %	48.3	%	



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Reported:
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KSC - OF-16 - W
17A0195-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 01/18/2017 10:00

Instrument: ICPMS2

Analyzed: 01/19/2017 17:42

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	1	0.500	0.632	ug/L	
Copper	7440-50-8	1	0.500	3.21	ug/L	
Lead	7439-92-1	1	0.100	1.42	ug/L	
Selenium	7782-49-2	1	2.00	ND	ug/L	U
Silver	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - OF-16 - W
17A0195-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED
Instrument: ICPMS2

Sampled: 01/18/2017 10:00
Analyzed: 01/19/2017 17:42

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.200	ND	ug/L	U
Cadmium	7440-43-9	1	0.100	ND	ug/L	U
Nickel	7440-02-0	1	0.500	0.555	ug/L	
Zinc	7440-66-6	1	4.00	57.5	ug/L	



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KSC - OF-16 - W
17A0195-05 (Water)

Metals and Metallic Compounds

Method: EPA 7470A

Sampled: 01/18/2017 10:00

Instrument: CETAC

Analyzed: 01/23/2017 13:00

Sample Preparation:

Preparation Method: TWM EPA 7470A

Preparation Batch: BFA0385

Sample Size: 20 mL

Prepared: 01/20/2017 11:01

Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000100	ND	mg/L	U



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Reported:
02-Mar-2017 10:18

KSC - OF-NDP - W
17A0195-06 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 08:10
Analyzed: 01/19/2017 14:10

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 14:10 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	5.72	ug/L	
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



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Reported:
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KSC - OF-NDP - W
17A0195-06 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 08:10
Analyzed: 01/19/2017 14:10

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	92.7 %		
<i>Surrogate: Toluene-d8</i>			80-120 %	99.5 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	95.5 %		
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	99.3 %		



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KSC - OF-NDP - W
17A0195-06 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT2

Sampled: 01/18/2017 08:10
Analyzed: 01/19/2017 14:10

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 14:10 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	99.5 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	95.5 %		



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Reported:
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KSC - OF-NDP - W
17A0195-06 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/18/2017 08:10
Analyzed: 01/27/2017 14:59

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	129	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	81.9	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	92.9	%	



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KSC - OF-NDP - W
17A0195-06 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/18/2017 08:10
Analyzed: 01/25/2017 17:35

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0320 Sample Size: 500 mL
Prepared: 01/19/2017 12:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0117 Initial Volume: 0.5 mL
Cleaned: 24-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.010	0.014	ug/L	
2-Methylnaphthalene	91-57-6	1	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.010	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	70.6 %		
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	75.0 %		
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	70.7 %		



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Reported:
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KSC - OF-NDP - W
17A0195-06 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID3

Sampled: 01/18/2017 08:10
Analyzed: 01/25/2017 20:58

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0319 Sample Size: 500 mL
Prepared: 01/19/2017 10:47 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	109	%	



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Reported:
02-Mar-2017 10:18

KSC - OF-NDP - W
17A0195-06 (Water)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 01/18/2017 08:10
Analyzed: 01/26/2017 21:56

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0316 Sample Size: 1000 mL
Prepared: 01/23/2017 16:50 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0130 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CFA0128 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CFA0129 Initial Volume: 0.5 mL
Cleaned: 25-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>			29-120 %	78.3	%	
<i>Surrogate: Tetrachlorometaxylene</i>			32-120 %	63.8	%	
<i>Surrogate: Decachlorobiphenyl [2C]</i>			29-120 %	73.8	%	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>			32-120 %	48.7	%	



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Reported:
02-Mar-2017 10:18

KSC - OF-NDP - W
17A0195-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 01/18/2017 08:10

Instrument: ICPMS2

Analyzed: 01/19/2017 17:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO₃ matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting		Units	Notes
			Limit	Result		
Chromium	7440-47-3	1	0.500	0.606	ug/L	
Copper	7440-50-8	1	0.500	5.03	ug/L	
Lead	7439-92-1	1	0.100	0.358	ug/L	
Selenium	7782-49-2	1	2.00	ND	ug/L	U
Silver	7440-22-4	1	0.200	ND	ug/L	U



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - OF-NDP - W
17A0195-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 08:10

Instrument: ICPMS2

Analyzed: 01/19/2017 17:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0317 Sample Size: 25 mL
Prepared: 01/19/2017 07:19 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.200	0.506	ug/L	
Cadmium	7440-43-9	1	0.100	ND	ug/L	U
Nickel	7440-02-0	1	0.500	0.713	ug/L	
Zinc	7440-66-6	1	4.00	15.9	ug/L	



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - OF-NDP - W
17A0195-06 (Water)

Metals and Metallic Compounds

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 08:10
Analyzed: 01/23/2017 13:02

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0385 Sample Size: 20 mL
Prepared: 01/20/2017 11:01 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000100	ND	mg/L	U



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Trip Blank
17A0195-07 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 00:00
Analyzed: 01/19/2017 14:30

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0329 Sample Size: 10 mL
Prepared: 01/19/2017 14:30 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.20	ND	ug/L	U
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U



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Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Trip Blank
17A0195-07 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT2

Sampled: 01/18/2017 00:00
Analyzed: 01/19/2017 14:30

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	97.3	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	98.5	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	96.0	%	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	100	%	



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Reported:
02-Mar-2017 10:18

Trip Blank
17A0195-07 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 01/18/2017 00:00

Instrument: NT2

Analyzed: 01/19/2017 14:30

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Preparation Batch: BFA0329

Prepared: 01/19/2017 14:30

Sample Size: 10 mL

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	98.5 %		
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	96.0 %		



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Project: Boeing Kent Sampling Stormwaters
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Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8

Sampled: 01/18/2017 08:50

Instrument: ICPMS2

Analyzed: 01/20/2017 17:26

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO₃ matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.500	ND	ug/L	U
Lead, Dissolved	7439-92-1	1	0.100	ND	ug/L	U
Silver, Dissolved	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
02-Mar-2017 10:18

KSC - MH-20.237 - W
17A0195-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 08:50

Instrument: ICPMS2

Analyzed: 01/20/2017 17:26

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.200	0.257	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.500	2.00	ug/L	
Nickel, Dissolved	7440-02-0	1	0.500	ND	ug/L	U
Selenium, Dissolved	7782-49-2	1	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	4.00	19.0	ug/L	



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KSC - MH-20.237 - W
17A0195-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A Sampled: 01/18/2017 08:50
Instrument: CETAC Analyzed: 01/31/2017 15:23

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0620 Sample Size: 20 mL
Prepared: 01/30/2017 12:35 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000100	ND	mg/L	U



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Project Number: Boeing Kent Sampling
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Reported:
02-Mar-2017 10:18

KSC - MH-20.235 - W
17A0195-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8

Sampled: 01/18/2017 08:40

Instrument: ICPMS2

Analyzed: 01/20/2017 18:27

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.500	ND	ug/L	U
Lead, Dissolved	7439-92-1	1	0.100	0.110	ug/L	
Silver, Dissolved	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - MH-20.235 - W
17A0195-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 08:40

Instrument: ICPMS2

Analyzed: 01/20/2017 18:27

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.200	0.462	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.500	2.25	ug/L	
Nickel, Dissolved	7440-02-0	1	0.500	ND	ug/L	U
Selenium, Dissolved	7782-49-2	1	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	4.00	37.2	ug/L	



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Reported:
02-Mar-2017 10:18

KSC - MH-20.235 - W
17A0195-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 08:40
Analyzed: 01/31/2017 15:28

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0620 Sample Size: 20 mL
Prepared: 01/30/2017 12:35 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000100	ND	mg/L	U



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Project: Boeing Kent Sampling Stormwaters
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Reported:
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KSC - MH-16.12 - W
17A0195-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8

Sampled: 01/18/2017 09:45

Instrument: ICPMS2

Analyzed: 01/20/2017 18:32

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.500	ND	ug/L	U
Lead, Dissolved	7439-92-1	1	0.100	0.182	ug/L	
Silver, Dissolved	7440-22-4	1	0.200	ND	ug/L	U



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Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED
Instrument: ICPMS2

Sampled: 01/18/2017 09:45
Analyzed: 01/20/2017 18:32

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.200	ND	ug/L	U
Cadmium, Dissolved	7440-43-9	1	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.500	1.77	ug/L	
Nickel, Dissolved	7440-02-0	1	0.500	ND	ug/L	U
Selenium, Dissolved	7782-49-2	1	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	4.00	50.5	ug/L	



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Reported:
02-Mar-2017 10:18

KSC - MH-16.12 - W
17A0195-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 09:45
Analyzed: 01/31/2017 15:29

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0620 Sample Size: 20 mL
Prepared: 01/30/2017 12:35 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000100	ND	mg/L	U



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Reported:
02-Mar-2017 10:18

KSC - MH-15.10 - W
17A0195-11 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8

Sampled: 01/18/2017 09:15

Instrument: ICPMS2

Analyzed: 01/20/2017 18:37

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.500	0.601	ug/L	
Lead, Dissolved	7439-92-1	1	0.100	0.155	ug/L	
Silver, Dissolved	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
02-Mar-2017 10:18

KSC - MH-15.10 - W
17A0195-11 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 09:15

Instrument: ICPMS2

Analyzed: 01/20/2017 18:37

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO₃ matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.200	0.272	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.500	1.60	ug/L	
Nickel, Dissolved	7440-02-0	1	0.500	ND	ug/L	U
Selenium, Dissolved	7782-49-2	1	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	4.00	8.46	ug/L	



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Reported:
02-Mar-2017 10:18

KSC - MH-15.10 - W
17A0195-11 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 09:15
Analyzed: 01/31/2017 15:31

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0620 Sample Size: 20 mL
Prepared: 01/30/2017 12:35 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000100	ND	mg/L	U



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Project Number: Boeing Kent Sampling
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Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-12 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/18/2017 10:00
Analyzed: 02/03/2017 13:45

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0449 Sample Size: 455 mL
Prepared: 01/24/2017 16:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0134 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.011	0.017	ug/L	
2-Methylnaphthalene	91-57-6	1	0.011	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.011	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.011	ND	ug/L	U
Acenaphthene	83-32-9	1	0.011	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.011	ND	ug/L	U
Fluorene	86-73-7	1	0.011	ND	ug/L	U
Phenanthrene	85-01-8	1	0.011	0.018	ug/L	
Anthracene	120-12-7	1	0.011	ND	ug/L	U
Fluoranthene	206-44-0	1	0.011	ND	ug/L	U
Pyrene	129-00-0	1	0.011	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.011	ND	ug/L	U
Chrysene	218-01-9	1	0.011	ND	ug/L	U
Benzo(a)anthracene, Total		1	0.011	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.011	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.011	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.011	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.011	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	72.2 %		
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	94.7 %		
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	53.7 %		*



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KSC - OF-16 - W
17A0195-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8

Sampled: 01/18/2017 10:00

Instrument: ICPMS2

Analyzed: 01/20/2017 18:41

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.500	ND	ug/L	U
Lead, Dissolved	7439-92-1	1	0.100	ND	ug/L	U
Silver, Dissolved	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 10:00

Instrument: ICPMS2

Analyzed: 01/20/2017 18:41

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.200	ND	ug/L	U
Cadmium, Dissolved	7440-43-9	1	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.500	0.945	ug/L	
Nickel, Dissolved	7440-02-0	1	0.500	ND	ug/L	U
Selenium, Dissolved	7782-49-2	1	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	4.00	37.7	ug/L	



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Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - OF-16 - W
17A0195-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 10:00
Analyzed: 01/31/2017 15:33

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0620 Sample Size: 20 mL
Prepared: 01/30/2017 12:35 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000100	ND	mg/L	U



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

KSC - OF-NDP - W
17A0195-13 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8

Sampled: 01/18/2017 08:10

Instrument: ICPMS2

Analyzed: 01/20/2017 18:46

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.500	ND	ug/L	U
Lead, Dissolved	7439-92-1	1	0.100	ND	ug/L	U
Silver, Dissolved	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - OF-NDP - W
17A0195-13 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 01/18/2017 08:10

Instrument: ICPMS2

Analyzed: 01/20/2017 18:46

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0369 Sample Size: 25 mL
Prepared: 01/20/2017 07:06 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.200	0.356	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.500	2.02	ug/L	
Nickel, Dissolved	7440-02-0	1	0.500	ND	ug/L	U
Selenium, Dissolved	7782-49-2	1	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	4.00	9.88	ug/L	



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Reported:
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KSC - OF-NDP - W
17A0195-13 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/18/2017 08:10
Analyzed: 01/31/2017 15:38

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0620 Sample Size: 20 mL
Prepared: 01/30/2017 12:35 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000100	ND	mg/L	U



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0329-BLK1)					Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 09:29					
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8		4.88	ug/L	5.00		97.7 %	80-120			
Surrogate: 4-Bromofluorobenzene		4.77	ug/L	5.00		95.3 %	80-120			
Blank (BFA0329-BLK2)					Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 09:29					
Chloromethane	ND	0.50	ug/L							U
Vinyl Chloride	ND	0.20	ug/L							U
Bromomethane	ND	1.00	ug/L							U
Chloroethane	ND	0.20	ug/L							U
Trichlorofluoromethane	ND	0.20	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.20	ug/L							U
Acetone	ND	5.00	ug/L							U
1,1-Dichloroethene	ND	0.20	ug/L							U
Methylene Chloride	ND	1.00	ug/L							U
Carbon Disulfide	ND	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.20	ug/L							U
Vinyl Acetate	ND	0.20	ug/L							U
1,1-Dichloroethane	ND	0.20	ug/L							U
2-Butanone	ND	5.00	ug/L							U
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Chloroform	ND	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.20	ug/L							U
Carbon tetrachloride	ND	0.20	ug/L							U
1,2-Dichloroethane	ND	0.20	ug/L							U
Benzene	ND	0.20	ug/L							U
Trichloroethene	ND	0.20	ug/L							U
1,2-Dichloropropane	ND	0.20	ug/L							U
Bromodichloromethane	ND	0.20	ug/L							U
4-Methyl-2-Pentanone	ND	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
trans-1,3-Dichloropropene	ND	0.20	ug/L							U
1,1,2-Trichloroethane	ND	0.20	ug/L							U
Tetrachloroethene	ND	0.20	ug/L							U



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0329-BLK2)										
Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 09:29										
Dibromochloromethane	ND	0.20	ug/L							U
Chlorobenzene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Styrene	ND	0.20	ug/L							U
Bromoform	ND	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.20	ug/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>		4.99	ug/L	5.00		99.7 %	81-118			
<i>Surrogate: Toluene-d8</i>		4.88	ug/L	5.00		97.7 %	89-112			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.77	ug/L	5.00		95.3 %	85-114			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>		5.09	ug/L	5.00		102 %	80-120			
LCS (BFA0329-BS1)										
Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 07:50										
Gasoline Range Organics (Tol-Nap)	1090	100	ug/L	1000		109 %	80-120			
<i>Surrogate: Toluene-d8</i>		4.91	ug/L	5.00		98.1 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.91	ug/L	5.00		98.2 %	80-120			
LCS (BFA0329-BS2)										
Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 08:30										
Chloromethane	9.42	0.50	ug/L	10.0		94.2 %	77-122			
Vinyl Chloride	10.2	0.20	ug/L	10.0		102 %	74-123			
Bromomethane	9.29	1.00	ug/L	10.0		92.9 %	72-130			
Chloroethane	11.2	0.20	ug/L	10.0		112 %	68-133			
Trichlorofluoromethane	9.74	0.20	ug/L	10.0		97.4 %	80-129			
1,1,2-Trichloro-1,2,2-Trifluoroethane	10.1	0.20	ug/L	10.0		101 %	76-124			
Acetone	47.1	5.00	ug/L	50.0		94.1 %	64-125			
1,1-Dichloroethene	10.1	0.20	ug/L	10.0		101 %	74-120			
Methylene Chloride	9.31	1.00	ug/L	10.0		93.1 %	71-125			
Carbon Disulfide	9.43	0.20	ug/L	10.0		94.3 %	78-124			
trans-1,2-Dichloroethene	10.9	0.20	ug/L	10.0		109 %	78-120			
Vinyl Acetate	9.16	0.20	ug/L	10.0		91.6 %	74-120			
1,1-Dichloroethane	10.1	0.20	ug/L	10.0		101 %	80-120			
2-Butanone	46.8	5.00	ug/L	50.0		93.7 %	73-123			
cis-1,2-Dichloroethene	10.0	0.20	ug/L	10.0		100 %	80-120			



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Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFA0329-BS2)						Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 08:30				
Chloroform	10.2	0.20	ug/L	10.0		102 %	80-120			
1,1,1-Trichloroethane	10.1	0.20	ug/L	10.0		101 %	79-123			
Carbon tetrachloride	9.35	0.20	ug/L	10.0		93.5 %	71-137			
1,2-Dichloroethane	10.1	0.20	ug/L	10.0		101 %	80-121			
Benzene	10.0	0.20	ug/L	10.0		100 %	80-120			
Trichloroethene	10.2	0.20	ug/L	10.0		102 %	80-120			
1,2-Dichloropropane	10.1	0.20	ug/L	10.0		101 %	80-120			
Bromodichloromethane	9.93	0.20	ug/L	10.0		99.3 %	80-121			
4-Methyl-2-Pentanone	52.2	5.00	ug/L	50.0		104 %	80-125			
cis-1,3-Dichloropropene	10.5	0.20	ug/L	10.0		105 %	80-124			
Toluene	9.95	0.20	ug/L	10.0		99.5 %	80-120			
trans-1,3-Dichloropropene	10.4	0.20	ug/L	10.0		104 %	79-127			
1,1,2-Trichloroethane	10.6	0.20	ug/L	10.0		106 %	80-120			
Tetrachloroethene	9.97	0.20	ug/L	10.0		99.7 %	80-120			
Dibromochloromethane	9.77	0.20	ug/L	10.0		97.7 %	80-120			
Chlorobenzene	10.0	0.20	ug/L	10.0		100 %	80-120			
Ethylbenzene	9.69	0.20	ug/L	10.0		96.9 %	80-120			
m,p-Xylene	19.4	0.40	ug/L	20.0		97.0 %	80-121			
o-Xylene	9.75	0.20	ug/L	10.0		97.5 %	80-121			
Styrene	10.7	0.20	ug/L	10.0		107 %	80-121			
Bromoform	7.69	0.20	ug/L	10.0		76.9 %	62-134			Q
1,1,2,2-Tetrachloroethane	9.78	0.20	ug/L	10.0		97.8 %	80-120			
<i>Surrogate: Dibromofluoromethane</i>		5.04	ug/L	5.00		101 %	80-119			
<i>Surrogate: 1,2-Dichloroethane-d4</i>		5.08	ug/L	5.00		102 %	81-118			
<i>Surrogate: Toluene-d8</i>		5.01	ug/L	5.00		100 %	89-112			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.92	ug/L	5.00		98.3 %	85-114			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>		4.98	ug/L	5.00		99.6 %	80-120			

LCS Dup (BFA0329-BSD1)						Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 08:10				
Gasoline Range Organics (Tol-Nap)	1070	100	ug/L	1000		107 %	80-120	1.15	30	
<i>Surrogate: Toluene-d8</i>		4.93	ug/L	5.00		98.5 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.72	ug/L	5.00		94.3 %	80-120			

LCS Dup (BFA0329-BSD2)						Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 08:49				
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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFA0329-BSD2)										
Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 08:49										
Chloromethane	9.20	0.50	ug/L	10.0		92.0 %	77-122	2.36	30	
Vinyl Chloride	10.3	0.20	ug/L	10.0		103 %	74-123	0.55	30	
Bromomethane	9.76	1.00	ug/L	10.0		97.6 %	72-130	5.03	30	
Chloroethane	11.1	0.20	ug/L	10.0		111 %	68-133	0.57	30	
Trichlorofluoromethane	9.70	0.20	ug/L	10.0		97.0 %	80-129	0.40	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	10.1	0.20	ug/L	10.0		101 %	76-124	0.20	30	
Acetone	46.1	5.00	ug/L	50.0		92.1 %	64-125	2.13	30	
1,1-Dichloroethene	9.85	0.20	ug/L	10.0		98.5 %	74-120	2.03	30	
Methylene Chloride	9.40	1.00	ug/L	10.0		94.0 %	71-125	0.94	30	
Carbon Disulfide	9.41	0.20	ug/L	10.0		94.1 %	78-124	0.27	30	
trans-1,2-Dichloroethene	10.5	0.20	ug/L	10.0		105 %	78-120	3.80	30	
Vinyl Acetate	9.13	0.20	ug/L	10.0		91.3 %	74-120	0.30	30	
1,1-Dichloroethane	9.88	0.20	ug/L	10.0		98.8 %	80-120	1.73	30	
2-Butanone	45.8	5.00	ug/L	50.0		91.5 %	73-123	2.33	30	
cis-1,2-Dichloroethene	10.1	0.20	ug/L	10.0		101 %	80-120	0.30	30	
Chloroform	10.0	0.20	ug/L	10.0		100 %	80-120	1.80	30	
1,1,1-Trichloroethane	10.0	0.20	ug/L	10.0		100 %	79-123	1.07	30	
Carbon tetrachloride	10.0	0.20	ug/L	10.0		100 %	71-137	7.01	30	
1,2-Dichloroethane	10.6	0.20	ug/L	10.0		106 %	80-121	4.69	30	
Benzene	10.5	0.20	ug/L	10.0		105 %	80-120	4.92	20	
Trichloroethene	10.7	0.20	ug/L	10.0		107 %	80-120	4.51	30	
1,2-Dichloropropane	10.4	0.20	ug/L	10.0		104 %	80-120	3.01	30	
Bromodichloromethane	10.6	0.20	ug/L	10.0		106 %	80-121	6.09	30	
4-Methyl-2-Pentanone	53.2	5.00	ug/L	50.0		106 %	80-125	1.98	30	
cis-1,3-Dichloropropene	10.9	0.20	ug/L	10.0		109 %	80-124	3.98	30	
Toluene	10.3	0.20	ug/L	10.0		103 %	80-120	3.23	20	
trans-1,3-Dichloropropene	11.1	0.20	ug/L	10.0		111 %	79-127	6.53	30	
1,1,2-Trichloroethane	11.1	0.20	ug/L	10.0		111 %	80-120	4.43	30	
Tetrachloroethene	10.4	0.20	ug/L	10.0		104 %	80-120	4.62	30	
Dibromochloromethane	10.3	0.20	ug/L	10.0		103 %	80-120	5.25	30	
Chlorobenzene	10.3	0.20	ug/L	10.0		103 %	80-120	2.48	30	
Ethylbenzene	10.0	0.20	ug/L	10.0		100 %	80-120	3.20	20	
m,p-Xylene	20.1	0.40	ug/L	20.0		100 %	80-121	3.41	20	
o-Xylene	10.0	0.20	ug/L	10.0		100 %	80-121	2.96	20	
Styrene	10.9	0.20	ug/L	10.0		109 %	80-121	1.71	30	



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 08:49										
LCS Dup (BFA0329-BSD2)										
Bromoform	8.03	0.20	ug/L	10.0		80.3 %	62-134	4.32	30	Q
1,1,2,2-Tetrachloroethane	10.3	0.20	ug/L	10.0		103 %	80-120	4.88	30	
Surrogate: Dibromofluoromethane		5.00	ug/L	5.00		100 %	80-119			
Surrogate: 1,2-Dichloroethane-d4		4.91	ug/L	5.00		98.2 %	81-118			
Surrogate: Toluene-d8		5.16	ug/L	5.00		103 %	89-112			
Surrogate: 4-Bromofluorobenzene		5.01	ug/L	5.00		100 %	85-114			
Surrogate: 1,2-Dichlorobenzene-d4		5.08	ug/L	5.00		102 %	80-120			

Matrix Spike (BFA0329-MS5)	Source: 17A0195-05	Prepared: 19-Jan-2017	Analyzed: 19-Jan-2017 17:27							
Chloromethane	8.89	0.50	ug/L	10.0	ND	88.9 %	77-122			
Vinyl Chloride	9.96	0.20	ug/L	10.0	ND	99.6 %	74-123			
Bromomethane	9.33	1.00	ug/L	10.0	ND	93.3 %	72-130			
Chloroethane	11.1	0.20	ug/L	10.0	ND	111 %	68-133			
Trichlorofluoromethane	9.51	0.20	ug/L	10.0	ND	95.1 %	80-129			
1,1,2-Trichloro-1,2,2-Trifluoroethane	9.83	0.20	ug/L	10.0	ND	98.3 %	76-124			
Acetone	65.1	5.00	ug/L	50.0	20.2	89.9 %	64-125			
1,1-Dichloroethene	9.69	0.20	ug/L	10.0	ND	96.9 %	74-120			
Methylene Chloride	8.85	1.00	ug/L	10.0	ND	88.5 %	71-125			
Carbon Disulfide	9.19	0.20	ug/L	10.0	ND	91.9 %	78-124			
trans-1,2-Dichloroethene	10.4	0.20	ug/L	10.0	ND	104 %	78-120			
Vinyl Acetate	7.82	0.20	ug/L	10.0	ND	78.2 %	74-120			
1,1-Dichloroethane	9.79	0.20	ug/L	10.0	ND	97.9 %	80-120			
2-Butanone	47.6	5.00	ug/L	50.0	ND	92.1 %	73-123			
cis-1,2-Dichloroethene	9.78	0.20	ug/L	10.0	ND	97.8 %	80-120			
Chloroform	10.0	0.20	ug/L	10.0	ND	100 %	80-120			
1,1,1-Trichloroethane	9.80	0.20	ug/L	10.0	ND	98.0 %	79-123			
Carbon tetrachloride	9.53	0.20	ug/L	10.0	ND	95.3 %	71-137			
1,2-Dichloroethane	10.2	0.20	ug/L	10.0	ND	102 %	80-121			
Benzene	10.3	0.20	ug/L	10.0	ND	103 %	80-120			
Trichloroethene	10.5	0.20	ug/L	10.0	ND	105 %	80-120			
1,2-Dichloropropane	10.4	0.20	ug/L	10.0	ND	104 %	80-120			
Bromodichloromethane	9.94	0.20	ug/L	10.0	ND	99.4 %	80-121			
4-Methyl-2-Pentanone	51.8	5.00	ug/L	50.0	ND	104 %	80-125			
cis-1,3-Dichloropropene	10.5	0.20	ug/L	10.0	ND	105 %	80-124			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BFA0329-MS5)		Source: 17A0195-05		Prepared: 19-Jan-2017		Analyzed: 19-Jan-2017 17:27				
Toluene	10.1	0.20	ug/L	10.0	ND	101 %	80-120			
trans-1,3-Dichloropropene	10.5	0.20	ug/L	10.0	ND	105 %	79-127			
1,1,2-Trichloroethane	10.7	0.20	ug/L	10.0	ND	107 %	80-120			
Tetrachloroethene	10.6	0.20	ug/L	10.0	ND	106 %	80-120			
Dibromochloromethane	9.95	0.20	ug/L	10.0	ND	99.5 %	80-120			
Chlorobenzene	10.4	0.20	ug/L	10.0	ND	104 %	80-120			
Ethylbenzene	10.2	0.20	ug/L	10.0	ND	102 %	80-120			
m,p-Xylene	20.3	0.40	ug/L	20.0	ND	102 %	80-121			
o-Xylene	10.2	0.20	ug/L	10.0	ND	102 %	80-121			
Styrene	11.1	0.20	ug/L	10.0	ND	111 %	80-121			
Bromoform	7.79	0.20	ug/L	10.0	ND	77.9 %	62-134			Q
1,1,2,2-Tetrachloroethane	10.3	0.20	ug/L	10.0	ND	103 %	80-120			
<i>Surrogate: Dibromofluoromethane</i>		5.04	ug/L	5.00		101 %	80-119			
<i>Surrogate: 1,2-Dichloroethane-d4</i>		4.81	ug/L	5.00	4.95	96.2 %	81-118			
<i>Surrogate: Toluene-d8</i>		4.98	ug/L	5.00	4.90	99.5 %	89-112			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.91	ug/L	5.00	4.79	98.2 %	85-114			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>		4.99	ug/L	5.00	4.95	99.9 %	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike (BFA0329-MS6)		Source: 17A0195-06		Prepared: 19-Jan-2017		Analyzed: 19-Jan-2017 18:07				
Gasoline Range Organics (Tol-Nap)	1010	100	ug/L	1000	ND	101 %	80-120			
<i>Surrogate: Toluene-d8</i>		4.99	ug/L	5.00	4.98	99.9 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.80	ug/L	5.00	4.78	96.0 %	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BFA0329-MSD5)		Source: 17A0195-05		Prepared: 19-Jan-2017		Analyzed: 19-Jan-2017 17:47				
Chloromethane	8.93	0.50	ug/L	10.0	ND	89.3 %	77-122	0.41	30	
Vinyl Chloride	10.2	0.20	ug/L	10.0	ND	102 %	74-123	2.31	30	
Bromomethane	9.80	1.00	ug/L	10.0	ND	98.0 %	72-130	4.94	30	
Chloroethane	11.1	0.20	ug/L	10.0	ND	111 %	68-133	0.11	30	
Trichlorofluoromethane	9.61	0.20	ug/L	10.0	ND	96.1 %	80-129	1.04	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	9.97	0.20	ug/L	10.0	ND	99.7 %	76-124	1.50	30	
Acetone	65.3	5.00	ug/L	50.0	20.2	90.2 %	64-125	0.24	30	
1,1-Dichloroethene	9.86	0.20	ug/L	10.0	ND	98.6 %	74-120	1.76	30	



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BFA0329-MSD5)		Source: 17A0195-05		Prepared: 19-Jan-2017		Analyzed: 19-Jan-2017 17:47				
Methylene Chloride	8.95	1.00	ug/L	10.0	ND	89.5 %	71-125	1.15	30	
Carbon Disulfide	9.20	0.20	ug/L	10.0	ND	92.0 %	78-124	0.11	30	
trans-1,2-Dichloroethene	10.5	0.20	ug/L	10.0	ND	105 %	78-120	1.10	30	
Vinyl Acetate	7.66	0.20	ug/L	10.0	ND	76.6 %	74-120	2.10	30	
1,1-Dichloroethane	9.88	0.20	ug/L	10.0	ND	98.8 %	80-120	0.89	30	
2-Butanone	47.8	5.00	ug/L	50.0	ND	92.4 %	73-123	0.26	30	
cis-1,2-Dichloroethene	9.89	0.20	ug/L	10.0	ND	98.9 %	80-120	1.11	30	
Chloroform	10.2	0.20	ug/L	10.0	ND	102 %	80-120	2.06	30	
1,1,1-Trichloroethane	9.98	0.20	ug/L	10.0	ND	99.8 %	79-123	1.88	30	
Carbon tetrachloride	9.46	0.20	ug/L	10.0	ND	94.6 %	71-137	0.73	30	
1,2-Dichloroethane	9.93	0.20	ug/L	10.0	ND	99.3 %	80-121	2.76	30	
Benzene	9.82	0.20	ug/L	10.0	ND	98.2 %	80-120	4.49	20	
Trichloroethene	10.0	0.20	ug/L	10.0	ND	100 %	80-120	4.61	30	
1,2-Dichloropropane	9.72	0.20	ug/L	10.0	ND	97.2 %	80-120	6.66	30	
Bromodichloromethane	9.74	0.20	ug/L	10.0	ND	97.4 %	80-121	2.05	30	
4-Methyl-2-Pentanone	49.6	5.00	ug/L	50.0	ND	99.2 %	80-125	4.24	30	
cis-1,3-Dichloropropene	10.3	0.20	ug/L	10.0	ND	103 %	80-124	2.58	30	
Toluene	9.71	0.20	ug/L	10.0	ND	96.6 %	80-120	4.24	20	
trans-1,3-Dichloropropene	10.1	0.20	ug/L	10.0	ND	101 %	79-127	4.23	30	
1,1,2-Trichloroethane	10.3	0.20	ug/L	10.0	ND	103 %	80-120	3.97	30	
Tetrachloroethene	10.2	0.20	ug/L	10.0	ND	102 %	80-120	3.77	30	
Dibromochloromethane	9.80	0.20	ug/L	10.0	ND	98.0 %	80-120	1.51	30	
Chlorobenzene	10.0	0.20	ug/L	10.0	ND	100 %	80-120	3.67	30	
Ethylbenzene	9.85	0.20	ug/L	10.0	ND	98.5 %	80-120	3.99	20	
m,p-Xylene	19.6	0.40	ug/L	20.0	ND	97.9 %	80-121	3.63	20	
o-Xylene	9.88	0.20	ug/L	10.0	ND	98.8 %	80-121	2.75	20	
Styrene	10.6	0.20	ug/L	10.0	ND	106 %	80-121	4.93	30	
Bromoform	7.78	0.20	ug/L	10.0	ND	77.8 %	62-134	0.09	30	Q
1,1,2,2-Tetrachloroethane	9.86	0.20	ug/L	10.0	ND	98.6 %	80-120	4.30	30	
Surrogate: Dibromofluoromethane	5.20		ug/L	5.00		104 %	80-119			
Surrogate: 1,2-Dichloroethane-d4	4.93		ug/L	5.00	4.95	98.6 %	81-118			
Surrogate: Toluene-d8	5.00		ug/L	5.00	4.90	100 %	89-112			
Surrogate: 4-Bromofluorobenzene	5.05		ug/L	5.00	4.79	101 %	85-114			
Surrogate: 1,2-Dichlorobenzene-d4	5.04		ug/L	5.00	4.95	101 %	80-120			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0329 - EPA 5030 (Purge and Trap)

Instrument: NT2

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BFA0329-MSD6)

Source: 17A0195-06

Prepared: 19-Jan-2017

Analyzed: 19-Jan-2017 18:27

Gasoline Range Organics (Tol-Nap)	1020	100	ug/L	1000	ND	102 %	80-120	0.44	30	
Surrogate: Toluene-d8	5.11		ug/L	5.00	4.98	102 %	80-120			
Surrogate: 4-Bromofluorobenzene	4.82		ug/L	5.00	4.78	96.3 %	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0388 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0388-BLK1)										
Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 12:10										
Chloromethane	ND	0.50	ug/L							U
Vinyl Chloride	ND	0.20	ug/L							U
Bromomethane	ND	1.00	ug/L							U
Chloroethane	ND	0.20	ug/L							U
Trichlorofluoromethane	ND	0.20	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.20	ug/L							U
Acetone	ND	5.00	ug/L							U
1,1-Dichloroethene	ND	0.20	ug/L							U
Methylene Chloride	ND	1.00	ug/L							U
Carbon Disulfide	ND	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.20	ug/L							U
Vinyl Acetate	ND	0.20	ug/L							U
1,1-Dichloroethane	ND	0.20	ug/L							U
2-Butanone	ND	5.00	ug/L							U
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Chloroform	ND	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.20	ug/L							U
Carbon tetrachloride	ND	0.20	ug/L							U
1,2-Dichloroethane	ND	0.20	ug/L							U
Benzene	ND	0.20	ug/L							U
Trichloroethene	ND	0.20	ug/L							U
1,2-Dichloropropane	ND	0.20	ug/L							U
Bromodichloromethane	ND	0.20	ug/L							U
4-Methyl-2-Pentanone	ND	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
trans-1,3-Dichloropropene	ND	0.20	ug/L							U
1,1,2-Trichloroethane	ND	0.20	ug/L							U
Tetrachloroethene	ND	0.20	ug/L							U
Dibromochloromethane	ND	0.20	ug/L							U
Chlorobenzene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Styrene	ND	0.20	ug/L							U



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Volatile Organic Compounds - Quality Control

Batch BFA0388 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0388-BLK1)										
					Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 12:10					
Bromoform	ND	0.20	ug/L							U
1,1,2,2-Tetrachloroethane	ND	0.20	ug/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>		5.19	ug/L	5.00		104 %	81-118			
<i>Surrogate: Toluene-d8</i>		4.98	ug/L	5.00		99.7 %	89-112			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.88	ug/L	5.00		97.6 %	85-114			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>		5.08	ug/L	5.00		102 %	80-120			
Blank (BFA0388-BLK2)										
					Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 12:10					
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
<i>Surrogate: Toluene-d8</i>		4.98	ug/L	5.00		99.7 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.88	ug/L	5.00		97.6 %	80-120			
LCS (BFA0388-BS1)										
					Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 10:26					
Chloromethane	8.85	0.50	ug/L	10.0		88.5 %	77-122			
Vinyl Chloride	9.07	0.20	ug/L	10.0		90.7 %	74-123			
Bromomethane	9.37	1.00	ug/L	10.0		93.7 %	72-130			
Chloroethane	8.72	0.20	ug/L	10.0		87.2 %	68-133			
Trichlorofluoromethane	9.60	0.20	ug/L	10.0		96.0 %	80-129			
1,1,2-Trichloro-1,2,2-Trifluoroethane	9.56	0.20	ug/L	10.0		95.6 %	76-124			
Acetone	44.9	5.00	ug/L	50.0		89.9 %	64-125			
1,1-Dichloroethene	9.03	0.20	ug/L	10.0		90.3 %	74-120			
Methylene Chloride	8.17	1.00	ug/L	10.0		81.7 %	71-125			
Carbon Disulfide	9.15	0.20	ug/L	10.0		91.5 %	78-124			
trans-1,2-Dichloroethene	9.25	0.20	ug/L	10.0		92.5 %	78-120			
Vinyl Acetate	8.90	0.20	ug/L	10.0		89.0 %	74-120			
1,1-Dichloroethane	9.11	0.20	ug/L	10.0		91.1 %	80-120			
2-Butanone	41.8	5.00	ug/L	50.0		83.5 %	73-123			
cis-1,2-Dichloroethene	9.20	0.20	ug/L	10.0		92.0 %	80-120			
Chloroform	9.15	0.20	ug/L	10.0		91.5 %	80-120			
1,1,1-Trichloroethane	9.26	0.20	ug/L	10.0		92.6 %	79-123			
Carbon tetrachloride	9.16	0.20	ug/L	10.0		91.6 %	71-137			
1,2-Dichloroethane	9.04	0.20	ug/L	10.0		90.4 %	80-121			
Benzene	9.13	0.20	ug/L	10.0		91.3 %	80-120			
Trichloroethene	9.16	0.20	ug/L	10.0		91.6 %	80-120			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
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Volatile Organic Compounds - Quality Control

Batch BFA0388 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFA0388-BS1)		Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 10:26								
1,2-Dichloropropane	8.91	0.20	ug/L	10.0		89.1 %	80-120			
Bromodichloromethane	9.15	0.20	ug/L	10.0		91.5 %	80-121			
4-Methyl-2-Pentanone	41.8	5.00	ug/L	50.0		83.6 %	80-125			
cis-1,3-Dichloropropene	9.27	0.20	ug/L	10.0		92.7 %	80-124			
Toluene	9.08	0.20	ug/L	10.0		90.8 %	80-120			
trans-1,3-Dichloropropene	9.11	0.20	ug/L	10.0		91.1 %	79-127			
1,1,2-Trichloroethane	8.84	0.20	ug/L	10.0		88.4 %	80-120			
Tetrachloroethene	9.41	0.20	ug/L	10.0		94.1 %	80-120			
Dibromochloromethane	9.20	0.20	ug/L	10.0		92.0 %	80-120			
Chlorobenzene	9.24	0.20	ug/L	10.0		92.4 %	80-120			
Ethylbenzene	9.35	0.20	ug/L	10.0		93.5 %	80-120			
m,p-Xylene	19.1	0.40	ug/L	20.0		95.6 %	80-121			
o-Xylene	9.26	0.20	ug/L	10.0		92.6 %	80-121			
Styrene	9.86	0.20	ug/L	10.0		98.6 %	80-121			
Bromoform	8.95	0.20	ug/L	10.0		89.5 %	62-134			
1,1,2,2-Tetrachloroethane	8.67	0.20	ug/L	10.0		86.7 %	80-120			
<i>Surrogate: Dibromofluoromethane</i>		5.03	ug/L	5.00		101 %	80-119			
<i>Surrogate: 1,2-Dichloroethane-d4</i>		4.86	ug/L	5.00		97.1 %	81-118			
<i>Surrogate: Toluene-d8</i>		4.96	ug/L	5.00		99.2 %	89-112			
<i>Surrogate: 4-Bromofluorobenzene</i>		5.09	ug/L	5.00		102 %	85-114			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>		4.84	ug/L	5.00		96.9 %	80-120			
LCS (BFA0388-BS2)		Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 11:19								
Gasoline Range Organics (Tol-Nap)	904	100	ug/L	1000		90.4 %	80-120			
<i>Surrogate: Toluene-d8</i>		4.92	ug/L	5.00		98.3 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.88	ug/L	5.00		97.5 %	80-120			
LCS Dup (BFA0388-BSD1)		Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 10:53								
Chloromethane	9.64	0.50	ug/L	10.0		96.4 %	77-122	8.48	30	
Vinyl Chloride	9.92	0.20	ug/L	10.0		99.2 %	74-123	8.98	30	
Bromomethane	10.2	1.00	ug/L	10.0		102 %	72-130	8.77	30	
Chloroethane	9.38	0.20	ug/L	10.0		93.8 %	68-133	7.33	30	
Trichlorofluoromethane	10.3	0.20	ug/L	10.0		103 %	80-129	7.47	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	10.1	0.20	ug/L	10.0		101 %	76-124	5.58	30	



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Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0388 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFA0388-bsd1)										
					Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 10:53					
Acetone	52.0	5.00	ug/L	50.0		104 %	64-125	14.60	30	
1,1-Dichloroethene	9.93	0.20	ug/L	10.0		99.3 %	74-120	9.42	30	
Methylene Chloride	9.33	1.00	ug/L	10.0		93.3 %	71-125	13.20	30	
Carbon Disulfide	9.91	0.20	ug/L	10.0		99.1 %	78-124	7.98	30	
trans-1,2-Dichloroethene	10.0	0.20	ug/L	10.0		100 %	78-120	8.20	30	
Vinyl Acetate	9.98	0.20	ug/L	10.0		99.8 %	74-120	11.50	30	
1,1-Dichloroethane	9.97	0.20	ug/L	10.0		99.7 %	80-120	9.06	30	
2-Butanone	50.6	5.00	ug/L	50.0		101 %	73-123	19.20	30	
cis-1,2-Dichloroethene	10.1	0.20	ug/L	10.0		101 %	80-120	8.91	30	
Chloroform	10.2	0.20	ug/L	10.0		102 %	80-120	10.80	30	
1,1,1-Trichloroethane	10.2	0.20	ug/L	10.0		102 %	79-123	9.29	30	
Carbon tetrachloride	10.3	0.20	ug/L	10.0		103 %	71-137	11.60	30	
1,2-Dichloroethane	10.4	0.20	ug/L	10.0		104 %	80-121	14.40	30	
Benzene	10.1	0.20	ug/L	10.0		101 %	80-120	10.50	20	
Trichloroethene	10.2	0.20	ug/L	10.0		102 %	80-120	10.30	30	
1,2-Dichloropropane	9.65	0.20	ug/L	10.0		96.5 %	80-120	8.05	30	
Bromodichloromethane	10.4	0.20	ug/L	10.0		104 %	80-121	12.60	30	
4-Methyl-2-Pentanone	50.4	5.00	ug/L	50.0		101 %	80-125	18.60	30	
cis-1,3-Dichloropropene	10.4	0.20	ug/L	10.0		104 %	80-124	11.70	30	
Toluene	10.1	0.20	ug/L	10.0		101 %	80-120	10.60	20	
trans-1,3-Dichloropropene	10.3	0.20	ug/L	10.0		103 %	79-127	11.90	30	
1,1,2-Trichloroethane	10.2	0.20	ug/L	10.0		102 %	80-120	14.20	30	
Tetrachloroethene	10.0	0.20	ug/L	10.0		100 %	80-120	6.23	30	
Dibromochloromethane	10.2	0.20	ug/L	10.0		102 %	80-120	10.60	30	
Chlorobenzene	10.0	0.20	ug/L	10.0		100 %	80-120	8.07	30	
Ethylbenzene	10.1	0.20	ug/L	10.0		101 %	80-120	7.48	20	
m,p-Xylene	20.5	0.40	ug/L	20.0		102 %	80-121	6.87	20	
o-Xylene	9.91	0.20	ug/L	10.0		99.1 %	80-121	6.76	20	
Styrene	10.7	0.20	ug/L	10.0		107 %	80-121	8.05	30	
Bromoform	10.5	0.20	ug/L	10.0		105 %	62-134	16.40	30	
1,1,2,2-Tetrachloroethane	9.91	0.20	ug/L	10.0		99.1 %	80-120	13.40	30	
Surrogate: Dibromofluoromethane		5.04	ug/L	5.00		101 %	80-119			
Surrogate: 1,2-Dichloroethane-d4		5.00	ug/L	5.00		99.9 %	81-118			
Surrogate: Toluene-d8		5.03	ug/L	5.00		101 %	89-112			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Volatile Organic Compounds - Quality Control

Batch BFA0388 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFA0388-BSD1)				Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 10:53						
Surrogate: 4-Bromofluorobenzene	5.21		ug/L	5.00		104 %	85-114			
Surrogate: 1,2-Dichlorobenzene-d4	5.05		ug/L	5.00		101 %	80-120			
LCS Dup (BFA0388-BSD2)				Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 11:44						
Gasoline Range Organics (Tol-Nap)	907	100	ug/L	1000		90.7 %	80-120	0.34	30	
Surrogate: Toluene-d8	5.08		ug/L	5.00		102 %	80-120			
Surrogate: 4-Bromofluorobenzene	5.08		ug/L	5.00		102 %	80-120			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
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Volatile Organic Compounds - SIM - Quality Control

Batch BFA0576 - EPA 5030 (Purge and Trap)

Instrument: NT15

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0576-BLK1)						Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 11:30				
Vinyl chloride	ND	20.0	ng/L							U
1,1-Dichloroethene	ND	20.0	ng/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>		1170	ng/L	1000		117 %	80-129			
<i>Surrogate: Toluene-d8</i>		829	ng/L	1000		82.9 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		950	ng/L	1000		95.0 %	75-125			
LCS (BFA0576-BS1)						Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 10:28				
Vinyl chloride	943		ng/L	1000		94.3 %	76-120			
1,1-Dichloroethene	1020		ng/L	1000		102 %	80-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>		906	ng/L	1000		90.6 %	80-129			
<i>Surrogate: Toluene-d8</i>		829	ng/L	1000		82.9 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		1090	ng/L	1000		109 %	75-125			
LCS Dup (BFA0576-BSD1)						Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 11:07				
Vinyl chloride	1130		ng/L	1000		113 %	76-120	18.10	30	
1,1-Dichloroethene	1160		ng/L	1000		116 %	80-120	12.70	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		1010	ng/L	1000		101 %	80-129			
<i>Surrogate: Toluene-d8</i>		834	ng/L	1000		83.4 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		1130	ng/L	1000		113 %	75-125			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFA0320 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0320-BLK1)										
Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 10:46										
Naphthalene	ND	0.010	ug/L							U
2-Methylnaphthalene	ND	0.010	ug/L							U
1-Methylnaphthalene	ND	0.010	ug/L							U
2-Chloronaphthalene	ND	0.010	ug/L							U
Acenaphthylene	ND	0.010	ug/L							U
Acenaphthene	ND	0.010	ug/L							U
Dibenzofuran	ND	0.010	ug/L							U
Fluorene	ND	0.010	ug/L							U
Phenanthrene	ND	0.010	ug/L							U
Anthracene	ND	0.010	ug/L							U
Carbazole	ND	0.010	ug/L							U
Fluoranthene	ND	0.010	ug/L							U
Pyrene	ND	0.010	ug/L							U
Benzo(a)anthracene	ND	0.010	ug/L							U
Chrysene	ND	0.010	ug/L							U
Benzo(b)fluoranthene	ND	0.010	ug/L							U
Benzo(k)fluoranthene	ND	0.010	ug/L							U
Benzo(j)fluoranthene	ND	0.010	ug/L							U
Benzofluoranthenes, Total	ND	0.010	ug/L							U
Benzo(a)pyrene	ND	0.010	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.010	ug/L							U
Dibenzo(a,h)anthracene	ND	0.010	ug/L							U
Benzo(g,h,i)perylene	ND	0.010	ug/L							U
Surrogate: 2-Methylnaphthalene-d10		0.209	ug/L	0.300		69.6 %	42-120			
Surrogate: Dibenzo[a,h]anthracene-d14		0.205	ug/L	0.300		68.2 %	29-120			
Surrogate: Fluoranthene-d10		0.230	ug/L	0.300		76.8 %	57-120			

LCS (BFA0320-BS1)										
Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 11:18										
Naphthalene	0.216	0.010	ug/L	0.300		72.1 %	37-120			
2-Methylnaphthalene	0.229	0.010	ug/L	0.300		76.2 %	37-120			
1-Methylnaphthalene	0.227	0.010	ug/L	0.300		75.7 %	29-120			
2-Chloronaphthalene	0.220	0.010	ug/L	0.300		73.2 %	30-160			
Acenaphthylene	0.221	0.010	ug/L	0.300		73.8 %	41-120			
Acenaphthene	0.224	0.010	ug/L	0.300		74.6 %	41-120			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFA0320 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFA0320-BS1)										
				Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 11:18						
Dibenzofuran	0.232	0.010	ug/L	0.300		77.3 %	38-120			
Fluorene	0.233	0.010	ug/L	0.300		77.7 %	43-120			
Phenanthrene	0.227	0.010	ug/L	0.300		75.7 %	41-120			
Anthracene	0.219	0.010	ug/L	0.300		73.0 %	40-120			
Carbazole	0.252	0.010	ug/L	0.300		84.0 %	30-160			
Fluoranthene	0.249	0.010	ug/L	0.300		82.9 %	45-120			
Pyrene	0.253	0.010	ug/L	0.300		84.3 %	41-120			
Benzo(a)anthracene	0.245	0.010	ug/L	0.300		81.6 %	42-120			
Chrysene	0.244	0.010	ug/L	0.300		81.2 %	44-120			
Benzo(b)fluoranthene	0.253	0.010	ug/L	0.300		84.3 %	44-120			
Benzo(k)fluoranthene	0.244	0.010	ug/L	0.300		81.5 %	50-120			
Benzo(j)fluoranthene	0.263	0.010	ug/L	0.300		87.8 %	39-160			
Benzofluoranthenes, Total	0.761	0.010	ug/L	0.900		84.5 %	46-120			
Benzo(a)pyrene	0.211	0.010	ug/L	0.300		70.3 %	35-120			
Indeno(1,2,3-cd)pyrene	0.244	0.010	ug/L	0.300		81.4 %	37-120			
Dibenzo(a,h)anthracene	0.240	0.010	ug/L	0.300		80.1 %	34-120			
Benzo(g,h,i)perylene	0.237	0.010	ug/L	0.300		78.9 %	38-120			
<i>Surrogate: 2-Methylnaphthalene-d10</i>		0.236	ug/L	0.300		78.7 %	42-120			
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>		0.256	ug/L	0.300		85.3 %	29-120			
<i>Surrogate: Fluoranthene-d10</i>		0.254	ug/L	0.300		84.7 %	57-120			

Matrix Spike (BFA0320-MS1)										
				Source: 17A0195-04 Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 16:01						
Naphthalene	0.436	0.020	ug/L	0.600	ND	71.1 %	37-120			
2-Methylnaphthalene	0.464	0.020	ug/L	0.600	ND	76.4 %	37-120			
1-Methylnaphthalene	0.445	0.020	ug/L	0.600	ND	73.5 %	29-120			
2-Chloronaphthalene	0.432	0.020	ug/L	0.600	ND	72.0 %	30-160			
Acenaphthylene	0.434	0.020	ug/L	0.600	ND	72.3 %	41-120			
Acenaphthene	0.439	0.020	ug/L	0.600	ND	73.1 %	41-120			
Dibenzofuran	0.438	0.020	ug/L	0.600	ND	72.4 %	38-120			
Fluorene	0.444	0.020	ug/L	0.600	ND	74.0 %	43-120			
Phenanthrene	0.451	0.020	ug/L	0.600	0.013	73.0 %	41-120			
Anthracene	0.446	0.020	ug/L	0.600	ND	74.3 %	40-120			
Carbazole	0.484	0.020	ug/L	0.600	ND	80.7 %	30-160			
Fluoranthene	0.455	0.020	ug/L	0.600	ND	74.7 %	45-120			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFA0320 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BFA0320-MS1)										
		Source: 17A0195-04		Prepared: 19-Jan-2017		Analyzed: 25-Jan-2017 16:01				
Pyrene	0.511	0.020	ug/L	0.600	0.013	83.0 %	41-120			
Benzo(a)anthracene	0.469	0.020	ug/L	0.600	ND	78.2 %	42-120			
Chrysene	0.466	0.020	ug/L	0.600	ND	77.1 %	44-120			
Benzo(b)fluoranthene	0.459	0.020	ug/L	0.600	ND	76.4 %	44-120			
Benzo(k)fluoranthene	0.454	0.020	ug/L	0.600	ND	75.7 %	50-120			
Benzo(j)fluoranthene	0.455	0.020	ug/L	0.600	ND	75.8 %	39-160			
Benzofluoranthenes, Total	1.37	0.020	ug/L	1.80	ND	76.0 %	46-120			
Benzo(a)pyrene	0.429	0.020	ug/L	0.600	ND	71.5 %	35-120			
Indeno(1,2,3-cd)pyrene	0.488	0.020	ug/L	0.600	ND	81.4 %	37-120			
Dibenzo(a,h)anthracene	0.492	0.020	ug/L	0.600	ND	81.9 %	34-120			
Benzo(g,h,i)perylene	0.477	0.020	ug/L	0.600	ND	78.6 %	38-120			
<i>Surrogate: 2-Methylnaphthalene-d10</i>		0.446	ug/L	0.600	0.230	74.4 %	42-120			
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>		0.494	ug/L	0.600	0.246	82.4 %	29-120			
<i>Surrogate: Fluoranthene-d10</i>		0.445	ug/L	0.600	0.206	74.2 %	57-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BFA0320-MSD1)										
		Source: 17A0195-04		Prepared: 19-Jan-2017		Analyzed: 25-Jan-2017 16:32				
Naphthalene	0.428	0.020	ug/L	0.600	ND	69.7 %	37-120	1.87	30	
2-Methylnaphthalene	0.452	0.020	ug/L	0.600	ND	74.4 %	37-120	2.63	30	
1-Methylnaphthalene	0.434	0.020	ug/L	0.600	ND	71.7 %	29-120	2.49	30	
2-Chloronaphthalene	0.423	0.020	ug/L	0.600	ND	70.5 %	30-160	2.09	30	
Acenaphthylene	0.423	0.020	ug/L	0.600	ND	70.5 %	41-120	2.53	30	
Acenaphthene	0.421	0.020	ug/L	0.600	ND	70.2 %	41-120	4.07	30	
Dibenzofuran	0.437	0.020	ug/L	0.600	ND	72.1 %	38-120	0.35	30	
Fluorene	0.432	0.020	ug/L	0.600	ND	72.0 %	43-120	2.75	30	
Phenanthrene	0.444	0.020	ug/L	0.600	0.013	71.8 %	41-120	1.54	30	
Anthracene	0.442	0.020	ug/L	0.600	ND	73.6 %	40-120	0.98	30	
Carbazole	0.465	0.020	ug/L	0.600	ND	77.4 %	30-160	4.15	30	
Fluoranthene	0.433	0.020	ug/L	0.600	ND	70.9 %	45-120	5.08	30	
Pyrene	0.507	0.020	ug/L	0.600	0.013	82.3 %	41-120	0.84	30	
Benzo(a)anthracene	0.463	0.020	ug/L	0.600	ND	77.1 %	42-120	1.41	30	
Chrysene	0.456	0.020	ug/L	0.600	ND	75.4 %	44-120	2.21	30	
Benzo(b)fluoranthene	0.443	0.020	ug/L	0.600	ND	73.9 %	44-120	3.39	30	
Benzo(k)fluoranthene	0.434	0.020	ug/L	0.600	ND	72.3 %	50-120	4.60	30	



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Project: Boeing Kent Sampling Stormwaters
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Project Manager: Nick Garson

Reported:
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Semivolatile Organic Compounds - SIM - Quality Control

Batch BFA0320 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BFA0320-MSD1)										
		Source: 17A0195-04		Prepared: 19-Jan-2017		Analyzed: 25-Jan-2017 16:32				
Benzo(j)fluoranthene	0.444	0.020	ug/L	0.600	ND	74.0 %	39-160	2.39	30	
Benzofluoranthenes, Total	1.32	0.020	ug/L	1.80	ND	73.4 %	46-120	3.46	30	
Benzo(a)pyrene	0.431	0.020	ug/L	0.600	ND	71.8 %	35-120	0.42	30	
Indeno(1,2,3-cd)pyrene	0.483	0.020	ug/L	0.600	ND	80.4 %	37-120	1.20	30	
Dibenzo(a,h)anthracene	0.482	0.020	ug/L	0.600	ND	80.4 %	34-120	1.94	30	
Benzo(g,h,i)perylene	0.476	0.020	ug/L	0.600	ND	78.5 %	38-120	0.04	30	
Surrogate: 2-Methylnaphthalene-d10		0.439	ug/L	0.600	0.230	73.2 %	42-120			
Surrogate: Dibenzo[a,h]anthracene-d14		0.482	ug/L	0.600	0.246	80.4 %	29-120			
Surrogate: Fluoranthene-d10		0.415	ug/L	0.600	0.206	69.2 %	57-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Reported:
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Semivolatile Organic Compounds - SIM - Quality Control

Batch BFA0449 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0449-BLK1)										
Prepared: 24-Jan-2017 Analyzed: 03-Feb-2017 15:35										
Naphthalene	ND	0.010	ug/L							U
2-Methylnaphthalene	ND	0.010	ug/L							U
1-Methylnaphthalene	ND	0.010	ug/L							U
2-Chloronaphthalene	ND	0.010	ug/L							U
Acenaphthylene	ND	0.010	ug/L							U
Acenaphthene	ND	0.010	ug/L							U
Dibenzofuran	ND	0.010	ug/L							U
Fluorene	ND	0.010	ug/L							U
Phenanthrene	ND	0.010	ug/L							U
Anthracene	ND	0.010	ug/L							U
Carbazole	ND	0.010	ug/L							U
Fluoranthene	ND	0.010	ug/L							U
Pyrene	ND	0.010	ug/L							U
Benzo(a)anthracene	ND	0.010	ug/L							U
Chrysene	ND	0.010	ug/L							U
Benzo(b)fluoranthene	ND	0.010	ug/L							U
Benzo(k)fluoranthene	ND	0.010	ug/L							U
Benzo(j)fluoranthene	ND	0.010	ug/L							U
Benzofluoranthenes, Total	ND	0.010	ug/L							U
Benzo(a)pyrene	ND	0.010	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.010	ug/L							U
Dibenzo(a,h)anthracene	ND	0.010	ug/L							U
Benzo(g,h,i)perylene	ND	0.010	ug/L							U
Surrogate: 2-Methylnaphthalene-d10		0.228	ug/L	0.300		76.1 %	42-120			
Surrogate: Dibenzo[a,h]anthracene-d14		0.261	ug/L	0.300		87.1 %	29-120			
Surrogate: Fluoranthene-d10		0.192	ug/L	0.300		64.0 %	57-120			

LCS (BFA0449-BS1)										
Prepared: 24-Jan-2017 Analyzed: 03-Feb-2017 13:08										
Naphthalene	0.212	0.010	ug/L	0.300		70.6 %	37-120			
2-Methylnaphthalene	0.207	0.010	ug/L	0.300		69.2 %	37-120			
1-Methylnaphthalene	0.215	0.010	ug/L	0.300		71.5 %	29-120			
2-Chloronaphthalene	0.238	0.010	ug/L	0.300		79.4 %	30-160			
Acenaphthylene	0.204	0.010	ug/L	0.300		68.0 %	41-120			
Acenaphthene	0.198	0.010	ug/L	0.300		65.9 %	41-120			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFA0449 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFA0449-BS1)		Prepared: 24-Jan-2017 Analyzed: 03-Feb-2017 13:08								
Dibenzofuran	0.228	0.010	ug/L	0.300		75.9 %	38-120			
Fluorene	0.217	0.010	ug/L	0.300		72.2 %	43-120			
Phenanthrene	0.211	0.010	ug/L	0.300		70.5 %	41-120			
Anthracene	0.147	0.010	ug/L	0.300		49.0 %	40-120			
Carbazole	0.182	0.010	ug/L	0.300		60.8 %	30-160			
Fluoranthene	0.198	0.010	ug/L	0.300		65.9 %	45-120			
Pyrene	0.210	0.010	ug/L	0.300		70.0 %	41-120			
Benzo(a)anthracene	0.198	0.010	ug/L	0.300		65.9 %	42-120			
Chrysene	0.206	0.010	ug/L	0.300		68.8 %	44-120			
Benzo(b)fluoranthene	0.244	0.010	ug/L	0.300		81.2 %	44-120			
Benzo(k)fluoranthene	0.253	0.010	ug/L	0.300		84.2 %	50-120			
Benzo(j)fluoranthene	0.249	0.010	ug/L	0.300		82.9 %	39-160			
Benzofluoranthenes, Total	0.745	0.010	ug/L	0.900		82.8 %	46-120			
Benzo(a)pyrene	0.155	0.010	ug/L	0.300		51.5 %	35-120			
Indeno(1,2,3-cd)pyrene	0.246	0.010	ug/L	0.300		81.9 %	37-120			
Dibenzo(a,h)anthracene	0.260	0.010	ug/L	0.300		86.6 %	34-120			
Benzo(g,h,i)perylene	0.255	0.010	ug/L	0.300		85.1 %	38-120			
Surrogate: 2-Methylnaphthalene-d10	0.220		ug/L	0.300		73.3 %	42-120			
Surrogate: Dibenzo[a,h]anthracene-d14	0.295		ug/L	0.300		98.2 %	29-120			
Surrogate: Fluoranthene-d10	0.222		ug/L	0.300		74.1 %	57-120			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

Petroleum Hydrocarbons - Quality Control

Batch BFA0319 - EPA 3510C SepF

Instrument: FID3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0319-BLK1)				Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 14:24						
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
<i>Surrogate: o-Terphenyl</i>		0.0882	mg/L	0.0900		98.0 %	50-150			
LCS (BFA0319-BS1)				Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 14:50						
Diesel Range Organics (C12-C24)	2.76	0.100	mg/L	3.00		91.9 %	56-120			
<i>Surrogate: o-Terphenyl</i>		0.0860	mg/L	0.0900		95.6 %	50-150			
Matrix Spike (BFA0319-MS1)				Source: 17A0195-02		Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 21:22				
Diesel Range Organics (C12-C24)	5.90	0.200	mg/L	6.00	ND	98.3 %	56-120			
<i>Surrogate: o-Terphenyl</i>		0.196	mg/L	0.180	0.0934	109 %	50-150			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										
Matrix Spike Dup (BFA0319-MSD1)				Source: 17A0195-02		Prepared: 19-Jan-2017 Analyzed: 25-Jan-2017 21:46				
Diesel Range Organics (C12-C24)	5.73	0.200	mg/L	6.00	ND	95.5 %	56-120	2.85	30	
<i>Surrogate: o-Terphenyl</i>		0.190	mg/L	0.180	0.0934	105 %	50-150			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
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Aroclor PCB - Quality Control

Batch BFA0316 - EPA 3510C SepF

Instrument: ECD5

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Prepared: 23-Jan-2017 Analyzed: 26-Jan-2017 16:58										
Blank (BFA0316-BLK1)										
Aroclor 1016	ND	0.010	ug/L							U
Aroclor 1254	ND	0.010	ug/L							U
Aroclor 1260	ND	0.010	ug/L							U
Surrogate: Decachlorobiphenyl		0.0140	ug/L	0.0200		70.0 %	29-120			
Surrogate: Tetrachlorometaxylene		0.0126	ug/L	0.0200		63.1 %	32-120			
Surrogate: Decachlorobiphenyl [2C]		0.0140	ug/L	0.0200		70.0 %	29-120			
Surrogate: Tetrachlorometaxylene [2C]		0.00967	ug/L	0.0200		48.4 %	32-120			

Prepared: 23-Jan-2017 Analyzed: 26-Jan-2017 17:18										
LCS (BFA0316-BS1)										
Aroclor 1016	0.048	0.010	ug/L	0.0500		96.4 %	54-120			
Aroclor 1260	0.042	0.010	ug/L	0.0500		83.6 %	51-128			
Surrogate: Decachlorobiphenyl		0.0148	ug/L	0.0200		73.9 %	29-120			
Surrogate: Tetrachlorometaxylene		0.0146	ug/L	0.0200		72.8 %	32-120			
Surrogate: Decachlorobiphenyl [2C]		0.0153	ug/L	0.0200		76.3 %	29-120			
Surrogate: Tetrachlorometaxylene [2C]		0.0109	ug/L	0.0200		54.3 %	32-120			

Prepared: 23-Jan-2017 Analyzed: 26-Jan-2017 20:36										
Matrix Spike (BFA0316-MS1)		Source: 17A0195-03								
Aroclor 1016	0.094	0.019	ug/L	0.0952	ND	98.3 %	54-120			
Aroclor 1260	0.086	0.019	ug/L	0.0952	ND	90.7 %	51-128			
Surrogate: Decachlorobiphenyl		0.0296	ug/L	0.0381	0.0156	77.8 %	29-120			
Surrogate: Tetrachlorometaxylene		0.0232	ug/L	0.0381	0.0121	60.9 %	32-120			
Surrogate: Decachlorobiphenyl [2C]		0.0308	ug/L	0.0381	0.0159	80.9 %	29-120			
Surrogate: Tetrachlorometaxylene [2C]		0.0172	ug/L	0.0381	0.00933	45.2 %	32-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Prepared: 23-Jan-2017 Analyzed: 26-Jan-2017 20:56										
Matrix Spike Dup (BFA0316-MSD1)		Source: 17A0195-03								
Aroclor 1016	0.099	0.019	ug/L	0.0952	ND	104 %	54-120	5.18	30	
Aroclor 1260	0.090	0.019	ug/L	0.0952	ND	94.5 %	51-128	4.11	30	
Surrogate: Decachlorobiphenyl		0.0315	ug/L	0.0381	0.0156	82.6 %	29-120			
Surrogate: Tetrachlorometaxylene		0.0247	ug/L	0.0381	0.0121	64.9 %	32-120			
Surrogate: Decachlorobiphenyl [2C]		0.0309	ug/L	0.0381	0.0159	81.2 %	29-120			
Surrogate: Tetrachlorometaxylene [2C]		0.0185	ug/L	0.0381	0.00933	48.5 %	32-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Project: Boeing Kent Sampling Stormwaters
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Project Manager: Nick Garson

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Metals and Metallic Compounds - Quality Control

Batch BFA0317 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0317-BLK1)			Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 15:52								
Chromium		ND	0.500	ug/L							U
Copper		ND	0.500	ug/L							U
Lead		ND	0.100	ug/L							U
Selenium		ND	2.00	ug/L							U
Silver		ND	0.200	ug/L							U
Arsenic		ND	0.200	ug/L							U
Cadmium		ND	0.100	ug/L							U
Nickel		ND	0.500	ug/L							U
Zinc		ND	4.00	ug/L							U
LCS (BFA0317-BS1)			Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 16:13								
Chromium		26.5	0.500	ug/L	25.0		106 %	80-120			
Copper		27.3	0.500	ug/L	25.0		109 %	80-120			
Lead		29.1	0.100	ug/L	25.0		116 %	80-120			
Selenium		74.4	2.00	ug/L	80.0		93.0 %	80-120			
Silver		26.2	0.200	ug/L	25.0		105 %	80-120			
Arsenic		24.1	0.200	ug/L	25.0		96.6 %	80-120			
Cadmium		24.9	0.100	ug/L	25.0		99.5 %	80-120			
Nickel		26.7	0.500	ug/L	25.0		107 %	80-120			
Zinc		81.6	4.00	ug/L	80.0		102 %	80-120			
Duplicate (BFA0317-DUP1)			Source: 17A0195-01		Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 15:57						
Chromium		0.591	0.500	ug/L		ND			26.20	20	L
Copper		2.85	0.500	ug/L		2.92			2.18	20	
Lead		0.527	0.100	ug/L		0.503			4.66	20	
Selenium		ND	2.00	ug/L		ND					U
Silver		ND	0.200	ug/L		ND					U
Arsenic		0.348	0.200	ug/L		0.373			6.93	20	
Cadmium		ND	0.100	ug/L		ND					U
Nickel		0.619	0.500	ug/L		0.608			1.79	20	
Zinc		23.8	4.00	ug/L		25.1			5.06	20	
Matrix Spike (BFA0317-MS1)			Source: 17A0195-01		Prepared: 19-Jan-2017 Analyzed: 19-Jan-2017 16:07						
Chromium		26.6	0.500	ug/L	25.0	ND	104 %	75-125			
Copper		29.7	0.500	ug/L	25.0	2.92	107 %	75-125			



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Metals and Metallic Compounds - Quality Control

Batch BFA0317 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BFA0317-MS1)		Source: 17A0195-01		Prepared: 19-Jan-2017		Analyzed: 19-Jan-2017 16:07					
Lead		28.9	0.100	ug/L	25.0	0.503	114 %	75-125			
Selenium		73.7	2.00	ug/L	80.0	ND	92.1 %	75-125			
Silver		26.4	0.200	ug/L	25.0	ND	106 %	75-125			
Arsenic		24.4	0.200	ug/L	25.0	0.373	95.9 %	75-125			
Cadmium		24.4	0.100	ug/L	25.0	ND	97.3 %	75-125			
Nickel		27.8	0.500	ug/L	25.0	0.608	109 %	75-125			
Zinc		103	4.00	ug/L	80.0	25.1	97.4 %	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Metals and Metallic Compounds - Quality Control

Batch BFA0385 - TWM EPA 7470A

Instrument: CETAC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0385-BLK1)		Prepared: 20-Jan-2017 Analyzed: 23-Jan-2017 12:38								
Mercury	ND	0.000100	mg/L							U
LCS (BFA0385-BS1)		Prepared: 20-Jan-2017 Analyzed: 23-Jan-2017 12:39								
Mercury	0.00220	0.000100	mg/L	0.00200		110 %	80-120			
Duplicate (BFA0385-DUP1)		Source: 17A0195-01		Prepared: 20-Jan-2017 Analyzed: 23-Jan-2017 12:52						
Mercury	ND	0.000100	mg/L		ND					U
Matrix Spike (BFA0385-MS1)		Source: 17A0195-01		Prepared: 20-Jan-2017 Analyzed: 23-Jan-2017 12:54						
Mercury	0.00112	0.000100	mg/L	0.00100	ND	112 %	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Metals and Metallic Compounds (dissolved) - Quality Control

Batch BFA0369 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0369-BLK1)			Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 17:16								
Chromium		ND	0.500	ug/L							U
Lead		ND	0.100	ug/L							U
Silver		ND	0.200	ug/L							U
Arsenic		ND	0.200	ug/L							U
Cadmium		ND	0.100	ug/L							U
Copper		ND	0.500	ug/L							U
Nickel		ND	0.500	ug/L							U
Selenium		ND	0.500	ug/L							U
Zinc		ND	4.00	ug/L							U
LCS (BFA0369-BS1)			Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 17:36								
Chromium		26.2	0.500	ug/L	25.0		105 %	80-120			
Lead		27.2	0.100	ug/L	25.0		109 %	80-120			
Silver		26.3	0.200	ug/L	25.0		105 %	80-120			
Arsenic		23.7	0.200	ug/L	25.0		94.8 %	80-120			
Cadmium		23.3	0.100	ug/L	25.0		93.0 %	80-120			
Copper		25.6	0.500	ug/L	25.0		102 %	80-120			
Nickel		25.3	0.500	ug/L	25.0		101 %	80-120			
Selenium		70.0	0.500	ug/L	80.0		87.5 %	80-120			
Zinc		74.9	4.00	ug/L	80.0		93.7 %	80-120			
Duplicate (BFA0369-DUP1)			Source: 17A0195-08		Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 17:21						
Chromium		ND	0.500	ug/L		ND					U
Lead		ND	0.100	ug/L		ND					U
Silver		ND	0.200	ug/L		ND					U
Arsenic		0.240	0.200	ug/L		0.257			6.84	20	
Cadmium		ND	0.100	ug/L		ND					U
Copper		1.96	0.500	ug/L		2.00			1.82	20	
Nickel		ND	0.500	ug/L		ND					U
Selenium		ND	0.500	ug/L		ND					U
Zinc		19.8	4.00	ug/L		19.0			3.98	20	
Matrix Spike (BFA0369-MS1)			Source: 17A0195-08		Prepared: 20-Jan-2017 Analyzed: 20-Jan-2017 17:31						
Chromium		26.3	0.500	ug/L	25.0	ND	104 %	75-125			
Lead		27.5	0.100	ug/L	25.0	ND	110 %	75-125			



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Metals and Metallic Compounds (dissolved) - Quality Control

Batch BFA0369 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BFA0369-MS1)		Source: 17A0195-08		Prepared: 20-Jan-2017		Analyzed: 20-Jan-2017 17:31					
Silver		26.2	0.200	ug/L	25.0	ND	105 %	75-125			
Arsenic		23.8	0.200	ug/L	25.0	0.257	94.0 %	75-125			
Cadmium		23.2	0.100	ug/L	25.0	ND	92.7 %	75-125			
Copper		27.9	0.500	ug/L	25.0	2.00	104 %	75-125			
Nickel		25.4	0.500	ug/L	25.0	ND	101 %	75-125			
Selenium		69.9	0.500	ug/L	80.0	ND	87.4 %	75-125			
Zinc		93.5	4.00	ug/L	80.0	19.0	93.1 %	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Metals and Metallic Compounds (dissolved) - Quality Control

Batch BFA0620 - TWM EPA 7470A

Instrument: CETAC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0620-BLK1)				Prepared: 30-Jan-2017 Analyzed: 31-Jan-2017 15:15						
Mercury	ND	0.000100	mg/L							U
LCS (BFA0620-BS1)				Prepared: 30-Jan-2017 Analyzed: 31-Jan-2017 15:21						
Mercury	0.00212	0.000100	mg/L	0.00200		106 %	80-120			
Duplicate (BFA0620-DUP1)				Prepared: 30-Jan-2017 Analyzed: 31-Jan-2017 15:25						
Mercury	ND	0.000100	mg/L		ND					U
Matrix Spike (BFA0620-MS1)				Prepared: 30-Jan-2017 Analyzed: 31-Jan-2017 15:26						
Mercury	0.00112	0.000100	mg/L	0.00100	ND	112 %	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Silver-107	WADOE,WA-DW,DoD-ELAP,NELAP
Chromium-52	NELAP,WADOE,WA-DW,DoD-ELAP
Chromium-53	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP
Lead-208	NELAP,WADOE,WA-DW,DoD-ELAP
Selenium-82	NELAP,WADOE,WA-DW,DoD-ELAP
Selenium-78	NELAP,WADOE,WA-DW,DoD-ELAP
Silver-107	WADOE,WA-DW,DoD-ELAP,NELAP
Chromium-52	NELAP,WADOE,WA-DW,DoD-ELAP
Chromium-53	NELAP,WADOE,WA-DW,DoD-ELAP
Lead-208	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 200.8 UCT-KED in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-111	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-114	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-60	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-62	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-66	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-67	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-111	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-114	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-60	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-62	NELAP,WADOE,WA-DW,DoD-ELAP
Selenium-78	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-66	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-67	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 7470A in Water	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
Mercury	WADOE,NELAP,DoD-ELAP,CALAP



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EPA 8082A in Water

Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

EPA 8260C in Water

Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE



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2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters

Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
02-Mar-2017 10:18

4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

EPA 8260C-SIM in Water

Acrylonitrile	NELAP,CALAP,WADOE
Vinyl chloride	NELAP,CALAP,WADOE
1,1-Dichloroethene	NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	NELAP,CALAP,WADOE
Trichloroethene	NELAP,CALAP,WADOE
Tetrachloroethene	NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	NELAP,CALAP,WADOE
1,2-Dichloroethane	NELAP,CALAP,WADOE
Benzene	NELAP,CALAP,WADOE

EPA 8270D-SIM in Water

Naphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
2-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Biphenyl	NELAP
Acenaphthylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Acenaphthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzofuran	ADEC,DoD-ELAP,NELAP,CALAP



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Fluorene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Phenanthrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Anthracene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Carbazole	NELAP
Fluoranthene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Pyrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(a)anthracene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Chrysene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(b)fluoranthene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(k)fluoranthene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(j)fluoranthene	ADEC, DoD-ELAP, NELAP, WADOE
Benzo(e)pyrene	NELAP
Benzo(a)pyrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Perylene	ADEC, NELAP, CALAP
Indeno(1,2,3-cd)pyrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Dibenzo(a,h)anthracene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(g,h,i)perylene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (C10-24)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP, NELAP, WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP, NELAP, WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP, NELAP, WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP, NELAP, WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP, NELAP, WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP, NELAP, WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP, NELAP, WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP, NELAP, WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP, NELAP, WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP, NELAP, WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP, NELAP, WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP, NELAP, WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP, NELAP, WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP, NELAP, WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP, NELAP, WADOE

NWTPHg in Water



The Boeing Company
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Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
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Reported:
02-Mar-2017 10:18

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	05/06/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	03/30/2017
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2017
WADOE	WA Dept of Ecology	C558	06/30/2017
WA-DW	Ecology - Drinking Water	C558	06/30/2017



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
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Reported:
02-Mar-2017 10:18

Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- E The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
- J Estimated concentration value detected below the reporting limit.
- L Analyte concentration is ≤ 5 times the reporting limit and the replicate control limit defaults to \pm RL instead of 20% RPD
- P1 The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
- Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria ($< 20\%$ RSD, $< 20\%$ drift or minimum RRF)
- U This analyte is not detected above the applicable reporting or detection limit.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

10 February 2017

Nick Garson
The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

RE: Boeing Kent Sampling Stormwaters

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
17A0243

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 17A0243 Turn-around Requested: Normal Date: 1/20/17

ARI Client Company: Dalton Olmsted & Fuglevand Phone: 206-660-3466 Page: 1 of 1

Client Contact: Tasya Gray / Dave Cooper No. of Coolers: Cooler Temps.

Client Project Name: Boeing KSC

Client Project #: B-002

Sample ID	Samplers:					Analysis Requested						Notes/Comments	
	Date	Time	Matrix	No. Containers		Total Metals - Pb, Zn 200.8 Cr, Cu, Hg, Se, Ni, As, Ag, Cd	Dissolved Metals - Pb, Zn 200.8 Cr, Cu, Hg, Se, Ni, As, Ag, Cd	VOCs 8260C+	NWTPH-DX	NWTPH-GX	PAHs 8270 SIM		PCBs 8082
KSC - OF 20 - W	1/20/2017	1230	water	15		X	X	X	X	X	X	X	*VOCs for SIM: 1,1-DCE, Vinyl Chloride **see Table B-4 in QAPP for all reporting limits
Trip Blank	1/20/2017		water	3				X					

Received by: Paul Mark (Signature) Printed Name: Paul Mark Company: ARI Date & Time: 1/20/17 1335

Relinquished by: DG Cooper (Signature) Printed Name: DG Cooper Company: DOF Date & Time: 1/20/17 1335

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)



WORK ORDER

17A0243

Client: The Boeing Company	Project Manager: Kelly Bottem
Project: Boeing Kent Sampling	Project Number: Boeing Kent Sampling

Preservation Confirmation

Container ID	Container Type	pH
17A0243-01 A	VOA Vial, Clear, 40 mL, HCL	
17A0243-01 B	VOA Vial, Clear, 40 mL, HCL	
17A0243-01 C	VOA Vial, Clear, 40 mL, HCL	
17A0243-01 D	VOA Vial, Clear, 40 mL, HCL	
17A0243-01 E	VOA Vial, Clear, 40 mL, HCL	
17A0243-01 F	Glass NM, Amber, 500 mL	
17A0243-01 G	Glass NM, Amber, 500 mL	
17A0243-01 H	Glass NM, Amber, 500 mL	
17A0243-01 I	Glass NM, Amber, 500 mL	
17A0243-01 J	Glass NM, Amber, 500 mL	
17A0243-01 K	Glass NM, Amber, 500 mL	
17A0243-01 L	Glass NM, Amber, 1000 mL	
17A0243-01 M	Glass NM, Amber, 1000 mL	
17A0243-01 N	HDPE NM, 500 mL, 1:1 HNO3	< 2 pass
17A0243-02 A	HDPE NM, 500 mL	
17A0243-03 A	VOA Vial, Clear, 40 mL, HCL	
17A0243-03 B	VOA Vial, Clear, 40 mL, HCL	
17A0243-03 C	VOA Vial, Clear, 40 mL, HCL	

PM
Preservation Confirmed By

01/25/2017
Date

Reviewed By

Date



Cooler Receipt Form

ARI Client: DOF

Project Name: Boeing KSC

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: 17A0243

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 1335 5.4

If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: D005276

Cooler Accepted by: PM Date: 01/20/2017 Time: 1335

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? YES (NO)

Did all bottles arrive in good condition (unbroken)? YES (NO)

Were all bottle labels complete and legible? YES (NO)

Did the number of containers listed on COC match with the number of containers received? YES (NO)

Did all bottle labels and tags agree with custody papers? YES (NO)

Were all bottles used correct for the requested analyses? YES (NO)

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA (YES) NO

Were all VOC vials free of air bubbles? NA (YES) NO

Was sufficient amount of sample sent in each bottle? YES (NO)

Date VOC Trip Blank was made at ARI: (NA)

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: PM Date: 01/20/2017 Time: 14:28

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

<p>Small Air Bubbles = 2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	<p>Small → "sm" (< 2 mm)</p> <p>Peabubbles → "pb" (2 to < 4 mm)</p> <p>Large → "lg" (4 to < 6 mm)</p> <p>Headspace → "hs" (> 6 mm)</p>
------------------------------------	------------------------------	----------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------

Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting



Project: 17A0243
Project #: 17T001-005
Client : Analytical Resources, Inc.
Source: 17A0243-01
MTC Sample#: T17-0185

Date Received: January 23, 2017
Sampled By: Others
Date Tested: January 23, 2017
Tested By: K. O'Connell

CASE NARRATIVE

1. One sample was submitted for separation of solids by means of centrifuging according to modified Corp of Engineers draft interim guide lines. The sample was centrifuged in a pre-cooled centrifuge (4°C) at 1,000 x g for 30 minutes. The resulting liquid sample was decanted into the original sample bottles.
2. All of the centrifuge bottles and equipment were decontaminated prior to sample preparation.
3. There were no anomalies in this project.

All results apply only to actual locations and materials tested. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Reviewed by: 

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Regional Offices: Olympia ~ 360.534.9777 Bellingham ~ 360.647.6111 Silverdale ~ 360.698.6787 Tukwila ~ 206.241.1974
Visit our website: www.mtc-inc.net



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
10-Feb-2017 12:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KSC - OF 20 - W	17A0243-01	Water	20-Jan-2017 12:30	20-Jan-2017 13:35
KSC - OF 20 - W	17A0243-02	Water	20-Jan-2017 12:30	20-Jan-2017 13:35
Trip Blank	17A0243-03	Water	20-Jan-2017 00:00	20-Jan-2017 13:35



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Reported:
10-Feb-2017 12:41

Case Narrative

Volatiles - EPA Method SW8260C

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Volatiles - EPA Method 8260C-SIM (Selected Ion Monitoring)

The sample(s) were run within the recommended holding times.

A revised COC was submitted with the SIM VOCs request.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike were not analyzed as of the sample volumes were consumed during the 8260 analysis. A LCS and LCSD were analyzed with this batch of samples.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.

All of the associated samples were subcontracted to MTC to be centrifuged before analysis.

Initial and continuing calibrations were within method requirements.



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Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

All of the associated samples were subcontracted to MTC to be centrifuged before analysis.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of fluoranthene-d10 which is out of control low in the associated sample.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total and Dissolved Metals - EPA Method 200.8

The sample(s) were digested and analyzed within the recommended holding times.

The samples for dissolved metals were filtered in the lab.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx



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Seattle, WA 98124

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Reported:
10-Feb-2017 12:41

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Gasoline by NWTPH-g (GC/MS)

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



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Reported:
10-Feb-2017 12:41

KSC - OF 20 - W
17A0243-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT3

Sampled: 01/20/2017 12:30
Analyzed: 01/23/2017 17:22

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0423 Sample Size: 10 mL
Prepared: 01/23/2017 17:22 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	5.33	ug/L	
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



The Boeing Company
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Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
10-Feb-2017 12:41

KSC - OF 20 - W
17A0243-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT3

Sampled: 01/20/2017 12:30
Analyzed: 01/23/2017 17:22

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	101	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	97.4	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	102	%	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	102	%	



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Reported:
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KSC - OF 20 - W
17A0243-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/20/2017 12:30
Analyzed: 01/27/2017 15:23

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	127	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	83.2	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	93.1	%	



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Reported:
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KSC - OF 20 - W
17A0243-01 (Water)

Volatile Organic Compounds

Method: NWTPHg

Sampled: 01/20/2017 12:30

Instrument: NT3

Analyzed: 01/23/2017 17:22

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Preparation Batch: BFA0423

Sample Size: 10 mL

Prepared: 01/23/2017 17:22

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	97.4	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	102	%	



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Reported:
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KSC - OF 20 - W
17A0243-01 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D-SIM
Instrument: NT11

Sampled: 01/20/2017 12:30
Analyzed: 02/03/2017 16:48

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0449 Sample Size: 500 mL
Prepared: 01/24/2017 16:15 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0134 Initial Volume: 0.5 mL
Cleaned: 26-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.010	ND	ug/L	U
2-Methylnaphthalene	91-57-6	1	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.010	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.010	ND	ug/L	U
<i>Surrogate: 2-Methylnaphthalene-d10</i>			42-120 %	55.4	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>			29-120 %	71.2	%	
<i>Surrogate: Fluoranthene-d10</i>			57-120 %	43.2	%	*



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Reported:
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KSC - OF 20 - W
17A0243-01 (Water)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 01/20/2017 12:30
Analyzed: 01/31/2017 17:56

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0492 Sample Size: 1000 mL
Prepared: 01/27/2017 12:35 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel
Cleanup Batch: CFA0161 Initial Volume: 0.5 mL
Cleaned: 30-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfuric Acid
Cleanup Batch: CFA0159 Initial Volume: 0.5 mL
Cleaned: 30-Jan-2017 Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Sulfur
Cleanup Batch: CFA0160 Initial Volume: 0.5 mL
Cleaned: 30-Jan-2017 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.010	ND	ug/L	U
<i>Surrogate: Decachlorobiphenyl</i>			29-120 %	73.5	%	
<i>Surrogate: Tetrachlorometaxylene</i>			32-120 %	65.3	%	
<i>Surrogate: Decachlorobiphenyl [2C]</i>			29-120 %	76.8	%	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>			32-120 %	56.8	%	



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Reported:
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KSC - OF 20 - W
17A0243-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4

Sampled: 01/20/2017 12:30
Analyzed: 01/27/2017 14:32

Sample Preparation: Preparation Method: EPA 3510C SepF
Preparation Batch: BFA0546 Sample Size: 500 mL
Prepared: 01/26/2017 15:10 Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	80.4	%	



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Reported:
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KSC - OF 20 - W
17A0243-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8

Sampled: 01/20/2017 12:30

Instrument: ICPMS2

Analyzed: 01/23/2017 14:09

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0409 Sample Size: 25 mL
Prepared: 01/23/2017 07:25 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	1	0.500	ND	ug/L	U
Copper	7440-50-8	1	0.500	2.29	ug/L	
Lead	7439-92-1	1	0.100	0.329	ug/L	
Selenium	7782-49-2	1	2.00	ND	ug/L	U
Silver	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - OF 20 - W
17A0243-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 01/20/2017 12:30

Instrument: ICPMS2

Analyzed: 01/23/2017 14:09

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0409 Sample Size: 25 mL
Prepared: 01/23/2017 07:25 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.200	0.481	ug/L	
Cadmium	7440-43-9	1	0.100	ND	ug/L	U
Nickel	7440-02-0	1	0.500	0.590	ug/L	
Zinc	7440-66-6	1	4.00	12.4	ug/L	



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KSC - OF 20 - W
17A0243-01 (Water)

Metals and Metallic Compounds

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/20/2017 12:30
Analyzed: 02/09/2017 10:39

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFB0136 Sample Size: 20 mL
Prepared: 02/07/2017 10:30 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000100	ND	mg/L	U



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Reported:
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KSC - OF 20 - W
17A0243-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8

Sampled: 01/20/2017 12:30

Instrument: ICPMS2

Analyzed: 01/24/2017 22:10

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0461 Sample Size: 25 mL
Prepared: 01/24/2017 12:32 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.500	ND	ug/L	U
Lead, Dissolved	7439-92-1	1	0.100	0.117	ug/L	
Silver, Dissolved	7440-22-4	1	0.200	ND	ug/L	U



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Reported:
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KSC - OF 20 - W
17A0243-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED

Sampled: 01/20/2017 12:30

Instrument: ICPMS2

Analyzed: 01/24/2017 22:10

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix
Preparation Batch: BFA0461 Sample Size: 25 mL
Prepared: 01/24/2017 12:32 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.200	0.330	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.500	1.61	ug/L	
Nickel, Dissolved	7440-02-0	1	0.500	ND	ug/L	U
Selenium, Dissolved	7782-49-2	1	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	4.00	9.41	ug/L	



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Reported:
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KSC - OF 20 - W
17A0243-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A
Instrument: CETAC

Sampled: 01/20/2017 12:30
Analyzed: 01/27/2017 14:25

Sample Preparation: Preparation Method: TWM EPA 7470A
Preparation Batch: BFA0562 Sample Size: 20 mL
Prepared: 01/27/2017 09:14 Final Volume: 20 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000100	ND	mg/L	U



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Reported:
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Trip Blank
17A0243-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C

Sampled: 01/20/2017 00:00

Instrument: NT3

Analyzed: 01/23/2017 17:48

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0423 Sample Size: 10 mL
Prepared: 01/23/2017 17:48 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.50	ND	ug/L	U
Bromomethane	74-83-9	1	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.20	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.20	ND	ug/L	U
Acetone	67-64-1	1	5.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	5.00	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.20	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.20	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Styrene	100-42-5	1	0.20	ND	ug/L	U



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Reported:
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Trip Blank
17A0243-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C
Instrument: NT3

Sampled: 01/20/2017 00:00
Analyzed: 01/23/2017 17:48

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Bromoform	75-25-2	1	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	105	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	101	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	97.9	%	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			80-120 %	100	%	



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Trip Blank
17A0243-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C-SIM
Instrument: NT15

Sampled: 01/20/2017 00:00
Analyzed: 01/27/2017 15:46

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0576 Sample Size: 10 mL
Prepared: 01/27/2017 07:38 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	20.0	ND	ng/L	U
1,1-Dichloroethene	75-35-4	1	20.0	ND	ng/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>			80-129 %	127	%	
<i>Surrogate: Toluene-d8</i>			80-120 %	82.3	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			75-125 %	95.1	%	



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Reported:
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Trip Blank
17A0243-03 (Water)

Volatile Organic Compounds

Method: NWTPHg
Instrument: NT3

Sampled: 01/20/2017 00:00
Analyzed: 01/23/2017 17:48

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)
Preparation Batch: BFA0423 Sample Size: 10 mL
Prepared: 01/23/2017 17:48 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)		1	100	ND	ug/L	U
<i>Surrogate: Toluene-d8</i>			80-120 %	101	%	
<i>Surrogate: 4-Bromofluorobenzene</i>			80-120 %	97.9	%	



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Reported:
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Volatile Organic Compounds - Quality Control

Batch BFA0423 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0423-BLK1)		Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 11:38								
Chloromethane	ND	0.50	ug/L							U
Bromomethane	ND	1.00	ug/L							U
Chloroethane	ND	0.20	ug/L							U
Trichlorofluoromethane	ND	0.20	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.20	ug/L							U
Acetone	ND	5.00	ug/L							U
Methylene Chloride	ND	1.00	ug/L							U
Carbon Disulfide	ND	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.20	ug/L							U
Vinyl Acetate	ND	0.20	ug/L							U
1,1-Dichloroethane	ND	0.20	ug/L							U
2-Butanone	ND	5.00	ug/L							U
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Chloroform	ND	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.20	ug/L							U
Carbon tetrachloride	ND	0.20	ug/L							U
1,2-Dichloroethane	ND	0.20	ug/L							U
Benzene	ND	0.20	ug/L							U
Trichloroethene	ND	0.20	ug/L							U
1,2-Dichloropropane	ND	0.20	ug/L							U
Bromodichloromethane	ND	0.20	ug/L							U
4-Methyl-2-Pentanone	ND	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
trans-1,3-Dichloropropene	ND	0.20	ug/L							U
1,1,2-Trichloroethane	ND	0.20	ug/L							U
Tetrachloroethene	ND	0.20	ug/L							U
Dibromochloromethane	ND	0.20	ug/L							U
Chlorobenzene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Styrene	ND	0.20	ug/L							U
Bromoform	ND	0.20	ug/L							U



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Project Manager: Nick Garson

Reported:
10-Feb-2017 12:41

Volatile Organic Compounds - Quality Control

Batch BFA0423 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0423-BLK1)										
						Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 11:38				
1,1,2,2-Tetrachloroethane	ND	0.20	ug/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>		4.99	ug/L	5.00		99.8 %	80-129			
<i>Surrogate: Toluene-d8</i>		4.98	ug/L	5.00		99.6 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.79	ug/L	5.00		95.8 %	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>		5.11	ug/L	5.00		102 %	80-120			
Blank (BFA0423-BLK2)										
						Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 11:38				
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
<i>Surrogate: Toluene-d8</i>		4.98	ug/L	5.00		99.6 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.79	ug/L	5.00		95.8 %	80-120			
LCS (BFA0423-BS1)										
						Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 09:54				
Chloromethane	9.37	0.50	ug/L	10.0		93.7 %	60-138			
Bromomethane	10.3	1.00	ug/L	10.0		103 %	72-131			
Chloroethane	9.44	0.20	ug/L	10.0		94.4 %	60-155			
Trichlorofluoromethane	10.6	0.20	ug/L	10.0		106 %	80-129			
1,1,2-Trichloro-1,2,2-Trifluoroethane	10.3	0.20	ug/L	10.0		103 %	76-129			
Acetone	49.3	5.00	ug/L	50.0		98.6 %	58-142			
Methylene Chloride	9.24	1.00	ug/L	10.0		92.4 %	65-135			
Carbon Disulfide	10.1	0.20	ug/L	10.0		101 %	78-125			
trans-1,2-Dichloroethene	10.3	0.20	ug/L	10.0		103 %	78-128			
Vinyl Acetate	9.49	0.20	ug/L	10.0		94.9 %	55-138			
1,1-Dichloroethane	9.96	0.20	ug/L	10.0		99.6 %	76-124			
2-Butanone	46.9	5.00	ug/L	50.0		93.8 %	61-140			
cis-1,2-Dichloroethene	10.1	0.20	ug/L	10.0		101 %	80-121			
Chloroform	10.1	0.20	ug/L	10.0		101 %	80-122			
1,1,1-Trichloroethane	10.4	0.20	ug/L	10.0		104 %	79-123			
Carbon tetrachloride	10.5	0.20	ug/L	10.0		105 %	53-137			
1,2-Dichloroethane	9.81	0.20	ug/L	10.0		98.1 %	75-123			
Benzene	10.1	0.20	ug/L	10.0		101 %	80-120			
Trichloroethene	10.0	0.20	ug/L	10.0		100 %	80-120			
1,2-Dichloropropane	9.81	0.20	ug/L	10.0		98.1 %	80-120			
Bromodichloromethane	9.77	0.20	ug/L	10.0		97.7 %	80-121			
4-Methyl-2-Pentanone	47.5	5.00	ug/L	50.0		95.0 %	67-133			



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
10-Feb-2017 12:41

Volatile Organic Compounds - Quality Control

Batch BFA0423 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFA0423-BS1)						Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 09:54				
cis-1,3-Dichloropropene	10.1	0.20	ug/L	10.0		101 %	80-124			
Toluene	10.1	0.20	ug/L	10.0		101 %	80-120			
trans-1,3-Dichloropropene	10.2	0.20	ug/L	10.0		102 %	71-127			
1,1,2-Trichloroethane	9.61	0.20	ug/L	10.0		96.1 %	80-121			
Tetrachloroethene	10.1	0.20	ug/L	10.0		101 %	80-120			
Dibromochloromethane	9.90	0.20	ug/L	10.0		99.0 %	65-135			
Chlorobenzene	10.0	0.20	ug/L	10.0		100 %	80-120			
Ethylbenzene	9.98	0.20	ug/L	10.0		99.8 %	80-120			
m,p-Xylene	20.9	0.40	ug/L	20.0		104 %	80-121			
o-Xylene	9.96	0.20	ug/L	10.0		99.6 %	80-121			
Styrene	10.6	0.20	ug/L	10.0		106 %	80-124			
Bromoform	10.0	0.20	ug/L	10.0		100 %	51-134			
1,1,2,2-Tetrachloroethane	9.67	0.20	ug/L	10.0		96.7 %	77-123			
<hr/>										
<i>Surrogate: Dibromofluoromethane</i>		4.97	ug/L	5.00		99.4 %	80-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>		4.66	ug/L	5.00		93.3 %	80-129			
<i>Surrogate: Toluene-d8</i>		5.02	ug/L	5.00		100 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		4.95	ug/L	5.00		99.0 %	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>		4.99	ug/L	5.00		99.9 %	80-120			
<hr/>										
LCS (BFA0423-BS2)						Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 10:46				
Gasoline Range Organics (Tol-Nap)	1050	100	ug/L	1000		105 %	80-120			
<hr/>										
<i>Surrogate: Toluene-d8</i>		4.95	ug/L	5.00		98.9 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		5.00	ug/L	5.00		100 %	80-120			
<hr/>										
LCS Dup (BFA0423-BSD1)						Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 10:20				
Chloromethane	10.0	0.50	ug/L	10.0		100 %	60-138	6.71	30	
Bromomethane	10.7	1.00	ug/L	10.0		107 %	72-131	4.04	30	
Chloroethane	10.2	0.20	ug/L	10.0		102 %	60-155	7.39	30	
Trichlorofluoromethane	11.1	0.20	ug/L	10.0		111 %	80-129	4.83	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	10.6	0.20	ug/L	10.0		106 %	76-129	3.45	30	
Acetone	54.5	5.00	ug/L	50.0		109 %	58-142	9.95	30	
Methylene Chloride	9.70	1.00	ug/L	10.0		97.0 %	65-135	4.84	30	
Carbon Disulfide	10.5	0.20	ug/L	10.0		105 %	78-125	4.10	30	
trans-1,2-Dichloroethene	10.6	0.20	ug/L	10.0		106 %	78-128	3.29	30	



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Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
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Volatile Organic Compounds - Quality Control

Batch BFA0423 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFA0423-BSD1)										
Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 10:20										
Vinyl Acetate	10.6	0.20	ug/L	10.0		106 %	55-138	11.30	30	
1,1-Dichloroethane	10.5	0.20	ug/L	10.0		105 %	76-124	5.35	30	
2-Butanone	53.3	5.00	ug/L	50.0		107 %	61-140	12.70	30	
cis-1,2-Dichloroethene	10.9	0.20	ug/L	10.0		109 %	80-121	7.70	30	
Chloroform	10.8	0.20	ug/L	10.0		108 %	80-122	6.28	30	
1,1,1-Trichloroethane	11.0	0.20	ug/L	10.0		110 %	79-123	5.55	30	
Carbon tetrachloride	11.2	0.20	ug/L	10.0		112 %	53-137	6.19	30	
1,2-Dichloroethane	11.0	0.20	ug/L	10.0		110 %	75-123	11.00	30	
Benzene	10.8	0.20	ug/L	10.0		108 %	80-120	6.79	30	
Trichloroethene	11.1	0.20	ug/L	10.0		111 %	80-120	10.30	30	
1,2-Dichloropropane	10.5	0.20	ug/L	10.0		105 %	80-120	6.81	30	
Bromodichloromethane	11.1	0.20	ug/L	10.0		111 %	80-121	12.50	30	
4-Methyl-2-Pentanone	54.7	5.00	ug/L	50.0		109 %	67-133	14.10	30	
cis-1,3-Dichloropropene	11.2	0.20	ug/L	10.0		112 %	80-124	10.30	30	
Toluene	10.8	0.20	ug/L	10.0		108 %	80-120	6.04	30	
trans-1,3-Dichloropropene	11.2	0.20	ug/L	10.0		112 %	71-127	9.41	30	
1,1,2-Trichloroethane	10.9	0.20	ug/L	10.0		109 %	80-121	12.50	30	
Tetrachloroethene	10.4	0.20	ug/L	10.0		104 %	80-120	3.51	30	
Dibromochloromethane	10.9	0.20	ug/L	10.0		109 %	65-135	9.33	30	
Chlorobenzene	10.7	0.20	ug/L	10.0		107 %	80-120	6.68	30	
Ethylbenzene	10.6	0.20	ug/L	10.0		106 %	80-120	5.98	30	
m,p-Xylene	21.9	0.40	ug/L	20.0		110 %	80-121	5.01	30	
o-Xylene	10.6	0.20	ug/L	10.0		106 %	80-121	5.96	30	
Styrene	11.3	0.20	ug/L	10.0		113 %	80-124	6.08	30	
Bromoform	11.2	0.20	ug/L	10.0		112 %	51-134	11.20	30	
1,1,2,2-Tetrachloroethane	10.8	0.20	ug/L	10.0		108 %	77-123	11.20	30	
Surrogate: Dibromofluoromethane		5.01	ug/L	5.00		100 %	80-120			
Surrogate: 1,2-Dichloroethane-d4		4.98	ug/L	5.00		99.6 %	80-129			
Surrogate: Toluene-d8		5.05	ug/L	5.00		101 %	80-120			
Surrogate: 4-Bromofluorobenzene		4.97	ug/L	5.00		99.3 %	80-120			
Surrogate: 1,2-Dichlorobenzene-d4		5.04	ug/L	5.00		101 %	80-120			
LCS Dup (BFA0423-BSD2)										
Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 11:12										
Gasoline Range Organics (Tol-Nap)	1090	100	ug/L	1000		109 %	80-120	4.51	30	



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Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
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Volatile Organic Compounds - Quality Control

Batch BFA0423 - EPA 5030 (Purge and Trap)

Instrument: NT3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFA0423-BSD2)				Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 11:12						
Surrogate: Toluene-d8	5.01	5.01	ug/L	5.00		100 %	80-120			
Surrogate: 4-Bromofluorobenzene	4.93	5.01	ug/L	5.00		98.6 %	80-120			



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Volatile Organic Compounds - Quality Control

Batch BFA0576 - EPA 5030 (Purge and Trap)

Instrument: NT15

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0576-BLK1)						Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 11:30				
Vinyl chloride	ND	20.0	ng/L							U
1,1-Dichloroethene	ND	20.0	ng/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>		1170	ng/L	1000		117 %	80-129			
<i>Surrogate: Toluene-d8</i>		829	ng/L	1000		82.9 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		950	ng/L	1000		95.0 %	75-125			
LCS (BFA0576-BS1)						Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 10:28				
Vinyl chloride	943		ng/L	1000		94.3 %	76-120			
1,1-Dichloroethene	1020		ng/L	1000		102 %	80-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>		906	ng/L	1000		90.6 %	80-129			
<i>Surrogate: Toluene-d8</i>		829	ng/L	1000		82.9 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		1090	ng/L	1000		109 %	75-125			
LCS Dup (BFA0576-BSD1)						Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 11:07				
Vinyl chloride	1130		ng/L	1000		113 %	76-120	18.10	30	
1,1-Dichloroethene	1160		ng/L	1000		116 %	80-120	12.70	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		1010	ng/L	1000		101 %	80-129			
<i>Surrogate: Toluene-d8</i>		834	ng/L	1000		83.4 %	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>		1130	ng/L	1000		113 %	75-125			



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Reported:
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Semivolatile Organic Compounds - Quality Control

Batch BFA0449 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0449-BLK1)										
				Prepared: 24-Jan-2017 Analyzed: 03-Feb-2017 15:35						
Naphthalene	ND	0.010	ug/L							U
2-Methylnaphthalene	ND	0.010	ug/L							U
1-Methylnaphthalene	ND	0.010	ug/L							U
Acenaphthylene	ND	0.010	ug/L							U
Acenaphthene	ND	0.010	ug/L							U
Dibenzofuran	ND	0.010	ug/L							U
Fluorene	ND	0.010	ug/L							U
Phenanthrene	ND	0.010	ug/L							U
Anthracene	ND	0.010	ug/L							U
Fluoranthene	ND	0.010	ug/L							U
Pyrene	ND	0.010	ug/L							U
Benzo(a)anthracene	ND	0.010	ug/L							U
Chrysene	ND	0.010	ug/L							U
Benzo(a)anthracene, Total	ND	0.010	ug/L							U
Benzo(a)pyrene	ND	0.010	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.010	ug/L							U
Dibenzo(a,h)anthracene	ND	0.010	ug/L							U
Benzo(g,h,i)perylene	ND	0.010	ug/L							U
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Surrogate: 2-Methylnaphthalene-d10		0.228	ug/L	0.300		76.1 %	42-120			
Surrogate: Dibenzo[a,h]anthracene-d14		0.261	ug/L	0.300		87.1 %	29-120			
Surrogate: Fluoranthene-d10		0.192	ug/L	0.300		64.0 %	57-120			

LCS (BFA0449-BS1)

Prepared: 24-Jan-2017 Analyzed: 03-Feb-2017 13:08

Naphthalene	0.212	0.010	ug/L	0.300		70.6 %	37-120			
2-Methylnaphthalene	0.207	0.010	ug/L	0.300		69.2 %	37-120			
1-Methylnaphthalene	0.215	0.010	ug/L	0.300		71.5 %	29-120			
Acenaphthylene	0.204	0.010	ug/L	0.300		68.0 %	41-120			
Acenaphthene	0.198	0.010	ug/L	0.300		65.9 %	41-120			
Dibenzofuran	0.228	0.010	ug/L	0.300		75.9 %	38-120			
Fluorene	0.217	0.010	ug/L	0.300		72.2 %	43-120			
Phenanthrene	0.211	0.010	ug/L	0.300		70.5 %	41-120			
Anthracene	0.147	0.010	ug/L	0.300		49.0 %	40-120			
Fluoranthene	0.198	0.010	ug/L	0.300		65.9 %	45-120			
Pyrene	0.210	0.010	ug/L	0.300		70.0 %	41-120			



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Semivolatile Organic Compounds - Quality Control

Batch BFA0449 - EPA 3510C SepF

Instrument: NT11

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFA0449-BS1)						Prepared: 24-Jan-2017 Analyzed: 03-Feb-2017 13:08				
Benzo(a)anthracene	0.198	0.010	ug/L	0.300		65.9 %	42-120			
Chrysene	0.206	0.010	ug/L	0.300		68.8 %	44-120			
Benzofluoranthenes, Total	0.745	0.010	ug/L	0.900		82.8 %	46-120			
Benzo(a)pyrene	0.155	0.010	ug/L	0.300		51.5 %	35-120			
Indeno(1,2,3-cd)pyrene	0.246	0.010	ug/L	0.300		81.9 %	37-120			
Dibenzo(a,h)anthracene	0.260	0.010	ug/L	0.300		86.6 %	34-120			
Benzo(g,h,i)perylene	0.255	0.010	ug/L	0.300		85.1 %	38-120			
Surrogate: 2-Methylnaphthalene-d10		0.220	ug/L	0.300		73.3 %	42-120			
Surrogate: Dibenzo[a,h]anthracene-d14		0.295	ug/L	0.300		98.2 %	29-120			
Surrogate: Fluoranthene-d10		0.222	ug/L	0.300		74.1 %	57-120			



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Reported:
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Aroclor PCB - Quality Control

Batch BFA0492 - EPA 3510C SepF

Instrument: ECD5

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0492-BLK1)		Prepared: 25-Jan-2017 Analyzed: 31-Jan-2017 17:16								
Aroclor 1016	ND	0.010	ug/L							U
Aroclor 1254	ND	0.010	ug/L							U
Aroclor 1260	ND	0.010	ug/L							U
Surrogate: Decachlorobiphenyl		0.0101	ug/L	0.0200		50.6 %	29-120			
Surrogate: Tetrachlorometaxylene		0.0101	ug/L	0.0200		50.3 %	32-120			
Surrogate: Decachlorobiphenyl [2C]		0.00989	ug/L	0.0200		49.5 %	29-120			
Surrogate: Tetrachlorometaxylene [2C]		0.00909	ug/L	0.0200		45.5 %	32-120			
LCS (BFA0492-BS1)		Prepared: 25-Jan-2017 Analyzed: 31-Jan-2017 17:36								
Aroclor 1016	0.045	0.010	ug/L	0.0500		89.7 %	54-120			
Aroclor 1260	0.040	0.010	ug/L	0.0500		79.5 %	51-128			
Surrogate: Decachlorobiphenyl		0.0136	ug/L	0.0200		67.8 %	29-120			
Surrogate: Tetrachlorometaxylene		0.0127	ug/L	0.0200		63.4 %	32-120			
Surrogate: Decachlorobiphenyl [2C]		0.0134	ug/L	0.0200		67.2 %	29-120			
Surrogate: Tetrachlorometaxylene [2C]		0.0107	ug/L	0.0200		53.7 %	32-120			



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Reported:
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Petroleum Hydrocarbons - Quality Control

Batch BFA0546 - EPA 3510C SepF

Instrument: FID4

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0546-BLK1)				Prepared: 26-Jan-2017 Analyzed: 27-Jan-2017 13:33						
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
<i>Surrogate: o-Terphenyl</i>		0.0616	mg/L	0.0900		68.4 %	50-150			
LCS (BFA0546-BS1)				Prepared: 26-Jan-2017 Analyzed: 27-Jan-2017 14:02						
Diesel Range Organics (C12-C24)	2.27	0.100	mg/L	3.00		75.7 %	56-120			
<i>Surrogate: o-Terphenyl</i>		0.0842	mg/L	0.0900		93.6 %	50-150			



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Metals and Metallic Compounds - Quality Control

Batch BFA0409 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0409-BLK1)			Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 14:00								
Chromium		ND	0.500	ug/L							U
Copper		ND	0.500	ug/L							U
Lead		ND	0.100	ug/L							U
Silver		ND	0.200	ug/L							U
Arsenic		ND	0.200	ug/L							U
Cadmium		ND	0.100	ug/L							U
Nickel		ND	0.500	ug/L							U
Zinc	66	ND	4.00	ug/L							U
Zinc	67	ND	4.00	ug/L							U

Blank (BFA0409-BLK2)			Prepared: 23-Jan-2017 Analyzed: 24-Jan-2017 23:01								
Selenium		ND	2.00	ug/L							U

LCS (BFA0409-BS1)			Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 14:19								
Chromium		26.5	0.500	ug/L	25.0		106 %	80-120			
Copper		26.1	0.500	ug/L	25.0		104 %	80-120			
Lead		27.7	0.100	ug/L	25.0		111 %	80-120			
Silver		26.8	0.200	ug/L	25.0		107 %	80-120			
Arsenic		24.2	0.200	ug/L	25.0		96.9 %	80-120			
Cadmium		24.5	0.100	ug/L	25.0		98.1 %	80-120			
Nickel		25.6	0.500	ug/L	25.0		102 %	80-120			
Zinc	66	78.4	4.00	ug/L	80.0		98.0 %	80-120			
Zinc	67	74.9	4.00	ug/L	80.0		93.6 %	80-120			

LCS (BFA0409-BS2)			Prepared: 23-Jan-2017 Analyzed: 24-Jan-2017 23:21								
Selenium		73.4	2.00	ug/L	80.0		91.7 %	80-120			

Duplicate (BFA0409-DUP1)			Source: 17A0243-01 Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 14:04								
Chromium		ND	0.500	ug/L		ND			15.20	20	U
Copper		2.49	0.500	ug/L		2.29			8.08	20	
Lead		0.343	0.100	ug/L		0.329			4.17	20	
Silver		ND	0.200	ug/L		ND				20	U
Arsenic		0.508	0.200	ug/L		0.481			5.46	20	
Cadmium		ND	0.100	ug/L		ND				20	U
Nickel		0.612	0.500	ug/L		0.590			3.66	20	



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Metals and Metallic Compounds - Quality Control

Batch BFA0409 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Duplicate (BFA0409-DUP1)		Source: 17A0243-01		Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 14:04							
Zinc		12.5	4.00	ug/L		12.4			1.37	20	
Duplicate (BFA0409-DUP2)		Source: 17A0243-01		Prepared: 23-Jan-2017 Analyzed: 24-Jan-2017 23:06							
Selenium		ND	2.00	ug/L		ND				20	U
Matrix Spike (BFA0409-MS1)		Source: 17A0243-01		Prepared: 23-Jan-2017 Analyzed: 23-Jan-2017 14:13							
Chromium		25.8	0.500	ug/L	25.0	ND	102 %	75-125			
Copper		27.7	0.500	ug/L	25.0	2.29	101 %	75-125			
Lead		26.8	0.100	ug/L	25.0	0.329	106 %	75-125			
Silver		26.1	0.200	ug/L	25.0	ND	104 %	75-125			
Arsenic		24.7	0.200	ug/L	25.0	0.481	96.7 %	75-125			
Cadmium		23.5	0.100	ug/L	25.0	ND	94.2 %	75-125			
Nickel		25.7	0.500	ug/L	25.0	0.590	101 %	75-125			
Zinc		88.8	4.00	ug/L	80.0	12.4	95.6 %	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike (BFA0409-MS2)		Source: 17A0243-01		Prepared: 23-Jan-2017 Analyzed: 24-Jan-2017 23:16							
Selenium		71.5	2.00	ug/L	80.0	ND	89.4 %	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Metals and Metallic Compounds - Quality Control

Batch BFB0136 - TWM EPA 7470A

Instrument: CETAC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFB0136-BLK1)		Prepared: 07-Feb-2017 Analyzed: 09-Feb-2017 10:36								
Mercury	ND	0.000100	mg/L							U
LCS (BFB0136-BS1)		Prepared: 07-Feb-2017 Analyzed: 09-Feb-2017 10:38								
Mercury	0.00210	0.000100	mg/L	0.00200		105 %	80-120			
Duplicate (BFB0136-DUP1)		Source: 17A0243-01		Prepared: 07-Feb-2017 Analyzed: 09-Feb-2017 10:41						
Mercury	ND	0.000100	mg/L		ND			0.00	20	U
Matrix Spike (BFB0136-MS1)		Source: 17A0243-01		Prepared: 07-Feb-2017 Analyzed: 09-Feb-2017 10:43						
Mercury	0.00107	0.000100	mg/L	0.00100	ND	106 %	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Metals and Metallic Compounds (dissolved) - Quality Control

Batch BFA0461 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0461-BLK1)			Prepared: 24-Jan-2017 Analyzed: 24-Jan-2017 17:48								
Chromium		ND	0.500	ug/L							U
Lead		ND	0.100	ug/L							U
Silver		ND	0.200	ug/L							U
Arsenic		ND	0.200	ug/L							U
Cadmium		ND	0.100	ug/L							U
Copper		ND	0.500	ug/L							U
Nickel		ND	0.500	ug/L							U
Selenium		ND	0.500	ug/L							U
Zinc		ND	4.00	ug/L							U

LCS (BFA0461-BS1)			Prepared: 24-Jan-2017 Analyzed: 24-Jan-2017 18:08								
Chromium		26.9	0.500	ug/L	25.0		108 %	80-120			
Lead		27.7	0.100	ug/L	25.0		111 %	80-120			
Silver		26.4	0.200	ug/L	25.0		105 %	80-120			
Arsenic		24.0	0.200	ug/L	25.0		96.1 %	80-120			
Cadmium		24.2	0.100	ug/L	25.0		96.7 %	80-120			
Copper		25.8	0.500	ug/L	25.0		103 %	80-120			
Nickel		26.1	0.500	ug/L	25.0		104 %	80-120			
Selenium		71.6	0.500	ug/L	80.0		89.5 %	80-120			
Zinc		77.5	4.00	ug/L	80.0		96.9 %	80-120			



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Metals and Metallic Compounds (dissolved) - Quality Control

Batch BFA0562 - TWM EPA 7470A

Instrument: CETAC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0562-BLK1)					Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 14:01					
Mercury	ND	0.000100	mg/L							U



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Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Silver-107	WADOE,WA-DW,DoD-ELAP,NELAP
Chromium-52	NELAP,WADOE,WA-DW,DoD-ELAP
Chromium-53	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP
Lead-208	NELAP,WADOE,WA-DW,DoD-ELAP
Selenium-82	NELAP,WADOE,WA-DW,DoD-ELAP
Selenium-78	NELAP,WADOE,WA-DW,DoD-ELAP
Silver-107	WADOE,WA-DW,DoD-ELAP,NELAP
Chromium-52	NELAP,WADOE,WA-DW,DoD-ELAP
Chromium-53	NELAP,WADOE,WA-DW,DoD-ELAP
Lead-208	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 200.8 UCT-KED in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-111	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-114	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-60	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-62	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-66	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-67	NELAP,WADOE,WA-DW,DoD-ELAP
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-111	NELAP,WADOE,WA-DW,DoD-ELAP
Cadmium-114	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-60	NELAP,WADOE,WA-DW,DoD-ELAP
Nickel-62	NELAP,WADOE,WA-DW,DoD-ELAP
Selenium-78	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-66	NELAP,WADOE,WA-DW,DoD-ELAP
Zinc-67	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 7470A in Water	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
Mercury	WADOE,NELAP,DoD-ELAP,CALAP



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EPA 8082A in Water

Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

EPA 8260C in Water

Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE



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2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE



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4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

EPA 8260C-SIM in Water

Acrylonitrile	NELAP,CALAP,WADOE
Vinyl chloride	NELAP,CALAP,WADOE
1,1-Dichloroethene	NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	NELAP,CALAP,WADOE
Trichloroethene	NELAP,CALAP,WADOE
Tetrachloroethene	NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	NELAP,CALAP,WADOE
1,2-Dichloroethane	NELAP,CALAP,WADOE
Benzene	NELAP,CALAP,WADOE

EPA 8270D-SIM in Water

Naphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
2-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Biphenyl	NELAP
Acenaphthylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Acenaphthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzofuran	ADEC,DoD-ELAP,NELAP,CALAP



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Fluorene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Phenanthrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Anthracene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Carbazole	NELAP
Fluoranthene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Pyrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(a)anthracene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Chrysene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(b)fluoranthene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(k)fluoranthene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(j)fluoranthene	ADEC, DoD-ELAP, NELAP, WADOE
Benzo(e)pyrene	NELAP
Benzo(a)pyrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Perylene	ADEC, NELAP, CALAP
Indeno(1,2,3-cd)pyrene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Dibenzo(a,h)anthracene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE
Benzo(g,h,i)perylene	ADEC, DoD-ELAP, NELAP, CALAP, WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (C10-24)	DoD-ELAP, NELAP, WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP, NELAP, WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP, NELAP, WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP, NELAP, WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP, NELAP, WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP, NELAP, WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP, NELAP, WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP, NELAP, WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP, NELAP, WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP, NELAP, WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP, NELAP, WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP, NELAP, WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP, NELAP, WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP, NELAP, WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP, NELAP, WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP, NELAP, WADOE

NWTPHg in Water



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Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	05/06/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	03/30/2017
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2017
WADOE	WA Dept of Ecology	C558	06/30/2017
WA-DW	Ecology - Drinking Water	C558	06/30/2017



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

Project: Boeing Kent Sampling Stormwaters
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
10-Feb-2017 12:41

Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- D1 Surrogate was not detected due to sample extract dilution
- E The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
- J Estimated concentration value detected below the reporting limit.
- NRS This surrogate not reported due to chromatographic interference
- U This analyte is not detected above the applicable reporting or detection limit.
- Y1 Raised reporting limit due to interference
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Analytical Resources, Incorporated
Analytical Chemists and Consultants

01 February 2017

Nick Garson
The Boeing Company
PO Box 3707 M/S 1W-12
Seattle, WA 98124

RE: Boeing KSC RI

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
17A0322

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Kelly Bottem, Client Services Manager



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 17AO 322 Turn-around Requested: 5 HOURS
 ARI Client Company: BOEING - MIK GAMSON Phone: _____
 Client Contact: TASYA GATT
 Client Project Name: BOEING KSC RI
 Client Project #: 8-002 W Samplers: D. COOPER

Page: 1 of 1
 Date: 1/26/17 Ice Present?
 No. of Coolers: _____ Cooler Temps: _____

Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com



Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested					Notes/Comments	
					NUMPH-DX	NUMPH-CL					
KSC-SB9-GW	1/25/17	2045	WTH	2	X						
KSC-SB10-GW	↓	1930	↓	2	X						
KSC-SB11-GW	↓	1745	↓	2	X						
KSC-SB12-GW	↓	1615	↓	2	X						

Comments/Special Instructions	Relinquished by:		Received by:		Date & Time:
	(Signature)	Printed Name	(Signature)	Printed Name	
	<u>Debra</u>	<u>Natasha Gray</u>	<u>Brittney Hoel</u>	<u>Brittney Hoel</u>	<u>1/26/17 1355</u>
	<u>DOF</u>	<u>Natasha Gray</u>	<u>Natasha Gray</u>	<u>ARI</u>	<u>1/26/17 1413</u>
	<u>DOF</u>	<u>DOF</u>	<u>DOF</u>	<u>ARI</u>	<u>1/26/17 1413</u>

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Cooler Receipt Form

ARI Client: Boeing - Nick Carlson B.H. 11/26/17

Project Name: Boeing KSC RT

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 17A0322

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
Time: 14:13 2.3

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D005276

Cooler Accepted by: B.H. Date: 11/26/17 Time: 14:13

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

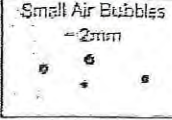
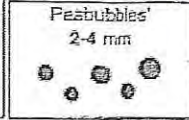
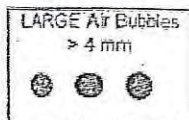
Samples Logged by: B.H. Date: 11/26/17 Time: 14:55

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
one bottle of sample KSC-SB10-6W had the sample name in the site name location on the bottle label.

By: B.H. Date: 11/26/17

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KSC-SB9-GW	17A0322-01	Water	25-Jan-2017 20:45	26-Jan-2017 14:13
KSC-SB10-GW	17A0322-02	Water	25-Jan-2017 19:30	26-Jan-2017 14:13
KSC-SB11-GW	17A0322-03	Water	25-Jan-2017 17:45	26-Jan-2017 14:13
KSC-SB12-GW	17A0322-04	Water	25-Jan-2017 16:15	26-Jan-2017 14:13



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

Case Narrative

Mineral Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits for the diesel range organics and not reported with this set of data as the client requested mineral oil only.



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

KSC-SB9-GW
17A0322-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 01/25/2017 20:45

Instrument: FID3

Analyzed: 27-Jan-2017 23:05

Sample Preparation:

Preparation Method: EPA 3510C SepF

Preparation Batch: BFA0552

Sample Size: 500 mL

Prepared: 27-Jan-2017

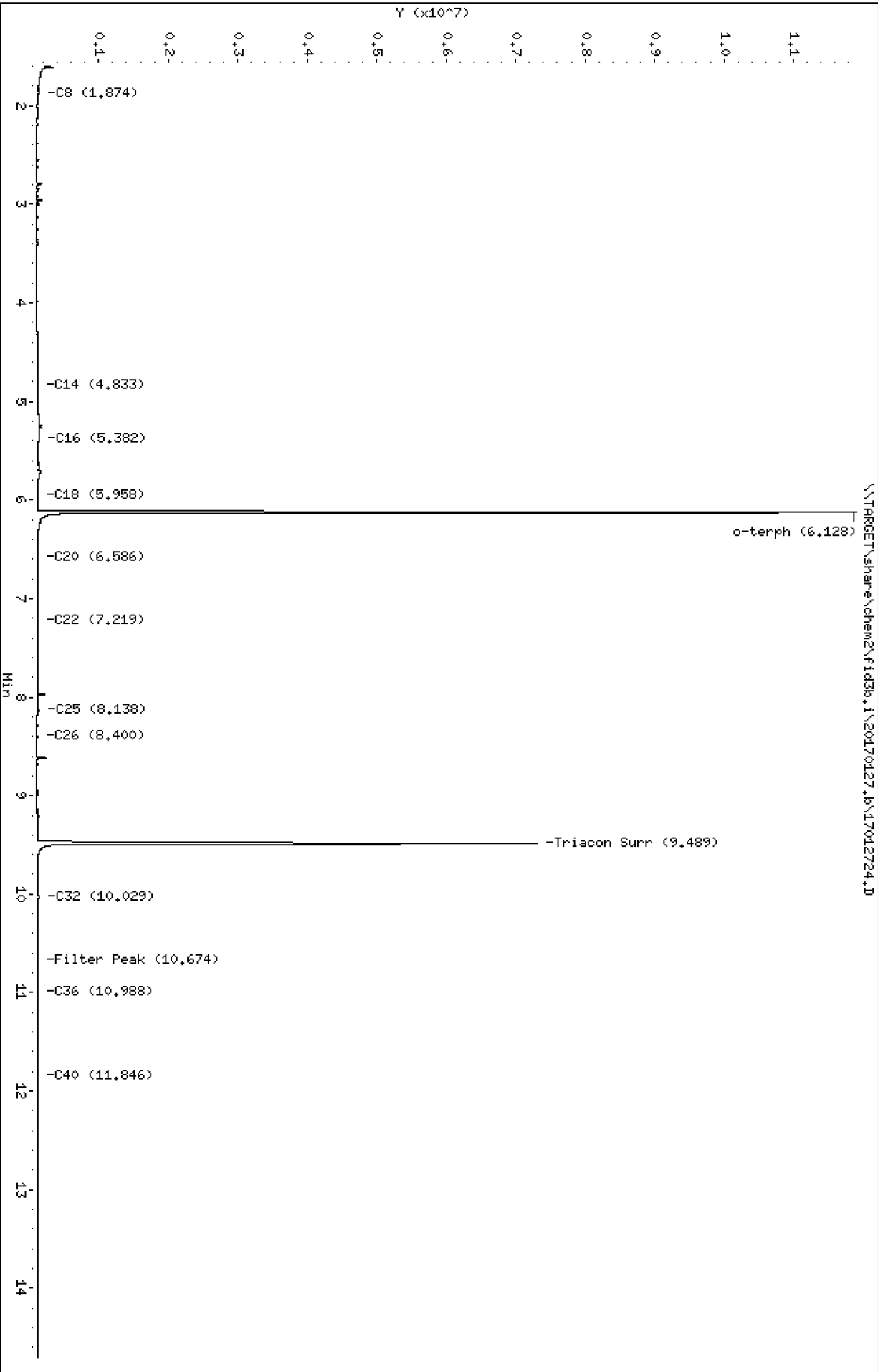
Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mineral Oil Range Organics (C16-C28)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	88.0	%	

Data File: \\TARGET\share\chem2\fid3b,1\20170127,8\17012724.D
Date: 27-JAN-2017 23:05
Client ID:
Sample Info: 17R0322-01

Column phase: RTX-1

Instrument: fid3b,1
Operator: ML
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170127.b/17012724.D
Method: 20170127.b\FID3TPH.m
Instrument: fid3b.i
Operator: ML
Report Date: 01/30/2017
Macro: FID3_011117

ARI ID: 17A0322-01
Client ID:
Injection: 27-JAN-2017 23:05
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc
Toluene	1.611	0.009	229804	521433	WATPHG	(Tol-C12)	1364983	62.8
C8	1.874	-0.018	32311	100275	WATPHD	(C12-C24)	3174354	18.0
C10	----				WATPHM	(C24-C38)	1462888	9.8
C12	----							
C14	4.833	0.031	18092	27037				
C16	5.382	0.002	32787	67814				
C18	5.958	-0.008	22104	49685				
C20	6.586	-0.004	20053	28135	MIN.OIL	(C16-C28)	4322074	19.7
C22	7.219	0.000	25100	49183				
C24	----							
C25	8.138	0.012	34590	54045				
C26	8.400	-0.012	11392	26740				
C28	----							
C32	10.029	0.031	31953	151165				
C34	----							
Filter Peak	10.674	-0.037	19152	57669				
C36	10.988	0.036	15709	47584				
o-terph	6.128	-0.007	11806519	9830897				
Triacon Surr	9.489	-0.011	7203916	7877534				

Range Times: NW Diesel(4.184 - 7.881) NW Gas(1.552 - 4.184) NW M.Oil(7.881 - 11.448)
AK102(3.238 - 8.076) AK103(8.076 - 11.002) Jet A(3.238 - 6.017)

Surrogate	Area	Amount	%Rec
o-Terphenyl	9830897	39.6	88.1
Triaconthane	7877534	39.4	87.5

Analyte	RF	Curve Date
o-Terph Surr	247956.6	11-JAN-2017
Triacon Surr	199968.6	11-JAN-2017
Gas	21747.6	xx-xx-xxxx
Diesel	176632.0	11-JAN-2017
Motor Oil	149513.0	11-JAN-2017
Min Oil	219047.1	27-JAN-2017



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

KSC-SB10-GW
17A0322-02 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 01/25/2017 19:30

Instrument: FID3

Analyzed: 27-Jan-2017 23:28

Sample Preparation:

Preparation Method: EPA 3510C SepF

Preparation Batch: BFA0552

Sample Size: 500 mL

Prepared: 27-Jan-2017

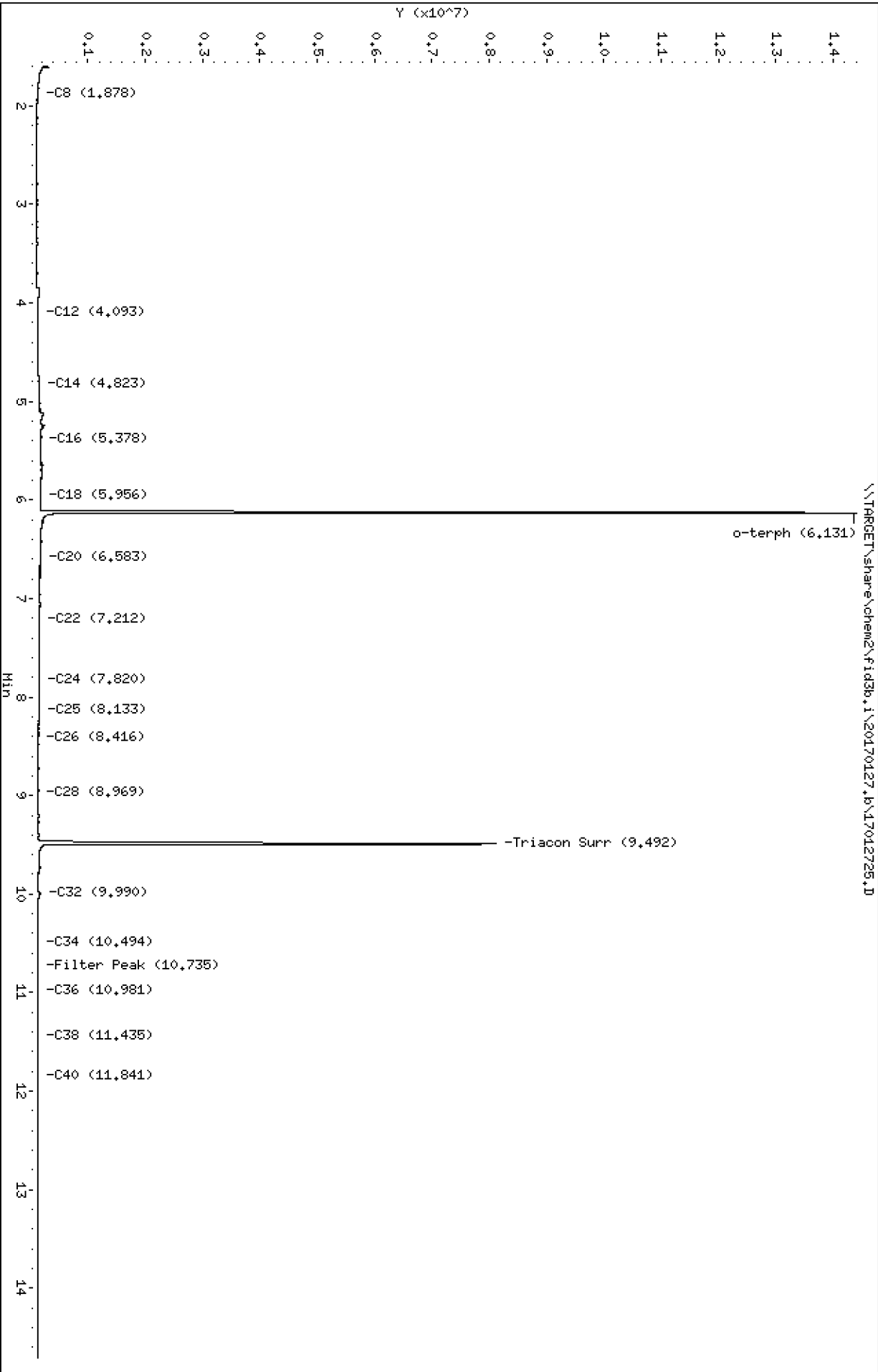
Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mineral Oil Range Organics (C16-C28)		1	0.200	ND	mg/L	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	104	%	

Data File: \\TARGET\share\chem2\fid3b,1\20170127,8\17012725.D
Date: 27-JAN-2017 23:28
Client ID:
Sample Info: 17A0322-02

Column phase: RTX-1

Instrument: fid3b,1
Operator: ML
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170127.b/17012725.D
Method: 20170127.b\FID3TPH.m
Instrument: fid3b.i
Operator: ML
Report Date: 01/30/2017
Macro: FID3_011117

ARI ID: 17A0322-02
Client ID:
Injection: 27-JAN-2017 23:28
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc
Toluene	1.609	0.007	204600	436998	WATPHG	(Tol-C12)	1742338	80.1
C8	1.878	-0.013	26813	59507	WATPHD	(C12-C24)	12373930	70.1
C10	----				WATPHM	(C24-C38)	4922805	32.9
C12	4.093	-0.041	19239	38979				
C14	4.823	0.021	42656	121891				
C16	5.378	-0.002	81876	138735				
C18	5.956	-0.010	77051	157282				
C20	6.583	-0.007	67249	103068	MIN.OIL	(C16-C28)	13571137	62.0 M
C22	7.212	-0.007	55431	92217				
C24	7.820	-0.011	45414	72087				
C25	8.133	0.007	48810	109581				
C26	8.416	0.005	35317	53006				
C28	8.969	0.011	34314	51716				
C32	9.990	-0.008	74775	254380				
C34	10.494	0.007	26444	40002				
Filter Peak	10.735	0.024	22959	35618				
C36	10.981	0.029	22290	63538				
o-terph	6.131	-0.003	14211255	11570058				
Triacon Surr	9.492	-0.008	8017847	9230097				

Range Times: NW Diesel(4.184 - 7.881) NW Gas(1.552 - 4.184) NW M.Oil(7.881 - 11.448)
AK102(3.238 - 8.076) AK103(8.076 - 11.002) Jet A(3.238 - 6.017)

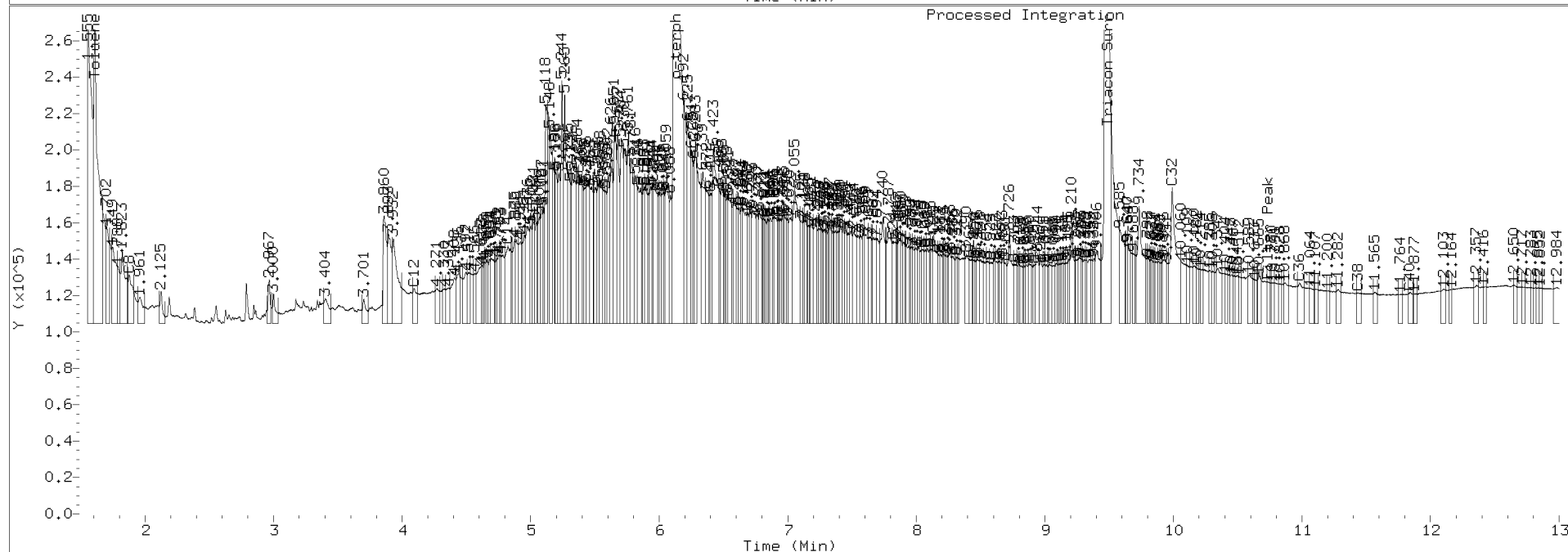
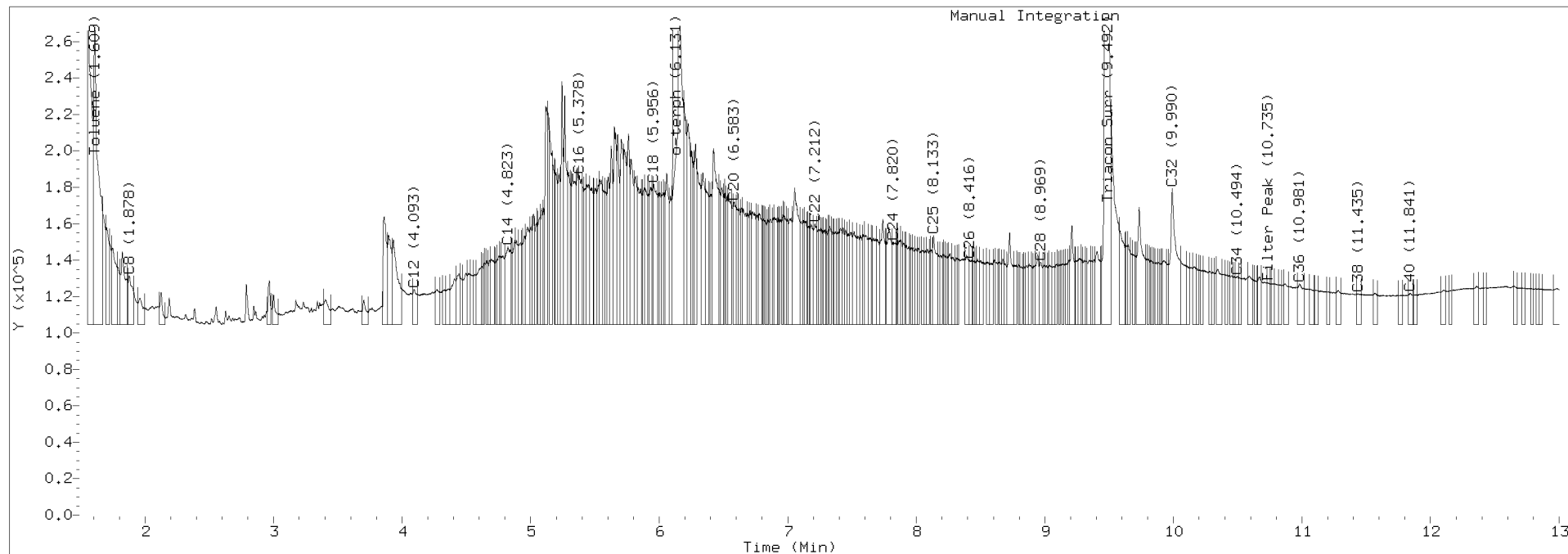
Surrogate	Area	Amount	%Rec
o-Terphenyl	11570058	46.7	103.7
Triaconthane	9230097	46.2	102.6

Analyte	RF	Curve Date
o-Terph Surr	247956.6	11-JAN-2017
Triacon Surr	199968.6	11-JAN-2017
Gas	21747.6	xx-xx-xxxx
Diesel	176632.0	11-JAN-2017
Motor Oil	149513.0	11-JAN-2017
Min Oil	219047.1	27-JAN-2017

TPH Manual Integrations Report

Datafile: FID3B, 20170127.b/17012725.D Injection: 27-JAN-2017 23:28

Lab ID:17A0322-02





The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

KSC-SB11-GW
17A0322-03 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 01/25/2017 17:45

Instrument: FID3

Analyzed: 27-Jan-2017 23:52

Sample Preparation:

Preparation Method: EPA 3510C SepF

Sample Size: 500 mL

Preparation Batch: BFA0552

Final Volume: 1 mL

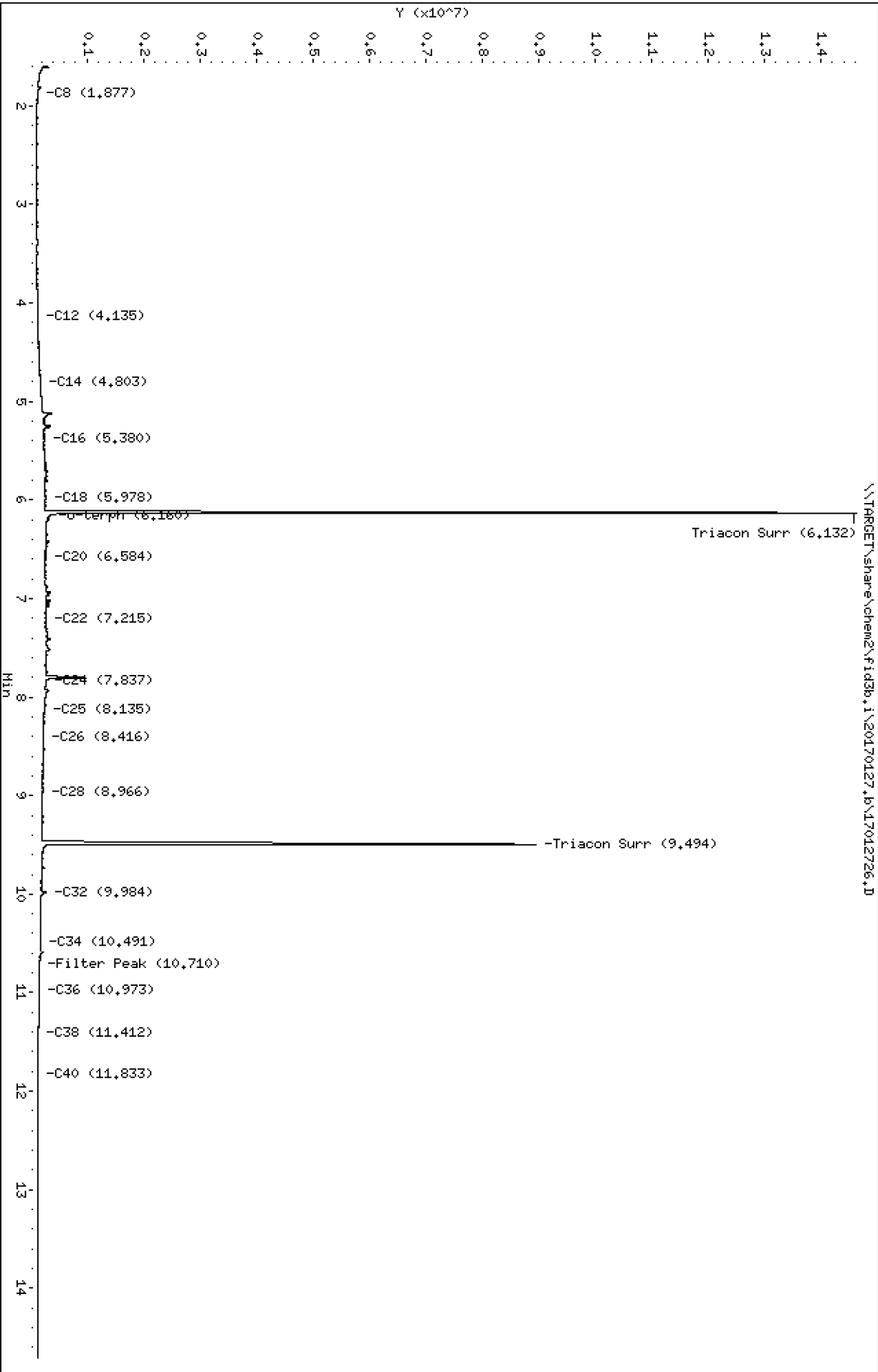
Prepared: 27-Jan-2017

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mineral Oil Range Organics (C16-C28)		1	0.200	0.325	mg/L	
HC ID: MINERAL RANGE ORGANICS						
Surrogate: <i>o</i> -Terphenyl			50-150 %	120	%	

Data File: \\TARGET\share\chem2\fid3b,1\20170127,8\17012726.D
Date: 27-JAN-2017 23:52
Client ID:
Sample Info: 17A0322-03

Column phase: RTX-1

Instrument: fid3b,1
Operator: ML
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170127.b/17012726.D
Method: 20170127.b\FID3TPH.m
Instrument: fid3b.i
Operator: ML
Report Date: 01/30/2017
Macro: FID3_011117

ARI ID: 17A0322-03
Client ID:
Injection: 27-JAN-2017 23:52
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc
Toluene	1.610	0.008	207356	479849	WATPHG	(Tol-C12)	1385023	63.7
C8	1.877	-0.014	32117	101346	WATPHD	(C12-C24)	29735628	168.3
C10	----				WATPHM	(C24-C38)	19143532	128.0
C12	4.135	0.001	20427	32268				
C14	4.803	0.001	69849	68556				
C16	5.380	-0.001	141319	155489				
C18	5.978	0.011	176096	372817				
C20	6.584	-0.006	161930	142376	MIN.OIL	(C16-C28)	35629790	162.7 M
C22	7.215	-0.004	177749	314245				
C24	7.837	0.007	172794	158205				
C25	8.135	0.009	149487	286609				
C26	8.416	0.005	129554	163862				
C28	8.966	0.008	110403	231121				
C32	9.984	-0.014	173443	447900				
C34	10.491	0.005	66120	32810				
Filter Peak	10.710	-0.001	58562	25486				
C36	10.973	0.021	54278	133410				
o-terph	6.132	-0.002	14521718	13397298				
Triacon Surr	9.494	-0.006	8749157	10238782				

Range Times: NW Diesel(4.184 - 7.881) NW Gas(1.552 - 4.184) NW M.Oil(7.881 - 11.448)
AK102(3.238 - 8.076) AK103(8.076 - 11.002) Jet A(3.238 - 6.017)

Surrogate	Area	Amount	%Rec
o-Terphenyl	13397298	54.0	120.1
Triacontane	10238782	51.2	113.8

Analyte	RF	Curve Date
o-Terph Surr	247956.6	11-JAN-2017
Triacon Surr	199968.6	11-JAN-2017
Gas	21747.6	xx-xx-xxxx
Diesel	176632.0	11-JAN-2017
Motor Oil	149513.0	11-JAN-2017
Min Oil	219047.1	27-JAN-2017



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

KSC-SB12-GW
17A0322-04 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx

Sampled: 01/25/2017 16:15

Instrument: FID3

Analyzed: 28-Jan-2017 00:16

Sample Preparation:

Preparation Method: EPA 3510C SepF

Sample Size: 500 mL

Preparation Batch: BFA0552

Final Volume: 1 mL

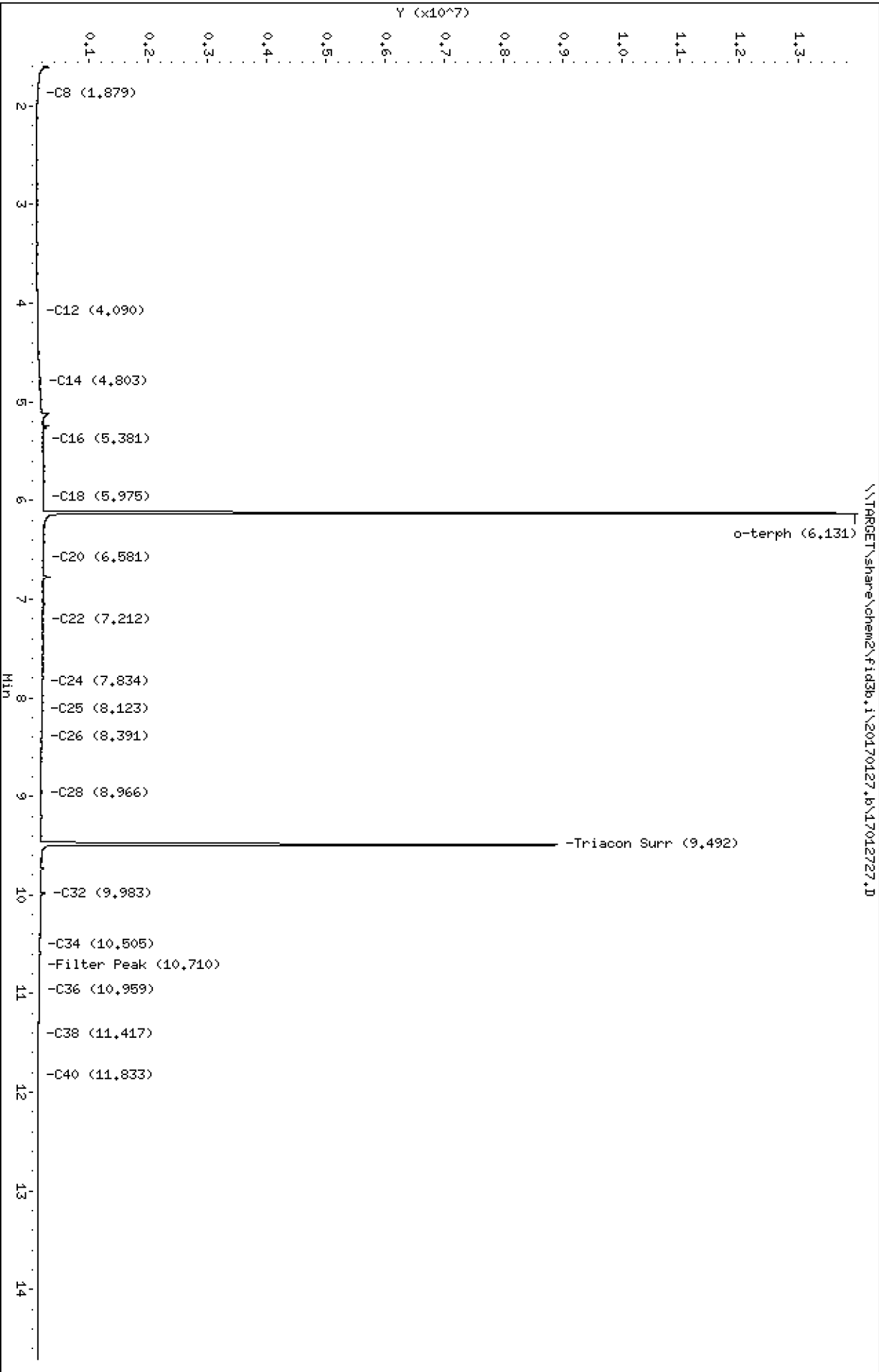
Prepared: 27-Jan-2017

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mineral Oil Range Organics (C16-C28)		1	0.200	0.216	mg/L	
HC ID: MINERAL RANGE ORGANICS						
Surrogate: <i>o</i> -Terphenyl			50-150 %	107	%	

Data File: \\TARGET\share\chem2\fid3b,1\20170127,8\17012727.D
Date : 28-JAN-2017 00:16
Client ID:
Sample Info: 17R0322-04

Column phase: RTX-1

Instrument: fid3b,1
Operator: ML
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170127.b/17012727.D
Method: 20170127.b\FID3TPH.m
Instrument: fid3b.i
Operator: ML
Report Date: 01/30/2017
Macro: FID3_011117

ARI ID: 17A0322-04
Client ID:
Injection: 28-JAN-2017 00:16
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc
Toluene	1.610	0.008	217799	377939	WATPHG	(Tol-C12)	1291099	59.4
C8	1.879	-0.013	29751	87560	WATPHD	(C12-C24)	20783089	117.7
C10	----				WATPHM	(C24-C38)	14065327	94.1
C12	4.090	-0.045	22815	73690				
C14	4.803	0.001	58449	58225				
C16	5.381	0.000	118097	139660				
C18	5.975	0.008	115162	75056				
C20	6.581	-0.009	110858	212672	MIN.OIL	(C16-C28)	23649542	108.0 M
C22	7.212	-0.008	107628	165765				
C24	7.834	0.003	104468	183161				
C25	8.123	-0.003	93319	54785				
C26	8.391	-0.021	84438	115194				
C28	8.966	0.008	84777	122265				
C32	9.983	-0.015	144788	359606				
C34	10.505	0.019	55901	60734				
Filter Peak	10.710	-0.002	50976	81607				
C36	10.959	0.007	44595	26327				
o-terph	6.131	-0.004	13752588	11915484				
Triacon Surr	9.492	-0.008	8715516	9866943				

Range Times: NW Diesel(4.184 - 7.881) NW Gas(1.552 - 4.184) NW M.Oil(7.881 - 11.448)
AK102(3.238 - 8.076) AK103(8.076 - 11.002) Jet A(3.238 - 6.017)

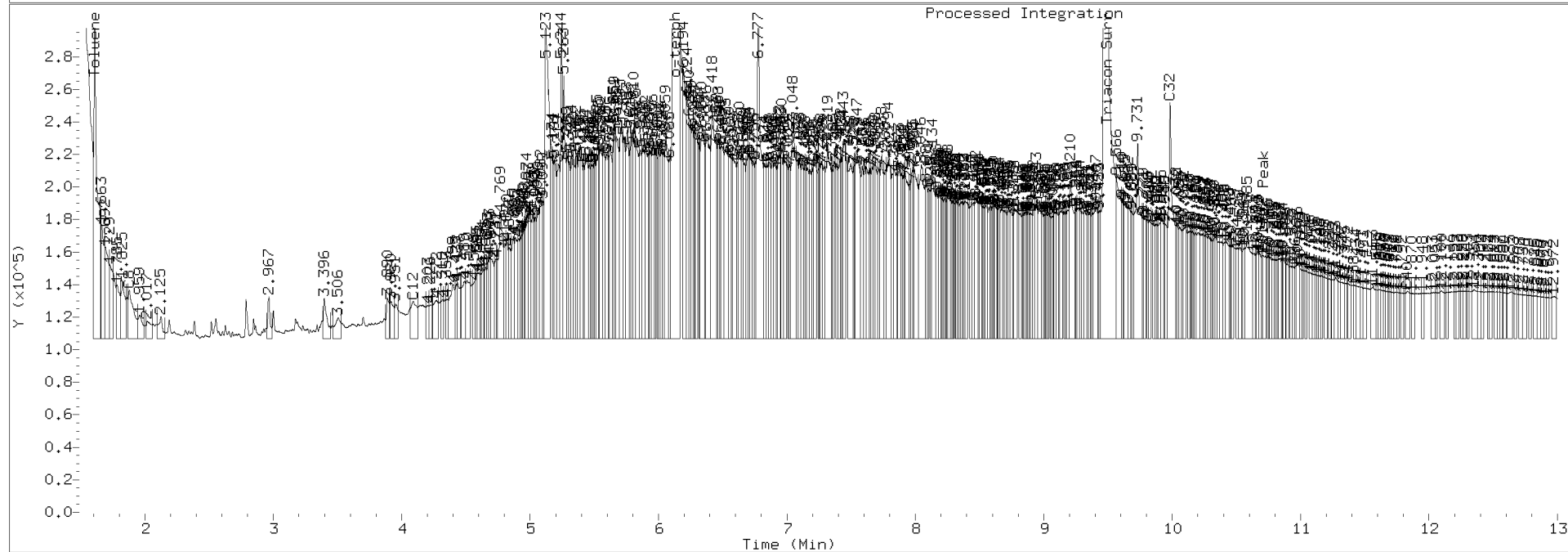
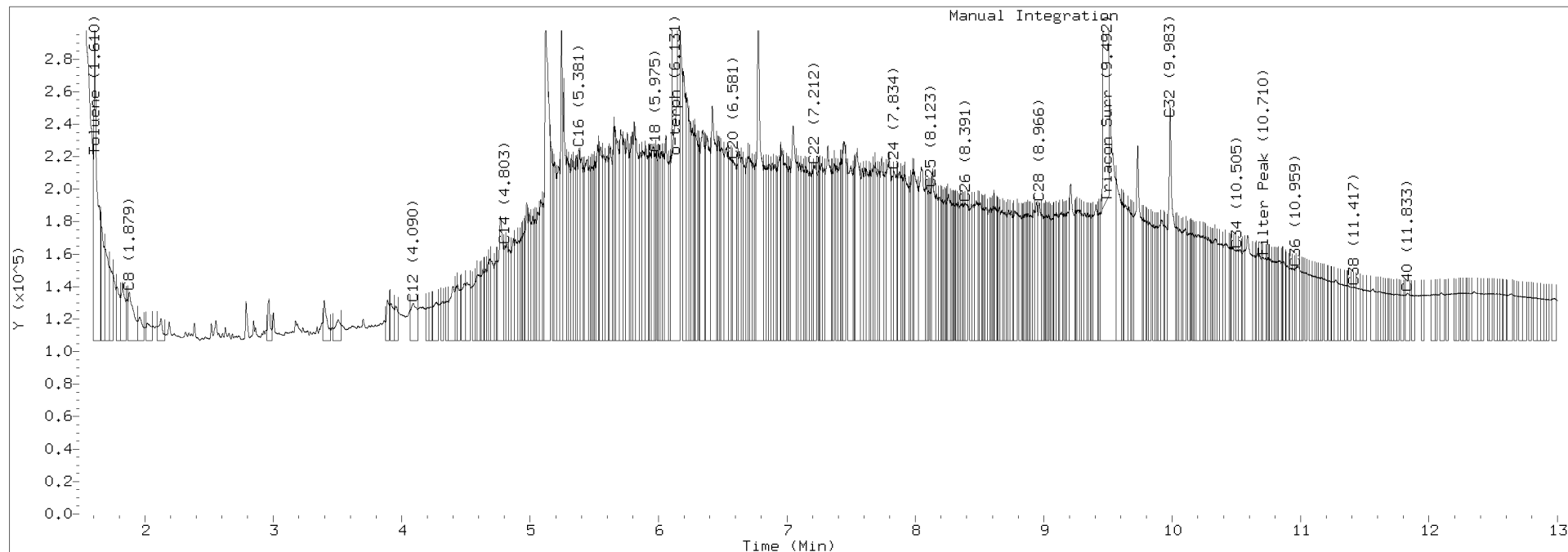
Surrogate	Area	Amount	%Rec
o-Terphenyl	11915484	48.1	106.8
Triacontane	9866943	49.3	109.6

Analyte	RF	Curve Date
o-Terph Surr	247956.6	11-JAN-2017
Triacon Surr	199968.6	11-JAN-2017
Gas	21747.6	xx-xx-xxxx
Diesel	176632.0	11-JAN-2017
Motor Oil	149513.0	11-JAN-2017
Min Oil	219047.1	27-JAN-2017

TPH Manual Integrations Report

Datafile: FID3B, 20170127.b/17012727.D Injection: 28-JAN-2017 00:16

Lab ID:17A0322-04





The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

Petroleum Hydrocarbons - Quality Control

Batch BFA0552 - EPA 3510C SepF

Instrument: FID3

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFA0552-BLK1)				Prepared: 27-Jan-2017 Analyzed: 27-Jan-2017 22:17						
Mineral Oil Range Organics (C16-C28)	ND	0.200	mg/L							U
Surrogate: <i>o</i> -Terphenyl	0.102		mg/L	0.0900		113	50-150			

Data File: \\TARGET\share\chem2\fid3b,1\20170127,6\17012722.D

Date : 27-JAN-2017 22:17

Client ID:

Sample Info: BFR0562-BLK1

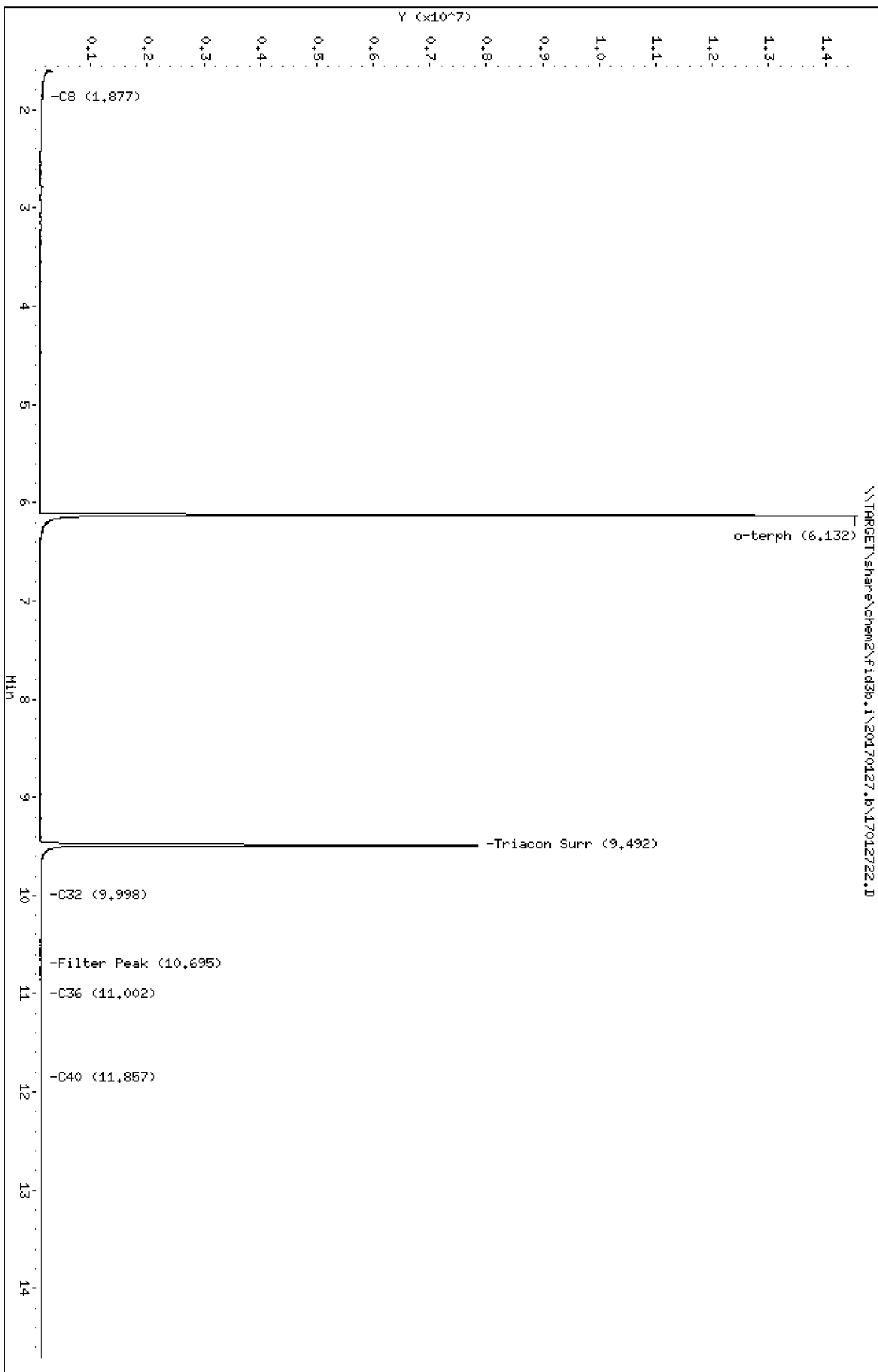
Column phase: RTX-1

Instrument: fid3b,1

Operator: ML

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170127.b/17012722.D
Method: 20170127.b\FID3TPH.m
Instrument: fid3b.i
Operator: ML
Report Date: 01/30/2017
Macro: FID3_011117

ARI ID: BFA0552-BLK1
Client ID:
Injection: 27-JAN-2017 22:17
Dilution Factor: 1

FID:3B RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc
Toluene	1.610	0.008	220247	567976	WATPHG	(Tol-C12)	2094078	96.3
C8	1.877	-0.015	53903	144504	WATPHD	(C12-C24)	379376	2.1
C10	----				WATPHM	(C24-C38)	896362	6.0
C12	----							
C14	----							
C16	----							
C18	----							
C20	----				MIN.OIL	(C16-C28)	4274643	19.5
C22	----							
C24	----							
C25	----							
C26	----							
C28	----							
C32	9.998	-0.000	14535	36609				
C34	----							
Filter Peak	10.695	-0.017	13893	42375				
C36	11.002	0.049	14436	44688				
o-terph	6.132	-0.003	14474127	12644521				
Triacon Surr	9.492	-0.008	7759180	8711096				

Range Times: NW Diesel(4.184 - 7.881) NW Gas(1.552 - 4.184) NW M.Oil(7.881 - 11.448)
AK102(3.238 - 8.076) AK103(8.076 - 11.002) Jet A(3.238 - 6.017)

Surrogate	Area	Amount	%Rec
o-Terphenyl	12644521	51.0	113.3
Triacontane	8711096	43.6	96.8

Analyte	RF	Curve Date
o-Terph Surr	247956.6	11-JAN-2017
Triacon Surr	199968.6	11-JAN-2017
Gas	21747.6	xx-xx-xxxx
Diesel	176632.0	11-JAN-2017
Motor Oil	149513.0	11-JAN-2017
Min Oil	219047.1	27-JAN-2017



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

Certified Analyses included in this Report

Analyte	Certifications
NWTPH-Dx in Water	
Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	05/06/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	03/30/2017
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2017
WADOE	WA Dept of Ecology	C558	06/30/2017
WA-DW	Ecology - Drinking Water	C558	06/30/2017



The Boeing Company
PO Box 3707 M/S 1W-12
Seattle WA, 98124

Project: Boeing KSC RI
Project Number: Boeing Kent Sampling
Project Manager: Nick Garson

Reported:
01-Feb-2017 14:01

Notes and Definitions

- U This analyte is not detected above the applicable reporting or detection limit.
- * Flagged value is not within established control limits.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



16 May 2017

Lindsey Mahrt
The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle, WA 98124

RE: Boeing Kent Sediments

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
17E0094	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Kelly Bottem, Client Services Manager



Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com



Page: 1 of 1
Date: 5/4/17
Ice Present?
Cooler Temps:
No. of Coolers:

Turn-around Requested: MMNL
Phone: 206-660-3466
Client Project Name: TRISTA GRAY
Client Project #: D-002
Client Project #: BEHLING WEST SPACE CENTER
Samplers: DAVE COOPER

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments						
					MPH LX	PHS	BZTD-SM	PCLs		BOBZ	METS	AS, CD, CH, Cu	Pb, Hg, Ni, Se	Ag, Zn	300-8
KSC-DF-16-0.3	5/4/17	1045	SOIL	3	X	X	X	X							
KSC-DF-DF-0.3	5/4/17	1210	+	1	X	X	X	X							
Comments/Special Instructions	Received by: (Signature) <u>Paul Mork</u> Printed Name: <u>Paul Mork</u> Company: <u>ARI</u> Date & Time: <u>5/4/17 1600</u>				Relinquished by: (Signature) <u>Paul Mork</u> Printed Name: <u>Paul Mork</u> Company: <u>ARI</u> Date & Time: <u>5/4/2017 1600</u>				Received by: (Signature) _____ Printed Name: _____ Company: _____ Date & Time: _____						

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Cooler Receipt Form

ARI Client: DOF
 COC No(s): _____ NA
 Assigned ARI Job No: 17E0094
 Preliminary Examination Phase:

Project Name: Boeing Kent Space Center
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: _____ NA

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc.) YES NO
 Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)
 Time: 8.6 _____
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 9805206
 Cooler Accepted by: PM Date: 5/4/2017 Time: 1600

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI..... NA _____
 Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: B.H. Date: 5/5/17 Time: 9:47

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
KSC-OF16-0.3	KSC-OF-16-0.3		
KSC-OF DP-0.3	KSC-OF-DP-0.3		

Additional Notes, Discrepancies, & Resolutions:
Sampling year missing from labels.

By: B.H. Date: 5/5/17

			Small → "sm" (< 2 mm)
			Peabubbles → "pb" (2 to < 4 mm)
			Large → "lg" (4 to < 6 mm)
			Headspace → "hs" (> 6 mm)



Cooler Temperature Compliance Form

17E0094

Cooler#:	Temperature(°C):	
Sample ID	Bottle Count	Bottle Type
Samples received above		
6°C		

Cooler#:	Temperature(°C):	
Sample ID	Bottle Count	Bottle Type

Cooler#:	Temperature(°C):	
Sample ID	Bottle Count	Bottle Type

Cooler#:	Temperature(°C):	
Sample ID	Bottle Count	Bottle Type

Completed by: PM Date: 5/4/2017 Time: 1600



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KSC-0F-16-0.3	17E0094-01	Solid	04-May-2017 10:45	04-May-2017 16:00
KSC-0F-DP-0.3	17E0094-02	Solid	04-May-2017 12:10	04-May-2017 16:00



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Case Narrative

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (Ac/Si cleaned)

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total Metals - EPA Method 6020A and 7471



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-0.3
17E0094-01 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT8

Sampled: 05/04/2017 10:45
Analyzed: 15-May-2017 14:44

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFE0259 Prepared: 10-May-2017	Sample Size: 13.23 g (wet) Final Volume: 0.5 mL	Dry Weight: 10.59 g % Solids: 80.04
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFE0105 Cleaned: 15-May-2017	Initial Volume: 0.5 mL Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.20	4.72	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	1.04	4.72	2.38	ug/kg	J
1-Methylnaphthalene	90-12-0	1	0.38	4.72	ND	ug/kg	U
Acenaphthylene	208-96-8	1	1.02	4.72	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.54	4.72	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.30	4.72	ND	ug/kg	U
Fluorene	86-73-7	1	0.60	4.72	3.14	ug/kg	J
Phenanthrene	85-01-8	1	0.68	4.72	33.6	ug/kg	
Anthracene	120-12-7	1	0.82	4.72	6.04	ug/kg	
Fluoranthene	206-44-0	1	0.44	4.72	113	ug/kg	
Pyrene	129-00-0	1	0.59	4.72	101	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.78	4.72	47.6	ug/kg	
Chrysene	218-01-9	1	0.99	4.72	97.3	ug/kg	
Benzo(a)anthracene, Total		1	2.84	9.44	158	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.58	4.72	62.3	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.99	4.72	70.5	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.84	4.72	16.8	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.01	4.72	87.9	ug/kg	
<i>Surrogate: 2-Methylnaphthalene-d10</i>					<i>32-120 %</i>	<i>62.6 %</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					<i>21-133 %</i>	<i>83.5 %</i>	
<i>Surrogate: Fluoranthene-d10</i>					<i>36-134 %</i>	<i>74.6 %</i>	



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-0.3
17E0094-01 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4

Sampled: 05/04/2017 10:45
Analyzed: 11-May-2017 17:07

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFE0272 Prepared: 10-May-2017	Sample Size: 10.15 g (wet) Final Volume: 1 mL	Dry Weight: 8.12 g % Solids: 80.04
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFE0084 Cleaned: 11-May-2017	Initial Volume: 1 mL Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CFE0083 Cleaned: 11-May-2017	Initial Volume: 1 mL Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24) HC ID: DRO		1	2.88	6.15	19.7	mg/kg	
Motor Oil Range Organics (C24-C38) HC ID: MOTOR OIL		1	3.68	12.3	89.0	mg/kg	
Surrogate: <i>o</i> -Terphenyl				50-150 %	84.4	%	

Data File: \\TARGET\share\chem2\fid4a,1\20170511.b\17051119.D

Date: 11-May-2017 17:07

Client ID:

Sample Info: 17E0094-01

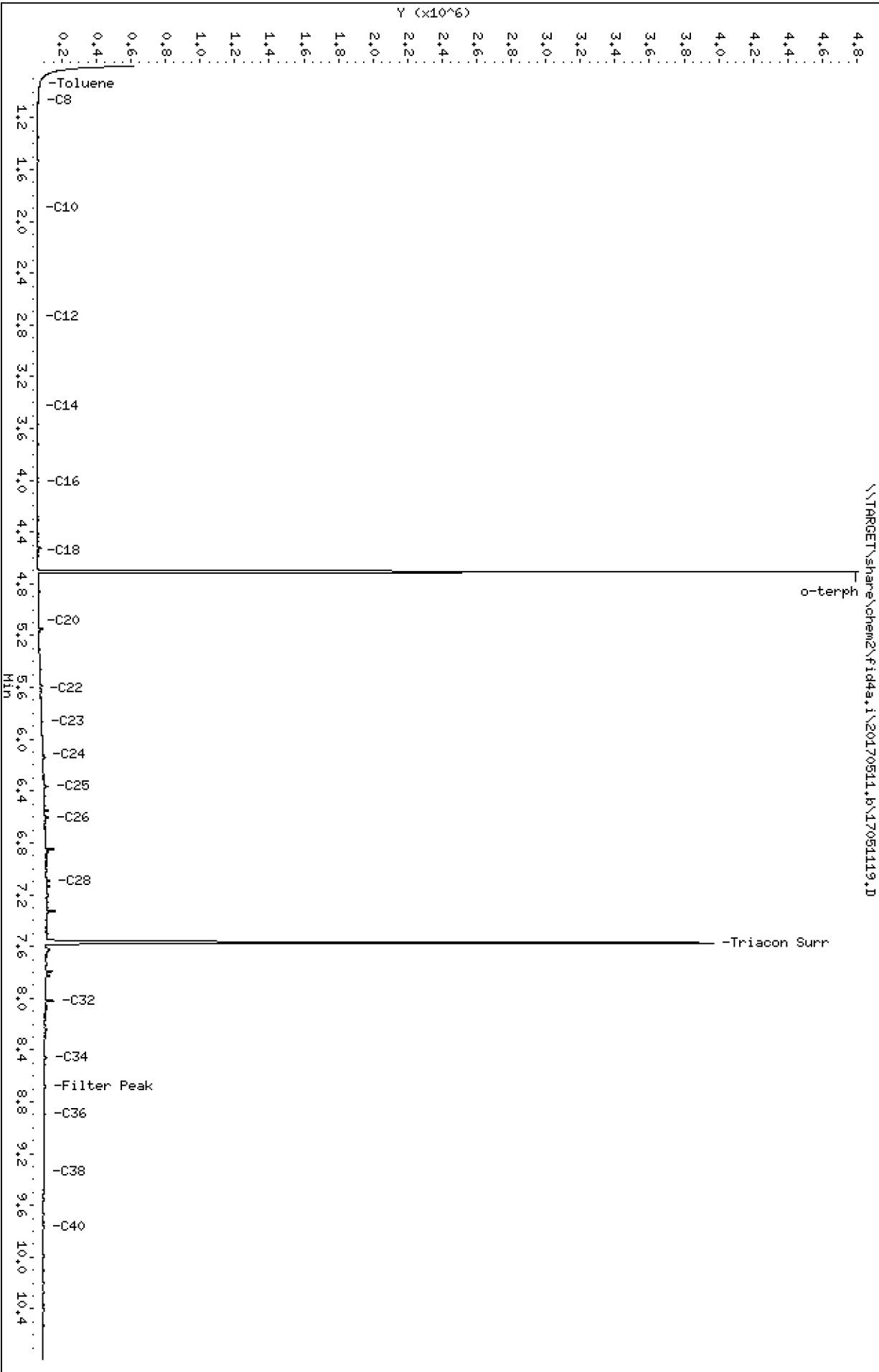
Column phase: RTX-1

Instrument: fid4a,1

Operator: ML

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170511.b/17051119.D
Method: 20170511.b\FID4TPH.m
Instrument: fid4a.i, ML
Report Date: 05/15/2017
Macro: 08-MAY-2017
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-MAY-2017 M.Oil:08-MAY-2017

ARI ID: 17E0094-01
Client ID:
Injection: 11-MAY-2017 17:07
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	0.943	-0.000	14227	26478	WATPHG	(Tol-C12)	130563	5.4
C8	1.065	0.018	4645	5606	WATPHD	(C12-C24)	1697003	160.2
C10	1.898	0.007	1442	1752	WATPHM	(C24-C38)	9046090	722.8
C12	2.742	-0.000	1541	1565	AK102	(C10-C25)	2000219	162.3
C14	3.425	0.002	2540	1920				
C16	4.010	-0.000	4258	3017	OR.DIES	(C10-C28)	4488556	361.2
C18	4.548	-0.000	6665	8500				
C20	5.088	0.005	11238	21123				
C22	5.610	-0.000	21284	19974				
C24	6.118	-0.002	40211	52924				
C25	6.365	-0.002	66547	86260				
C26	6.605	-0.005	65371	158397				
C28	7.095	0.005	69071	126998				
C32	8.020	-0.002	91727	147188				
C34	8.462	-0.002	53388	117726				
Filter Peak	8.685	0.093	48804	146090				
C36	8.902	-0.002	44109	54691				
C38	9.340	-0.002	41283	120796				
C40	9.773	-0.003	40179	112778				
o-terph	4.707	0.005	4746307	2840803				
Triacon Surr	7.573	0.008	3861548	3246389	NAS DIES	(C10-C24)	1713907	139.6

Range Times: NW Diesel(2.742 - 6.120) AK102(1.89 - 6.37) Jet A(1.89 - 4.55)
NW M.Oil(6.12 - 9.34) AK103(6.37 - 8.90) OR Diesel(1.89 - 7.09)

Surrogate	Area	Amount
o-Terphenyl	2840803	190.0 M
Triacontane	3246389	184.3 M

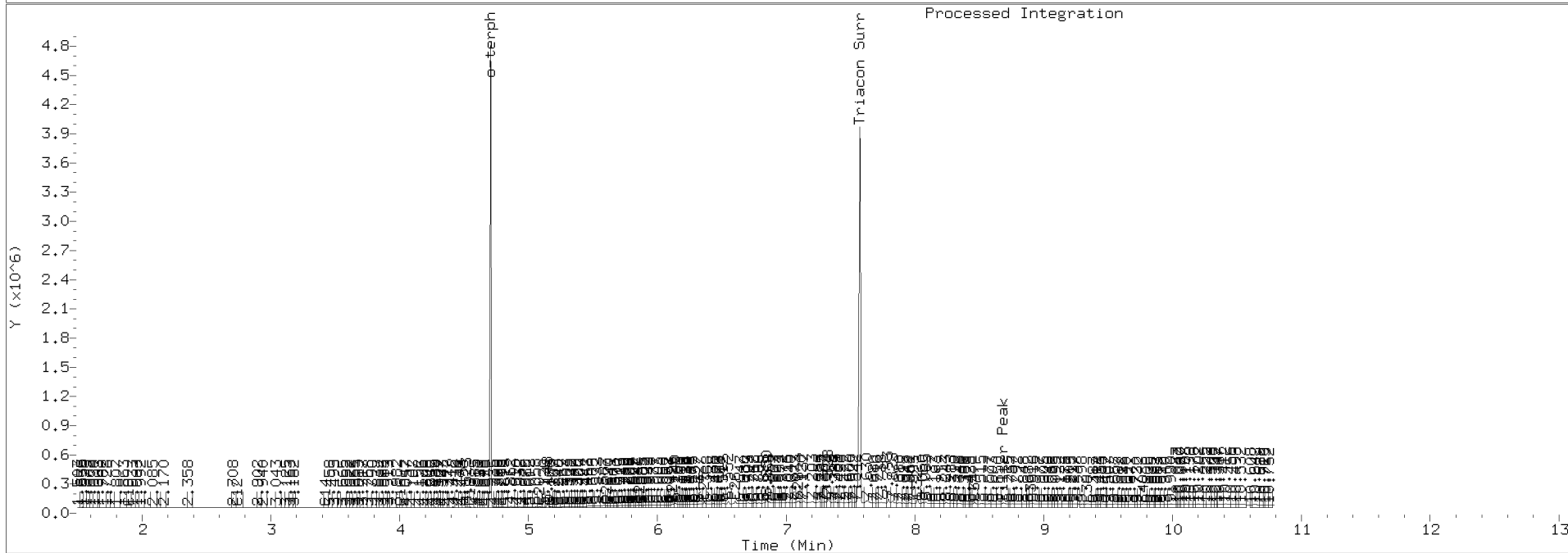
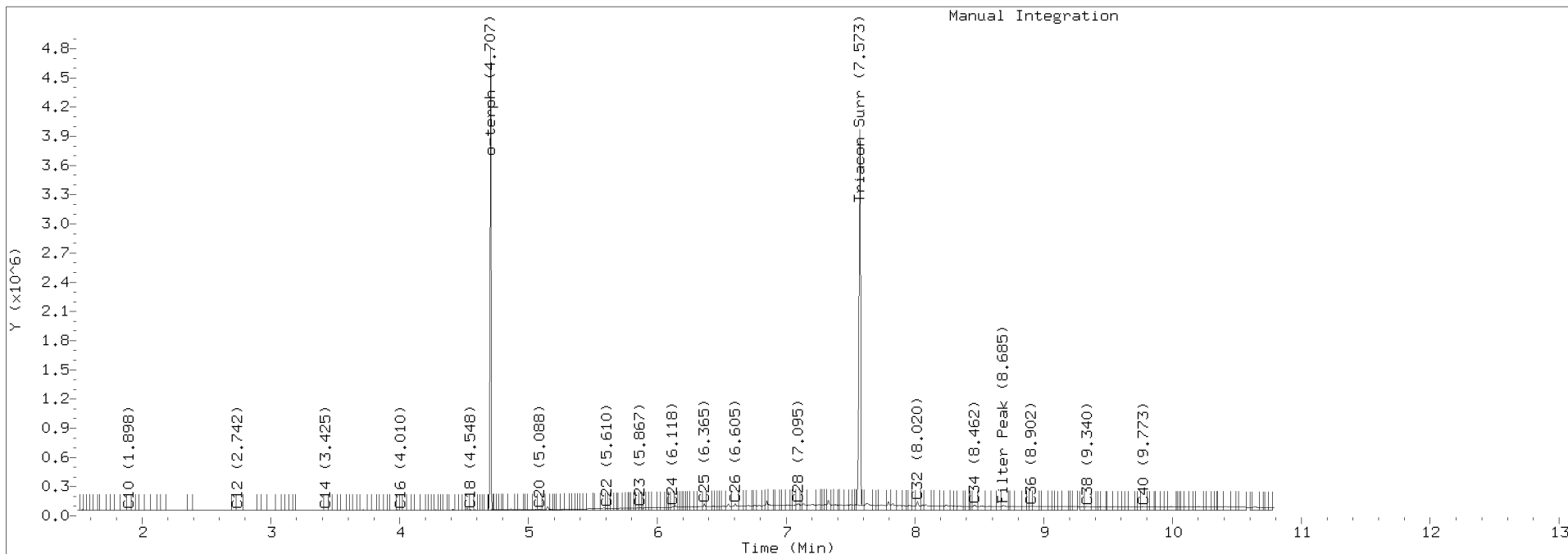
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	14950.1	08-MAY-2017
Triacon Surr	17617.0	08-MAY-2017
Gas	24336.2	XX-XXX-XXXX
Diesel	10593.0	08-MAY-2017
Motor Oil	12516.0	08-MAY-2017
AK102	12327.0	08-MAY-2017
OR Diesel	12427.0	08-MAY-2017
NAS Diesel	12277.0	08-MAY-2017

TPH Manual Integrations Report

Datafile: FID4A, 20170511.b/17051119.D Injection: 11-MAY-2017 17:07

Lab ID:17E0094-01





The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-0.3
17E0094-01 (Solid)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 05/04/2017 10:45
Analyzed: 12-May-2017 21:55

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFE0256 Prepared: 10-May-2017	Sample Size: 7.08 g (wet) Final Volume: 5 mL	Dry Weight: 5.67 g % Solids: 80.04
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFE0090 Cleared: 12-May-2017	Initial Volume: 5 mL Final Volume: 5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CFE0088 Cleared: 12-May-2017	Initial Volume: 5 mL Final Volume: 5 mL	
Sample Cleanup:	Cleanup Method: Sulfur Cleanup Batch: CFE0089 Cleared: 12-May-2017	Initial Volume: 5 mL Final Volume: 5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	7.1	17.6	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	7.1	17.6	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	7.1	17.6	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	7.1	17.6	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	7.1	17.6	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	7.1	17.6	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	8.2	17.6	9.6	ug/kg	J
<i>Surrogate: Decachlorobiphenyl</i>					40-133 %	80.5 %	
<i>Surrogate: Tetrachlorometaxylene</i>					53-120 %	76.6 %	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					40-133 %	73.0 %	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					53-120 %	60.1 %	



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-03
17E0094-01 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A
Instrument: ICPMS2

Sampled: 05/04/2017 10:45
Analyzed: 12-May-2017 18:45

Sample Preparation: Preparation Method: SWN EPA 3050B
Preparation Batch: BFE0225 Sample Size: 1.083 g (wet) Dry Weight: 0.77 g
Prepared: 09-May-2017 Final Volume: 50 mL % Solids: 70.86

Analyte	CAS Number	Dilution	Detection		Reporting		Result	Units	Notes
			Limit	Limit	Limit	Limit			
Chromium	7440-47-3	20	0.09	0.65			18.7	mg/kg	
Lead	7439-92-1	20	0.01	0.13			9.02	mg/kg	
Silver	7440-22-4	20	0.004	0.26			0.08	mg/kg	J



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-03
17E0094-01 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED
Instrument: ICPMS2

Sampled: 05/04/2017 10:45
Analyzed: 12-May-2017 18:45

Sample Preparation: Preparation Method: SWN EPA 3050B
Preparation Batch: BFE0225 Sample Size: 1.083 g (wet) Dry Weight: 0.77 g
Prepared: 09-May-2017 Final Volume: 50 mL % Solids: 70.86

Analyte	CAS Number	Dilution	Detection		Reporting		Result	Units	Notes
			Limit	Limit	Limit	Limit			
Arsenic	7440-38-2	20	0.04	0.26			3.01	mg/kg	
Cadmium	7440-43-9	20	0.009	0.13			0.31	mg/kg	
Copper	7440-50-8	20	0.05	0.65			29.2	mg/kg	
Nickel	7440-02-0	20	0.35	0.65			15.7	mg/kg	
Selenium	7782-49-2	20	0.51	0.65			0.94	mg/kg	
Zinc	7440-66-6	20	0.4	5.2			109	mg/kg	



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-03
17E0094-01 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B
Instrument: CETAC

Sampled: 05/04/2017 10:45
Analyzed: 11-May-2017 13:23

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BFE0246 Sample Size: 0.25 g (wet) Dry Weight: 0.18 g
Prepared: 09-May-2017 Final Volume: 50 mL % Solids: 70.86

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.002371	0.02822	0.02258	mg/kg	



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-03
17E0094-01 (Solid)

Metals and Metallic Compounds

Method: SM 2540 G-97
Instrument: N/A

Sampled: 05/04/2017 10:45
Analyzed: 09-May-2017 10:12

Sample Preparation: Preparation Method: No Prep-Metals
Preparation Batch: BFE0202 Sample Size: 10 g (wet)
Prepared: 08-May-2017 Final Volume: 10 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	70.86	%	



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-16-03
17E0094-01 (Solid)

Extractions

Method: PSEP 1986
Instrument: N/A

Sampled: 05/04/2017 10:45
Analyzed: 05-May-2017 12:38

Sample Preparation: Preparation Method: No Prep-Organics
Preparation Batch: BFE0175 Sample Size: 1 g (wet)
Prepared: 05-May-2017 Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	80.04	%	



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM
Instrument: NT8

Sampled: 05/04/2017 12:10
Analyzed: 15-May-2017 15:10

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFE0259 Prepared: 10-May-2017	Sample Size: 28.22 g (wet) Final Volume: 0.5 mL	Dry Weight: 10.11 g % Solids: 35.84
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFE0105 Cleaned: 15-May-2017	Initial Volume: 0.5 mL Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.26	4.94	9.02	ug/kg	
2-Methylnaphthalene	91-57-6	1	1.09	4.94	4.99	ug/kg	
1-Methylnaphthalene	90-12-0	1	0.40	4.94	ND	ug/kg	U
Acenaphthylene	208-96-8	1	1.07	4.94	5.01	ug/kg	
Acenaphthene	83-32-9	1	0.56	4.94	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.36	4.94	3.43	ug/kg	J
Fluorene	86-73-7	1	0.62	4.94	3.57	ug/kg	J
Phenanthrene	85-01-8	1	0.71	4.94	23.0	ug/kg	
Anthracene	120-12-7	1	0.86	4.94	3.92	ug/kg	J
Fluoranthene	206-44-0	1	0.46	4.94	38.1	ug/kg	
Pyrene	129-00-0	1	0.62	4.94	41.7	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.81	4.94	13.8	ug/kg	
Chrysene	218-01-9	1	1.04	4.94	42.6	ug/kg	
Benzo(a)fluoranthene, Total		1	2.98	9.89	66.6	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.61	4.94	21.0	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.04	4.94	29.4	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.88	4.94	8.47	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	1.05	4.94	61.0	ug/kg	
<i>Surrogate: 2-Methylnaphthalene-d10</i>					<i>32-120 %</i>	<i>53.4 %</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					<i>21-133 %</i>	<i>67.9 %</i>	
<i>Surrogate: Fluoranthene-d10</i>					<i>36-134 %</i>	<i>59.8 %</i>	



The Boeing Company
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Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4

Sampled: 05/04/2017 12:10
Analyzed: 11-May-2017 17:29

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFE0272 Prepared: 10-May-2017	Sample Size: 10.06 g (wet) Final Volume: 1 mL	Dry Weight: 3.61 g % Solids: 35.84
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFE0084 Cleaned: 11-May-2017	Initial Volume: 1 mL Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CFE0083 Cleaned: 11-May-2017	Initial Volume: 1 mL Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24) HC ID: DRO		1	6.49	13.9	20.8	mg/kg	
Motor Oil Range Organics (C24-C38) HC ID: MOTOR OIL		1	8.29	27.7	103	mg/kg	
Surrogate: <i>o</i> -Terphenyl				50-150 %	84.1	%	

Data File: \\TARGET\share\chem2\fid4a,1\20170511.b\17051120.D

Date: 11-May-2017 17:29

Client ID:

Sample Info: 17E0094-02

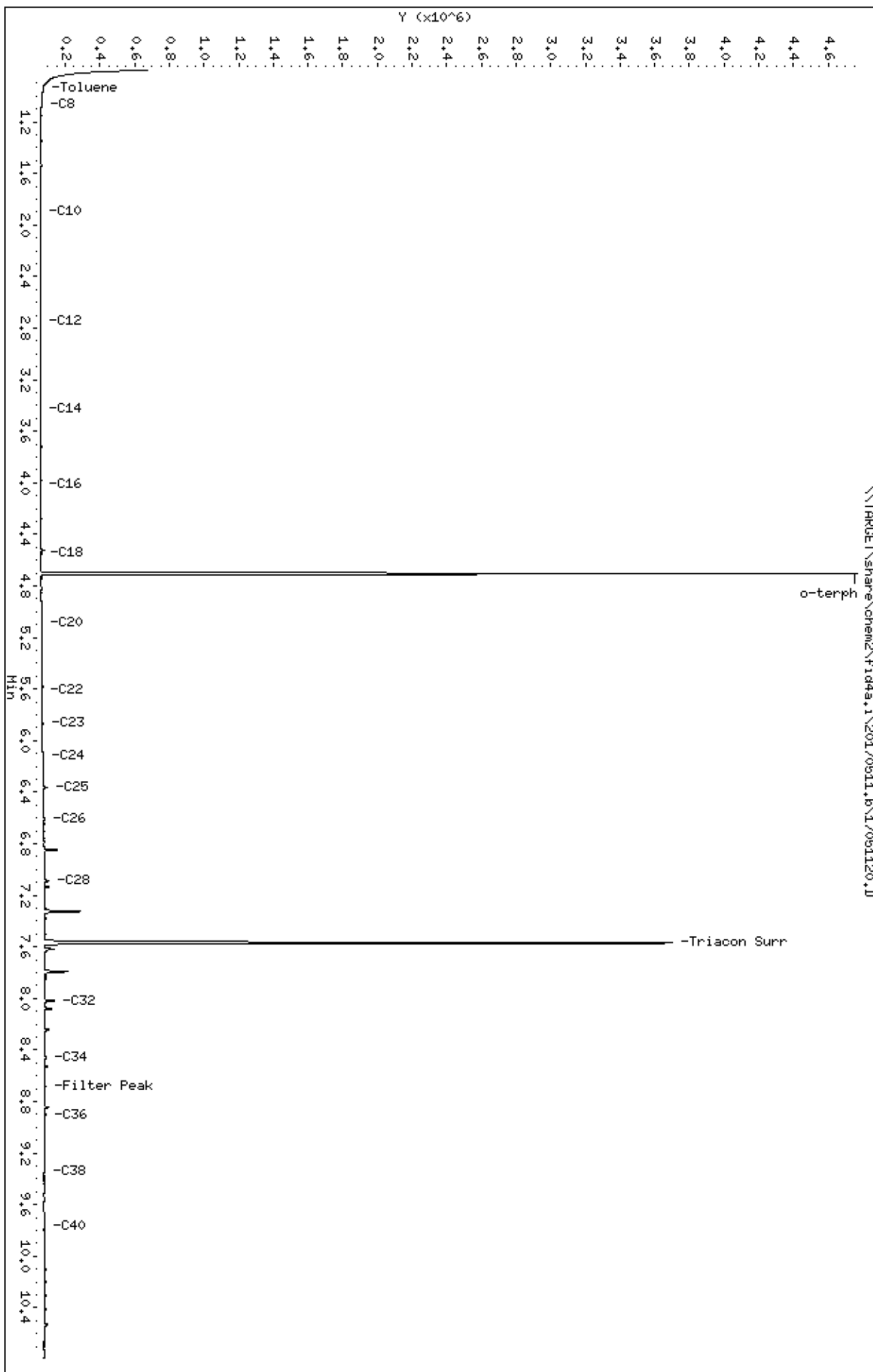
Column phase: RTX-1

Instrument: fid4a,1

Operator: ML

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170511.b/17051120.D
Method: 20170511.b\FID4TPH.m
Instrument: fid4a.i, ML
Report Date: 05/15/2017
Macro: 08-MAY-2017
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-MAY-2017 M.Oil:08-MAY-2017

ARI ID: 17E0094-02
Client ID:
Injection: 11-MAY-2017 17:29
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	0.944	0.001	15800	59611	WATPHG	(Tol-C12)	160518	6.6
C8	1.066	0.019	5063	5611	WATPHD	(C12-C24)	794266	75.0
C10	1.898	0.006	1396	1511	WATPHM	(C24-C38)	4653663	371.8
C12	2.743	0.001	1690	1645	AK102	(C10-C25)	916179	74.3
C14	3.424	0.001	2678	2269				
C16	4.011	0.001	3780	2758	OR.DIES	(C10-C28)	1999345	160.9
C18	4.548	-0.001	5686	6882				
C20	5.089	0.006	8345	16892				
C22	5.609	-0.001	10714	10186				
C24	6.119	-0.001	16843	22386				
C25	6.364	-0.002	38726	38605				
C26	6.608	-0.002	25628	73680				
C28	7.089	-0.001	46248	93300				
C32	8.019	-0.002	78360	100467				
C34	8.461	-0.002	35365	92049				
Filter Peak	8.683	0.091	29659	45255				
C36	8.903	-0.001	29980	100635				
C38	9.338	-0.004	25668	78077				
C40	9.773	-0.004	26221	61899				
o-terph	4.706	0.004	4708132	2829739				
Triacon Surr	7.571	0.006	3621841	3059012	NAS DIES	(C10-C24)	810496	66.0

Range Times: NW Diesel(2.742 - 6.120) AK102(1.89 - 6.37) Jet A(1.89 - 4.55)
NW M.Oil(6.12 - 9.34) AK103(6.37 - 8.90) OR Diesel(1.89 - 7.09)

Surrogate	Area	Amount
o-Terphenyl	2829739	189.3 M
Triacotane	3059012	173.6 M

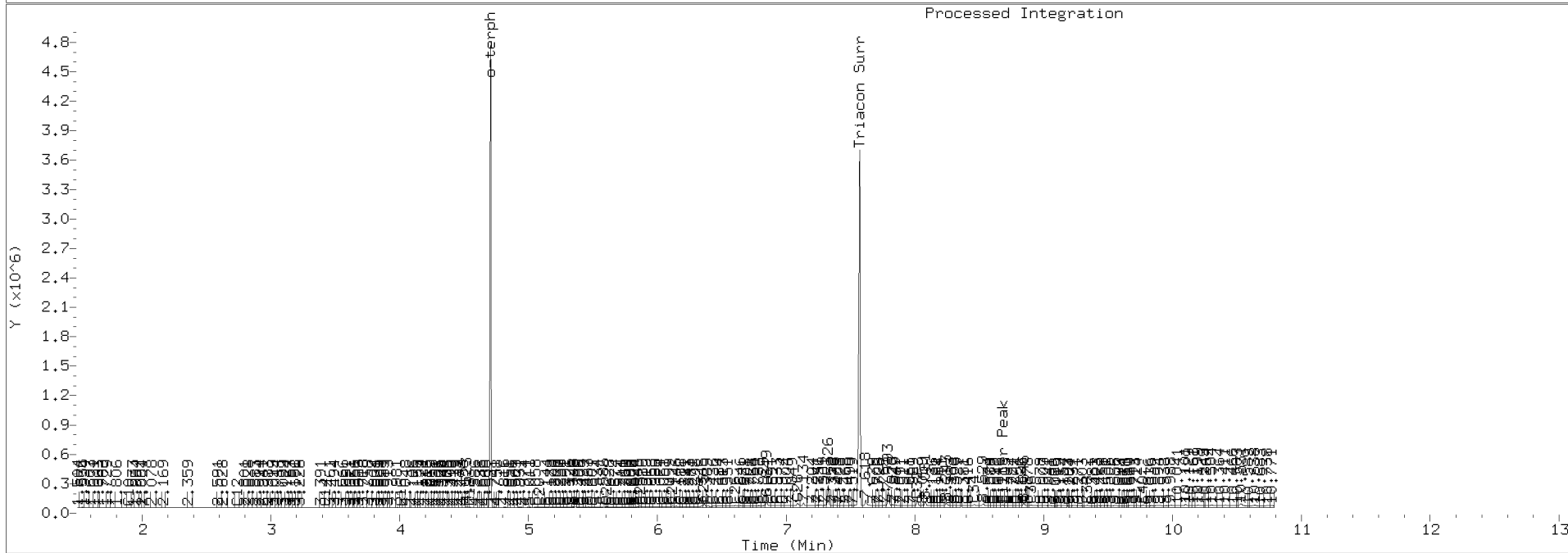
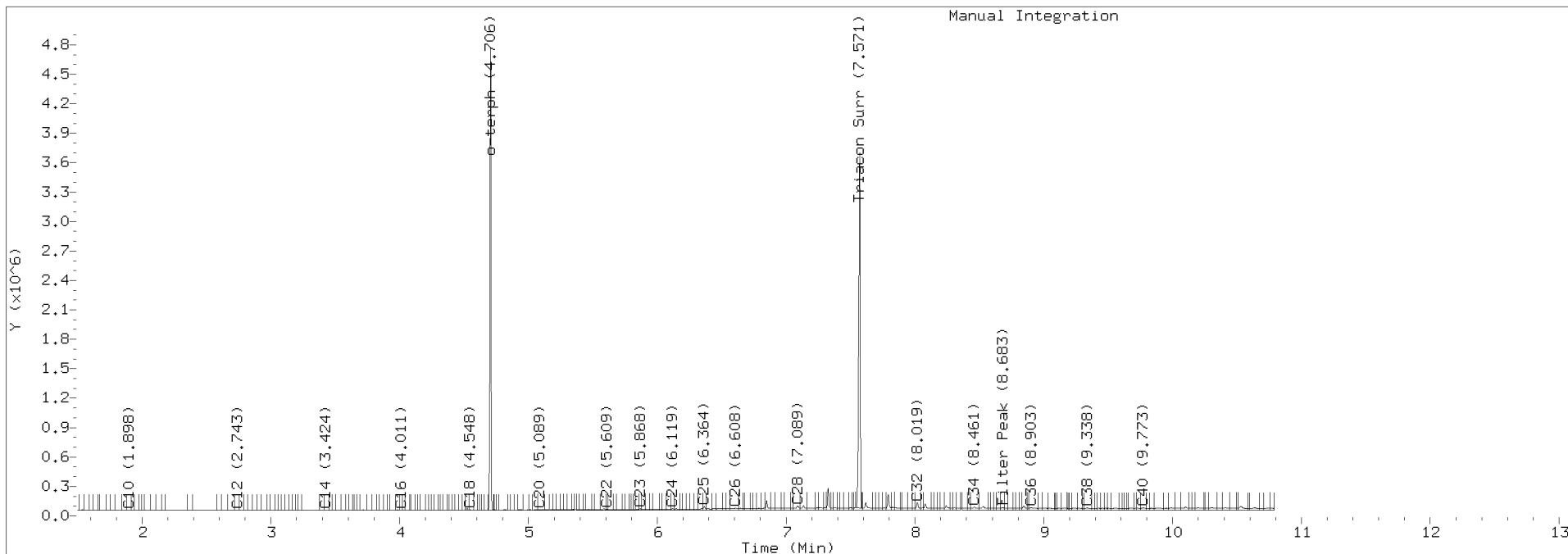
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	14950.1	08-MAY-2017
Triacon Surr	17617.0	08-MAY-2017
Gas	24336.2	XX-XXX-XXXX
Diesel	10593.0	08-MAY-2017
Motor Oil	12516.0	08-MAY-2017
AK102	12327.0	08-MAY-2017
OR Diesel	12427.0	08-MAY-2017
NAS Diesel	12277.0	08-MAY-2017

TPH Manual Integrations Report

Datafile: FID4A, 20170511.b/17051120.D Injection: 11-MAY-2017 17:29

Lab ID:17E0094-02





The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD5

Sampled: 05/04/2017 12:10
Analyzed: 12-May-2017 22:16

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFE0256 Prepared: 10-May-2017	Sample Size: 14.29 g (wet) Final Volume: 5 mL	Dry Weight: 5.12 g % Solids: 35.84
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFE0090 Cleared: 12-May-2017	Initial Volume: 5 mL Final Volume: 5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CFE0088 Cleared: 12-May-2017	Initial Volume: 5 mL Final Volume: 5 mL	
Sample Cleanup:	Cleanup Method: Sulfur Cleanup Batch: CFE0089 Cleared: 12-May-2017	Initial Volume: 5 mL Final Volume: 5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	7.8	19.5	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	7.8	19.5	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	7.8	19.5	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	7.8	19.5	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	7.8	19.5	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	7.8	19.5	122	ug/kg	
Aroclor 1260	11096-82-5	1	9.1	19.5	67.5	ug/kg	
<i>Surrogate: Decachlorobiphenyl</i>					<i>40-133 %</i>	<i>84.6 %</i>	
<i>Surrogate: Tetrachlorometaxylene</i>					<i>53-120 %</i>	<i>84.1 %</i>	
<i>Surrogate: Decachlorobiphenyl [2C]</i>					<i>40-133 %</i>	<i>84.9 %</i>	
<i>Surrogate: Tetrachlorometaxylene [2C]</i>					<i>53-120 %</i>	<i>73.1 %</i>	



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Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A
Instrument: ICPMS2

Sampled: 05/04/2017 12:10
Analyzed: 12-May-2017 18:50

Sample Preparation: Preparation Method: SWN EPA 3050B
Preparation Batch: BFE0225 Sample Size: 1.042 g (wet) Dry Weight: 0.36 g
Prepared: 09-May-2017 Final Volume: 50 mL % Solids: 34.26

Analyte	CAS Number	Dilution	Detection		Reporting		Result	Units	Notes
			Limit	Limit	Limit	Limit			
Chromium	7440-47-3	20	0.19	1.40	45.1	mg/kg			
Lead	7439-92-1	20	0.02	0.28	50.5	mg/kg			
Silver	7440-22-4	20	0.009	0.56	0.29	mg/kg		J	



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED
Instrument: ICPMS2

Sampled: 05/04/2017 12:10
Analyzed: 12-May-2017 18:50

Sample Preparation: Preparation Method: SWN EPA 3050B
Preparation Batch: BFE0225 Sample Size: 1.042 g (wet) Dry Weight: 0.36 g
Prepared: 09-May-2017 Final Volume: 50 mL % Solids: 34.26

Analyte	CAS Number	Dilution	Detection		Reporting		Result	Units	Notes
			Limit	Limit	Limit	Limit			
Arsenic	7440-38-2	20	0.08	0.56			38.4	mg/kg	
Cadmium	7440-43-9	20	0.02	0.28			1.41	mg/kg	
Copper	7440-50-8	20	0.10	1.40			195	mg/kg	
Nickel	7440-02-0	20	0.05	1.40			35.2	mg/kg	
Selenium	7782-49-2	20	1.10	1.40			1.59	mg/kg	
Zinc	7440-66-6	20	0.8	11.2			415	mg/kg	



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B
Instrument: CETAC

Sampled: 05/04/2017 12:10
Analyzed: 11-May-2017 13:24

Sample Preparation: Preparation Method: SMM EPA 7471B
Preparation Batch: BFE0246 Sample Size: 0.212 g (wet) Dry Weight: 0.07 g
Prepared: 09-May-2017 Final Volume: 50 mL % Solids: 34.26

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.005783	0.06884	0.1721	mg/kg	



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Project: Boeing Kent Sediments
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Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Metals and Metallic Compounds

Method: SM 2540 G-97
Instrument: N/A

Sampled: 05/04/2017 12:10
Analyzed: 09-May-2017 10:12

Sample Preparation: Preparation Method: No Prep-Metals
Preparation Batch: BFE0202 Sample Size: 10 g (wet)
Prepared: 08-May-2017 Final Volume: 10 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	34.26	%	



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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

KSC-0F-DP-0.3
17E0094-02 (Solid)

Extractions

Method: PSEP 1986
Instrument: N/A

Sampled: 05/04/2017 12:10
Analyzed: 05-May-2017 12:38

Sample Preparation: Preparation Method: No Prep-Organics
Preparation Batch: BFE0175 Sample Size: 1 g (wet)
Prepared: 05-May-2017 Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	35.84	%	



The Boeing Company
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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFE0259 - EPA 3546 (Microwave)

Instrument: NT8

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0259-BLK1)					Prepared: 10-May-2017 Analyzed: 15-May-2017 13:51						
Naphthalene	ND	1.28	5.00	ug/kg							U
2-Methylnaphthalene	ND	1.10	5.00	ug/kg							U
1-Methylnaphthalene	ND	0.40	5.00	ug/kg							U
Acenaphthylene	ND	1.08	5.00	ug/kg							U
Acenaphthene	ND	0.57	5.00	ug/kg							U
Dibenzofuran	ND	1.38	5.00	ug/kg							U
Fluorene	ND	0.63	5.00	ug/kg							U
Phenanthrene	ND	0.72	5.00	ug/kg							U
Anthracene	ND	0.87	5.00	ug/kg							U
Fluoranthene	ND	0.47	5.00	ug/kg							U
Pyrene	ND	0.63	5.00	ug/kg							U
Benzo(a)anthracene	ND	0.82	5.00	ug/kg							U
Chrysene	ND	1.05	5.00	ug/kg							U
Benzo(a)fluoranthene, Total	ND	3.01	10.0	ug/kg							U
Benzo(a)pyrene	ND	0.61	5.00	ug/kg							U
Indeno(1,2,3-cd)pyrene	ND	1.05	5.00	ug/kg							U
Dibenzo(a,h)anthracene	ND	0.89	5.00	ug/kg							U
Benzo(g,h,i)perylene	ND	1.07	5.00	ug/kg							U
Surrogate: 2-Methylnaphthalene-d10	79.2			ug/kg	150		52.8	32-120			
Surrogate: Dibenzo[a,h]anthracene-d14	133			ug/kg	150		88.9	21-133			
Surrogate: Fluoranthene-d10	122			ug/kg	150		81.4	36-134			



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Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFE0259 - EPA 3546 (Microwave)

Instrument: NT8

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFE0259-BS1)						Prepared: 10-May-2017 Analyzed: 15-May-2017 14:17					
Naphthalene	81.4	1.28	5.00	ug/kg	150		54.3	36-120			
2-Methylnaphthalene	84.1	1.10	5.00	ug/kg	150		56.0	35-120			
1-Methylnaphthalene	84.0	0.40	5.00	ug/kg	150		56.0	39-120			
Acenaphthylene	85.5	1.08	5.00	ug/kg	150		57.0	35-120			
Acenaphthene	81.3	0.57	5.00	ug/kg	150		54.2	39-120			
Dibenzofuran	85.9	1.38	5.00	ug/kg	150		57.3	38-120			
Fluorene	87.4	0.63	5.00	ug/kg	150		58.3	41-120			
Phenanthrene	92.3	0.72	5.00	ug/kg	150		61.5	46-120			
Anthracene	96.9	0.87	5.00	ug/kg	150		64.6	36-120			
Fluoranthene	108	0.47	5.00	ug/kg	150		71.8	46-120			
Pyrene	108	0.63	5.00	ug/kg	150		71.9	49-120			
Benzo(a)anthracene	114	0.82	5.00	ug/kg	150		76.0	42-120			
Chrysene	104	1.05	5.00	ug/kg	150		69.6	48-120			
Benzo(a)fluoranthene, Total	338	3.01	10.0	ug/kg	450		75.1	46-120			
Benzo(a)pyrene	111	0.61	5.00	ug/kg	150		73.8	36-120			
Indeno(1,2,3-cd)pyrene	124	1.05	5.00	ug/kg	150		82.8	40-120			
Dibenzo(a,h)anthracene	136	0.89	5.00	ug/kg	150		90.7	38-120			
Benzo(g,h,i)perylene	123	1.07	5.00	ug/kg	150		81.7	38-120			
Surrogate: 2-Methylnaphthalene-d10	87.5			ug/kg	150		58.3	32-120			
Surrogate: Dibenzo[a,h]anthracene-d14	138			ug/kg	150		91.8	21-133			
Surrogate: Fluoranthene-d10	113			ug/kg	150		75.4	36-134			



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Petroleum Hydrocarbons - Quality Control

Batch BFE0272 - EPA 3546 (Microwave)

Instrument: FID4

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0272-BLK1)					Prepared: 10-May-2017 Analyzed: 11-May-2017 13:42						
Diesel Range Organics (C12-C24)	ND	2.34	5.00	mg/kg							U
Motor Oil Range Organics (C24-C38)	ND	2.99	10.0	mg/kg							U
<i>Surrogate: o-Terphenyl</i>	18.1			mg/kg	22.5		80.6	50-150			

Data File: \\TARGET\share\chem2\fid4a,1\20170511_017051110.D

Date: 11-May-2017 13:42

Client ID:

Sample Info: BFE0272-BLK1

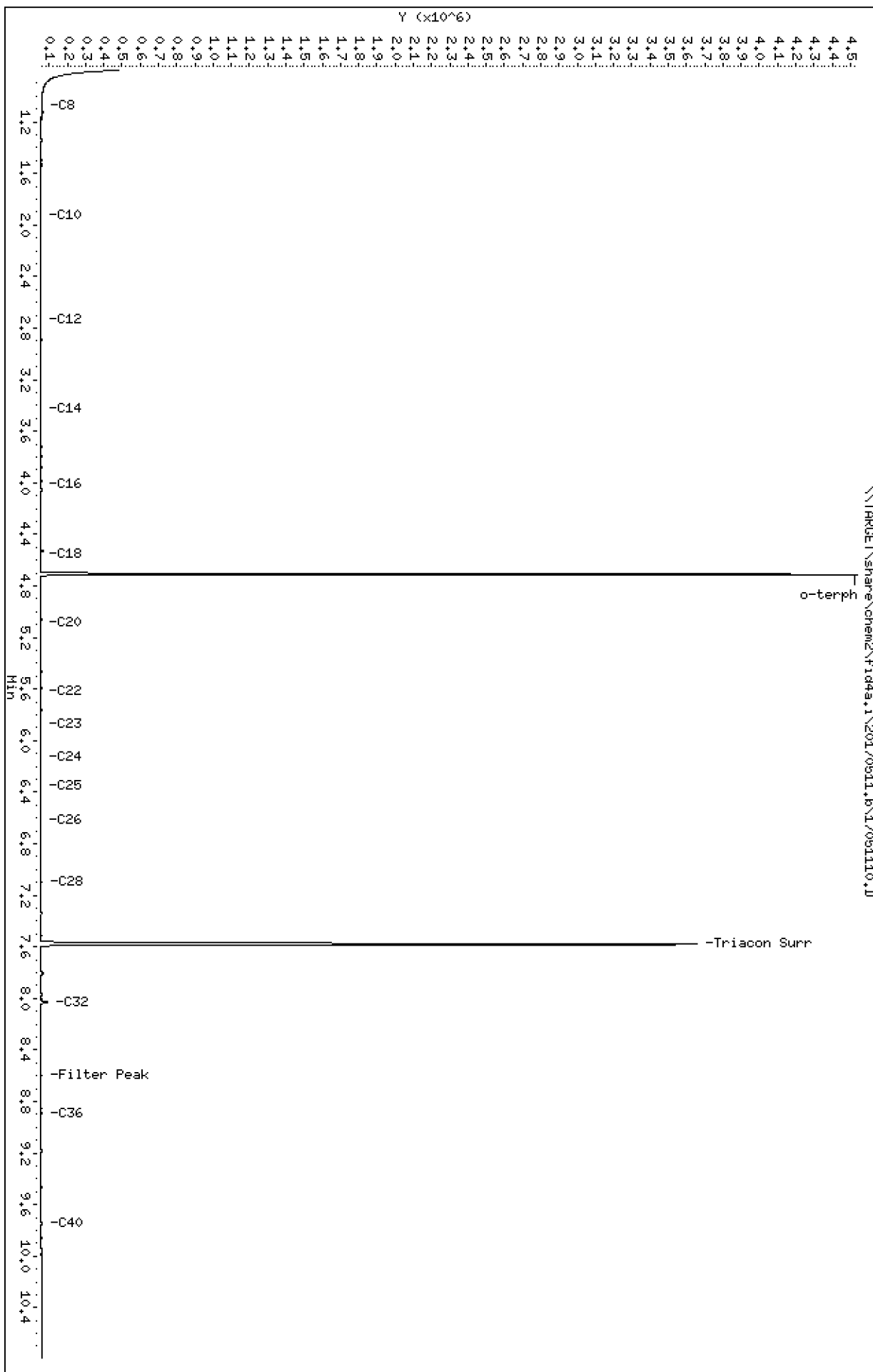
Column phase: RTX-1

Instrument: fid4a,1

Operator: ML

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170511.b/17051110.D
Method: 20170511.b\FID4TPH.m
Instrument: fid4a.i, ML
Report Date: 05/15/2017
Macro: 08-MAY-2017
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-MAY-2017 M.Oil:08-MAY-2017

ARI ID: BFE0272-BLK1
Client ID:
Injection: 11-MAY-2017 13:42
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	----				WATPHG	(Tol-C12)	85717	3.5
C8	1.079	0.032	8333	12647	WATPHD	(C12-C24)	145364	13.7
C10	1.925	0.034	1928	2397	WATPHM	(C24-C38)	80844	6.5
C12	2.739	-0.003	2510	1850	AK102	(C10-C25)	150906	12.2
C14	3.427	0.004	1657	1141				
C16	4.014	0.004	2010	1229	OR.DIES	(C10-C28)	162402	13.1
C18	4.554	0.005	2070	2265				
C20	5.092	0.009	2145	2756				
C22	5.617	0.007	1772	2873				
C24	6.130	0.010	1168	1267				
C25	6.352	-0.015	1202	1107				
C26	6.617	0.007	977	1093				
C28	7.100	0.010	2446	2802				
C32	8.030	0.009	37344	29934				
C34	----							
Filter Peak	8.600	0.009	1289	1382				
C36	8.894	-0.010	1494	1883				
C38	----							
C40	9.745	-0.031	1938	3786				
o-terph	4.712	0.010	4485196	2710159				
Triacon Surr	7.582	0.017	3605402	2983988	NAS DIES	(C10-C24)	149612	12.2

Range Times: NW Diesel(2.742 - 6.120) AK102(1.89 - 6.37) Jet A(1.89 - 4.55)
NW M.Oil(6.12 - 9.34) AK103(6.37 - 8.90) OR Diesel(1.89 - 7.09)

Surrogate	Area	Amount
o-Terphenyl	2710159	181.3
Triacontane	2983988	169.4

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	14950.1	08-MAY-2017
Triacon Surr	17617.0	08-MAY-2017
Gas	24336.2	XX-XXX-XXXX
Diesel	10593.0	08-MAY-2017
Motor Oil	12516.0	08-MAY-2017
AK102	12327.0	08-MAY-2017
OR Diesel	12427.0	08-MAY-2017
NAS Diesel	12277.0	08-MAY-2017



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Petroleum Hydrocarbons - Quality Control

Batch BFE0272 - EPA 3546 (Microwave)

Instrument: FID4

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFE0272-BS1)						Prepared: 10-May-2017 Analyzed: 11-May-2017 14:04					
Diesel Range Organics (C12-C24)	110	2.34	5.00	mg/kg	150		73.0	63-120			
Surrogate: <i>o</i> -Terphenyl	18.1			mg/kg	22.5		80.5	50-150			

Data File: \\TARGET\share\chem2\fid4a,1\20170511.b\17051111.D

Date: 11-May-2017 14:04

Client ID:

Sample Info: BFE0272-BS1

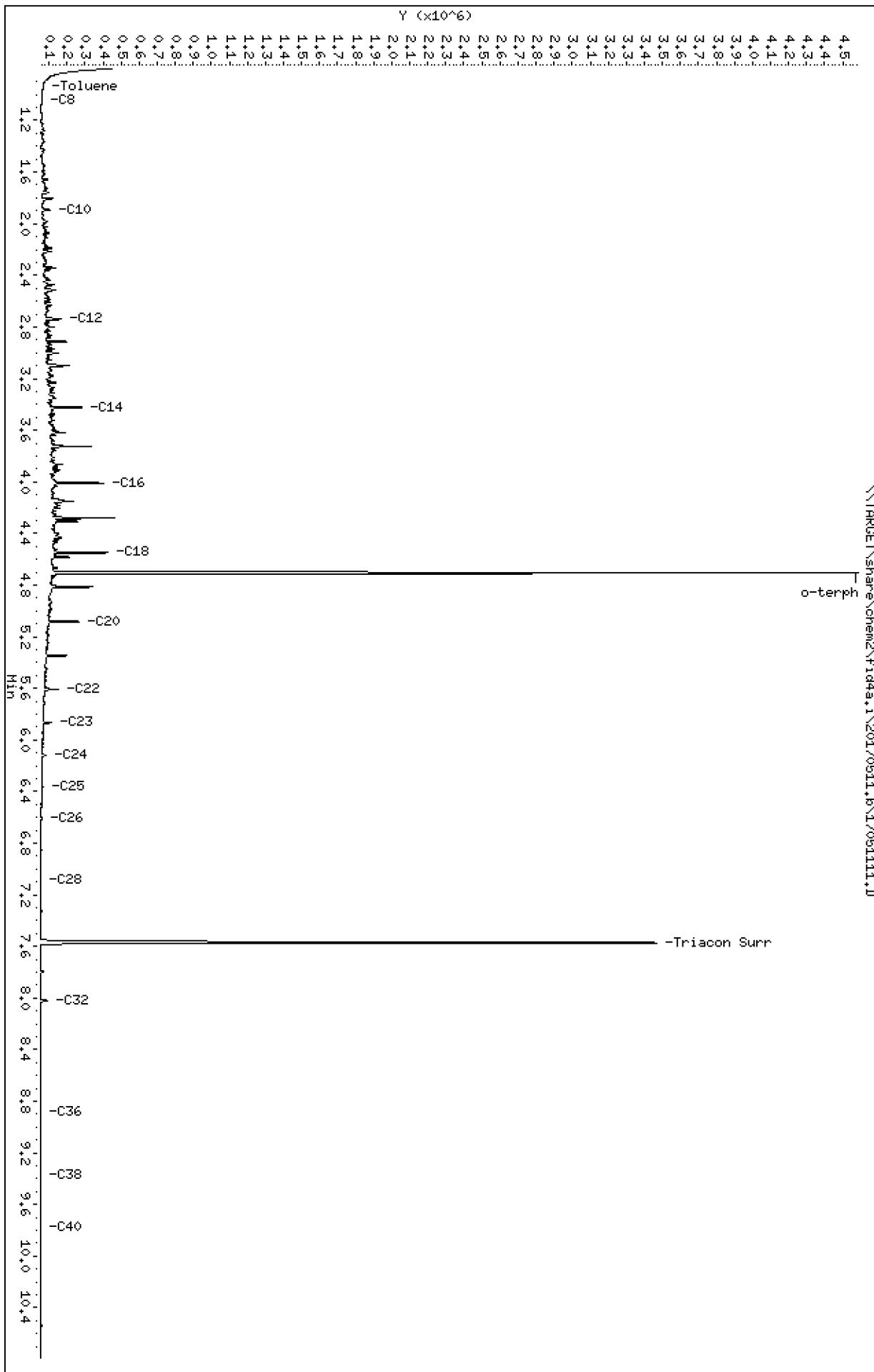
Column phase: RTX-1

Instrument: fid4a,1

Operator: ML

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20170511.b/17051111.D
Method: 20170511.b\FID4TPH.m
Instrument: fid4a.i, ML
Report Date: 05/15/2017
Macro: 08-MAY-2017
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-MAY-2017 M.Oil:08-MAY-2017

ARI ID: BFE0272-BS1
Client ID:
Injection: 11-MAY-2017 14:04
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg per L)
Toluene	0.945	0.001	15275	33050	WATPHG	(Tol-C12)	2314845	95.1
C8	1.050	0.003	7134	15537	WATPHD	(C12-C24)	11605923	1095.6
C10	1.893	0.001	50130	61456	WATPHM	(C24-C38)	257295	20.6
C12	2.741	-0.000	115772	132384	AK102	(C10-C25)	13322786	1080.8
C14	3.425	0.001	229409	273552				
C16	4.010	-0.000	353010	279227	OR.DIES	(C10-C28)	13453592	1082.6
C18	4.550	0.001	375099	346738				
C20	5.083	-0.000	211964	198954				
C22	5.610	-0.000	98018	83986				
C24	6.120	-0.000	34223	31449				
C25	6.366	-0.000	17227	24465				
C26	6.610	-0.000	8773	21385				
C28	7.091	0.001	3708	6110				
C32	8.021	-0.000	34473	30044				
C34	----							
Filter Peak	----							
C36	8.883	-0.020	740	1423				
C38	9.376	0.035	669	1177				
C40	9.776	-0.000	1442	1929				
o-terph	4.706	0.005	4468268	2708904				
Triacon Surr	7.573	0.008	3418164	2851585	NAS DIES	(C10-C24)	13268070	1080.7

Range Times: NW Diesel(2.742 - 6.120) AK102(1.89 - 6.37) Jet A(1.89 - 4.55)
NW M.Oil(6.12 - 9.34) AK103(6.37 - 8.90) OR Diesel(1.89 - 7.09)

Surrogate	Area	Amount
o-Terphenyl	2708904	181.2 M
Triacontane	2851585	161.9

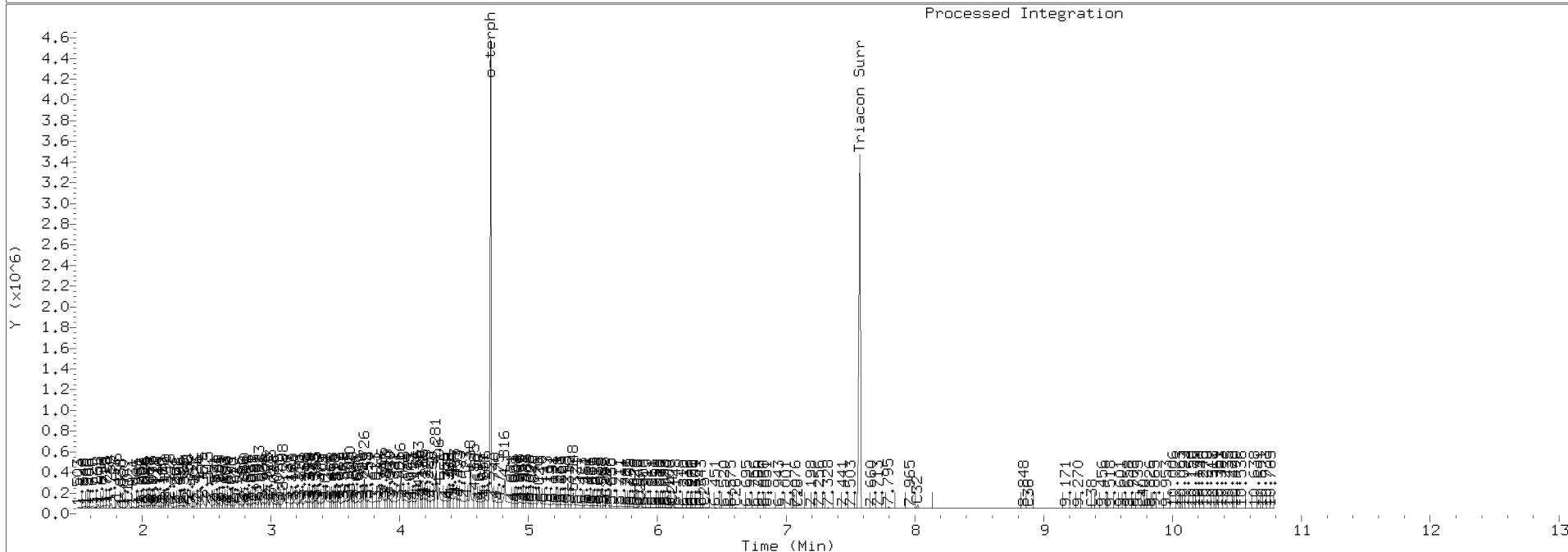
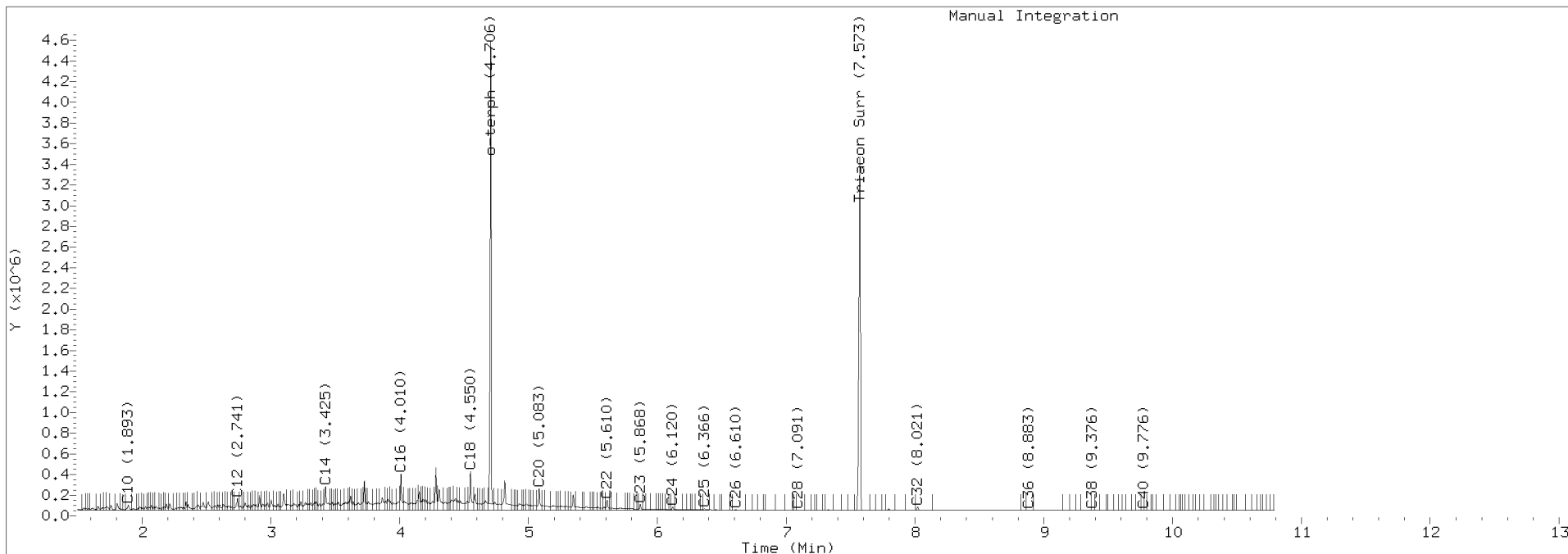
M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	14950.1	08-MAY-2017
Triacon Surr	17617.0	08-MAY-2017
Gas	24336.2	XX-XXX-XXXX
Diesel	10593.0	08-MAY-2017
Motor Oil	12516.0	08-MAY-2017
AK102	12327.0	08-MAY-2017
OR Diesel	12427.0	08-MAY-2017
NAS Diesel	12277.0	08-MAY-2017

TPH Manual Integrations Report

Datafile: FID4A, 20170511.b/17051111.D Injection: 11-MAY-2017 14:04

Lab ID: BFE0272-BS1





The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Aroclor PCB - Quality Control

Batch BFE0256 - EPA 3546 (Microwave)

Instrument: ECD5

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0256-BLK1)					Prepared: 10-May-2017 Analyzed: 12-May-2017 18:12						
Aroclor 1016	ND	8.0	20.0	ug/kg							U
Aroclor 1221	ND	8.0	20.0	ug/kg							U
Aroclor 1232	ND	8.0	20.0	ug/kg							U
Aroclor 1242	ND	8.0	20.0	ug/kg							U
Aroclor 1248	ND	8.0	20.0	ug/kg							U
Aroclor 1254	ND	8.0	20.0	ug/kg							U
Aroclor 1260	ND	9.3	20.0	ug/kg							U
Surrogate: Decachlorobiphenyl	34.3			ug/kg	40.0		85.7	40-133			
Surrogate: Tetrachlorometaxylene	31.4			ug/kg	40.0		78.6	53-120			
Surrogate: Decachlorobiphenyl [2C]	35.3			ug/kg	40.0		88.3	40-133			
Surrogate: Tetrachlorometaxylene [2C]	26.4			ug/kg	40.0		66.1	53-120			



The Boeing Company
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Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Aroclor PCB - Quality Control

Batch BFE0256 - EPA 3546 (Microwave)

Instrument: ECD5

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFE0256-BS1)						Prepared: 10-May-2017 Analyzed: 12-May-2017 18:33					
Aroclor 1016	416	8.0	20.0	ug/kg	500		83.1	52-120			
Aroclor 1260	366	9.3	20.0	ug/kg	500		73.2	57-120			
Surrogate: Decachlorobiphenyl	32.9			ug/kg	40.0		82.4	40-133			
Surrogate: Tetrachlorometaxylene	32.4			ug/kg	40.0		81.0	53-120			
Surrogate: Decachlorobiphenyl [2C]	34.3			ug/kg	40.0		85.8	40-133			
Surrogate: Tetrachlorometaxylene [2C]	26.7			ug/kg	40.0		66.6	53-120			



The Boeing Company
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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Metals and Metallic Compounds - Quality Control

Batch BFE0225 - SWN EPA 3050B

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0225-BLK1)						Prepared: 09-May-2017 Analyzed: 12-May-2017 18:18						
Chromium	52	ND	0.07	0.50	mg/kg							U
Chromium	53	ND	0.04	0.50	mg/kg							U
Lead	208	ND	0.008	0.10	mg/kg							U
Silver	107	ND	0.003	0.20	mg/kg							U
Arsenic	75a	ND	0.03	0.20	mg/kg							U
Cadmium	111	ND	0.007	0.10	mg/kg							U
Cadmium	114	ND	0.005	0.10	mg/kg							U
Copper	63	ND	0.04	0.50	mg/kg							U
Copper	65	ND	0.03	0.50	mg/kg							U
Nickel	60	ND	0.02	0.50	mg/kg							U
Nickel	62	ND	0.27	0.50	mg/kg							U
Selenium	78	ND	0.39	0.50	mg/kg							U
Zinc	66	ND	0.3	4.0	mg/kg							U
Zinc	67	ND	0.2	4.0	mg/kg							U



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Metals and Metallic Compounds - Quality Control

Batch BFE0225 - SWN EPA 3050B

Instrument: ICPMS2

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFE0225-BS1)						Prepared: 09-May-2017 Analyzed: 12-May-2017 18:39						
Chromium	52	25.9	0.07	0.50	mg/kg	25.0		104	80-120			
Chromium	53	25.6	0.04	0.50	mg/kg	25.0		103	80-120			
Lead	208	27.1	0.008	0.10	mg/kg	25.0		108	80-120			
Silver	107	25.3	0.003	0.20	mg/kg	25.0		101	80-120			
Arsenic	75a	24.2	0.03	0.20	mg/kg	25.0		96.7	80-120			
Cadmium	111	25.8	0.007	0.10	mg/kg	25.0		103	80-120			
Cadmium	114	25.8	0.005	0.10	mg/kg	25.0		103	80-120			
Copper	63	26.1	0.04	0.50	mg/kg	25.0		105	80-120			
Copper	65	26.2	0.03	0.50	mg/kg	25.0		105	80-120			
Nickel	60	26.3	0.02	0.50	mg/kg	25.0		105	80-120			
Nickel	62	25.3	0.27	0.50	mg/kg	25.0		101	80-120			
Selenium	78	76.1	0.39	0.50	mg/kg	80.0		95.1	80-120			
Zinc	66	80.7	0.3	4.0	mg/kg	80.0		101	80-120			
Zinc	67	75.2	0.2	4.0	mg/kg	80.0		94.1	80-120			



The Boeing Company
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Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Metals and Metallic Compounds - Quality Control

Batch BFE0246 - SMM EPA 7471B

Instrument: CETAC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0246-BLK1)						Prepared: 09-May-2017 Analyzed: 11-May-2017 12:39					
Mercury	0.005000	0.002100	0.02500	mg/kg							



The Boeing Company
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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Metals and Metallic Compounds - Quality Control

Batch BFE0246 - SMM EPA 7471B

Instrument: CETAC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFE0246-BS1)						Prepared: 09-May-2017 Analyzed: 11-May-2017 12:41					
Mercury	0.5000	0.002100	0.02500	mg/kg	0.5000		100	80-120			



The Boeing Company
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Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Solid	
Silver-107	NELAP,DoD-ELAP,WADOE
Chromium-52	NELAP,DoD-ELAP,WADOE,ADEC
Chromium-53	NELAP,DoD-ELAP,WADOE,ADEC
Lead-208	NELAP,DoD-ELAP,WADOE,ADEC
EPA 6020A UCT-KED in Solid	
Arsenic-75a	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-111	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-114	NELAP,DoD-ELAP,WADOE,ADEC
Copper-63	NELAP,DoD-ELAP,WADOE
Copper-65	NELAP,DoD-ELAP,WADOE
Nickel-60	NELAP,DoD-ELAP,WADOE,ADEC
Nickel-62	NELAP,DoD-ELAP,WADOE,ADEC
Selenium-78	NELAP,DoD-ELAP,WADOE
Zinc-66	NELAP,DoD-ELAP,WADOE
Zinc-67	NELAP,DoD-ELAP,WADOE
EPA 7471B in Solid	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
EPA 8082A in Solid	
Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC



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Project: Boeing Kent Sediments
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Reported:
16-May-2017 16:40

Aroclor 1268 WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C] WADOE,DoD-ELAP,NELAP,CALAP,ADEC

EPA 8270D-SIM in Solid

Naphthalene ADEC,DoD-ELAP,NELAP,WADOE
2-Methylnaphthalene ADEC,DoD-ELAP,NELAP
1-Methylnaphthalene ADEC,DoD-ELAP,NELAP,WADOE
Biphenyl ADEC,DoD-ELAP,NELAP
2,6-Dimethylnaphthalene ADEC,WADOE
Acenaphthylene ADEC,DoD-ELAP,NELAP,WADOE
Acenaphthene ADEC,DoD-ELAP,NELAP,WADOE
Dibenzofuran ADEC,DoD-ELAP,NELAP
Fluorene ADEC,DoD-ELAP,NELAP,WADOE
Phenanthrene ADEC,DoD-ELAP,NELAP,WADOE
Anthracene ADEC,DoD-ELAP,NELAP,WADOE
Carbazole ADEC,DoD-ELAP,NELAP
1-Methylphenanthrene ADEC
Fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Pyrene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(a)anthracene ADEC,DoD-ELAP,NELAP,WADOE
Chrysene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(b)fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(k)fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(j)fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(e)pyrene ADEC,NELAP
Benzo(a)pyrene ADEC,DoD-ELAP,NELAP,WADOE
Perylene ADEC,NELAP
Indeno(1,2,3-cd)pyrene ADEC,DoD-ELAP,NELAP,WADOE
Dibenzo(a,h)anthracene ADEC,DoD-ELAP
Benzo(g,h,i)perylene ADEC,DoD-ELAP,NELAP,WADOE

NWTPH-Dx in Solid

Diesel Range Organics (C12-C24) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-24) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28) DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C38) DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36) DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40) DoD-ELAP,NELAP,WADOE



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Project: Boeing Kent Sediments

Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	05/06/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	03/30/2017
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2017
WADOE	WA Dept of Ecology	C558	06/30/2017
WA-DW	Ecology - Drinking Water	C558	06/30/2017



The Boeing Company
P.O. Box 3707 MS 1W-12
Seattle WA, 98124

Project: Boeing Kent Sediments
Project Number: B-002
Project Manager: Lindsey Mahrt

Reported:
16-May-2017 16:40

Notes and Definitions

- U This analyte is not detected above the applicable reporting or detection limit.
- P1 The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
- J Estimated concentration value detected below the reporting limit.
- D The reported value is from a dilution
- * Flagged value is not within established control limits.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



17 July 2017

Dave Cooper
Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland, WA 98033-4400

RE: Boeing Kent Space Center

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
17G0005

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 17G0005 Turn-around Requested: NO/NTL Page: 1 of 1
 ARI Client Company: IDF Phone: 206-660-3466 Date: 6/30/17 Ice Present?
 Client Contact: TAIYA GRAY No. of Coolers: 1 Cooler Temps: _____

Client Project Name: BOEING WEST SPACE CENTER
 Client Project #: B-002 Samplers: D Cooper

Sample ID	Date	Time	Matrix	No. Containers
KSC-DF-20-0.3	6/29/17	1430	SEA	3

Comments/Special Instructions	Relinquished by:		Received by:	
	(Signature)	Printed Name:	(Signature)	Printed Name:
		Dave Cooper		Shelly Fishel

Analysis Requested	Notes/Comments
w/s6-cu MATH TX PHTS B270D-SIM PCBs BOBZ MERMES As, Cd, Cr, Cu Pb, Hg, Ni, Se Ag, Zn 6020/7471	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)
 www.arilabs.com



Cooler Receipt Form

ARI Client: DPF

Project Name: _____

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 1790005

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1245 5.7

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D002565

Cooler Accepted by: [Signature] Date: 06/30/17 Time: 1245

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

Were all bottles sealed in individual plastic bags? YES NO

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [Signature] Date: 06/30/17 Time: 1520

**** Notify Project Manager of discrepancies or concerns ****

D910 05F 01/03/17

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

<p>Small Air Bubbles ~2mm</p>	<p>Peabubbles 2-4 mm</p>	<p>LARGE Air Bubbles > 4 mm</p>	<p>Small → "sm" (< 2 mm)</p> <p>Peabubbles → "pb" (2 to < 4 mm)</p> <p>Large → "lg" (4 to < 6 mm)</p> <p>Headspace → "hs" (> 6 mm)</p>
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Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KSC-OF-20-0.3	17G0005-01	Solid	29-Jun-2017 14:30	30-Jun-2017 12:45



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Case Narrative

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx (Ac/Si cleaned)

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total Metals -



Dalton, Olmsted & Fuglevand, Inc
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Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
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Reported:
17-Jul-2017 15:39

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.



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10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

KSC-OF-20-03
17G0005-01 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM

Sampled: 06/29/2017 14:30

Instrument: NT8

Analyzed: 12-Jul-2017 14:57

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Sample Size: 13.32 g (wet)	Dry Weight: 10.26 g
	Preparation Batch: BFG0141	Final Volume: 0.5 mL	% Solids: 77.02
	Prepared: 10-Jul-2017		
Sample Cleanup:	Cleanup Method: Silica Gel	Initial Volume: 0.5 mL	
	Cleanup Batch: CFG0062	Final Volume: 0.5 mL	
	Cleaned: 12-Jul-2017		

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.24	4.87	3.42	ug/kg	J
2-Methylnaphthalene	91-57-6	1	1.08	4.87	ND	ug/kg	U
1-Methylnaphthalene	90-12-0	1	0.39	4.87	ND	ug/kg	U
Acenaphthylene	208-96-8	1	1.06	4.87	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.56	4.87	2.46	ug/kg	J
Dibenzofuran	132-64-9	1	1.34	4.87	ND	ug/kg	U
Fluorene	86-73-7	1	0.62	4.87	3.37	ug/kg	J
Phenanthrene	85-01-8	1	0.70	4.87	10.6	ug/kg	
Anthracene	120-12-7	1	0.85	4.87	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.46	4.87	13.8	ug/kg	
Pyrene	129-00-0	1	0.61	4.87	14.6	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.80	4.87	5.50	ug/kg	
Chrysene	218-01-9	1	1.03	4.87	9.01	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	1.34	4.87	5.52	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.74	4.87	2.55	ug/kg	J
Benzo(j)fluoranthene	205-82-3	1	0.66	4.87	3.05	ug/kg	J
Benzofluoranthenes, Total		1	2.93	9.75	9.95	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.60	4.87	5.11	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.02	4.87	4.06	ug/kg	J
Dibenzo(a,h)anthracene	53-70-3	1	0.87	4.87	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	1.04	4.87	5.53	ug/kg	
<i>Surrogate: 2-Methylnaphthalene-d10</i>					32-120 %	55.1 %	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					21-133 %	101 %	
<i>Surrogate: Fluoranthene-d10</i>					36-134 %	67.7 %	



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Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

KSC-OF-20-03
17G0005-01 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx
Instrument: FID4

Sampled: 06/29/2017 14:30
Analyzed: 14-Jul-2017 15:13

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFG0140 Prepared: 12-Jul-2017	Sample Size: 10 g (wet) Final Volume: 1 mL	Dry Weight: 7.70 g % Solids: 77.02
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFG0080 Cleaned: 13-Jul-2017	Initial Volume: 1 mL Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CFG0079 Cleaned: 13-Jul-2017	Initial Volume: 1 mL Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24) HC ID: DRO		1	6.49	9.72	mg/kg	
Motor Oil Range Organics (C24-C38) HC ID: RRO		1	13.0	20.8	mg/kg	
Surrogate: o-Terphenyl			50-150 %	79.6	%	



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10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

KSC-OF-20-03
17G0005-01 (Solid)

Aroclor PCB

Method: EPA 8082A
Instrument: ECD7

Sampled: 06/29/2017 14:30
Analyzed: 13-Jul-2017 10:27

Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BFG0066 Prepared: 10-Jul-2017	Sample Size: 7.1 g (wet) Final Volume: 5 mL	Dry Weight: 5.47 g % Solids: 77.02
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CFG0060 Cleaned: 12-Jul-2017	Initial Volume: 5 mL Final Volume: 5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid Cleanup Batch: CFG0058 Cleaned: 12-Jul-2017	Initial Volume: 5 mL Final Volume: 5 mL	
Sample Cleanup:	Cleanup Method: Sulfur Cleanup Batch: CFG0059 Cleaned: 12-Jul-2017	Initial Volume: 5 mL Final Volume: 5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	7.3	18.3	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	7.3	18.3	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	7.3	18.3	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	7.3	18.3	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	7.3	18.3	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	7.3	18.3	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	8.5	18.3	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	8.5	18.3	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	8.5	18.3	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				40-133 %	92.5	%	
Surrogate: Tetrachlorometaxylene				53-120 %	79.7	%	
Surrogate: Decachlorobiphenyl [2C]				40-133 %	88.8	%	
Surrogate: Tetrachlorometaxylene [2C]				53-120 %	65.2	%	



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

KSC-OF-20-03
17G0005-01 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A

Sampled: 06/29/2017 14:30

Instrument: ICPMS2

Analyzed: 07-Jul-2017 17:18

Sample Preparation:

Preparation Method: SWN EPA 3050B

Preparation Batch: BFG0026

Prepared: 06-Jul-2017

Sample Size: 1.013 g (wet)

Final Volume: 50 mL

Dry Weight: 0.76 g

% Solids: 74.72

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.04	0.26	3.80	mg/kg	
Cadmium	7440-43-9	20	0.009	0.13	0.13	mg/kg	
Chromium	7440-47-3	20	0.09	0.66	13.2	mg/kg	
Copper	7440-50-8	20	0.05	0.66	21.9	mg/kg	
Lead	7439-92-1	20	0.01	0.13	9.85	mg/kg	
Nickel	7440-02-0	20	0.02	0.66	11.4	mg/kg	
Selenium	7782-49-2	20	0.52	2.64	0.71	mg/kg	J
Silver	7440-22-4	20	0.004	0.26	0.05	mg/kg	J
Zinc	7440-66-6	20	0.4	5.3	44.1	mg/kg	



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

KSC-OF-20-03
17G0005-01 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B Sampled: 06/29/2017 14:30
Instrument: CETAC Analyzed: 07-Jul-2017 13:43

Sample Preparation: Preparation Method: SMM EPA 7471B Dry Weight: 0.17 g
Preparation Batch: BFG0028 % Solids: 74.72
Prepared: 07-Jul-2017 Sample Size: 0.224 g (wet)
Final Volume: 50 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.02987	0.04481	mg/kg	



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFG0141 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFG0141-BLK1)											
						Prepared: 10-Jul-2017 Analyzed: 12-Jul-2017 13:12					
Naphthalene	ND	1.28	5.00	ug/kg							U
2-Methylnaphthalene	ND	1.10	5.00	ug/kg							U
1-Methylnaphthalene	ND	0.40	5.00	ug/kg							U
Acenaphthylene	ND	1.08	5.00	ug/kg							U
Acenaphthene	ND	0.57	5.00	ug/kg							U
Dibenzofuran	ND	1.38	5.00	ug/kg							U
Fluorene	ND	0.63	5.00	ug/kg							U
Phenanthrene	ND	0.72	5.00	ug/kg							U
Anthracene	ND	0.87	5.00	ug/kg							U
Fluoranthene	ND	0.47	5.00	ug/kg							U
Pyrene	ND	0.63	5.00	ug/kg							U
Benzo(a)anthracene	ND	0.82	5.00	ug/kg							U
Chrysene	ND	1.05	5.00	ug/kg							U
Benzo(b)fluoranthene	ND	1.37	5.00	ug/kg							U
Benzo(k)fluoranthene	ND	0.76	5.00	ug/kg							U
Benzo(j)fluoranthene	ND	0.68	5.00	ug/kg							U
Benzofluoranthenes, Total	ND	3.01	10.0	ug/kg							U
Benzo(a)pyrene	ND	0.61	5.00	ug/kg							U
Indeno(1,2,3-cd)pyrene	ND	1.05	5.00	ug/kg							U
Dibenzo(a,h)anthracene	ND	0.89	5.00	ug/kg							U
Benzo(g,h,i)perylene	ND	1.07	5.00	ug/kg							U
<i>Surrogate: 2-Methylnaphthalene-d10</i>		90.0		ug/kg	150		60.0	32-120			
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>		170		ug/kg	150		113	21-133			
<i>Surrogate: Fluoranthene-d10</i>		116		ug/kg	150		77.2	36-134			

LCS (BFG0141-BS1)											
						Prepared: 10-Jul-2017 Analyzed: 12-Jul-2017 13:38					
Naphthalene	77.1	1.28	5.00	ug/kg	150		51.4	36-120			
2-Methylnaphthalene	73.8	1.10	5.00	ug/kg	150		49.2	35-120			
1-Methylnaphthalene	79.9	0.40	5.00	ug/kg	150		53.3	39-120			
Acenaphthylene	81.5	1.08	5.00	ug/kg	150		54.3	35-120			
Acenaphthene	76.5	0.57	5.00	ug/kg	150		51.0	39-120			
Dibenzofuran	83.3	1.38	5.00	ug/kg	150		55.6	38-120			
Fluorene	84.3	0.63	5.00	ug/kg	150		56.2	41-120			
Phenanthrene	88.6	0.72	5.00	ug/kg	150		59.1	46-120			
Anthracene	90.1	0.87	5.00	ug/kg	150		60.0	36-120			



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Semivolatile Organic Compounds - SIM - Quality Control

Batch BFG0141 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFG0141-BS1)						Prepared: 10-Jul-2017 Analyzed: 12-Jul-2017 13:38					
Fluoranthene	95.6	0.47	5.00	ug/kg	150		63.8	46-120			
Pyrene	98.9	0.63	5.00	ug/kg	150		65.9	49-120			
Benzo(a)anthracene	108	0.82	5.00	ug/kg	150		72.1	42-120			
Chrysene	96.4	1.05	5.00	ug/kg	150		64.2	48-120			
Benzo(b)fluoranthene	113	1.37	5.00	ug/kg	150		75.2	35-127			
Benzo(k)fluoranthene	110	0.76	5.00	ug/kg	150		73.4	37-129			
Benzo(j)fluoranthene	92.8	0.68	5.00	ug/kg	150		61.9	40-120			
Benzofluoranthenes, Total	299	3.01	10.0	ug/kg	450		66.4	46-120			
Benzo(a)pyrene	91.3	0.61	5.00	ug/kg	150		60.9	36-120			
Indeno(1,2,3-cd)pyrene	102	1.05	5.00	ug/kg	150		67.8	40-120			
Dibenzo(a,h)anthracene	112	0.89	5.00	ug/kg	150		74.5	38-120			
Benzo(g,h,i)perylene	103	1.07	5.00	ug/kg	150		68.5	38-120			
Surrogate: 2-Methylnaphthalene-d10		87.3		ug/kg	150		58.2	32-120			
Surrogate: Dibenzo[a,h]anthracene-d14		174		ug/kg	150		116	21-133			
Surrogate: Fluoranthene-d10		114		ug/kg	150		76.0	36-134			



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Petroleum Hydrocarbons - Quality Control

Batch BFG0140 - EPA 3546 (Microwave)

Instrument: FID4 Analyst: ML

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFG0140-BLK1)		Prepared: 12-Jul-2017 Analyzed: 14-Jul-2017 14:23								
Diesel Range Organics (C12-C24)	ND	5.00	mg/kg							U
Motor Oil Range Organics (C24-C38)	ND	10.0	mg/kg							U
<i>Surrogate: o-Terphenyl</i>		17.2	mg/kg	22.5		76.3	50-150			
LCS (BFG0140-BS1)		Prepared: 12-Jul-2017 Analyzed: 14-Jul-2017 14:48								
Diesel Range Organics (C12-C24)	104	5.00	mg/kg	150		69.6	63-120			
<i>Surrogate: o-Terphenyl</i>		19.3	mg/kg	22.5		85.9	50-150			



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Aroclor PCB - Quality Control

Batch BFG0066 - EPA 3546 (Microwave)

Instrument: ECD7 Analyst: JR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFG0066-BLK1)											
						Prepared: 10-Jul-2017 Analyzed: 13-Jul-2017 08:59					
Aroclor 1016	ND	8.0	20.0	ug/kg							U
Aroclor 1221	ND	8.0	20.0	ug/kg							U
Aroclor 1232	ND	8.0	20.0	ug/kg							U
Aroclor 1242	ND	8.0	20.0	ug/kg							U
Aroclor 1248	ND	8.0	20.0	ug/kg							U
Aroclor 1254	ND	8.0	20.0	ug/kg							U
Aroclor 1260	ND	9.3	20.0	ug/kg							U
Aroclor 1262	ND	9.3	20.0	ug/kg							U
Aroclor 1268	ND	9.3	20.0	ug/kg							U
<i>Surrogate: Decachlorobiphenyl</i>		36.8		ug/kg	40.0		91.9	40-133			
<i>Surrogate: Tetrachlorometaxylene</i>		31.7		ug/kg	40.0		79.2	53-120			
<i>Surrogate: Decachlorobiphenyl [2C]</i>		35.9		ug/kg	40.0		89.7	40-133			
<i>Surrogate: Tetrachlorometaxylene [2C]</i>		25.5		ug/kg	40.0		63.8	53-120			

LCS (BFG0066-BS1)

Prepared: 10-Jul-2017 Analyzed: 13-Jul-2017 09:21

Aroclor 1016	420	8.0	20.0	ug/kg	500		84.0	52-120			
Aroclor 1260	440	9.3	20.0	ug/kg	500		88.1	57-120			
<i>Surrogate: Decachlorobiphenyl</i>		35.0		ug/kg	40.0		87.6	40-133			
<i>Surrogate: Tetrachlorometaxylene</i>		30.2		ug/kg	40.0		75.4	53-120			
<i>Surrogate: Decachlorobiphenyl [2C]</i>		34.1		ug/kg	40.0		85.3	40-133			
<i>Surrogate: Tetrachlorometaxylene [2C]</i>		28.9		ug/kg	40.0		72.2	53-120			



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Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Metals and Metallic Compounds - Quality Control

Batch BFG0026 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: TCH

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFG0026-BLK1)												
						Prepared: 06-Jul-2017 Analyzed: 07-Jul-2017 13:41						
Arsenic	75a	ND	0.03	0.20	mg/kg							U
Cadmium	111	ND	0.007	0.10	mg/kg							U
Cadmium	114	ND	0.005	0.10	mg/kg							U
Chromium	52	ND	0.07	0.50	mg/kg							U
Chromium	53	ND	0.04	0.50	mg/kg							U
Copper	63	ND	0.04	0.50	mg/kg							U
Copper	65	ND	0.03	0.50	mg/kg							U
Lead	208	ND	0.008	0.10	mg/kg							U
Nickel	60	ND	0.02	0.50	mg/kg							U
Nickel	62	ND	0.27	0.50	mg/kg							U
Selenium	78	ND	0.39	2.00	mg/kg							U
Silver	107	0.005	0.003	0.20	mg/kg							J
Zinc	66	ND	0.3	4.0	mg/kg							U
Zinc	67	0.3	0.2	4.0	mg/kg							J

LCS (BFG0026-BS1)												
						Prepared: 06-Jul-2017 Analyzed: 07-Jul-2017 14:25						
Arsenic	75a	25.3	0.03	0.20	mg/kg	25.0		101	80-120			
Cadmium	111	25.4	0.007	0.10	mg/kg	25.0		102	80-120			
Cadmium	114	25.2	0.005	0.10	mg/kg	25.0		101	80-120			
Chromium	52	25.7	0.07	0.50	mg/kg	25.0		103	80-120			
Chromium	53	26.0	0.04	0.50	mg/kg	25.0		104	80-120			
Copper	63	27.1	0.04	0.50	mg/kg	25.0		108	80-120			
Copper	65	27.6	0.03	0.50	mg/kg	25.0		110	80-120			
Lead	208	27.0	0.008	0.10	mg/kg	25.0		108	80-120			
Nickel	60	26.7	0.02	0.50	mg/kg	25.0		107	80-120			
Nickel	62	27.0	0.27	0.50	mg/kg	25.0		108	80-120			
Selenium	78	78.7	0.39	2.00	mg/kg	80.0		98.4	80-120			
Silver	107	25.8	0.003	0.20	mg/kg	25.0		103	80-120			
Zinc	66	85.5	0.3	4.0	mg/kg	80.0		107	80-120			
Zinc	67	81.4	0.2	4.0	mg/kg	80.0		102	80-120			



Dalton, Olmsted & Fuglevand, Inc
10827 NE 68th Street Suite B
Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Metals and Metallic Compounds - Quality Control

Batch BFG0028 - SMM EPA 7471B

Instrument: CETAC Analyst: MCB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFG0028-BLK1)					Prepared: 07-Jul-2017 Analyzed: 07-Jul-2017 13:27					
Mercury	ND	0.02500	mg/kg							U
LCS (BFG0028-BS1)					Prepared: 07-Jul-2017 Analyzed: 07-Jul-2017 13:29					
Mercury	0.5700	0.02500	mg/kg	0.5000		114	80-120			



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Kirkland WA, 98033-4400

Project: Boeing Kent Space Center
Project Number: [none]
Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Solid	
Silver-107	NELAP,DoD-ELAP,WADOE
Arsenic-75a	NELAP,ADEC,DoD-ELAP,WADOE
Arsenic-75b	ADEC,DoD-ELAP,WADOE
Cadmium-111	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-114	NELAP,DoD-ELAP,WADOE,ADEC
Chromium-52	NELAP,DoD-ELAP,WADOE,ADEC
Chromium-53	NELAP,DoD-ELAP,WADOE,ADEC
Copper-63	NELAP,DoD-ELAP,WADOE
Copper-65	NELAP,DoD-ELAP,WADOE
Nickel-60	NELAP,DoD-ELAP,WADOE,ADEC
Nickel-62	NELAP,DoD-ELAP,WADOE,ADEC
Lead-208	NELAP,DoD-ELAP,WADOE,ADEC
Selenium-82	NELAP,DoD-ELAP,WADOE
Selenium-78	NELAP,DoD-ELAP,WADOE
Zinc-66	NELAP,DoD-ELAP,WADOE
Zinc-67	NELAP,DoD-ELAP,WADOE
EPA 7471B in Solid	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
EPA 8082A in Solid	
Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC



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Aroclor 1268 WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C] WADOE,DoD-ELAP,NELAP,CALAP,ADEC

EPA 8270D-SIM in Solid

Naphthalene ADEC,DoD-ELAP,NELAP,WADOE
2-Methylnaphthalene ADEC,DoD-ELAP,NELAP
1-Methylnaphthalene ADEC,DoD-ELAP,NELAP,WADOE
Biphenyl ADEC,DoD-ELAP,NELAP
2,6-Dimethylnaphthalene ADEC,WADOE
Acenaphthylene ADEC,DoD-ELAP,NELAP,WADOE
Acenaphthene ADEC,DoD-ELAP,NELAP,WADOE
Dibenzofuran ADEC,DoD-ELAP,NELAP
Fluorene ADEC,DoD-ELAP,NELAP,WADOE
Phenanthrene ADEC,DoD-ELAP,NELAP,WADOE
Anthracene ADEC,DoD-ELAP,NELAP,WADOE
Carbazole ADEC,DoD-ELAP,NELAP
1-Methylphenanthrene ADEC
Fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Pyrene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(a)anthracene ADEC,DoD-ELAP,NELAP,WADOE
Chrysene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(b)fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(k)fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(j)fluoranthene ADEC,DoD-ELAP,NELAP,WADOE
Benzo(e)pyrene ADEC,NELAP
Benzo(a)pyrene ADEC,DoD-ELAP,NELAP,WADOE
Perylene ADEC,NELAP
Indeno(1,2,3-cd)pyrene ADEC,DoD-ELAP,NELAP,WADOE
Dibenzo(a,h)anthracene ADEC,DoD-ELAP
Benzo(g,h,i)perylene ADEC,DoD-ELAP,NELAP,WADOE

NWTPH-Dx in Solid

Diesel Range Organics (C12-C24) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-24) DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28) DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C38) DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36) DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40) DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28) DoD-ELAP,NELAP,WADOE



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Project: Boeing Kent Space Center

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Reported:
17-Jul-2017 15:39

Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	09/01/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2018
WADOE	WA Dept of Ecology	C558	06/30/2018
WA-DW	Ecology - Drinking Water	C558	06/30/2018



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Project: Boeing Kent Space Center
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Project Manager: Dave Cooper

Reported:
17-Jul-2017 15:39

Notes and Definitions

- U This analyte is not detected above the applicable reporting or detection limit.
- J Estimated concentration value detected below the reporting limit.
- D The reported value is from a dilution
- * Flagged value is not within established control limits.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: February 23, 2017

Project: Boeing Kent Space Center

Submittal Date: 01/27/2017

Group Number: 1759258

State of Sample Origin: WA

<u>Client Sample Description</u>	Lancaster Labs (LL) #
KSC-SB1-GW Dissolved Metals Water	8807826
KSC-SB2-GW Dissolved Metals Water	8807827
KSC-SB6-GW Water	8807828
KSC-SB7-GW Water	8807829
KSC-SB8-GW Water	8807830
KSC-SB8-GW Dissolved Metals Water	8807831
KSC-SB9-GW Water	8807832
KSC-SB10-GW Water	8807833
KSC-SB11-GW Water	8807834
KSC-SB12-GW Water	8807835
KSC-SB12-GW Dissolved Metals Water	8807836
Trip Blank 1 Water	8807837
KSCRI-SB1-(11.5-12.5) Soil	8807838
KSCRI-SB2-(11.5-12.5) Soil	8807839
KSC-SB19-GW Water	8807840

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To Dalton, Olmstead and Fuglevand

Attn: Lindsey Mahrt
Attn: Tasya Gray

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing Kent Space Center
LL Group #: 1759258

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

ECY 97-602 NWTPH-DX modified, GC Petroleum Hydrocarbons

Sample #s: 8807832

The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary.
The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported.

Sample #s: 8807828, 8807829, 8807833, 8807835

The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary.
The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported.
The sample pattern does not match our reference standard for #2fuel/diesel.

Sample #s: 8807830

The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary.
The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported.
The sample pattern is most similar to our reference standard for #2fuel/diesel.

Sample #s: 8807834

The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary.
The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary.
The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary.
The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported.
The sample pattern does not match our reference standard for #2fuel/diesel.

Batch #: 170380015A (Sample number(s): 8807828-8807830, 8807832-8807835)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8807834, Blank, LCS, LCSD

SW-846 6020A, Metals

Batch #: 170310637001A (Sample number(s): 8807838-8807839 UNSPK: P809612 BKG: P809612)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Lead, Zinc, Arsenic, Copper

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Arsenic, Lead, Silver, Zinc

Sample Description: KSC-SB1-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8807826
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 17:50 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		EPA 200.8 rev 5.4	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.193	0.0020	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	1
06033	Copper	7440-50-8	0.0027	0.0020	1
06035	Lead	7439-92-1	0.0010 U	0.0010	1
06039	Nickel	7440-02-0	0.0054	0.0020	1
06042	Silver	7440-22-4	0.00050 U	0.00050	1
06049	Zinc	7440-66-6	0.0150 U	0.0150	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:22	Patrick J Engle	1
06031	Chromium	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:22	Patrick J Engle	1
06033	Copper	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:22	Patrick J Engle	1
06035	Lead	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:22	Patrick J Engle	1
06039	Nickel	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:22	Patrick J Engle	1
06042	Silver	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:22	Patrick J Engle	1
06049	Zinc	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:22	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: KSC-SB2-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8807827
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 18:40 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		EPA 200.8 rev 5.4	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.133	0.0020	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	1
06033	Copper	7440-50-8	0.0020 U	0.0020	1
06035	Lead	7439-92-1	0.0010 U	0.0010	1
06039	Nickel	7440-02-0	0.0188	0.0020	1
06042	Silver	7440-22-4	0.00050 U	0.00050	1
06049	Zinc	7440-66-6	0.0150 U	0.0150	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:23	Patrick J Engle	1
06031	Chromium	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:23	Patrick J Engle	1
06033	Copper	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:23	Patrick J Engle	1
06035	Lead	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:23	Patrick J Engle	1
06039	Nickel	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:23	Patrick J Engle	1
06042	Silver	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:23	Patrick J Engle	1
06049	Zinc	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:23	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: KSC-SB6-GW Water
Being Kent Space Center

LL Sample # WW 8807828
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 15:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30
Reported: 02/23/2017 21:24

KSC06

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1

GC/MS	Volatiles	SW-846 8260C SIM	ug/l	ug/l	
12030	Vinyl chloride	75-01-4	0.19	0.020	1

GC Petroleum	ECY 97-602 NWTPH-Dx	mg/l	mg/l		
Hydrocarbons	modified				
12082	Diesel/#2 Fuel	68334-30-5	0.095 U	0.095	1

Trial ID: RE

12082	Diesel/#2 Fuel	68334-30-5	0.13	0.10	1
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TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C	SW-846 8260C	1	H170372AA	02/06/2017 13:55	Kevin A Sposito	1
	BTEX,TCE,c12DCE,t12DCE						
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E170331AA	02/02/2017 11:38	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E170331AA	02/02/2017 11:38	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H170372AA	02/06/2017 13:55	Kevin A Sposito	1
12082	NWTPH-Dx (Diesel)	ECY 97-602	1	170380015A	02/14/2017 15:19	Heather E Williams	1
		NWTPH-Dx modified					

Sample Description: KSC-SB6-GW Water
Being Kent Space Center

LL Sample # WW 8807828
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 15:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

KSC06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	2-RE	170480013A	02/21/2017 00:38	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170380015A	02/07/2017 22:30	Nicholas W Shroyer	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	2	170480013A	02/17/2017 16:00	Shawn J McMullen	1

Sample Description: KSC-SB7-GW Water
Being Kent Space Center

LL Sample # WW 8807829
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 14:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30
Reported: 02/23/2017 21:24

KSC07

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2 U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1

GC/MS Volatiles		SW-846 8260C SIM	ug/l	ug/l	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

GC Petroleum Hydrocarbons		ECY 97-602 NWTPH-Dx modified	mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.095 U	0.095	1

Trial ID: RE

12082	Diesel/#2 Fuel	68334-30-5	0.12	0.099	1
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TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX,TCE,c12DCE,t12DCE	SW-846 8260C	1	H170372AA	02/06/2017 14:15	Kevin A Sposito	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E170331AA	02/02/2017 11:58	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E170331AA	02/02/2017 11:58	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H170372AA	02/06/2017 14:15	Kevin A Sposito	1
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	1	170380015A	02/14/2017 16:09	Heather E Williams	1

Sample Description: KSC-SB7-GW Water
Being Kent Space Center

LL Sample # WW 8807829
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 14:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30
Reported: 02/23/2017 21:24

KSC07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	2-RE	170480013A	02/21/2017 01:27	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170380015A	02/07/2017 22:30	Nicholas W Shroyer	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	2	170480013A	02/17/2017 16:00	Shawn J McMullen	1

Sample Description: KSC-SB8-GW Water
Being Kent Space Center

LL Sample # WW 8807830
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 12:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30
Reported: 02/23/2017 21:24

KSC08

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1

GC/MS	Volatiles	SW-846 8260C SIM	ug/l	ug/l	
12030	Vinyl chloride	75-01-4	0.19	0.020	1

GC Petroleum	Hydrocarbons	ECY 97-602 NWTPh-Dx modified	mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.13	0.095	1

Trial ID: RE

12082	Diesel/#2 Fuel	68334-30-5	0.20	0.10	1
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TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported. The sample pattern is most similar to our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C	SW-846 8260C	1	H170372AA	02/06/2017 14:35	Kevin A Sposito	1
	BTEX,TCE,c12DCE,t12DCE						
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E170331AA	02/02/2017 12:19	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E170331AA	02/02/2017 12:19	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H170372AA	02/06/2017 14:35	Kevin A Sposito	1
12082	NWTPh-Dx (Diesel)	ECY 97-602	1	170380015A	02/14/2017 16:59	Heather E Williams	1
		NWTPh-Dx modified					

Sample Description: KSC-SB8-GW Water
Being Kent Space Center

LL Sample # WW 8807830
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 12:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

KSC08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	2-RE	170480013A	02/21/2017 02:15	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170380015A	02/07/2017 22:30	Nicholas W Shroyer	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	2	170480013A	02/17/2017 16:00	Shawn J McMullen	1

Sample Description: KSC-SB8-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8807831
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 12:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	Metals Dissolved	EPA 200.8 rev 5.4	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0483	0.0020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:25	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: KSC-SB9-GW Water
Being Kent Space Center

LL Sample # WW 8807832
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/25/2017 20:45 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30
Reported: 02/23/2017 21:24

KSC09

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons					
	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.095 U	0.095	1
Trial ID: RE					
12082	Diesel/#2 Fuel	68334-30-5	0.11 U	0.11	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	1	170380015A	02/14/2017 17:49	Heather E Williams	1
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	2-RE	170480013A	02/21/2017 03:03	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170380015A	02/07/2017 22:30	Nicholas W Shroyer	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	2	170480013A	02/17/2017 16:00	Shawn J McMullen	1

Sample Description: KSC-SB10-GW Water
Being Kent Space Center

LL Sample # WW 8807833
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/25/2017 19:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

KSC10

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTDPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.13	0.095	1
Trial ID: RE					
12082	Diesel/#2 Fuel	68334-30-5	0.17	0.098	1

TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTDPH-Dx (Diesel)	ECY 97-602 NWTDPH-Dx modified	1	170380015A	02/14/2017 18:39	Heather E Williams	1
12082	NWTDPH-Dx (Diesel)	ECY 97-602 NWTDPH-Dx modified	2-RE	170480013A	02/21/2017 03:52	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTDPH-Dx 06/97	1	170380015A	02/07/2017 22:30	Nicholas W Shroyer	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTDPH-Dx 06/97	2	170480013A	02/17/2017 16:00	Shawn J McMullen	1

Sample Description: KSC-SB11-GW Water
Being Kent Space Center

LL Sample # WW 8807834
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/25/2017 17:45 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30
Reported: 02/23/2017 21:24

KSC11

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.29	0.095	1
Trial ID: RE					
12082	Diesel/#2 Fuel	68334-30-5	0.32	0.098	1

TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602	1	170380015A	02/14/2017 19:28	Heather E Williams	1
12082	NWTPH-Dx (Diesel)	NWTPH-Dx modified					
		ECY 97-602	2-RE	170480013A	02/21/2017 04:40	Heather E Williams	1
		NWTPH-Dx modified					
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602	1	170380015A	02/07/2017 22:30	Nicholas W Shroyer	1
		NWTPH-Dx 06/97					
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602	2	170480013A	02/17/2017 16:00	Shawn J McMullen	1
		NWTPH-Dx 06/97					

Sample Description: KSC-SB12-GW Water
Being Kent Space Center

LL Sample # WW 8807835
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/25/2017 16:15 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

KSC12

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTDPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.18	0.095	1
Trial ID: RE					
12082	Diesel/#2 Fuel	68334-30-5	0.20	0.098	1

TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The recovery for the method blank surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTDPH-Dx (Diesel)	ECY 97-602 NWTDPH-Dx modified	1	170380015A	02/14/2017 20:17	Heather E Williams	1
12082	NWTDPH-Dx (Diesel)	ECY 97-602 NWTDPH-Dx modified	2-RE	170480013A	02/21/2017 05:29	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTDPH-Dx 06/97	1	170380015A	02/07/2017 22:30	Nicholas W Shroyer	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTDPH-Dx 06/97	2	170480013A	02/17/2017 16:00	Shawn J McMullen	1

Sample Description: KSC-SB12-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8807836
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/25/2017 16:15 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
06025	Metals Dissolved Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.266	mg/l 0.0020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:30	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: Trip Blank 1 Water
Being Kent Space Center

LL Sample # WW 8807837
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

KSCTB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2 U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
GC/MS	Volatiles	SW-846 8260C SIM	ug/l	ug/l	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX,TCE,c12DCE,t12DCE	SW-846 8260C	1	H170372AA	02/06/2017 13:14	Kevin A Sposito	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E170331AA	02/02/2017 11:17	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E170331AA	02/02/2017 11:17	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H170372AA	02/06/2017 13:14	Kevin A Sposito	1

Sample Description: KSCRI-SB1-(11.5-12.5) Soil
Being Kent Space Center

LL Sample # SW 8807838
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 17:40 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals			SW-846 6020A	mg/kg	
06125	Arsenic	7440-38-2	7.57	0.929	2
06131	Chromium	7440-47-3	24.2	0.929	2
06133	Copper	7440-50-8	37.6	0.929	2
06135	Lead	7439-92-1	6.78	0.465	2
06139	Nickel	7440-02-0	21.7	0.929	2
06142	Silver	7440-22-4	0.232 U	0.232	2
06149	Zinc	7440-66-6	80.3	6.97	2
Wet Chemistry			SM 2540 G-1997	%	
00111	Moisture	n.a.	30.0	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	170310637001A	02/06/2017 05:36	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	170310637001A	02/06/2017 05:36	Choon Y Tian	2
06133	Copper	SW-846 6020A	1	170310637001A	02/06/2017 05:36	Choon Y Tian	2
06135	Lead	SW-846 6020A	1	170310637001A	02/06/2017 05:36	Choon Y Tian	2
06139	Nickel	SW-846 6020A	1	170310637001A	02/06/2017 05:36	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	170310637001A	02/06/2017 05:36	Choon Y Tian	2
06149	Zinc	SW-846 6020A	1	170310637001A	02/06/2017 05:36	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	170310637001	01/31/2017 06:04	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	17033820006B	02/02/2017 19:39	Scott W Freisher	1

Sample Description: KSCRI-SB2-(11.5-12.5) Soil
Being Kent Space Center

LL Sample # SW 8807839
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/24/2017 18:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30

Reported: 02/23/2017 21:24

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals			SW-846 6020A	mg/kg	
06125	Arsenic	7440-38-2	8.59	1.01	2
06131	Chromium	7440-47-3	25.5	1.01	2
06133	Copper	7440-50-8	42.7	1.01	2
06135	Lead	7439-92-1	7.30	0.505	2
06139	Nickel	7440-02-0	24.3	1.01	2
06142	Silver	7440-22-4	0.252 U	0.252	2
06149	Zinc	7440-66-6	54.4	7.57	2
Wet Chemistry			SM 2540 G-1997	%	
00111	Moisture	n.a.	30.5	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	170310637001A	02/06/2017 05:38	Choon Y Tian	2
06131	Chromium	SW-846 6020A	1	170310637001A	02/06/2017 05:38	Choon Y Tian	2
06133	Copper	SW-846 6020A	1	170310637001A	02/06/2017 05:38	Choon Y Tian	2
06135	Lead	SW-846 6020A	1	170310637001A	02/06/2017 05:38	Choon Y Tian	2
06139	Nickel	SW-846 6020A	1	170310637001A	02/06/2017 05:38	Choon Y Tian	2
06142	Silver	SW-846 6020A	1	170310637001A	02/06/2017 05:38	Choon Y Tian	2
06149	Zinc	SW-846 6020A	1	170310637001A	02/06/2017 05:38	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	170310637001	01/31/2017 06:04	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	17033820006B	02/02/2017 19:39	Scott W Freisher	1

Sample Description: KSC-SB19-GW Water
Being Kent Space Center

LL Sample # WW 8807840
LL Group # 1759258
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/25/2017 13:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/27/2017 09:30
Reported: 02/23/2017 21:24

KSC19

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.9	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
GC Volatiles		ECY 97-602 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170372AA	02/06/2017 14:56	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H170372AA	02/06/2017 14:56	Kevin A Sposito	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 17:30	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 17:30	Brett W Kenyon	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/23/2017 21:24

Group Number: 1759258

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	ug/l	ug/l
Batch number: E170331AA	Sample number(s): 8807828-8807830,8807837	
Vinyl chloride	0.020 U	0.020
Batch number: H170372AA	Sample number(s): 8807828-8807830,8807837,8807840	
Benzene	0.2 U	0.2
cis-1,2-Dichloroethene	0.2 U	0.2
trans-1,2-Dichloroethene	0.2 U	0.2
Ethylbenzene	0.5 U	0.5
Toluene	0.2 U	0.2
Trichloroethene	0.2 U	0.2
Xylene (Total)	0.5 U	0.5
Batch number: 17033A53A	Sample number(s): 8807840	
NWTPH-Gx water C7-C12	250 U	250
	mg/l	mg/l
Batch number: 170380015A	Sample number(s): 8807828-8807830,8807832-8807835	
Diesel/#2 Fuel	0.10 U	0.10
Batch number: 170480013A	Sample number(s): 8807828-8807830,8807832-8807835	
Diesel/#2 Fuel	0.10 U	0.10
	mg/kg	mg/kg
Batch number: 170310637001A	Sample number(s): 8807838-8807839	
Arsenic	0.800 U	0.800
Chromium	0.800 U	0.800
Copper	0.800 U	0.800
Lead	0.400 U	0.400
Nickel	0.800 U	0.800
Silver	0.200 U	0.200
Zinc	6.00 U	6.00
	mg/l	mg/l
Batch number: 170317050003A	Sample number(s): 8807826-8807827,8807831,8807836	
Arsenic	0.0020 U	0.0020
Chromium	0.0020 U	0.0020
Copper	0.0020 U	0.0020
Lead	0.0010 U	0.0010
Nickel	0.0020 U	0.0020
Silver	0.00050 U	0.00050
Zinc	0.0150 U	0.0150

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/23/2017 21:24

Group Number: 1759258

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: E170331AA Vinyl chloride	2.00	1.88	2.00	1.88	94	94	63-137	0	30
Batch number: H170372AA Benzene	5.00	4.88			98		80-120		
cis-1,2-Dichloroethene	5.00	5.10			102		80-120		
trans-1,2-Dichloroethene	5.00	5.06			101		80-120		
Ethylbenzene	5.00	4.68			94		80-120		
Toluene	5.00	4.62			92		80-120		
Trichloroethene	5.00	5.15			103		80-120		
Xylene (Total)	15	14.08			94		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17033A53A NWTPH-Gx water C7-C12	1100	990.7			90		79-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 170380015A Diesel/#2 Fuel	0.801	0.561	0.801	0.557	70	70	60-120	1	20
Batch number: 170480013A Diesel/#2 Fuel	0.801	0.541	0.801	0.515	67	64	60-120	5	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 170310637001A Arsenic	1.00	0.964			96		80-120		
Chromium	5.00	5.29			106		80-120		
Copper	5.00	5.18			104		80-120		
Lead	1.50	1.59			106		80-120		
Nickel	5.00	5.06			101		80-120		
Silver	5.00	5.27			105		80-120		
Zinc	50	51.64			103		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 170317050003A Arsenic	0.0100	0.0102			102		85-115		
Chromium	0.0500	0.0495			99		85-115		
Copper	0.0500	0.0492			98		85-115		
Lead	0.0150	0.0149			99		85-115		
Nickel	0.0500	0.0488			98		85-115		
Silver	0.0500	0.0493			99		85-115		
Zinc	0.500	0.500			100		85-115		
	%	%	%	%					
Batch number: 17033820006B Moisture	89.5	89.47			100		99-101		

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/23/2017 21:24

Group Number: 1759258

LCS/LCSD (continued)

Analysis Name	LCS Spike Added %	LCS Conc %	LCSD Spike Added %	LCSD Conc %	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
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MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: H170372AA	Sample number(s): 8807828-8807830,8807837,8807840 UNSPK: P809615									
Benzene	0.2 U	5.00	5.22	5.00	5.18	104	104	80-120	1	30
cis-1,2-Dichloroethene	0.2 U	5.00	5.36	5.00	5.38	107	108	80-120	1	30
trans-1,2-Dichloroethene	0.2 U	5.00	5.52	5.00	5.51	110	110	80-120	0	30
Ethylbenzene	0.5 U	5.00	5.20	5.00	5.15	104	103	80-120	1	30
Toluene	0.2 U	5.00	5.17	5.00	5.07	103	101	80-120	2	30
Trichloroethene	0.2 U	5.00	5.59	5.00	5.68	112	114	80-120	2	30
Xylene (Total)	0.5 U	15	15.63	15	15.21	104	101	80-120	3	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 17033A53A	Sample number(s): 8807840 UNSPK: P809615									
NWTPH-Gx water C7-C12	250 U	1100	1088.45	1100	1097.17	99	100	79-120	1	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 170310637001A	Sample number(s): 8807838-8807839 UNSPK: P809612									
Arsenic	4.78	1.83	8.20	1.44	6.02	186*	86	75-125	31*	20
Chromium	17.11	9.17	24.59	7.19	22.79	82	79	75-125	8	20
Copper	23.23	9.17	35.21	7.19	30.82	131*	106	75-125	13	20
Lead	5.37	2.75	13.36	2.16	6.48	290*	52*	75-125	69*	20
Nickel	13.54	9.17	22.11	7.19	19.96	93	89	75-125	10	20
Silver	0.0318	9.17	8.72	7.19	6.79	95	94	75-125	25*	20
Zinc	31.41	45.87	122.11	35.97	94.79	198*	176*	75-125	25*	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 170317050003A	Sample number(s): 8807826-8807827,8807831,8807836 UNSPK: P809616									
Arsenic	0.0167	0.0100	0.0271			103		70-130		
Chromium	0.0020 U	0.0500	0.0477			95		70-130		
Copper	0.0020 U	0.0500	0.0478			96		70-130		
Lead	0.0010 U	0.0150	0.0147			98		70-130		
Nickel	0.000817	0.0500	0.0488			96		70-130		
Silver	0.00050 U	0.0500	0.0481			96		70-130		
Zinc	0.0150 U	0.500	0.470			94		70-130		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/23/2017 21:24

Group Number: 1759258

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 170310637001A	Sample number(s): 8807838-8807839 BKG: P809612			
Arsenic	4.78	4.82	1	20
Chromium	17.11	16.61	3	20
Copper	23.23	23.19	0	20
Lead	5.37	5.32	1	20
Nickel	13.54	13.6	0	20
Silver	0.0318	0.0330	4 (1)	20
Zinc	31.41	30.16	4	20
	mg/l	mg/l		
Batch number: 170317050003A	Sample number(s): 8807826-8807827,8807831,8807836 BKG: P809616			
Arsenic	0.0167	0.0163	3	20
Chromium	0.0020 U	0.0020 U	0 (1)	20
Copper	0.0020 U	0.0020 U	0 (1)	20
Lead	0.0010 U	0.0010 U	0 (1)	20
Nickel	0.000817	0.000825	1 (1)	20
Silver	0.00050 U	0.00050 U	0 (1)	20
Zinc	0.0150 U	0.0150 U	0 (1)	20
	%	%		
Batch number: 17033820006B	Sample number(s): 8807838-8807839 BKG: 8807839			
Moisture	30.46	30.26	1	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C SIM VC Only
Batch number: E170331AA

	Toluene-d8	1,4-Difluorobenzene
8807828	108	99
8807829	109	99
8807830	99	99
8807837	99	99
Blank	109	99
LCS	90	99
LCSD	99	94
Limits:	80-120	80-120

Analysis Name: 8260C BTEX,TCE,c12DCE,t12DCE
Batch number: H170372AA

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/23/2017 21:24

Group Number: 1759258

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C BTEX,TCE,c12DCE,t12DCE
Batch number: H170372AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8807828	109	105	95	92
8807829	109	105	95	93
8807830	108	108	97	95
8807837	110	106	96	92
8807840	111	108	94	94
Blank	108	105	96	93
LCS	111	109	93	96
MS	108	103	97	95
MSD	111	109	94	96
Limits:	77-114	74-113	77-110	78-110

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 17033A53A

	Trifluorotoluene-F
8807840	114
Blank	118
LCS	104
MS	105
MSD	104
Limits:	63-135

Analysis Name: NWTPH-Dx (Diesel)
Batch number: 170380015A

	Chlorobenzene	Orthoterphenyl
8807828	57	80
8807829	59	83
8807830	58	79
8807832	61	81
8807833	55	76
8807834	46*	82
8807835	51	72
Blank	28*	68
LCS	28*	83
LCSD	39*	85
Limits:	50-150	50-150

Analysis Name: NWTPH-Dx (Diesel)
Batch number: 170480013A

	Chlorobenzene	Orthoterphenyl
8807828RE	79	90
8807829RE	78	87
8807830RE	79	88

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/23/2017 21:24

Group Number: 1759258

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Dx (Diesel)
Batch number: 170480013A

	Chlorobenzene	Orthoterphenyl
8807832RE	79	84
8807833RE	70	81
8807834RE	73	83
8807835RE	75	85
Blank	52	73
LCS	62	79
LCSD	68	77
Limits:	50-150	50-150

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Boeing Chain of Custody



Lancaster
Laboratories

Acct. # 13419 Group # 1754258 Sample # 8807826-40
 For Eurofins Lancaster Laboratories, use only. Instructions on reverse side correspond.
 Please print. Instructions on reverse side correspond.

1 Client Information				2 Sample Identification											3 Analyses Requested					4 Relinquished by		5 Remarks/Comments	
Site Location: <u>Kent, Washington</u>	Boeing PM: <u>Nick Garson</u>			Date	Time	Matrix	No. of Containers	Dissolved Metals 200.8	As* Dissolved Metals 200.8	BTEX 8260C	TPH-D NWTPH-D*	VOCs - 8260C - SIM	VOCs - 8260C - ONLY	VOCs - 8260C - ONLY	TC, CIS-1,2-DEC, TRMS-1,2-DEC	Metals 6020A	As, Cr, Ag, Cu, Pb, Ni, Zn	Received by: <u>PEA EX</u>	Date/Time: <u>1/24/17 1430</u>	Received by: <u>PEA EX</u>	Date/Time: <u>1/24/17 1430</u>		
Site Project: <u>Kent Space Center</u>	Consultant Contact: <u>Tasya Gray (Dalton Olinstead Fujikawa)</u>			<u>1/24/17</u>	<u>1750</u>	<u>Water</u>	<u>1</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>As, Cr, Ag, Cu, Pb, Ni, Zn</u>	<u>X</u>						
Site Program/##:	Report To: <u>Tasya Gray</u>			<u>1840</u>	<u>1840</u>	<u>---</u>	<u>1</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>						
Invoice To:	Sampler: <u>Dave Cooper (DOF)</u>			<u>1530</u>	<u>1530</u>	<u>---</u>	<u>8</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>						
Other (specify):	# of Coolers: <u>2</u>			<u>1430</u>	<u>1430</u>	<u>---</u>	<u>8</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>						
Date needed: _____				<u>1230</u>	<u>1230</u>	<u>---</u>	<u>9</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>						
				<u>2045</u>	<u>2045</u>	<u>---</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>				
Date needed: _____				<u>1930</u>	<u>1930</u>	<u>---</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>						
				<u>1745</u>	<u>1745</u>	<u>---</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>				
Date needed: _____				<u>1615</u>	<u>1615</u>	<u>---</u>	<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>						
				<u>1/24/17</u>	<u>---</u>	<u>---</u>	<u>6</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>				
Date needed: _____				<u>1740</u>	<u>1740</u>	<u>Soil</u>	<u>1</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>						
				<u>1830</u>	<u>1830</u>	<u>---</u>	<u>1</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>---</u>	<u>X</u>				

6 Turnaround Time Requested (please circle)

Standard

5 day

4 day

48 hour

24 hour

Date needed: _____

Temperature upon Receipt: 15-17 °C

Custody Seals Intact?: Yes No

1759258

Kay Hower

From: Dave Cooper <dcooper@dofnw.com>
Sent: Thursday, January 26, 2017 11:33 PM
To: Kay Hower
Cc: 'Tasya Gray'
Subject: Boeing KSC - Amended COC
Attachments: KSC amended COC 1-26-17.pdf

Kay,
Two coolers were shipped today and should arrive tomorrow by Fed Ex, tracking #s:
804713338708
804713338693

Please find attached an amended COC to supersede the one enclosed in the cooler.

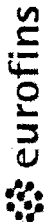
Dave

David G. Cooper, LG
Principal Geologist

DOF Dalton, Olmsted & Fuglevand
10827 NE 68th St., Suite B
Kirkland, WA 98033
Office: (425) 827-4588
Fax: (866) 370-9466
Cell: (206) 660-3466
dcooper@dofnw.com
www.dofnw.com

Notify us [here](#) to report this email as spam.

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 134(9) Group # 159288 Sample # 807826-40

For Eurofins Lancaster Laboratories use only
Please print. Instructions on reverse side correspond.

1 Client Information		2 Sample Identification		3 Collected		4 Analyses Requested		5 Remarks/Comments												
Site Location:	Site Project:	Site Program/ID:	Boeing PM:	Consultant Contact:	Report To:	Invoice To:	Sampler:	Date	Time	Matrix	No. of Containers	Relinquished by:	Date/Time	Received by:	Date/Time	Relinquished by:	Date/Time	Received by:	Date/Time	
Kent Washington	Kent Space Center	Nick Garson	Tanya Gray (Dalton Olmsted) / Tanya Gray	Tanya Gray	Dave Cooper (DOF)	<input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify):	# of Coolers: 2	1/24/17	1750	Water	1	Discarded Water 22.8B								
								1/24/17	1842		1	Discarded Water 22.8B								
								1/24/17	1530		8	Discarded Water 22.8B								
								1/24/17	1430		8	Discarded Water 22.8B								
								1/25/17	1230		9	Discarded Water 22.8B								
								1/25/17	2045		2	Discarded Water 22.8B								
								1/25/17	1930		2	Discarded Water 22.8B								
								1/25/17	1745		2	Discarded Water 22.8B								
								1/24/17	1615		3	Discarded Water 22.8B								
								1/24/17			6	Discarded Water 22.8B								
								1/25/17	1740	Soil	1	Discarded Water 22.8B								
								1/25/17	1830		1	Discarded Water 22.8B								
								1/25/17	1330	Water	6	Discarded Water 22.8B								
6 Turnaround Time Requested (please circle)		Standard		5 day		4 day		72 hour		48 hour		24 hour		Date needed:						

Relinquished by: [Signature] Date/Time: 1/24/17 11:09
 Relinquished by: [Signature] Date/Time: 1/24/17 12:17
 Relinquished by: [Signature] Date/Time: 1/27/17 9:30
 Relinquished by commercial carrier (circle): [Signature] Date/Time: 1/27/17 9:30
 Temperature upon Receipt: 1.5-1.7 °C
 Custody Seals Intact?: Yes No

Client: Boeing
Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>01/27/2017 9:30</u>
Number of Packages:	<u>2</u>	Number of Projects:	<u>1</u>

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	6
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 12:36 on 01/27/2017
Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.5	DT	Wet	Y	Bagged	N
2	DT131	1.7	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: February 24, 2017

Project: Boeing Kent Space Center

Submittal Date: 01/28/2017

Group Number: 1759583

State of Sample Origin: WA

<u>Client Sample Description</u>	Lancaster Labs <u>(LL) #</u>
KSC-SB3-GW Water	8809605
KSC-SB3-GW Dissolved Metals Water	8809606
KSC-SB4-GW Water	8809607
KSC-SB5-GW Water	8809608
KSC-SB18-GW Water	8809609
KSC-SB20-GW Water	8809610
Trip Blank 3 Water	8809611
KSCRI-SB3-(8.5-9.5') Soil	8809612
KSCRI-SB4-(8-9') Soil	8809613
KSCRI-SB5-(11-12') Soil	8809614

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To Dalton, Olmstead and Fuglevand

Attn: Lindsey Mahrt
Attn: Tasya Gray

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing Kent Space Center
LL Group #: 1759583

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 8260C, GC/MS Volatiles**

Sample #s: 8809609, 8809610

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

ECY 97-602 NWTPH-Dx modified, GC Petroleum Hydrocarbons

Sample #s: 8809607

The sample pattern does not match our reference standard for #2fuel/diesel.

SW-846 6020A, Metals

Batch #: 170310637001A (Sample number(s): 8809612 UNSPK: 8809612 BKG: 8809612)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Arsenic

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Arsenic

SM 2540 G-1997, Wet Chemistry

Batch #: 17034820008A (Sample number(s): 8809612-8809614 BKG: P812942)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture

Sample Description: KSC-SB3-GW Water
Being Kent Space Center

LL Sample # WW 8809605
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 13:00 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45
Reported: 02/24/2017 09:42

KSC03

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.099 U	0.099	1
12082	Motor Oil	n.a.	0.25 U	0.25	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel, Motor Oil)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 15:19	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SB3-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8809606
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 13:00 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45

Reported: 02/24/2017 09:42

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
06025	Metals Dissolved Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0511	mg/l 0.0020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:32	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: KSC-SB4-GW Water
Being Kent Space Center

LL Sample # WW 8809607
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 13:45 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45
Reported: 02/24/2017 09:42

KSC04

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.099 U	0.099	1
12082	Motor Oil	n.a.	0.25 U	0.25	1

TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.
The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel, Motor Oil)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 21:06	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SB5-GW Water
Being Kent Space Center

LL Sample # WW 8809608
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 15:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45
Reported: 02/24/2017 09:42

KSC05

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.097 U	0.097	1
12082	Motor Oil	n.a.	0.24 U	0.24	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel, Motor Oil)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 16:09	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SB18-GW Water
Being Kent Space Center

LL Sample # WW 8809609
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 11:15 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45
Reported: 02/24/2017 09:42

KSC18

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C		ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.					
GC Volatiles		ECY 97-602 NWTPH-Gx		ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170392AA	02/08/2017 21:31	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H170392AA	02/08/2017 21:31	Matthew S Krause	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 17:58	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 17:58	Brett W Kenyon	1

Sample Description: KSC-SB20-GW Water
Being Kent Space Center

LL Sample # WW 8809610
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 10:30 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45
Reported: 02/24/2017 09:42

KSC20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.					
GC Volatiles		ECY 97-602 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170392AA	02/08/2017 21:52	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H170392AA	02/08/2017 21:52	Matthew S Krause	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 14:44	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 14:44	Brett W Kenyon	1

Sample Description: Trip Blank 3 Water
Being Kent Space Center

LL Sample # WW 8809611
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45

Reported: 02/24/2017 09:42

KSCT3

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
GC Volatiles		ECY 97-602 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170372AA	02/06/2017 13:34	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H170372AA	02/06/2017 13:34	Kevin A Sposito	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 13:21	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 13:21	Brett W Kenyon	1

Sample Description: KSCRI-SB3-(8.5-9.5') Soil
Being Kent Space Center

LL Sample # SW 8809612
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 12:45 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45

Reported: 02/24/2017 09:42

KSCS3

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons w/Si		ECY 97-602 NWTPH-Dx modified	mg/kg	mg/kg	
12093	Diesel/#2 Fuel w/Si Gel	68334-30-5	9.7 U	9.7	1
12093	Motor Oil w/Si Gel	n.a.	42 U	42	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					
Metals		SW-846 6020A	mg/kg	mg/kg	
06125	Arsenic	7440-38-2	6.71	1.03	2
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	28.7	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12093	NWTPH-Dx (Diesel, Motor Oil)	ECY 97-602 NWTPH-Dx modified	1	170390017A	02/15/2017 04:26	Heather E Williams	1
12118	TPH-Dx w/Fuel Soil Ext. (SG)	ECY 97-602 NWTPH-Dx 06/97	1	170390017A	02/08/2017 18:15	Elizabeth E Donovan	1
06125	Arsenic	SW-846 6020A	1	170310637001A	02/06/2017 05:22	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	170310637001	01/31/2017 06:04	James L Mertz	1
00111	Moisture	SM 2540 G-1997	1	17034820008A	02/04/2017 19:47	Scott W Freisher	1

Sample Description: KSCRI-SB4-(8-9') Soil
Being Kent Space Center

LL Sample # SW 8809613
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 13:20 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45
Reported: 02/24/2017 09:42

KSCS4

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons w/Si		ECY 97-602 NWTPH-Dx modified	mg/kg		mg/kg	
12093	Diesel/#2 Fuel w/Si Gel	68334-30-5	8.3 U		8.3	1
12093	Motor Oil w/Si Gel	n.a.	36 U		36	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.						
Wet Chemistry		SM 2540 G-1997	%		%	
00111	Moisture	n.a.	15.9		0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12093	NWTPH-Dx (Diesel, Motor Oil)	ECY 97-602 NWTPH-Dx modified	1	170390017A	02/15/2017 05:15	Heather E Williams	1
12118	TPH-Dx w/Fuel Soil Ext. (SG)	ECY 97-602 NWTPH-Dx 06/97	1	170390017A	02/08/2017 18:15	Elizabeth E Donovan	1
00111	Moisture	SM 2540 G-1997	1	17034820008A	02/04/2017 19:47	Scott W Freisher	1

Sample Description: KSCRI-SB5-(11-12') Soil
Being Kent Space Center

LL Sample # SW 8809614
LL Group # 1759583
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/27/2017 15:00 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 01/28/2017 09:45
Reported: 02/24/2017 09:42

KSCS5

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons w/Si		ECY 97-602 NWTPH-Dx modified	mg/kg	mg/kg	
12093	Diesel/#2 Fuel w/Si Gel	68334-30-5	7.8 U	7.8	1
12093	Motor Oil w/Si Gel	n.a.	33 U	33	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	10	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12093	NWTPH-Dx (Diesel, Motor Oil)	ECY 97-602 NWTPH-Dx modified	1	170390017A	02/15/2017 06:04	Heather E Williams	1
12118	TPH-Dx w/Fuel Soil Ext. (SG)	ECY 97-602 NWTPH-Dx 06/97	1	170390017A	02/08/2017 18:15	Elizabeth E Donovan	1
00111	Moisture	SM 2540 G-1997	1	17034820008A	02/04/2017 19:47	Scott W Freisher	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/24/2017 09:42

Group Number: 1759583

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	ug/l	ug/l
Batch number: H170372AA	Sample number(s): 8809611	
Benzene	0.2 U	0.2
Ethylbenzene	0.5 U	0.5
Toluene	0.2 U	0.2
Xylene (Total)	0.5 U	0.5
Batch number: H170392AA	Sample number(s): 8809609-8809610	
Benzene	0.2 U	0.2
Ethylbenzene	0.5 U	0.5
Toluene	0.2 U	0.2
Xylene (Total)	0.5 U	0.5
Batch number: 17033A53A	Sample number(s): 8809609-8809611	
NWTPH-Gx water C7-C12	250 U	250
	mg/l	mg/l
Batch number: 170390007A	Sample number(s): 8809605,8809607-8809608	
Diesel/#2 Fuel	0.10 U	0.10
Motor Oil	0.25 U	0.25
	mg/kg	mg/kg
Batch number: 170390017A	Sample number(s): 8809612-8809614	
Diesel/#2 Fuel w/Si Gel	7.0 U	7.0
Motor Oil w/Si Gel	30 U	30
Batch number: 170310637001A	Sample number(s): 8809612	
Arsenic	0.800 U	0.800
	mg/l	mg/l
Batch number: 170317050003A	Sample number(s): 8809606	
Arsenic	0.0020 U	0.0020

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: H170372AA	Sample number(s): 8809611								
Benzene	5.00	4.88			98		80-120		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/24/2017 09:42

Group Number: 1759583

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Ethylbenzene	5.00	4.68			94		80-120		
Toluene	5.00	4.62			92		80-120		
Xylene (Total)	15	14.08			94		80-120		
Batch number: H170392AA	Sample number(s): 8809609-8809610								
Benzene	5.00	4.86	5.00	4.90	97	98	80-120	1	30
Ethylbenzene	5.00	4.58	5.00	4.70	92	94	80-120	3	30
Toluene	5.00	4.48	5.00	4.60	90	92	80-120	3	30
Xylene (Total)	15	13.77	15	14.08	92	94	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17033A53A	Sample number(s): 8809609-8809611								
NWTPH-Gx water C7-C12	1100	990.7			90		79-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 170390007A	Sample number(s): 8809605,8809607-8809608								
Diesel/#2 Fuel	0.801	0.720			90		60-120		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 170390017A	Sample number(s): 8809612-8809614								
Diesel/#2 Fuel w/Si Gel	133	139.41	133	136.94	105	103	60-120	2	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 170310637001A	Sample number(s): 8809612								
Arsenic	1.00	0.964			96		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 170317050003A	Sample number(s): 8809606								
Arsenic	0.0100	0.0102			102		85-115		
	%	%	%	%					
Batch number: 17034820008A	Sample number(s): 8809612-8809614								
Moisture	89.5	89.43			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: H170372AA	Sample number(s): 8809611 UNSPK: P809615									
Benzene	0.2 U	5.00	5.22	5.00	5.18	104	104	80-120	1	30

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/24/2017 09:42

Group Number: 1759583

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Ethylbenzene	0.5 U	5.00	5.20	5.00	5.15	104	103	80-120	1	30
Toluene	0.2 U	5.00	5.17	5.00	5.07	103	101	80-120	2	30
Xylene (Total)	0.5 U	15	15.63	15	15.21	104	101	80-120	3	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 17033A53A NWTPH-Gx water C7-C12	Sample number(s): 8809609-8809611 250 U	1100	1088.45	1100	1097.17	99	100	79-120	1	30
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 170390007A Diesel/#2 Fuel	Sample number(s): 8809605,8809607-8809608 0.097 U	0.774	0.597	0.771	0.698	77	90	60-120	16	20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 170310637001A Arsenic	Sample number(s): 8809612 UNSPK: 8809612 4.78	1.83	8.20	1.44	6.02	186*	86	75-125	31*	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 170317050003A Arsenic	Sample number(s): 8809606 UNSPK: P809616 0.0167	0.0100	0.0271			103		70-130		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 170390017A Diesel/#2 Fuel w/Si Gel	Sample number(s): 8809612-8809614 BKG: 8809614 7.0 U	7.0 U	0 (1)	20
Motor Oil w/Si Gel	30 U	30 U	0 (1)	20
	mg/kg	mg/kg		
Batch number: 170310637001A Arsenic	Sample number(s): 8809612 BKG: 8809612 4.78	4.82	1	20
	mg/l	mg/l		
Batch number: 170317050003A Arsenic	Sample number(s): 8809606 BKG: P809616 0.0167	0.0163	3	20
	%	%		
Batch number: 17034820008A Moisture	Sample number(s): 8809612-8809614 BKG: P812942 4.36	5.00	14*	5

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/24/2017 09:42

Group Number: 1759583

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
---------------	---------------	---------------	---------	-------------

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C BTEX
Batch number: H170372AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8809611	111	106	95	93
Blank	108	105	96	93
LCS	111	109	93	96
MS	108	103	97	95
MSD	111	109	94	96
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C BTEX
Batch number: H170392AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8809609	108	103	95	110
8809610	106	105	97	106
Blank	110	108	95	93
LCS	111	113	92	96
LCSD	111	111	93	95
Limits:	77-114	74-113	77-110	78-110

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 17033A53A

	Trifluorotoluene-F
8809609	98
8809610	118
8809611	99
Blank	118
LCS	104
MS	105
MSD	104
Limits:	63-135

Analysis Name: NWTPH-Dx (Diesel, Motor Oil)
Batch number: 170390007A

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/24/2017 09:42

Group Number: 1759583

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Dx (Diesel, Motor Oil)
Batch number: 170390007A

	Chlorobenzene	Orthoterphenyl
8809605	78	78
8809607	81	85
8809608	82	82
Blank	63	76
LCS	66	90
MS	72	77
MSD	87	87

Limits: 50-150 50-150

Analysis Name: NWTPH-Dx (Diesel, Motor Oil)
Batch number: 170390017A

	Chlorobenzene	Orthoterphenyl
8809612	83	102
8809613	88	100
8809614	86	98
Blank	99	103
DUP	97	107
LCS	86	108
LCSD	86	107

Limits: 50-150 50-150

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Lancaster Laboratories

Acct. # 3419 Group # 13455

For Eurofins Lancaster Laboratories use only
Sample # 80605-14

Please print. Instructions on reverse side correspond.

1 Client Information

Site Location: KENT WASHINGTON
 Site Project: KENT SPACE CENTER
 Site Program#: _____
 Boeing PM: NICK BANSON
 Consultant Contact: JASJA GRAY - DOE NGRAY@DOE.NM.U.COM
 Report To: JASJA GRAY
 Invoice To: Boeing EHS Other (specify): _____
 Sampler: DAVE LOREN # of Coolers: 1

2 Sample Identification

Sample Identification	Collected		Matrix	No. of Containers
	Date	Time		
KSC-SB3-GW	1/27/17	1300	WATER	3
KSC-SB4-GW		1345		2
KSC-SB5-GW		1530		2
KSC-SB18-GW		1115		6
KSC-SB20-GW		1030		6
TRIA BLANK 3		-		6
KSCRT-SB3-(8.5-9.5')		1245	SOIL	2
KSCRI-SB4-(8-9')		1320		1
KSCRI-SB5-(11-12')		1500		1

3 Turnaround Time Requested (please circle)

Standard 72 hour
 5 day
 48 hour
 4 day
 24 hour

Date needed: _____

4 Analyses Requested

Analyses Requested	TPH-D NMPH-DX	TPH-C NMPH-DX	TPH-G NMPH-GX	MEANS 6020A	TPH-D NMPH-DX w/SI GEL	TPH-C NMPH-DX w/SI GEL
BTEX 6260C	X					
DISSOLVED METALS 200.8 *	X					
	X	X				
	X	X	X			
	X	X	X			
	X	X	X			
	X	X	X			
	X	X	X			
	X	X	X			
	X	X	X			
	X	X	X			

5 Remarks/Comments

* ALL DISSOLVED METALS FROM FILTERED 0.45 μm

SUBSET GEL CLEANUP - TPH

7

Relinquished by: Dave Loren Date/Time: 1/27/17 17:00
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____
 Relinquished by commercial carrier (circle): UPS FedEx: _____ Other: 60473338719
 Temperature upon Receipt: 41.2 °C
 Custody Seals Intact?: Yes No

Client: BOEING

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 01/28/2017 9:45
 Number of Packages: 3 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	12
Paperwork Enclosed:	Yes	Trip Blank Type:	HCI
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Karen Diem (3060) at 12:54 on 01/28/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	4.1	DT	Wet	Y	Bagged	N
2	DT146	4.8	DT	Wet	Y	Bagged	N
3	DT146	5.8	DT	Wet	Y	Bagged	N

General Comments: Sample SB-18-GW NOT WERE LABELED

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Report Date: February 22, 2017

Project: Boeing Kent Space Center

Submittal Date: 01/28/2017

Group Number: 1759584

State of Sample Origin: WA

Client Sample Description

	Lancaster Labs (LL) #
KSC-SB13-GW Water	8809615
KSC-SB13-GW Dissolved Metals Water	8809616
KSC-SB14-GW Water	8809617
KSC-SB14-GW Dissolved Metals Water	8809618
KSC-SB15-GW Water	8809619
KSC-SB16-GW Water	8809620
KSC-SB17-GW Water	8809621
KSC-SB17-GW Dissolved Metals Water	8809622
KSC-SBDI-GW Water	8809623
KSC-SBDI-GW Dissolved Metals Water	8809624
Trip Blank 2 Water	8809625

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	The Boeing Company	Attn: Lindsey Mahrt
Electronic Copy To	Dalton, Olmstead and Fuglevand	Attn: Tasya Gray
Electronic Copy To	The Boeing Company	Attn: Y. Nicholas Garson

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing Kent Space Center
LL Group #: 1759584

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**ECY 97-602 NWTPH-Dx modified, GC Petroleum Hydrocarbons**

Sample #s: 8809617, 8809619, 8809620

The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Description: KSC-SB13-GW Water
Being Kent Space Center

LL Sample # WW 8809615
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 13:00 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

KSC13

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
GC Volatiles		ECY 97-602 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1
GC Petroleum Hydrocarbons		ECY 97-602 NWTPH-Dx modified	mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.097 U	0.097	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170372AA	02/06/2017 17:50	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H170372AA	02/06/2017 17:50	Kevin A Sposito	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 15:39	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 15:39	Brett W Kenyon	1
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 16:59	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SB13-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8809616
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 13:00 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

KS13D

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0167	mg/l 0.0020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:13	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: KSC-SB14-GW Water
Being Kent Space Center

LL Sample # WW 8809617
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 16:00 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

KSC14

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.25	0.096	1

TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 20:17	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SB14-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8809618
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 16:00 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
06025	Metals Dissolved Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.105	mg/l 0.0020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:33	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: KSC-SB15-GW Water
Being Kent Space Center

LL Sample # WW 8809619
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 17:15 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

KSC15

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.28	0.098	1

TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 22:44	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SB16-GW Water
Being Kent Space Center

LL Sample # WW 8809620
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 15:30 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

KSC16

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons	ECY 97-602 NWTPH-Dx modified		mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.42	0.10	1

TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons. The sample pattern does not match our reference standard for #2fuel/diesel.

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 21:55	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SB17-GW Water
Being Kent Space Center

LL Sample # WW 8809621
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 18:15 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45
Reported: 02/22/2017 14:54

KSC17

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
GC Volatiles		ECY 97-602 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170372AA	02/06/2017 18:51	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H170372AA	02/06/2017 18:51	Kevin A Sposito	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 15:12	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 15:12	Brett W Kenyon	1

Sample Description: KSC-SB17-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8809622
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 18:15 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0020 U	mg/l 0.0020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:35	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: KSC-SBDI-GW Water
Being Kent Space Center

LL Sample # WW 8809623
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 13:15 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

KSCDI

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
GC Volatiles		ECY 97-602 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1
GC Petroleum Hydrocarbons		ECY 97-602 NWTPH-Dx modified	mg/l	mg/l	
12082	Diesel/#2 Fuel	68334-30-5	0.097 U	0.097	1
TPH quantitation is based on peak area comparison of the sample pattern to that of a hydrocarbon component mix calibration in a range that includes C8 (n-octane) through C40 (n-tetracontane) normal hydrocarbons.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170372AA	02/06/2017 17:09	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H170372AA	02/06/2017 17:09	Kevin A Sposito	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 13:49	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 13:49	Brett W Kenyon	1
12082	NWTPH-Dx (Diesel)	ECY 97-602 NWTPH-Dx modified	1	170390007A	02/14/2017 19:28	Heather E Williams	1
12119	TPH-Dx w/Fuel Water Ext.	ECY 97-602 NWTPH-Dx 06/97	1	170390007A	02/08/2017 17:30	Ryan J Dowdy	1

Sample Description: KSC-SBDI-GW Dissolved Metals Water
Being Kent Space Center

LL Sample # WW 8809624
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017 13:15 by DC

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	Metals Dissolved	EPA 200.8 rev 5.4	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0166	0.0020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	170317050003A	02/03/2017 15:37	Patrick J Engle	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	170317050003	02/02/2017 16:50	JoElla L Rice	1

Sample Description: Trip Blank 2 Water
Being Kent Space Center

LL Sample # WW 8809625
LL Group # 1759584
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 01/26/2017

The Boeing Company
P.O. Box 3707 MC9U4-26
Seattle WA 98124-2207

Submitted: 01/28/2017 09:45

Reported: 02/22/2017 14:54

KSCT2

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	0.2 U	0.2	1
11996	Ethylbenzene	100-41-4	0.5 U	0.5	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	Xylene (Total)	1330-20-7	0.5 U	0.5	1
GC Volatiles		ECY 97-602 NWTPH-Gx	ug/l	ug/l	
08273	NWTPH-Gx water C7-C12	n.a.	250 U	250	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C BTEX	SW-846 8260C	1	H170372AA	02/06/2017 17:30	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H170372AA	02/06/2017 17:30	Kevin A Sposito	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	17033A53A	02/02/2017 14:16	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030C	1	17033A53A	02/02/2017 14:16	Brett W Kenyon	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/22/2017 14:54

Group Number: 1759584

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	ug/l	ug/l
Batch number: H170372AA	Sample number(s): 8809615,8809621,8809623,8809625	
Benzene	0.2 U	0.2
Ethylbenzene	0.5 U	0.5
Toluene	0.2 U	0.2
Xylene (Total)	0.5 U	0.5
Batch number: 17033A53A	Sample number(s): 8809615,8809621,8809623,8809625	
NWTPH-Gx water C7-C12	250 U	250
	mg/l	mg/l
Batch number: 170390007A	Sample number(s): 8809615,8809617,8809619-8809620,8809623	
Diesel/#2 Fuel	0.10 U	0.10
Batch number: 170317050003A	Sample number(s): 8809616,8809618,8809622,8809624	
Arsenic	0.0020 U	0.0020

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: H170372AA	Sample number(s): 8809615,8809621,8809623,8809625								
Benzene	5.00	4.88			98		80-120		
Ethylbenzene	5.00	4.68			94		80-120		
Toluene	5.00	4.62			92		80-120		
Xylene (Total)	15	14.08			94		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17033A53A	Sample number(s): 8809615,8809621,8809623,8809625								
NWTPH-Gx water C7-C12	1100	990.7			90		79-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 170390007A	Sample number(s): 8809615,8809617,8809619-8809620,8809623								
Diesel/#2 Fuel	0.801	0.720			90		60-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 170317050003A	Sample number(s): 8809616,8809618,8809622,8809624								
Arsenic	0.0100	0.0102			102		85-115		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/22/2017 14:54

Group Number: 1759584

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
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MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: H170372AA	Sample number(s): 8809615,8809621,8809623,8809625 UNSPK: 8809615									
Benzene	0.2 U	5.00	5.22	5.00	5.18	104	104	80-120	1	30
Ethylbenzene	0.5 U	5.00	5.20	5.00	5.15	104	103	80-120	1	30
Toluene	0.2 U	5.00	5.17	5.00	5.07	103	101	80-120	2	30
Xylene (Total)	0.5 U	15	15.63	15	15.21	104	101	80-120	3	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 17033A53A	Sample number(s): 8809615,8809621,8809623,8809625 UNSPK: 8809615									
NWTPH-Gx water C7-C12	250 U	1100	1088.45	1100	1097.17	99	100	79-120	1	30
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 170390007A	Sample number(s): 8809615,8809617,8809619-8809620,8809623 UNSPK: 8809615									
Diesel/#2 Fuel	0.097 U	0.774	0.597	0.771	0.698	77	90	60-120	16	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 170317050003A	Sample number(s): 8809616,8809618,8809622,8809624 UNSPK: 8809616									
Arsenic	0.0167	0.0100	0.0271			103		70-130		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 170317050003A	Sample number(s): 8809616,8809618,8809622,8809624 BKG: 8809616			
Arsenic	0.0167	0.0163	3	20

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/22/2017 14:54

Group Number: 1759584

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C BTEX
Batch number: H170372AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8809615	108	101	95	91
8809621	112	108	95	94
8809623	111	102	97	91
8809625	112	107	95	91
Blank	108	105	96	93
LCS	111	109	93	96
MS	108	103	97	95
MSD	111	109	94	96
Limits:	77-114	74-113	77-110	78-110

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 17033A53A

	Trifluorotoluene-F
8809615	124
8809621	120
8809623	122
8809625	119
Blank	118
LCS	104
MS	105
MSD	104
Limits:	63-135

Analysis Name: NWTPH-Dx (Diesel)
Batch number: 170390007A

	Chlorobenzene	Orthoterphenyl
8809615	74	74
8809617	62	64
8809619	72	79
8809620	80	87
8809623	69	71
Blank	63	76
LCS	66	90
MS	72	77
MSD	87	87
Limits:	50-150	50-150

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



Lancaster Laboratories

Boeing Chain of Custody

Acct. # 13419 For Eurofins Lancaster Laboratories use only. Sample # 8604615-25
Group # 1797881 Please print. Instructions on reverse side correspond.

1 Client Information

Site Location: KENT WASHINGTON
 Site Project: KENT SPACE CENTER
 Site Program#: _____
 Boeing PM: NICK GARLSON
 Consultant Contact: TASYA GAY - DOF TNGRAY@SPENW.COM
 Report To: TASYA GAY
 Invoice To: Boeing EHS Other (specify): _____
 Sampler: DAVE COOPER - DOF # of Coolers: 2

2 Sample Identification

Sample Identification	Collected		Matrix	No. of Containers
	Date	Time		
KSC-SB13-GW	1/26/17	1600	WATER	27
KSC-SB14-GW	1	1600		3
KSC-SB15-GW	1	1715		2
KSC-SB16-GW	1	1530		2
KSC-SB17-GW	1	1815		7
KSC-SB18-GW	1	1315		9
TRIP BLANK 2	1	-		6

3 Turnaround Time Requested (please circle)

Standard 4 day
 72 hour
 5 day
 48 hour
 24 hour

Date needed: _____

4 Analyses Requested

Analyses Requested	TPH-D	TPH-G	RTX	DISCLOSURE METALS
TPH-D	X	X	X	X
TPH-G	X	X	X	X
RTX	X	X	X	X
DISCLOSURE METALS	X	X	X	X

5 Remarks/Comments

* ALL DISCLOSURE METALS FIELD FILTERED 0.45µm
 EXTRA VOLUME FOR WTS/MSD

6 Relinquished by: MA GAY Date/Time: 1/27/17 14:20
Relinquished by: _____ Date/Time: _____
Relinquished by: _____ Date/Time: _____
 Relinquished by commercial carrier (circle): UPS Other: 6047133862
 UPS FedEx
 Temperature upon Receipt: _____
 Custody Seals Intact?: Yes No

7 Received by: _____ Date/Time: _____
Received by: _____ Date/Time: _____
Received by: _____ Date/Time: _____

Client: BOEING

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 01/28/2017 9:45
 Number of Packages: 3 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	12
Paperwork Enclosed:	Yes	Trip Blank Type:	HCI
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Karen Diem (3060) at 12:54 on 01/28/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	4.1	DT	Wet	Y	Bagged	N
2	DT146	4.8	DT	Wet	Y	Bagged	N
3	DT146	5.8	DT	Wet	Y	Bagged	N

General Comments: Sample SB-18-GW NOT WERE LABELED

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: April 21, 2017

Project: Boeing Kent Space Center

Submittal Date: 04/15/2017

Group Number: 1789843

State of Sample Origin: WA

Client Sample Description

	Lancaster Labs (LL) #
KSCRI-MW1-2.5 Soil	8941816
KSCRI-MW2-2.5 Soil	8941817
KSCRI-MW3-2.5 Soil	8941818
KSCRI-MW4-2.5 Soil	8941819
KSCRI-MW5-2.5 Soil	8941820
KSCRI-MW6-2.5 Soil	8941821
KSCRI-MW7-2.5 Soil	8941822

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Dalton, Olmstead and Fuglevand

Electronic Copy To The Boeing Company

Attn: Tasya Gray

Attn: Lindsey Mahrt

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing Kent Space Center
LL Group #: 1789843

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 6020A, Metals**

Batch #: 171100637001A (Sample number(s): 8941816-8941822 UNSPK: P940952 BKG: P940952)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: Arsenic

Sample Description: KSCRI-MW1-2.5 Soil
Boeing Kent Space Center

LL Sample # SW 8941816
LL Group # 1789843
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 04/12/2017 09:30

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 04/15/2017 10:00

Reported: 04/21/2017 11:39

KSC01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals					
06125	Arsenic	SW-846 6020A 7440-38-2	mg/kg 1.31	mg/kg 0.637	2
Wet Chemistry					
00111	Moisture	SM 2540 G-1997 n.a.	% 15.2	% 0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	171100637001A	04/21/2017 04:13	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171100637001	04/20/2017 16:10	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	2	17109820008B	04/19/2017 23:42	Scott W Freisher	1

Sample Description: KSCRI-MW2-2.5 Soil
Boeing Kent Space Center

LL Sample # SW 8941817
LL Group # 1789843
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 04/11/2017 09:45

The Boeing Company

Submitted: 04/15/2017 10:00

PO Box 3707

Reported: 04/21/2017 11:39

MC 1W-12

Seattle WA 98124

KSC02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals					
06125	Arsenic	SW-846 6020A 7440-38-2	mg/kg 4.78	mg/kg 0.729	2
Wet Chemistry					
00111	Moisture	SM 2540 G-1997 n.a.	% 22.2	% 0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	171100637001A	04/21/2017 04:15	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171100637001	04/20/2017 16:10	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	2	17109820008B	04/19/2017 23:42	Scott W Freisher	1

Sample Description: KSCRI-MW3-2.5 Soil
Boeing Kent Space Center

LL Sample # SW 8941818
LL Group # 1789843
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 04/11/2017 11:05

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 04/15/2017 10:00

Reported: 04/21/2017 11:39

KSC03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals					
06125	Arsenic	SW-846 6020A 7440-38-2	mg/kg 3.26	mg/kg 0.891	2
Wet Chemistry					
00111	Moisture	SM 2540 G-1997 n.a.	% 12.8	% 0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	171100637001A	04/21/2017 04:20	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171100637001	04/20/2017 16:10	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	2	17109820008B	04/19/2017 23:42	Scott W Freisher	1

Sample Description: KSCRI-MW4-2.5 Soil
Boeing Kent Space Center

LL Sample # SW 8941819
LL Group # 1789843
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 04/11/2017 11:45
Submitted: 04/15/2017 10:00
Reported: 04/21/2017 11:39

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

KSC04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals					
06125	Arsenic	SW-846 6020A 7440-38-2	mg/kg 5.76	mg/kg 0.799	2
Wet Chemistry					
00111	Moisture	SM 2540 G-1997 n.a.	% 22.4	% 0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	171100637001A	04/21/2017 04:22	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171100637001	04/20/2017 16:10	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	2	17109820008B	04/19/2017 23:42	Scott W Freisher	1

Sample Description: KSCRI-MW5-2.5 Soil
Boeing Kent Space Center

LL Sample # SW 8941820
LL Group # 1789843
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 04/11/2017 12:30

The Boeing Company

Submitted: 04/15/2017 10:00

PO Box 3707

Reported: 04/21/2017 11:39

MC 1W-12

Seattle WA 98124

KSC05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6020A		mg/kg	
06125	Arsenic	7440-38-2	3.44	0.765	2
Wet Chemistry		SM 2540 G-1997		%	
00111	Moisture	n.a.	9.8	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	171100637001A	04/21/2017 04:24	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171100637001	04/20/2017 16:10	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	2	17109820008B	04/19/2017 23:42	Scott W Freisher	1

Sample Description: KSCRI-MW6-2.5 Soil
Boeing Kent Space Center

LL Sample # SW 8941821
LL Group # 1789843
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 04/13/2017 10:00

The Boeing Company

Submitted: 04/15/2017 10:00

PO Box 3707

Reported: 04/21/2017 11:39

MC 1W-12

Seattle WA 98124

KSC06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals					
06125	Arsenic	SW-846 6020A 7440-38-2	mg/kg 4.64	mg/kg 0.803	2
Wet Chemistry					
00111	Moisture	SM 2540 G-1997 n.a.	% 18.3	% 0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	171100637001A	04/21/2017 04:26	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171100637001	04/20/2017 16:10	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	2	17109820008B	04/19/2017 23:42	Scott W Freisher	1

Sample Description: KSCRI-MW7-2.5 Soil
Boeing Kent Space Center

LL Sample # SW 8941822
LL Group # 1789843
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 04/11/2017 14:00
Submitted: 04/15/2017 10:00
Reported: 04/21/2017 11:39

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

KSC07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
Metals					
06125	Arsenic	SW-846 6020A 7440-38-2	mg/kg 2.93	mg/kg 0.779	2
Wet Chemistry					
00111	Moisture	SM 2540 G-1997 n.a.	% 9.9	% 0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020A	1	171100637001A	04/21/2017 04:27	Choon Y Tian	2
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	171100637001	04/20/2017 16:10	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	2	17109820008B	04/19/2017 23:42	Scott W Freisher	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 04/21/2017 11:39

Group Number: 1789843

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	mg/kg	mg/kg
Batch number: 171100637001A	Sample number(s): 8941816-8941822	
Arsenic	0.800 U	0.800

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 171100637001A	Sample number(s): 8941816-8941822								
Arsenic	1.00	0.995			99		80-120		
	%	%	%	%					
Batch number: 17109820008B	Sample number(s): 8941816-8941822								
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 171100637001A	Sample number(s): 8941816-8941822 UNSPK: P940952									
Arsenic	2.40	1.50	4.37	1.79	4.66	131*	127*	75-125	6	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 04/21/2017 11:39

Group Number: 1789843

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 171100637001A Arsenic	Sample number(s): 8941816-8941822 2.40	BKG: P940952 2.38	1 (1)	20
	%	%		
Batch number: 17109820008B Moisture	Sample number(s): 8941816-8941822 13.66	BKG: P941847 13.98	2	5

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only
 Group # 184843 Sample # 8941816-22
 Please print. Instructions on reverse side correspond.

1 Client Information					4 Analyses Requested										5 Remarks/Comments		
Site Location: <u>KENT WASHINGTON</u>					METALS - AS EPA-6020A												
Site Project: <u>KENT SPACE CENTER</u>																	
Site Program/#: _____																	
Boeing PM: <u>LINDSEY MAHRT</u>																	
Consultant Contact: <u>TASYA GRAY - DOF</u> <u>NGRAY@DOFNW.COM</u>																	
Report To: <u>TASYA GRAY</u>																	
Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____																	
Sampler: _____ # of Coolers: _____																	
2 Sample Identification		Collected		3	No. of Containers												
		Date	Time	Matrix													
<u>KSCRI-MW1-2.5</u>		<u>4/12/17</u>	<u>0930</u>	<u>SOIL</u>	1	X											
<u>KSCRI-MW2-2.5</u>		<u>4/11/17</u>	<u>0945</u>	↓	↓	X											
<u>KSCRI-MW3-2.5</u>		<u>4/11/17</u>	<u>1105</u>	↓	↓	X											
<u>KSCRI-MW4-2.5</u>		<u>4/11/17</u>	<u>1145</u>	↓	↓	X											
<u>KSCRI-MW5-2.5</u>		<u>4/11/17</u>	<u>1230</u>	↓	↓	X											
<u>KSCRI-MW6-2.5</u>		<u>4/13/17</u>	<u>1000</u>	↓	↓	X											
<u>KSCRI-MW7-2.5</u>		<u>4/11/17</u>	<u>1400</u>	↓	↓	X											
6 Turnaround Time Requested (please circle) <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 50%; padding: 5px;">Standard</div> <div>5 day</div> <div>4 day</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>72 hour</div> <div>48 hour</div> <div>24 hour</div> </div> Date needed: _____					Relinquished by: <u>Dof</u>		Date/Time: <u>4/14/17 1120</u>		Received by: <u>Lindsey</u>		Date/Time: <u>4/14/17 11:20</u>						
					Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____						
					Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____						
					Relinquished by commercial carrier (circle):					UPS		<input checked="" type="checkbox"/> FedEx		Other: _____			
					Temperature upon Receipt: <u>1.8 °C</u>		Custody Seals Intact?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: May 18, 2017

Project: Boeing Kent Space Center

Submittal Date: 05/04/2017

Group Number: 1797131

State of Sample Origin: WA

Client Sample Description

	Lancaster Labs (LL) #
KSCRI-MW2-050317 Water	8974896
KSCRI-MW2-050317 Dissolved Metals Water	8974897
KSCRI-MW3-050317 Water	8974898
KSCRI-MW3-050317 Dissolved Metals Water	8974899
KSCRI-MW4-050317 Water	8974900
KSCRI-MW4-050317 Dissolved Metals Water	8974901
KSCRI-MW5-050317 Water	8974902
KSCRI-MW5-050317 Dissolved Metals Water	8974903
KSCRI-DUP-050317 Water	8974904
KSCRI-DUP-050317 Dissolved Metals Water	8974905

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Dalton, Olmstead and Fuglevand
Electronic Copy To The Boeing CompanyAttn: Tasya Gray
Attn: Lindsey Mahrt

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing Kent Space Center
LL Group #: 1797131

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**ECY 97-602 NWTPH-Dx modified, GC Petroleum Hydrocarbons**

Sample #s: 8974904

The observed sample pattern includes an additional pattern which elutes later than the DRO range.

EPA 300.0, wet Chemistry

Batch #: 17124249113B (Sample number(s): 8974896, 8974898, 8974900, 8974904 UNSPK: P974842 BKG: P974842)

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Sulfate, Nitrate Nitrogen

Sample Description: KSCRI-MW2-050317 Water
Boeing Kent Space Center

LL Sample # WW 8974896
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 13:05 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/18/2017 11:52

KCS02

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	
08271	Diesel Range Organics C12-C24	n.a.	97.6 U	97.6	1
08271	Heavy Range Organics C24-C40	n.a.	244 U	244	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08271	NWTPH-Dx water	ECY 97-602 NWTPH-Dx modified	1	171290025A	05/11/2017 02:46	Amy Lehr	1
11197	WA DRO NW DX Ext (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	171290025A	05/09/2017 17:00	Kate E Lutte	1
00368	Nitrate Nitrogen	EPA 300.0	1	17124249113B	05/05/2017 10:07	Zachary W Enck	1
00228	Sulfate	EPA 300.0	1	17124249113B	05/05/2017 10:07	Zachary W Enck	1

Sample Description: KSCRI-MW2-050317 Dissolved Metals Water
Boeing Kent Space Center

LL Sample # WW 8974897
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 13:05 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/18/2017 11:52

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		EPA 200.8 rev 5.4	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0282	0.0020	1
06028	Cadmium	7440-43-9	0.00050 U	0.00050	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	1
06033	Copper	7440-50-8	0.0020 U	0.0020	1
06035	Lead	7439-92-1	0.0010 U	0.0010	1
06039	Nickel	7440-02-0	0.0079	0.0020	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	1
06042	Silver	7440-22-4	0.00050 U	0.00050	1
06049	Zinc	7440-66-6	0.0150 U	0.0150	1
		EPA 245.1 rev 3	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00020 U	0.00020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
06028	Cadmium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
06031	Chromium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
06033	Copper	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
06035	Lead	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
06039	Nickel	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
06041	Selenium	EPA 200.8 rev 5.4	1	171290705003B	05/10/2017 18:42	Patrick J Engle	1
06042	Silver	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
06049	Zinc	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:42	Patrick J Engle	1
00259	Mercury	EPA 245.1 rev 3	1	171290571304	05/10/2017 08:41	Damary Valentin	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	171290705003	05/09/2017 23:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171290571304	05/09/2017 22:30	Annamaria Kuhns	1

Sample Description: KSCRI-MW3-050317 Water
Boeing Kent Space Center

LL Sample # WW 8974898
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 14:10 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/18/2017 11:52

KCS03

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons		ECY 97-602 modified	NWTPH-Dx	ug/l	
08271	Diesel Range Organics C12-C24	n.a.	96.4 U	96.4	1
08271	Heavy Range Organics C24-C40	n.a.	241 U	241	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08271	NWTPH-Dx water	ECY 97-602 NWTPH-Dx modified	1	171290025A	05/11/2017 03:08	Amy Lehr	1
11197	WA DRO NW DX Ext (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	171290025A	05/09/2017 17:00	Kate E Lutte	1
00368	Nitrate Nitrogen	EPA 300.0	1	17124249113B	05/05/2017 10:24	Zachary W Enck	1
00228	Sulfate	EPA 300.0	1	17124249113B	05/05/2017 10:24	Zachary W Enck	1

Sample Description: KSCRI-MW3-050317 Dissolved Metals Water
Boeing Kent Space Center

LL Sample # WW 8974899
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 14:10 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/18/2017 11:52

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		EPA 200.8 rev 5.4	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0256	0.0020	1
06028	Cadmium	7440-43-9	0.00050 U	0.00050	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	1
06033	Copper	7440-50-8	0.0021	0.0020	1
06035	Lead	7439-92-1	0.0010 U	0.0010	1
06039	Nickel	7440-02-0	0.0020 U	0.0020	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	1
06042	Silver	7440-22-4	0.00050 U	0.00050	1
06049	Zinc	7440-66-6	0.0150 U	0.0150	1
		EPA 245.1 rev 3	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00020 U	0.00020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
06028	Cadmium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
06031	Chromium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
06033	Copper	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
06035	Lead	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
06039	Nickel	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
06041	Selenium	EPA 200.8 rev 5.4	1	171290705003B	05/10/2017 18:53	Patrick J Engle	1
06042	Silver	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
06049	Zinc	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:53	Patrick J Engle	1
00259	Mercury	EPA 245.1 rev 3	1	171290571304	05/10/2017 08:44	Damary Valentin	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	171290705003	05/09/2017 23:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171290571304	05/09/2017 22:30	Annamaria Kuhns	1

Sample Description: KSCRI-MW4-050317 Water
Boeing Kent Space Center

LL Sample # WW 8974900
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 15:15 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/18/2017 11:52

KCS04

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons		ECY 97-602 modified	NWTPH-Dx	ug/l	
08271	Diesel Range Organics C12-C24	n.a.	100 U	100	1
08271	Heavy Range Organics C24-C40	n.a.	250 U	250	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	3.0	1.0	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08271	NWTPH-Dx water	ECY 97-602 NWTPH-Dx modified	1	171290025A	05/11/2017 03:29	Amy Lehr	1
11197	WA DRO NW DX Ext (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	171290025A	05/09/2017 17:00	Kate E Lutte	1
00368	Nitrate Nitrogen	EPA 300.0	1	17124249113B	05/05/2017 10:41	Zachary W Enck	1
00228	Sulfate	EPA 300.0	1	17124249113B	05/05/2017 10:41	Zachary W Enck	1

Sample Description: KSCRI-MW4-050317 Dissolved Metals Water
Boeing Kent Space Center

LL Sample # WW 8974901
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 15:15 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/18/2017 11:52

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved		EPA 200.8 rev 5.4	mg/l	mg/l	
06025	Arsenic	7440-38-2	0.0189	0.0020	1
06028	Cadmium	7440-43-9	0.00050 U	0.00050	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	1
06033	Copper	7440-50-8	0.0021	0.0020	1
06035	Lead	7439-92-1	0.0010 U	0.0010	1
06039	Nickel	7440-02-0	0.0020 U	0.0020	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	1
06042	Silver	7440-22-4	0.00050 U	0.00050	1
06049	Zinc	7440-66-6	0.0150 U	0.0150	1
		EPA 245.1 rev 3	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00020 U	0.00020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
06028	Cadmium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
06031	Chromium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
06033	Copper	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
06035	Lead	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
06039	Nickel	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
06041	Selenium	EPA 200.8 rev 5.4	1	171290705003B	05/10/2017 18:56	Patrick J Engle	1
06042	Silver	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
06049	Zinc	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:56	Patrick J Engle	1
00259	Mercury	EPA 245.1 rev 3	1	171290571304	05/10/2017 08:31	Damary Valentin	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	171290705003	05/09/2017 23:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171290571304	05/09/2017 22:30	Annamaria Kuhns	1

Sample Description: KSCRI-MW5-050317 Water
Boeing Kent Space Center

LL Sample # WW 8974902
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 16:20 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/18/2017 11:52

KCS05

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons		ECY 97-602 NWTPH-Dx modified	ug/l	ug/l	
08271	Diesel Range Organics C12-C24	n.a.	103 U	103	1
08271	Heavy Range Organics C24-C40	n.a.	257 U	257	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.6	0.10	1
00228	Sulfate	14808-79-8	36.7	10.0	10

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08271	NWTPH-Dx water	ECY 97-602 NWTPH-Dx modified	1	171290025A	05/11/2017 03:51	Amy Lehr	1
11197	WA DRO NW DX Ext (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	171290025A	05/09/2017 17:00	Kate E Lutte	1
00368	Nitrate Nitrogen	EPA 300.0	1	17124249106A	05/05/2017 09:17	Zachary W Enck	1
00228	Sulfate	EPA 300.0	1	17124249106A	05/09/2017 03:44	Zachary W Enck	10

Sample Description: KSCRI-MW5-050317 Dissolved Metals Water
Boeing Kent Space Center

LL Sample # WW 8974903
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 16:20 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/18/2017 11:52

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved			EPA 200.8 rev 5.4	mg/l	
06025	Arsenic	7440-38-2	0.0033	0.0020	1
06028	Cadmium	7440-43-9	0.00050 U	0.00050	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	1
06033	Copper	7440-50-8	0.0029	0.0020	1
06035	Lead	7439-92-1	0.0010 U	0.0010	1
06039	Nickel	7440-02-0	0.0020 U	0.0020	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	1
06042	Silver	7440-22-4	0.00050 U	0.00050	1
06049	Zinc	7440-66-6	0.0150 U	0.0150	1
			EPA 245.1 rev 3	mg/l	
00259	Mercury	7439-97-6	0.00020 U	0.00020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
06028	Cadmium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
06031	Chromium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
06033	Copper	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
06035	Lead	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
06039	Nickel	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
06041	Selenium	EPA 200.8 rev 5.4	1	171290705003B	05/10/2017 18:58	Patrick J Engle	1
06042	Silver	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
06049	Zinc	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 18:58	Patrick J Engle	1
00259	Mercury	EPA 245.1 rev 3	1	171290571304	05/10/2017 08:51	Damary Valentin	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	171290705003	05/09/2017 23:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171290571304	05/09/2017 22:30	Annamaria Kuhns	1

Sample Description: KSCRI-DUP-050317 Water
Boeing Kent Space Center

LL Sample # WW 8974904
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 15:20 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/18/2017 11:52

KCSFD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Petroleum Hydrocarbons		ECY 97-602 modified	NWTPH-Dx	ug/l	
08271	Diesel Range Organics C12-C24	n.a.	216	98.9	1
08271	Heavy Range Organics C24-C40	n.a.	400	247	1
The observed sample pattern includes an additional pattern which elutes later than the DRO range.					
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	3.1	1.0	1

Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08271	NWTPH-Dx water	ECY 97-602 NWTPH-Dx modified	1	171290025A	05/11/2017 05:19	Amy Lehr	1
11197	WA DRO NW DX Ext (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	171290025A	05/09/2017 17:00	Kate E Lutte	1
00368	Nitrate Nitrogen	EPA 300.0	1	17124249113B	05/05/2017 10:57	Zachary W Enck	1
00228	Sulfate	EPA 300.0	1	17124249113B	05/05/2017 10:57	Zachary W Enck	1

Sample Description: KSCRI-DUP-050317 Dissolved Metals Water
Boeing Kent Space Center

LL Sample # WW 8974905
LL Group # 1797131
Account # 13419

Project Name: Boeing Kent Space Center

Collected: 05/03/2017 15:20 by DC

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/18/2017 11:52

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Metals Dissolved			EPA 200.8 rev 5.4	mg/l	
06025	Arsenic	7440-38-2	0.0184	0.0020	1
06028	Cadmium	7440-43-9	0.00050 U	0.00050	1
06031	Chromium	7440-47-3	0.0020 U	0.0020	1
06033	Copper	7440-50-8	0.0020 U	0.0020	1
06035	Lead	7439-92-1	0.0010 U	0.0010	1
06039	Nickel	7440-02-0	0.0020 U	0.0020	1
06041	Selenium	7782-49-2	0.0020 U	0.0020	1
06042	Silver	7440-22-4	0.00050 U	0.00050	1
06049	Zinc	7440-66-6	0.0150 U	0.0150	1
			EPA 245.1 rev 3	mg/l	
00259	Mercury	7439-97-6	0.00020 U	0.00020	1

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
06028	Cadmium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
06031	Chromium	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
06033	Copper	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
06035	Lead	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
06039	Nickel	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
06041	Selenium	EPA 200.8 rev 5.4	1	171290705003B	05/10/2017 19:05	Patrick J Engle	1
06042	Silver	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
06049	Zinc	EPA 200.8 rev 5.4	1	171290705003A	05/10/2017 19:05	Patrick J Engle	1
00259	Mercury	EPA 245.1 rev 3	1	171290571304	05/10/2017 08:54	Damary Valentin	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	171290705003	05/09/2017 23:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171290571304	05/09/2017 22:30	Annamaria Kuhns	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 11:52

Group Number: 1797131

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	ug/l	ug/l
Batch number: 171290025A	Sample number(s): 8974896,8974898,8974900,8974902,8974904	
Diesel Range Organics C12-C24	100 U	100
Heavy Range Organics C24-C40	250 U	250
	mg/l	mg/l
Batch number: 171290571304	Sample number(s): 8974897,8974899,8974901,8974903,8974905	
Mercury	0.00020 U	0.00020
Batch number: 171290705003A	Sample number(s): 8974897,8974899,8974901,8974903,8974905	
Arsenic	0.0020 U	0.0020
Cadmium	0.00050 U	0.00050
Chromium	0.0020 U	0.0020
Copper	0.0020 U	0.0020
Lead	0.0010 U	0.0010
Nickel	0.0020 U	0.0020
Silver	0.00050 U	0.00050
Zinc	0.0150 U	0.0150
Batch number: 171290705003B	Sample number(s): 8974897,8974899,8974901,8974903,8974905	
Selenium	0.0020 U	0.0020
Batch number: 17124249106A	Sample number(s): 8974902	
Nitrate Nitrogen	0.10 U	0.10
Sulfate	1.0 U	1.0
Batch number: 17124249113B	Sample number(s): 8974896,8974898,8974900,8974904	
Nitrate Nitrogen	0.10 U	0.10
Sulfate	1.0 U	1.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171290025A	Sample number(s): 8974896,8974898,8974900,8974902,8974904								
Diesel Range Organics C12-C24	1600	1207.67	1600	1231.62	75	77	50-113	2	20
	mg/l	mg/l	mg/l	mg/l					
Batch number: 171290571304	Sample number(s): 8974897,8974899,8974901,8974903,8974905								

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 11:52

Group Number: 1797131

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Mercury	0.00100	0.000857			86		80-120		
Batch number: 171290705003A	Sample number(s): 8974897,8974899,8974901,8974903,8974905								
Arsenic	0.0100	0.00946			95		85-115		
Cadmium	0.00500	0.00484			97		85-115		
Chromium	0.0500	0.0499			100		85-115		
Copper	0.0500	0.0494			99		85-115		
Lead	0.0150	0.0148			99		85-115		
Nickel	0.0500	0.0481			96		85-115		
Silver	0.0500	0.0491			98		85-115		
Zinc	0.500	0.493			99		85-115		
Batch number: 171290705003B	Sample number(s): 8974897,8974899,8974901,8974903,8974905								
Selenium	0.0100	0.00948			95		85-115		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 17124249106A	Sample number(s): 8974902								
Nitrate Nitrogen	0.750	0.735			98		90-110		
Sulfate	7.50	7.53			100		90-110		
Batch number: 17124249113B	Sample number(s): 8974896,8974898,8974900,8974904								
Nitrate Nitrogen	0.750	0.737			98		90-110		
Sulfate	7.50	7.36			98		90-110		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 171290571304	Sample number(s): 8974897,8974899,8974901,8974903,8974905 UNSPK: 8974901									
Mercury	0.00020 U	0.00100	0.000893	0.00100	0.000904	89	90	80-120	1	20
Batch number: 171290705003A	Sample number(s): 8974897,8974899,8974901,8974903,8974905 UNSPK: 8974897									
Arsenic	0.0282	0.0100	0.0397			115		70-130		
Cadmium	0.00050 U	0.00500	0.00500			100		70-130		
Chromium	0.00119	0.0500	0.0531			104		70-130		
Copper	0.00155	0.0500	0.0521			101		70-130		
Lead	0.0010 U	0.0150	0.0154			102		70-130		
Nickel	0.00785	0.0500	0.0599			104		70-130		
Silver	0.00050 U	0.0500	0.0510			102		70-130		
Zinc	0.00725	0.500	0.487			96		70-130		
Batch number: 171290705003B	Sample number(s): 8974897,8974899,8974901,8974903,8974905 UNSPK: 8974897									
Selenium	0.0020 U	0.0100	0.0103			103		70-130		

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 11:52

Group Number: 1797131

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17124249106A	Sample number(s): 8974902 UNSPK: 8974902									
Nitrate Nitrogen	1.61	5.00	6.39			96		90-110		
Sulfate	36.74	50	91.85			110		90-110		
Batch number: 17124249113B	Sample number(s): 8974896,8974898,8974900,8974904 UNSPK: P974842									
Nitrate Nitrogen	0.194	0.500	0.634			88*		90-110		
Sulfate	9.11	5.00	13.53			89*		90-110		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 171290571304	Sample number(s): 8974897,8974899,8974901,8974903,8974905 BKG: 8974901			
Mercury	0.00020 U	0.00020 U	0 (1)	20
Batch number: 171290705003A	Sample number(s): 8974897,8974899,8974901,8974903,8974905 BKG: 8974897			
Arsenic	0.0282	0.0289	3	20
Cadmium	0.00050 U	0.00050 U	0 (1)	20
Chromium	0.00119	0.00113	5 (1)	20
Copper	0.00155	0.00157	1 (1)	20
Lead	0.0010 U	0.0010 U	0 (1)	20
Nickel	0.00785	0.00766	2 (1)	20
Silver	0.00050 U	0.00050 U	0 (1)	20
Zinc	0.00725	0.00831	14 (1)	20
Batch number: 171290705003B	Sample number(s): 8974897,8974899,8974901,8974903,8974905 BKG: 8974897			
Selenium	0.0020 U	0.0020 U	0 (1)	20
Batch number: 17124249106A	Sample number(s): 8974902 BKG: 8974902			
Nitrate Nitrogen	1.61	1.61	0	15
Sulfate	36.74	36.74	0 (1)	15
Batch number: 17124249113B	Sample number(s): 8974896,8974898,8974900,8974904 BKG: P974842			
Nitrate Nitrogen	0.194	0.181	7 (1)	15
Sulfate	9.11	9.07	0	15

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 11:52

Group Number: 1797131

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: NWTPH-Dx water
Batch number: 171290025A

	Orthoterphenyl
8974896	96
8974898	93
8974900	94
8974902	94
8974904	96
Blank	92
LCS	99
LCSD	100

Limits: 50-150

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only
 Group # 1797131 Sample # 8974896-906
 Please print. Instructions on reverse side correspond.

① Client Information					④ Analyses Requested								⑤ Remarks/Comments				
Site Location: <u>KENT WASHINGTON</u>					<div style="display: flex; flex-direction: column; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">NUTRA-AX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">NITRATE, SULFATE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">DISSOLVED METALS *</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">As, Cd, Cr, Cu, Pb, Ni, Hg, Se, Ag, Zn</div> </div>								* METALS FILTERED 0.45µm NOTE SHORT HOLD TIME FOR NITRATE				
Site Project: <u>KENT SPACE CENTER</u>																	
Site Program/#: _____																	
Boeing PM: <u>LINSEY MAHRT</u>																	
Consultant Contact: <u>JASJA GRAY</u> <u>NGRAY@DOFMW.COM</u>																	
Report To: _____																	
Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____																	
Sampler: <u>DAVE COOPER</u> # of Coolers: <u>1</u>																	
② Sample Identification		③ Collected		③ Matrix	No. of Containers												
		Date	Time														
<u>KSCRI-MW2-050317</u>		<u>5/3/17</u>	<u>1305</u>	<u>WAFN</u>	<u>5</u>	X	X	X									
<u>KSCRI-MW3-050317</u>			<u>1410</u>		<u>5</u>	X	X	X									
<u>KSCRI-MW4-050317</u>			<u>1515</u>		<u>5</u>	X	X	X									
<u>KSCRI-MW5-050317</u>			<u>1620</u>		<u>5</u>	X	X	X									
<u>KSCRI-DUP-050317</u>			<u>1520</u>		<u>5</u>	X	X	X									
<u>TRIP BLANK</u>			<u>-</u>		<u>1</u>												
⑥ Turnaround Time Requested (please circle) <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 50%; padding: 5px;">Standard</div> <div>5 day</div> <div>4 day</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>72 hour</div> <div>48 hour</div> <div>24 hour</div> </div> Date needed: _____					Relinquished by: <u>[Signature]</u>		Date/Time: <u>5/3/17 1700</u>		Received by: <u>[Signature]</u>		Date/Time: <u>5/3/17 1920</u>						
					Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____						
					Relinquished by: _____		Date/Time: _____		Received by: <u>[Signature]</u>		Date/Time: <u>5/4/17 0920</u>						
					Relinquished by commercial carrier (circle):				Temperature upon Receipt: <u>3.8</u> °C		Custody Seals Intact?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
				UPS <input checked="" type="checkbox"/> FedEx Other: _____													



Client: BOEING

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 05/04/2017 9:20
 Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	1
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	No	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Evelyn Shank (12390) at 12:18 on 05/04/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	3.8	DT	Wet	Y	Bagged	N

Samples Not Intact Details

Sample ID on Label	Bottle Code	Bottle Quantity	Container Salvageable?	Comments
KSCRI - MW4-050317	1000 ml round amber glass - None	1	N	ARRIVED SHATTERED
KSCRI - MW4-050317	40 ml glass vial - None	1	N	ARRIVED SHATTERED

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Appendix D

Geology Summary (from RI Work Plan)

4.0 PRELIMINARY CONCEPTUAL SITE MODEL

This section describes the geology and hydrogeology of the KSC based on information developed during previous investigations. Further information regarding geology and hydrogeology at the Facility will be obtained during the RI and described in the RI report, and will include hydrogeologic cross sections developed from the borings advanced during the RI and existing information, and groundwater elevation contour maps developed from the monitoring of the wells installed during the RI.

This section presents a preliminary conceptual site model that identifies potential contaminants of concern (PCOCs) within the Facility, areas within the Facility that have the greatest potential to be sources of contaminants, and the potential contaminant migration pathways and receptors. A schematic of the conceptual site model will be developed and included in the RI report.

4.1 Geology

The Duwamish Valley is a north-south trending valley bounded on the west and east by glacial upland areas. The valley walls are relatively steep-sided and rise about 350 to 400 ft above the valley floor. The Duwamish/Green River Valley is part of a relict subglacial meltwater trough eroded during the retreat of the Puget lobe about 14,000 years ago (Dragovich et al. 1994). As the glacial ice retreated, meltwater streams issuing from the receding ice front laid down extensive deposits of stratified sand and gravel in the area. With the retreat of the glacial ice north of the Strait of Juan de Fuca, and rapid rise of sea level due to deglaciation, marine waters entered the Duwamish/Green River trough (Dragovich et al. 1994). During this time, the valley was being filled by marine, deltaic, and alluvial deposits from the ancestral Puyallup and Green rivers.

About 5,000 years ago, Mount Rainier erupted and a large volcanic mudflow, known as the Osceola Mudflow, swept down both the White River and Puyallup River valleys. The mudflow displaced the ancestral White River from its ancient channel northward to its present location near present-day Auburn, approximately 10 miles south of the KSC. After the mudflow, rapid incision and erosion of the mudflow sediment within the White River Valley resulted in increased sediment loads and rapid delta formation. Where the White River joined the Duwamish/Green River trough, coarser-grained sediments were deposited in an alluvial fan that extended well out into the valley. The post-Osceola Mudflow river aggradation and delta progradation eventually filled the valley to near its present-day contours.

As the sediment load carried by the White River decreased, finer-grained deposits of silt, sandy silt, silty fine sand, and occasional layers of peat and organic silt were laid down by the White and Green rivers. These deposits are characteristic of the current near-surface depositional environment in the valley. The Green River, located approximately 0.3 miles west of the KSC, currently flows northward through the valley to Puget Sound approximately 15 miles to the north-northwest.

The results of subsurface investigations conducted at the KSC in 2002 indicate that the property is underlain by approximately 10 ft of fill material underlain by alluvium. The fill generally consists of gravelly, silty sand, and the alluvium generally consists of approximately 5 ft of clayey silt underlain by silty sand or sand with silt (LAI 2002b). Near Building 18-67, a 3-ft-thick clayey silt layer was encountered between about 8 and 11 ft bgs. In this area, groundwater was encountered just above the silt layer at approximately 8 ft bgs, but the primary zone of saturation was beneath the silt at a depth of approximately 11 ft bgs (Tetra Tech 1999).

4.2 Hydrogeology

The near-surface groundwater regime within the Green River Valley is generally characterized as a shallow, single-aquifer system. The KSC is located approximately 0.3 miles east of the Green River, at approximately 25 to 30 ft above mean sea level (USGS 1995). Shallow groundwater (generally encountered between 7 and 11 ft bgs) is present throughout the KSC. The groundwater gradient is locally very flat; the regional direction of groundwater flow is generally to the northwest toward the Green River. Elevation measurements from monitoring wells at the KSC in 2001 indicate local variability in groundwater elevations with no distinct direction of flow (LAI 2002b).

Appendix E

Survey Information

Tasya Gray

Subject: Kent-Space Monitor Well Survey
Attachments: 17-2689MW.dwg; 17-2689MW.PDF; 17-2689MW.xls

From: Doug Hartman [<mailto:dahartman.dha@frontier.com>]

Sent: Monday, July 31, 2017 10:31 AM

To: 'David Cooper' <dcooper@dofnw.com>

Subject: Kent-Space Monitor Well Survey

Dave: Good morning. Enclosed is the CAD, PDF plot and excel files for the MW survey.

Doug
17-2689

**BOEING KENT SPACE CENTER
MONITOR WELLS
JULY 2017**

MONITOR WELL NUMBER	NORTHING	EASTING	RIM ELEV. OF CASE	TOP OF PIPE ELEV.	PIPE TYPE
MW-1	157,218.0	1,288,399.3	29.87	29.59	2" PVC
MW-2	156,911.0	1,289,528.0	28.98	28.58	2" PVC
MW-3	155,979.9	1,289,581.4	28.78	28.47	2" PVC
MW-4	155,134.9	1,289,093.6	29.18	28.86	2" PVC
MW-5	155,231.7	1,288,197.2	30.29	29.83	2" PVC
MW-6	156,258.2	1,288,065.8	29.47	29.17	2" PVC
MW-7	156,575.9	1,287,632.9	28.27	27.92	2" PVC

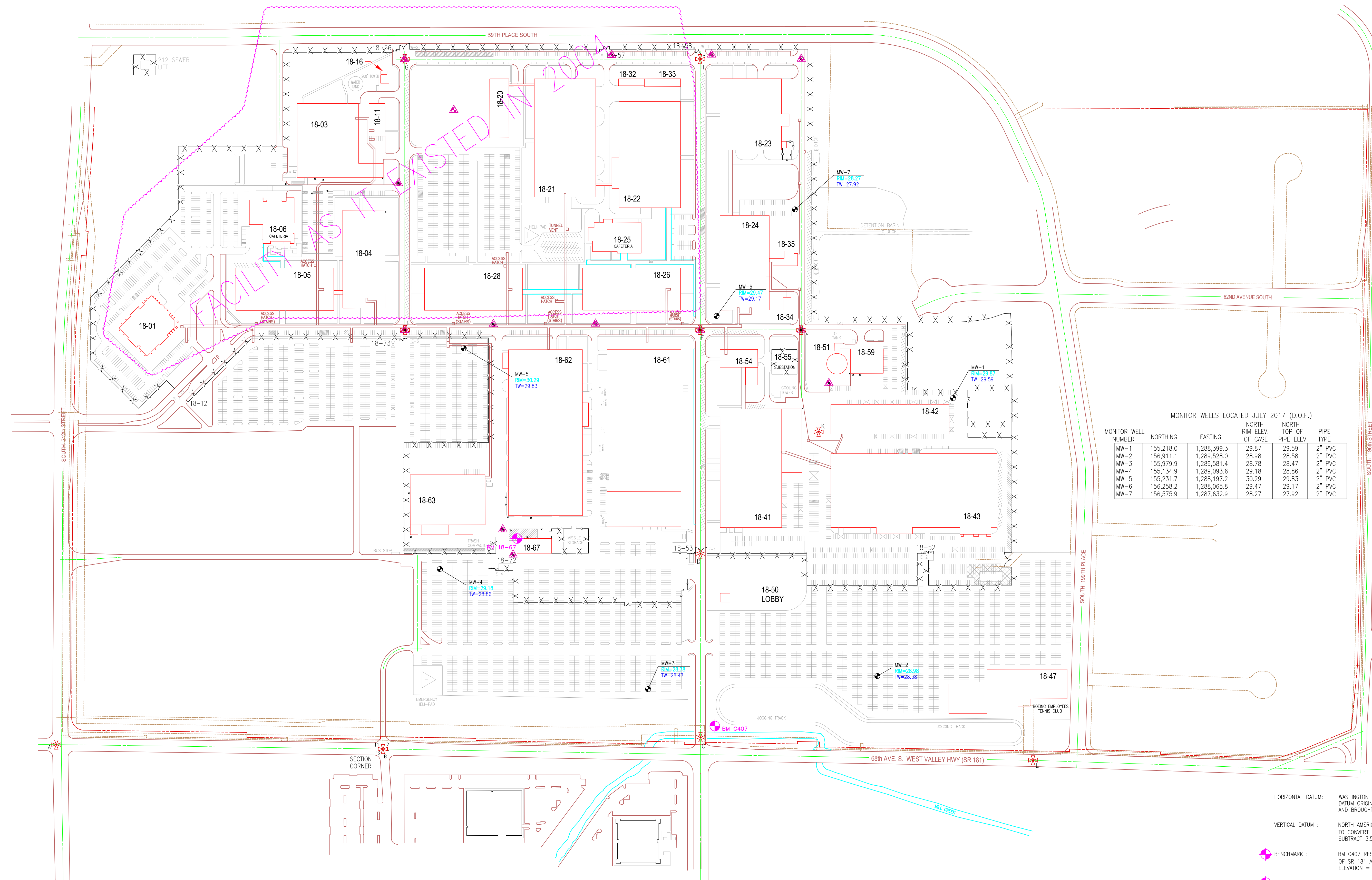
Coordinate System and Zone: Washington State Plane, North Zone Coordinates

Horizontal Datum: NAD 83(91), North Zone, US FEET.

Vertical Datum: NAVD88, US FEET.

To convert elevations shown hereon to NGVD29 elevations please SUBTRACT 3.54 feet.

Survey completed on July 21, 2017 by Duane Hartman and Associates



MONITOR WELLS LOCATED JULY 2017 (D.O.F.)

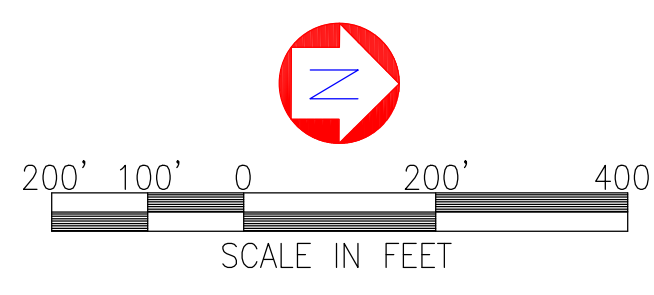
MONITOR WELL NUMBER	NORTHING	EASTING	NORTH RIM ELEV. OF CASE	NORTH TOP OF PIPE ELEV.	PIPE TYPE
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MW-6	156,258.2	1,288,065.8	29.47	29.17	2" PVC
MW-7	156,575.9	1,287,632.9	28.27	27.92	2" PVC

HORIZONTAL DATUM: WASHINGTON COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983. (NAD 83(91)) DATUM ORIGINATED FROM PUBLISHED KING COUNTY SURVEY CONTROL POINTS 3537 AND 5036 AND BROUGHT TO THE SPACE CENTER SITE USING GROUND TRAVERSE SURVEYING PROCEDURES.

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) TO CONVERT (APPROXIMATELY) TO NATIONAL GEODETIC VERTICAL DATUM, 1929 (NGVD29) SUBTRACT 3.5 FEET FROM NAVD ELEVATION PUBLISHED HEREON.

BENCHMARK: BM C407 RESET, FOUND 3" BRASS DISC IN CURB AT THE NORTHWEST CORNER OF THE INTERSECTION OF SR 181 AND S. 204TH ST. ELEVATION = 8.87223 METERS, 29.108 FEET.

PROJECT BENCHMARK: SET CHISELED SQUARE AT TOP BACK OF CURB 5.3' NORTH AND 2.0' WEST OF THE SOUTHWEST CORNER OF THE 18-67 BUILDING. ELEVATION = 30.92'



SYM	REVISION	BY	APPROVED	DATE	SYM	REVISION	BY	APPROVED	DATE



ACCEPTABILITY THIS DESIGN AND/OR SPECIFICATION IS APPROVED			DRAWN DAH	DATE 07/31/17
APPROVED BY	DEPT.	DATE	CHECKED DAH ENGINEER	
			CHECKED	
			APPROVED	
			APPROVED	

SUBTITLE MONITOR WELL SURVEY	CURRENT REVISION	SYMBOL	DATE
TITLE KENT SPACE CENTER	C1		
CIVIL MASTER	JOB NO. 17-2689	COMP NO.	
KENT, WASHINGTON	BWG NO. 17-2689MW.DWG		

Appendix F

Previous Arsenic Evaluations

October 11, 2011
9L-22-N410-JLF-172

Washington State Department of Ecology
Northwest Regional Office
Hazardous Waste and Toxics Reduction Program
3190 160th Avenue SE
Bellevue, Washington 98008-5452



Attn: Byung Maeng, P.E.

**RE: EVALUATION OF ARSENIC IN GROUNDWATER
STRIKER PROPERTY SOUTH
BOEING SPACE CENTER
KENT, WASHINGTON**

Dear Mr. Maeng:

The Boeing Company (Boeing) recently submitted a request to the Washington State Department of Ecology (Ecology) for removal of the Striker South Property (subject property) from the Boeing Space Center (BSC) Resource Conservation and Recovery Act (RCRA) Interim Status Facility (WAD 061670766; Boeing 2011). As part of its review, Ecology requested additional information regarding the arsenic concentrations detected in groundwater at the BSC. This letter provides a summary of the available data for arsenic in groundwater at the BSC and our evaluation of the nature and occurrence of the detected concentrations.

BACKGROUND

Groundwater sampling was conducted at the subject property in 2010 and 2011 as part of due diligence prior to potential sale of a portion of the BSC known as the Striker Property, which includes the subject property. Dissolved arsenic was detected in groundwater samples collected throughout the subject property at concentrations ranging from 0.3 micrograms per liter ($\mu\text{g/L}$) to 114 $\mu\text{g/L}$, and the concentrations detected at many locations were greater than the screening level of 5 $\mu\text{g/L}$, which was developed based on the Model Toxics Control Act (MTCA) Method B cleanup level for protection of groundwater as drinking water (Landau Associates 2010). The investigations conducted to date, which included assessment to evaluate the nature and extent of the arsenic concentrations detected in groundwater, have not identified a potential source of arsenic at the subject property or at the BSC. Based on available data, and as discussed below, the elevated concentrations of arsenic in groundwater are isolated, reflect area-wide conditions, are not attributable to sources at the BSC, and do not pose a risk to human health or the environment.

ARSENIC DATA FROM PREVIOUS INVESTIGATIONS AT BOEING SPACE CENTER

Boeing gathered and reviewed available arsenic groundwater data collected during previous investigations at the BSC, including the subject property. The available arsenic data for the BSC are summarized in Table 1. Available arsenic data for the Striker Property are presented on Figure 1.

Building 18-03

Between 1992 and 1994, groundwater samples were collected for laboratory analysis from five monitoring wells installed on the east side of Building 18-03, in the area of a former chrome waste underground storage tank (UST) system. Dissolved arsenic was detected in the samples at concentrations ranging from 16 µg/L to 25 µg/L (Figure 1; Weston 1994). In a letter dated February 27, 1995, Ecology accepted certification for clean closure of the tank system (Ecology 1995).

Former Gun Club

In October 1998, groundwater samples were collected from four direct-push borings during site characterization activities at the BSC Gun Club, which was formerly located directly north of the Striker Property (in the current location of the stormwater detention pond). The detected concentrations of dissolved arsenic ranged from 13 µg/L to 42 µg/L (Landau Associates 1999). In October 1999, following soil remediation activities in the summer of 1999, groundwater samples were collected and analyzed from three monitoring wells installed in the former source area. The dissolved arsenic concentrations detected in the groundwater samples ranged from 6.7 µg/L to 12.4 µg/L. The wells were re-sampled in March 2000 and the samples were analyzed for total and dissolved arsenic. The detected concentrations of total arsenic ranged from 4 µg/L to 23 µg/L; the dissolved arsenic concentrations were only slightly lower than the total concentrations and ranged from 3 µg/L to 19 µg/L. The results of the 1999 groundwater monitoring were included in the final cleanup report submitted to Ecology in April 2000 (AGI 2000). The results of the 2000 groundwater monitoring were included in an addendum to the final cleanup report (discussed below).

In April 2000, AGI Technologies prepared an addendum to the final cleanup report for the Gun Club at the request of Ecology. The addendum presented an evaluation of the source of metals detected in groundwater and concluded that the arsenic detected in groundwater at the BSC comes from natural sources. A copy of the addendum is attached. In August 2000, based on the data presented in the addendum, Ecology issued a No Further Action (NFA) determination for the Gun Club facility under the Voluntary Cleanup Program (VCP). The NFA letter acknowledged that “arsenic concentrations in groundwater that exceed MTCA Method A limits are likely the result of nature, and not the result of a known release at the Gun Club site.” A copy of the NFA letter is attached.

Building 18-54

In April 2009, three monitoring wells were installed in the area of Building 18-54 (located east of the Striker Property) to document groundwater conditions prior to upgrades to an existing substation by Puget Sound Energy. Dissolved arsenic was detected in the

groundwater samples collected from each of the wells at concentrations ranging from 24 µg/L to 51 µg/L (Boeing 2001; GeoEngineers 2009).

DISSOLVED ARSENIC AT STRIKER SOUTH PROPERTY

The dissolved arsenic concentrations detected in the groundwater samples collected at the Striker South Property are shown on Figure 1. The highest concentrations of arsenic were detected in the groundwater samples collected from an undeveloped portion of the Striker South Property, between Building 18-20 to the north and Building 18-03 to the south. Arsenic was detected at concentrations about 20 times greater than the screening level in this area (114 µg/L at DP-5 and 111 µg/L at DP-27). There has been no handling, use, or storage of any arsenic-containing material in this area. Waste profile records for the contents of the former chrome waste UST system at Building 18-03, which is located about 600 feet to the southeast of this area, indicate that the waste stream included arsenic. Analytical results for a sample of the tank contents indicate that total arsenic was detected at a concentration of 34.9 milligrams per liter (34,900 µg/L) (Weston 1994). As noted above, during the closure of the UST system, arsenic was detected at concentrations ranging from 16 µg/L to 25 µg/L in samples collected from monitoring wells in the immediate vicinity of the UST system. The detected concentrations of dissolved arsenic in groundwater samples collected from direct-push borings DP-28 through DP-30 (located between the former UST system and direct-push borings DP-5 and DP-27) ranged from 1.1 µg/L to 31.9 µg/L. Based on the investigations conducted in the area and the associated groundwater data, the elevated concentrations of arsenic detected in groundwater at DP-5 and DP-27 appear to be isolated and are not associated with the former UST system, which is the only known potential source of arsenic on the Striker South Property.

Elevated concentrations of arsenic (65.4 µg/L at DP-31 and 43.8 µg/L at DP-11) were also detected in groundwater samples collected from locations in the southwest, undeveloped portion of the Striker South Property. There has been no development in this area and no handling, use, or storage of any arsenic-containing material. Arsenic was detected at concentrations below the screening level in two samples collected from the immediate vicinity of DP-31 and DP-11 (2.8 µg/L at DP-32 and 0.3 µg/L at DP-33); therefore, the elevated concentrations of arsenic appear to be isolated and not associated with a release. As with the other locations at the subject property, the investigations conducted and the associated groundwater data indicate that the elevated concentrations of arsenic detected in groundwater at DP-31 and DP-11 appear to be isolated and are not associated with known or potential sources of arsenic on the Striker South Property.

CONCLUSIONS

Dissolved arsenic is present in groundwater at the Striker South Property at concentrations greater than the screening level. Based on the investigations conducted to date and the available analytical and historical data, the elevated concentrations of arsenic detected in groundwater are isolated, are the result of regional conditions, and are not the result of sources associated with Boeing operations.

Groundwater at the BSC is not used for drinking water. Boeing's purchase and sale agreement with the prospective buyer of the Striker Property includes a restriction on the use of groundwater. As an added level of protection, Boeing is willing to pursue a formal environmental covenant to restrict the use of groundwater. The arsenic present in groundwater at the Striker Property does not pose a potential threat to human health or the environment; therefore, Boeing requests that the site not be listed on the Confirmed and Suspected Contaminated Sites List.

We would appreciate the opportunity to discuss the information presented in this letter with you and to answer questions that you may have regarding the detected concentrations of arsenic in groundwater at the Striker South Property. Please e-mail or call me to schedule a time to discuss this request.

Sincerely,



Joe Flaherty
Project Manager
EHS Remediation Group
(206) 769-5987
joseph.l.flaherty@boeing.com

REFERENCES

AGI. 2000. Report: *Volume 1, Final Report, Soil Cleanup, Boeing, Boeing Kent Space Center Gun Club, 20403 68th Avenue South, Kent Washington*. Prepared for The Boeing Company. AGI Technologies. April 17.

Boeing. 2011. Letter: *Request for Removal of the Striker Property South From the Boeing Space Center RCRA Interim Status Facility (WAD 061670766)*. From J. Flaherty, Boeing EHS Remediation Group, Seattle, Washington, to B. Maeng, Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Section, Bellevue, Washington. July 21.

Boeing. 2001. Drawing: *Switchyard 1855, Main Substation Power Plan*. Drawing No. E18.55-E2. October 8.

Ecology. 1995. Letter: *Ecology Acceptance of Certification of Clean Closure of the 18-03 Building Dangerous Waste Underground Storage Tank System*. From J. Sellick, Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Section, Bellevue, Washington, to J.T. Johnstone, Boeing Defense and Space Group, Seattle, Washington. February 27.

GeoEngineers. 2009. Draft Table 2: *Groundwater Chemical Analytical Data, Petroleum Hydrocarbons, VOCs, BETX, SVOCs, PAHs, PCBs, Metals, Ethylene Glycol, and pH, PSE – Boeing Aerospace Facility, South 204th Street and Boeing Access Road, Kent, Washington*. May 18.

Landau Associates. 2010. Report: *Phase II Environmental Site Assessment, Striker Property South, Boeing Space Center, 20403 68th Avenue South, Kent, Washington*. November 30.

Landau Associates. 1999. Report: *Final Report. Site Characterization Study, Kent Gun Club, Kent, Washington*. February 22.

Weston. 1994. *Closure Certification Report, Building 18-03 Chrome Waste UST System*. Roy F. Weston, Inc. August.

ATTACHMENTS

Figure 1: Detected Concentrations of Dissolved Arsenic in Groundwater

Table 1: Detected Concentrations of Dissolved Arsenic in Groundwater

AGI Letter Report: *Groundwater Monitoring and Evaluation Addendum, Boeing Space Center Gun Club Soil Cleanup, Kent Washington*. April 28, 2000.

Washington State Department of Ecology Letter: *No Further Action Determination, Boeing Space Center Gun Club, Kent, Washington*. August 22, 2000.

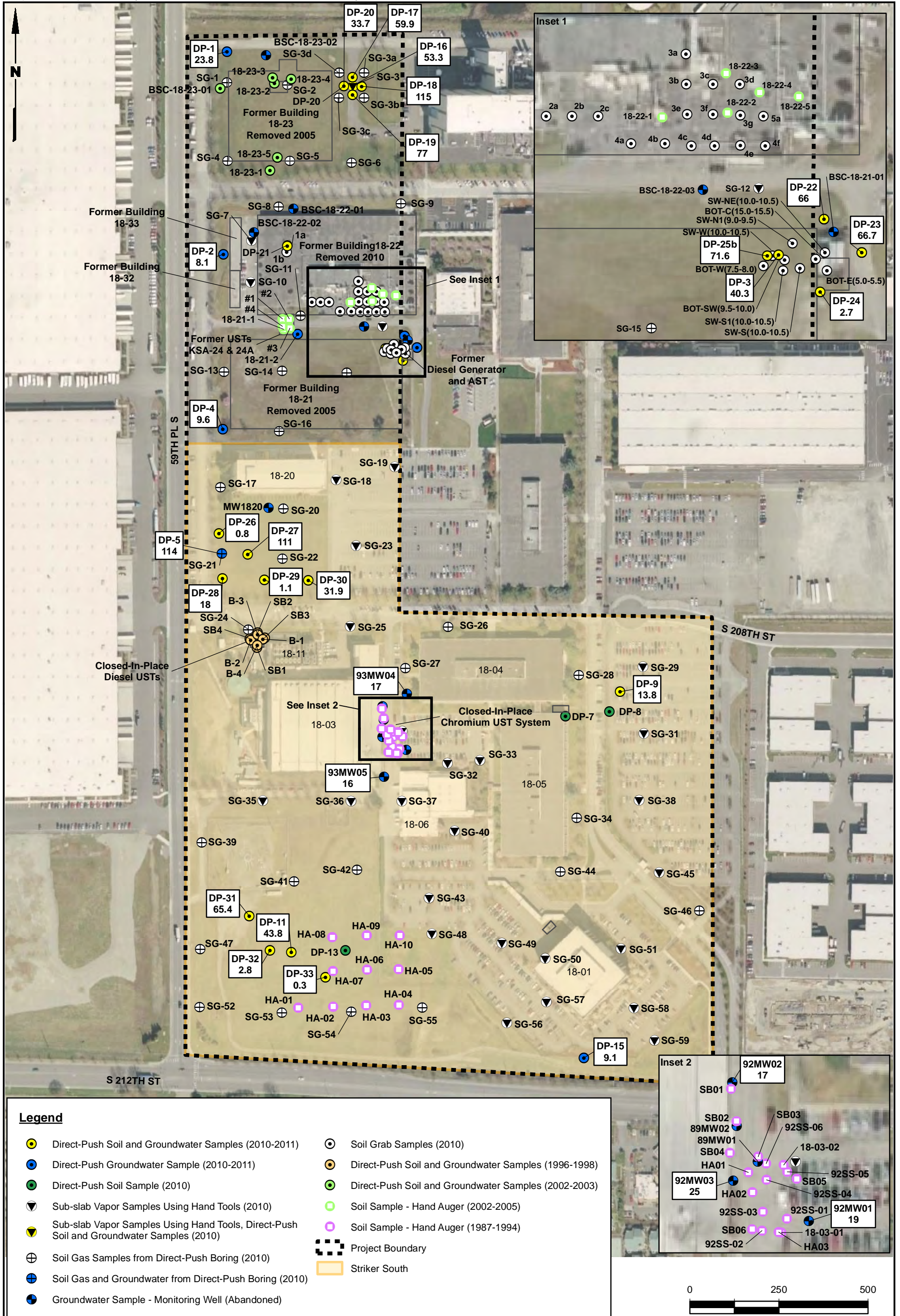


TABLE 1
DETECTED CONCENTRATIONS OF DISSOLVED ARSENIC IN GROUNDWATER
BOEING STRIKER PROPERTY
KENT, WASHINGTON

Sample ID	Date	Dissolved Arsenic ($\mu\text{g/L}$)
KSC-DP-1	7/28/2010	23.8
KSC-DP-2	7/30/2010	8.1
KSC-DP-3	7/30/2010	40.3
KSC-DP-4	7/29/2010	9.6
KSC-DP-5	7/30/2010	114
KSC-DP-9	7/29/2010	13.8
KSC-DP-11	7/30/2010	43.8
KSC-DP-15	7/30/2010	9.1
KSC-DP-16	7/30/2010	53.3
KSC-DP-17	1/27/2011	59.9
KSC-DP-18	1/27/2011	115
KSC-DP-19	1/27/2011	77
KSC-DP-20	1/27/2011	33.7
KSC-DP-22	1/26/2011	66
KSC-DP-23	1/26/2011	66.7
KSC-DP-24	1/26/2011	2.7
KSC-DP-25b	1/26/2011	71.6
KSC-DP-26	1/25/2011	0.8
KSC-DP-27	1/25/2011	111
KSC-DP-28	1/25/2011	18
KSC-DP-29	1/25/2011	1.1
KSC-DP-30	1/25/2011	31.9
KSC-DP-31	1/26/2011	65.4
KSC-DP-32	1/26/2011	2.8
KSC-DP-33	1/26/2011	0.3
Building 18-03		
92MW-01	11/21/1994	19
92MW-02	11/21/1994	17
92MW-03	11/21/1994	25
93MW-04	11/21/1994	17
93MW-05	11/21/1994	16
Building 18-54		
MW-1	4/27/2009	27
MW-2	4/27/2009	24
MW-3	4/27/2009	51
Gun Club		
P-1	10/26/1998	42
P-2	10/26/1998	13
P-3	10/26/1998	18
P-4	10/26/1998	21
KGC-MW-1	3/6/2000	19
KGC-MW-2	3/6/2000	3
KGC-MW-3	3/6/2000	12

Bold = Detected compound.

Box = indicates detected concentration exceeds screening level (5 $\mu\text{g/L}$).

April 28, 2000

14,327.321

Mr. Brian Anderson
The Boeing Company
Shared Services Group
Post Office Box 3707, MC7A-WW
Seattle, Washington 98124-2207

Dear Brian:

**Addendum
Groundwater Monitoring and Evaluation
Boeing Space Center Gun Club Soil Cleanup
Kent, Washington**

This letter report provides additional groundwater information collected subsequent to completion of soil cleanup and reporting for a gun club operated by Boeing employees at the Kent Space Center. Low levels of lead and arsenic have been detected in shallow site groundwater. As requested by the Washington Department of Ecology (Ecology) after review of the draft soil cleanup report, this addendum further evaluates the source of metals in groundwater.

ADDENDUM BACKGROUND

Soil cleanup at the gun club was completed during late summer, early fall 1999 by stabilization and removal of 4 to 12 inches of soil from a 19.2 acre area. Conservative Model Toxics Control Act (MTCA) residential cleanup levels were met with shallow excavation depths indicating that contaminants of concern (lead and polycyclic aromatic hydrocarbons [cPAH]) had not appreciably migrated. Following soil cleanup, site groundwater in the most highly impacted source areas was evaluated by installation and sampling of three shallow groundwater monitoring wells (approximately 20 feet below ground surface). For reference, monitor well logs are included as an attachment. Well locations were chosen on the basis that source areas had not been altered and had been continuous since the early 1970's. Consequently, if groundwater had been impacted at all by gun club chemicals of concern, we expected to see impacts in the source center areas.

Water samples were collected in October 1999 and were analyzed for lead, arsenic, and carcinogenic (cPAH). The lead and cPAH were the primary chemicals of concern for gun club soils, but arsenic was also included as an analyte since it had been detected in groundwater in a precleanup assessment (Landau, 1999). The post cleanup groundwater sampling results were presented as part of the soil cleanup report (AGI, 2000). These results indicated very low lead concentrations below MTCA Method A (5 parts per billion [ppb]), except one duplicate sample which contained 6 ppb lead. CPAH was not detected in any of the three wells. Arsenic was detected at relatively low ppb levels ranging from 3 to 16 micrograms per liter ($\mu\text{g}/\text{L}$). Based on discussions with Ecology, additional

actions were requested to address or further define the source of very low lead and arsenic concentrations in shallow groundwater at the site. In summary, the following actions have been completed in support of this groundwater addendum:

- The three onsite groundwater monitoring wells were resampled by Boeing on March 6, 1999 and analyzed for both total and dissolved lead and arsenic.
- Further research was performed to establish typical background arsenic and lead concentrations in soil and shallow groundwater within the Kent area and Green River Valley.

KENT GUN CLUB GROUNDWATER SAMPLING

The three onsite monitoring wells, KGC-MW1 through KGC-MW3, were repurged and sampled in early March 2000 using low-flow techniques and a peristaltic pump. This sampling event would be considered a wet season event, versus the dry season performed in October 1999. Groundwater levels, as measured from top of casing, for each of the sampling events are listed as follows:

Well No.	October 25, 1999	March 6, 2000
KGC-MW1	15.3 feet	9.12 feet
KGC-MW2	14.81 feet	6.13 feet
KGC-MW3	14.17 feet	7.47 feet

Groundwater levels rose 6 to 8 feet during the winter between October and March, with the static water table occurring 5 to 7 feet below ground surface.

During the March 2000 sampling event, dissolved metals samples were collected to further evaluate whether metals concentrations could be affected by soil turbidity within the groundwater samples. The three shallow wells produce very low quantities of slightly silty water, since the first water-bearing zone encountered is fine-grained silts and silty sands. Dissolved metal samples were field-filtered with a 45 micron filter to remove suspended solids.

Results of the October 1999 and March 2000 sampling event are summarized in **Table 1**. The original lab reports and Quality Assurance/Quality Control review are included as an attachment. In summary, March 2000 arsenic concentrations range from 4 to 23 $\mu\text{g}/\text{L}$ with dissolved arsenic concentrations being slightly lower than totals. These results are consistent with the October 1999 sampling event. Total lead concentrations from the three wells were 2 to 3 $\mu\text{g}/\text{L}$ in March 2000 and dissolved concentrations were not detectable.

Total lead concentrations are below the MTCA Method A cleanup level of 5 $\mu\text{g}/\text{L}$ and sampling data also indicates that lead detected may be associated with slight to moderate soil turbidity present in the water samples collected. The lead results are typical of background in the Kent Valley and likely have no relationship to lead from gun club cleanup operations. Based on this, these levels do not require further action for the site. Arsenic concentrations slightly exceed the MTCA Method A cleanup levels for groundwater, but the arsenic appears to be associated with regional background conditions, as described in following paragraphs. Both the lead and arsenic are below current drinking water standards (Maximum Contaminant Levels [MCL]) which are 15 $\mu\text{g}/\text{L}$ for lead and 50 $\mu\text{g}/\text{L}$ for arsenic.

REGIONAL AND LOCAL OCCURRENCES OF ARSENIC AND LEAD IN GROUNDWATER AND SOIL

Groundwater

Arsenic is a naturally occurring source of regional groundwater contamination in Washington State (Ecology, 1999). Turney and others (1995) identified arsenic concentrations ranging from less than 1 to 77 µg/L in 64 percent of wells sampled in East King County. Elevated concentrations of arsenic have been documented in other areas of Western Washington, including Snohomish County, which had listed groundwater concentrations as high as 15,000 µg/L. Information obtained from the Washington State Department of Health (WSDH) database showed significant arsenic in many area wells. Specifically, the WSDH database notes nine water supply wells in the vicinity of the Gun Club (Township 22, Range 4E and Range 5E) with 2 to 25 µg/L arsenic (see **Table 2**).

The source of the arsenic in the groundwater comes from natural sources. The highest concentrations of arsenic are associated with igneous or volcanic "bedrock" or with sedimentary deposits containing igneous material (Turney, 1995). Although bedrock does not outcrop near the Kent Space Center and is buried beneath 800 to 1,000 feet of sediment in the area (Hill & Othberg, 1974), the uppermost sedimentary deposits in the Kent Valley are derived from the Cascade Mountains and have a high proportion of volcanic fragments. In fact, the uppermost sediments are colloquially termed the "Duwamish Sand" based on a characteristic black color speckled with red. The black particulates originate from basalts and other volcanic materials and the red particles are derived from andesite.

Significant regional lead comparison data were not available, since most testing observed had detection levels of 5 µg/L and site lead levels are below this level. Also, since the drinking water standard for lead is 15 µg/L, lead has not been a significant regional concern. However, the WSDH database did have several wells in the Kent area with lead, as shown in **Table 3**.

Soil

Based on review of gun club assessment data, site soil background levels for lead and arsenic can be generally determined. Site soil samples that did not appear to be impacted by gun club contaminants contained about 5 mg/kg arsenic and 10 mg/kg lead. These values are consistent with Ecology publication, *Natural Background Soil Metals Concentrations in Washington*. In this document, the Puget Sound 90th percentile value for arsenic and lead are 7.8 and 16.8, respectively. Consequently, the natural soil background concentrations of lead and arsenic in soil can contribute to groundwater detections; particularly if groundwater samples contain soil turbidity introduced by sampling procedures.

DATA FROM SHALLOW KENT VALLEY GROUNDWATER MONITORING WELLS

In order to further verify that arsenic levels and lead levels are the result of a regional condition and not onsite contamination, we also obtained locally available shallow groundwater monitoring well data. Specifically, groundwater data were available from another area of the Boeing Kent Space Center facility and the Boeing Auburn Facility, which is also located in the Green River Valley.

Kent Space Center

During the early 1990's, Boeing closed a micromation tank at the Kent Space Center. The site is approximately 3,000 feet southeast and likely upgradient of the gun club. Arsenic and lead results are shown in **Table 4**. Three shallow wells were installed and groundwater was tested for metals during two sampling events (December 1992 and January 1993). Arsenic concentrations (3 to 21 $\mu\text{g/L}$) have not been linked to any contamination source at the site and can only be explained by the regional occurrence of arsenic in groundwater. Lead levels ranging from 1 to 30 $\mu\text{g/L}$ were detected. The samples with 1 to 6 $\mu\text{g/L}$ of lead are consistent with a background condition. Several higher detections in the first round could have been related to site impacts.

Boeing Auburn

The Boeing Auburn facility is also located to the south and upgradient in the Green River Valley. Due to various environmental actions, groundwater monitoring in the shallow water zone has been ongoing for many years and a similar arsenic and lead background condition has been noted. August 1999 groundwater data from the Boeing Auburn facility showed eight out of 27 samples collected exhibited concentrations of arsenic and lead in the groundwater. The arsenic concentrations ranged from 5 to 20 $\mu\text{g/L}$; lead ranged from 2 to 9 $\mu\text{g/L}$ and was detected in most wells where arsenic exceeded 5 $\mu\text{g/L}$. These arsenic and lead concentrations have not been linked to any contamination source at the site, and can best be explained by the regional occurrence of arsenic and lead in groundwater. This data is very similar to that observed at the gun club.

SUMMARY AND CONCLUSIONS

Based on additional sampling performed at the gun club, further research of regional information and data sources; and obtaining other site-specific shallow groundwater data from two Boeing sites upgradient and within the Green River Valley; we believe that conclusive statements can be made regarding metals concentration and shallow groundwater at the gun club site as follows:

- Lead

The October 1999 and March 2000 sampling results indicate that lead is below MTCA Method A cleanup levels and drinking water standards during both the dry and wet seasons, and that low levels detected are associated with sample turbidity and natural soil background conditions. The lead detected is associated with soil turbidity since dissolved lead concentrations were not detectable.

- Arsenic

Low levels of arsenic in site groundwater occur in the dissolved phase and exceed the MTCA Method A cleanup level of 5 $\mu\text{g/L}$, but are below current drinking water quality standards of 50 $\mu\text{g/L}$. Further research performed for this addendum indicates that arsenic concentrations in the ranges detected are commonly found as natural background conditions throughout the area and region and specifically within the Green River Valley. Background arsenic concentrations at two upgradient Boeing sites in the Green River Valley were similar to those of the gun club.

Mr. Brian Anderson
The Boeing Company
April 28, 2000
Page 5



In summary, this addendum supports the statement that Boeing Gun Club activities did not adversely impact site groundwater.

Sincerely,

AGI Technologies, a CDM Company

A handwritten signature in cursive script that reads "Jessica R. Garofalo".

Jessica R. Garofalo
Staff Geologist

A handwritten signature in cursive script that reads "Martin E. Carlson".

Martin E. Carlson, P.E.
Principal Engineer

cc: Mr. Ron Timm, Ecology

enclosures

REFERENCES

REFERENCES

Hall, John B. and Othergerg, Kurt L. 1974. *Thickness of Unconsolidated Sediments, Puget Lowland, Washington*. Washington Division of Geology and Earth Resources. Geologic map GM-12.

Onishi, H. and Sandell, E.B. 1955. *Geochemistry of Arsenic*. *Geochemica et Cosmochimica Acta*. Vol 7.

Turney, G.L., Kahle, S.C., and Dion, N.P. 1995. *Geohydrology and Groundwater Quality of East King County, Washington*. USGS Water Resources Investigations Report 94-4082, p.46-47.

Washington State Department of Ecology, Department of Health, Division of Drinking. 1999. *Report on Groundwater Contamination that Affects Drinking Water in Washington State*. <http://www.doh.wa.gov/report/joint.htm>.

Welch, A.H., Lilco, M.S., and Hughs, J.L. 1988. *Arsenic in Ground Water of the Western United States; Ground Water*, V. 26, no 3, p.333-347.

Woodward, D.G., Packard, F.A., Dion, N.P., and Sumioka, S.S. 1995. *Occurrence and Quality of Ground Water in Southwestern King County, Washington*. U.S. Geological Survey. Water- Resources Investigations Report 92-4098.

AGI Technologies. 2000. *Final Report, Soil Cleanup, Boeing Kent Space Center Gun Club*. April 17, 2000.

Landau Associates, Inc.. 1999. *Final Report, Site Characterization Study, Kent Gun Club*. February 22, 1999.

TABLES

Table 1
Arsenic, Lead and CPAHs in Site Groundwater
Quantified by EPA Method 7060,7421, and 8270

Boeing/Kent Gun Club
 Kent, Washington

Sample I.D.	Sample Date	Total Metals		Turbidity NTU	Dissolved Metals		Turbidity NTU
		Arsenic µg/L	Lead µg/L		Arsenic µg/L	Lead µg/L	
KGC-MW1-10/99	10/26/99	10	2	--	--	--	--
KGC-MW1-000306	03/06/00	23.0	2.0	40	19.0	ND	1.5
KGC-MW2-10/99	10/26/99	6	ND	--	--	--	--
KGC-MW2-000306	03/06/00	4.0	2.0	68	3.0	ND	0.5
KGC-MW3-10/99	10/26/99	12	1	--	--	--	--
KGC-MW4-10/99 (Duplicate)**	10/26/99	14	6	--	--	--	--
KGC-MW3-000306	03/06/00	15.0	3.0	57	12.0	ND	0.5
Method A Cleanup Level ^a		5	5		5	5	

Compound	Sample I.D.		
	KGC-MW1 10/99	KGC-MW2 10/99	KGC-MW3 10/99
	µg/L		
Naphthalene	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND
Acenaphthylene	ND	ND	ND
Acenaphthene	ND	ND	ND
Fluorene	ND	ND	ND
Phenanthrene	ND	ND	ND
Anthracene	ND	ND	ND
Fluoranthene	ND	ND	ND
Pyrene	ND	ND	ND
Benzo[a]anthracene*	ND	ND	ND
Chrysene*	ND	ND	ND
Benzo[b]fluoranthene*	ND	ND	ND
Benzo[k]fluoranthene*	ND	ND	ND
Benzo[a]pyrene*	ND	ND	ND
Indeno[1,2,3-cd]pyrene*	ND	ND	ND
Dibenz[a,h]anthracene*	ND	ND	ND
Benzo[g,h,i]perylene*	ND	ND	ND
Total CPAHs	ND	ND	ND
Method A Cleanup Level ^a (total cPAHs)	0.1	0.1	0.1

Notes:

*Carcinogenic PAH (cPAH).

**Sample is a duplicate of MW-3.

Detection limit for lead and PAH is 1µg/L and 0.1 µg/L, respectively.

Shaded value exceeds cleanup level.

a) Washington Administrative Code Chapter 173-340 Model Toxics Control Act

Cleanup Regulation Method A suggested cleanup level for groundwater.

µg/L - microgram per liter.

ND - not detected.

-- not analyzed.

Table 2
Arsenic Concentrations in Groundwater, Public Water Systems in T22N, R4E and R5E, King County
Washington State Department of Health Data Base
 Boeing/Kent Gun Club
 Kent, Washington

Township	Range	Section	QTR	Name	Sample Number	Result (mg/L)
22	04E	8	NENE	HIGHLINE WATER DISTRICT	12015	0.023
22	04E	8	NWSE	KING COUNTY WATER DISTRICT #54	9819	0.0034
22	04E	9	NENE	HIGHLINE WATER DISTRICT	12015	0.023
22	05E	14	NESW	REICHEL/SCANLON SYSTEM	15394	0.028
22	05E	21	SWSW	KING COUNTY WATER DISTRICT 111	14784	0.01
22	05E	21	SWSW	KING COUNTY WATER DISTRICT 111	15401	0.009
22	05E	21	SWSW	KING COUNTY WATER DISTRICT 111	15402	0.006
22	05E	21	SWSW	KING COUNTY WATER DISTRICT 111	15403	0.006
22	05E	21	SWSW	KING COUNTY WATER DISTRICT 111	15404	0.005
22	05E	21	SWSW	KING COUNTY WATER DISTRICT 111	15405	0.007
22	05E	27	NWNW	LAKE MERIDIAN ESTATES (MHP)	28012	0.025
22	05E	27	NWNW	SUNSET PARK WATER CO	14734	0.012
22	05E	27	NWNW	SUNSET PARK WATER CO	15568	0.011
22	05E	32	SWSE	CRESTVIEW WEST WATER SYSTEM	15268	0.005
22	05E	32	SWSE	CRESTVIEW WEST WATER SYSTEM	15269	0.005
22	05E	32	SWSE	CRESTVIEW WEST WATER SYSTEM	15269	0.0101
22	05E	33	SWSW	CRESTVIEW TRACTS #3	34528	0.012

Note:
 mg/L - milligram per liter.

Table 3
Lead Concentrations in Groundwater, Public Water Systems in T22N, R4E and R5E, King County
Washington State Department of Health Data Base
 Boeing/Kent Gun Club
 Kent, Washington

Township	Range	Section	QTR	Pws-Id	Pws-Name	Sample Number	Results (mg/L)
22	04E	6	NWNW	64816	OLSON, M	6855	0.002
22	04E	6	NWNW	64816	OLSON, M	6855	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	535	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	536	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6006	0.002
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6008	0.007
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6009	0.006
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6012	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6013	0.008
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6016	0.007
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6017	0.002
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6018	0.0036
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6019	0.0009
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6020	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6024	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6028	0.002
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	6170	0.002
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	8579	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	12015	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28272	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28273	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28274	0.002
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28275	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28276	0.014
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28278	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28280	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28281	0.011
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28282	0.011
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28283	0.01
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28284	0.014
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28286	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28288	0.005

Table 3
Lead Concentrations in Groundwater, Public Water Systems in T22N, R4E and R5E, King County
Washington State Department of Health Data Base
 Boeing/Kent Gun Club
 Kent, Washington

Township	Range	Section	QTR	Pws-Id	Pws-Name	Sample Number	Results (mg/L)
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28289	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28290	0.008
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28291	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28292	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28294	0.007
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28295	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28296	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28297	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28298	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28299	0.057
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28300	0.01
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28301	0.002
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28302	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28303	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28306	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28308	0.017
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28309	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28313	0.014
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28314	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28730	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28830	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	28836	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	29210	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	29212	0.003
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	29216	0.004
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	29219	0.006
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	29573	0.012
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	29574	0.005
22	04E	8	NENE	40650	HIGHLINE WATER DISTRICT	29575	0.006
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70807	0.003
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70808	0.004
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70810	0.005

Table 3
Lead Concentrations in Groundwater, Public Water Systems in T22N, R4E and R5E, King County
Washington State Department of Health Data Base
 Boeing/Kent Gun Club
 Kent, Washington

Township	Range	Section	QTR	Pws-Id	Pws-Name	Sample Number	Results (mg/L)
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70812	0.002
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70813	0.004
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70814	0.004
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70815	0.018
22	04E	17	SWSE	51930	MASONIC RETIREMENT CENTER	70816	0.002
22	05E	27	NWNW	23341	LAKE MERIDIAN ESTATES (MHP)	5440	0.002
22	05E	27	NWNW	23341	LAKE MERIDIAN ESTATES (MHP)	5445	0.003
22	05E	27	NWNW	23341	LAKE MERIDIAN ESTATES (MHP)	6031	0.004
22	05E	27	NWNW	23341	LAKE MERIDIAN ESTATES (MHP)	7410	0.001
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	4186	0.002
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	22735	0.002
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	22739	0.002
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	22740	0.002
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24317	0.008
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24318	0.002
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24319	0.002
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24320	0.004
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24321	0.016
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24322	0.007
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24323	0.002
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24325	0.003
22	05E	28	NWSE	53800	MERIDIAN MEADOWS	24326	0.007
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	11341	0.015
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	24838	0.004
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	24839	0.002
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	26255	0.004
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	33389	0.004
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	33920	0.001
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	33921	0.002
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	33922	0.002
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	33923	0.002
22	04E	32	NENE	57396	MINTER VIEW WATER SYSTEM	33924	0.002

Table 3
Lead Concentrations in Groundwater, Public Water Systems in T22N, R4E and R5E, King County
Washington State Department of Health Data Base
 Boeing/Kent Gun Club
 Kent, Washington

Township	Range	Section	QTR	Pws-Id	Pws-Name	Sample Number	Results (mg/L)
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	17	0.001
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	17	0.003
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	17	0.0059
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	18	0.0017
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	18	0.002
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	19	0.007
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	21	0.001
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	22	0.002
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	23	0.001
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	23	0.002
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	24	0.154
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	25	0.009
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	25	0.011
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	26	0.015
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	26	0.016
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9984	0.001
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9986	0.005
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9988	0.001
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9989	0.002
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9990	0.002
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9992	0.005
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9993	0.001
22	05E	33	NWSW	19000	DERBYSHIRE SCENIC ACRES	9994	0.003
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22435	0.006
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22436	0.006
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22437	0.007
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22438	0.003
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22919	0.003
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22920	0.004
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22922	0.002
22	05E	35	SESW	94170	WELCHS WATER ASSOCIATION	22923	0.005

Note:
 mg/L - milligram per liter.

Table 4
Total Arsenic and Lead in Offsite Groundwater
Quantified by EPA Method 600/4-79-020 206.2
Boeing/Kent Gun Club
Kent, Washington

18-03 Building, Kent Space Center

Sample I.D.	Sample Date	Arsenic	Lead
		µg/L	
92MW-01	12/15/92	10.0	1.0
92MW-02	12/15/92	13.0	30.0
92MW-03	12/15/92	12.0	18.0
92MW-1-02	01/29/93	21.0	5.0
92MW-2-02	01/29/93	3.0	6.0
92MW-3-02	01/29/93	14.0	1.0
Method A Cleanup Level ^a		5.0	5.0

Boeing Auburn Facility

Sample I.D.	Sample Date	Arsenic	Lead
		µg/L	
AGW032-990830	08/30/99	20.0	ND
AGW049-990831	08/31/99	13.0	7.0
AGW068-990831	08/31/99	12.0	9.0
AGW038-990831	08/31/99	11.0	ND
AGW065-990831	08/31/99	11.0	ND
AGW081-990830	08/30/99	7.0	4.0
AGW082-990830	08/30/99	3.0	3.0
AGW083-990830	08/30/99	6.0	2.0
AGW080-990830	08/30/99	5.0	ND
Method A Cleanup Level ^a		5.0	5.0

Notes:

Boeing Auburn facility data provide only the most recent available sampling round arsenic and lead detections. These detections are consistent over the last 5 years of monitoring.

Detection limit for arsenic and lead is 1.0 µg/L.

Shaded value exceeds cleanup level.

a) Washington Administrative Code Chapter 173-340 Model Toxics Control Act
Cleanup Regulation Method A suggested cleanup level for groundwater.

µg/L - microgram per liter.

ND - not detected.

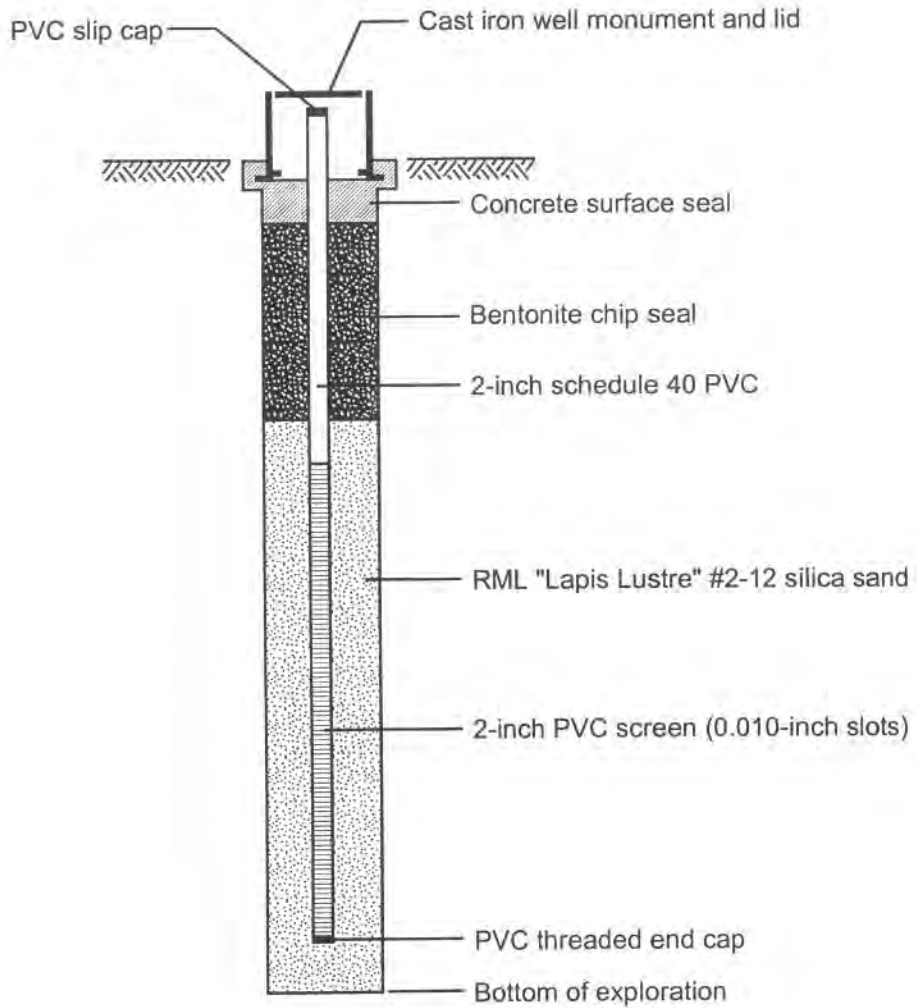
-- not analyzed.

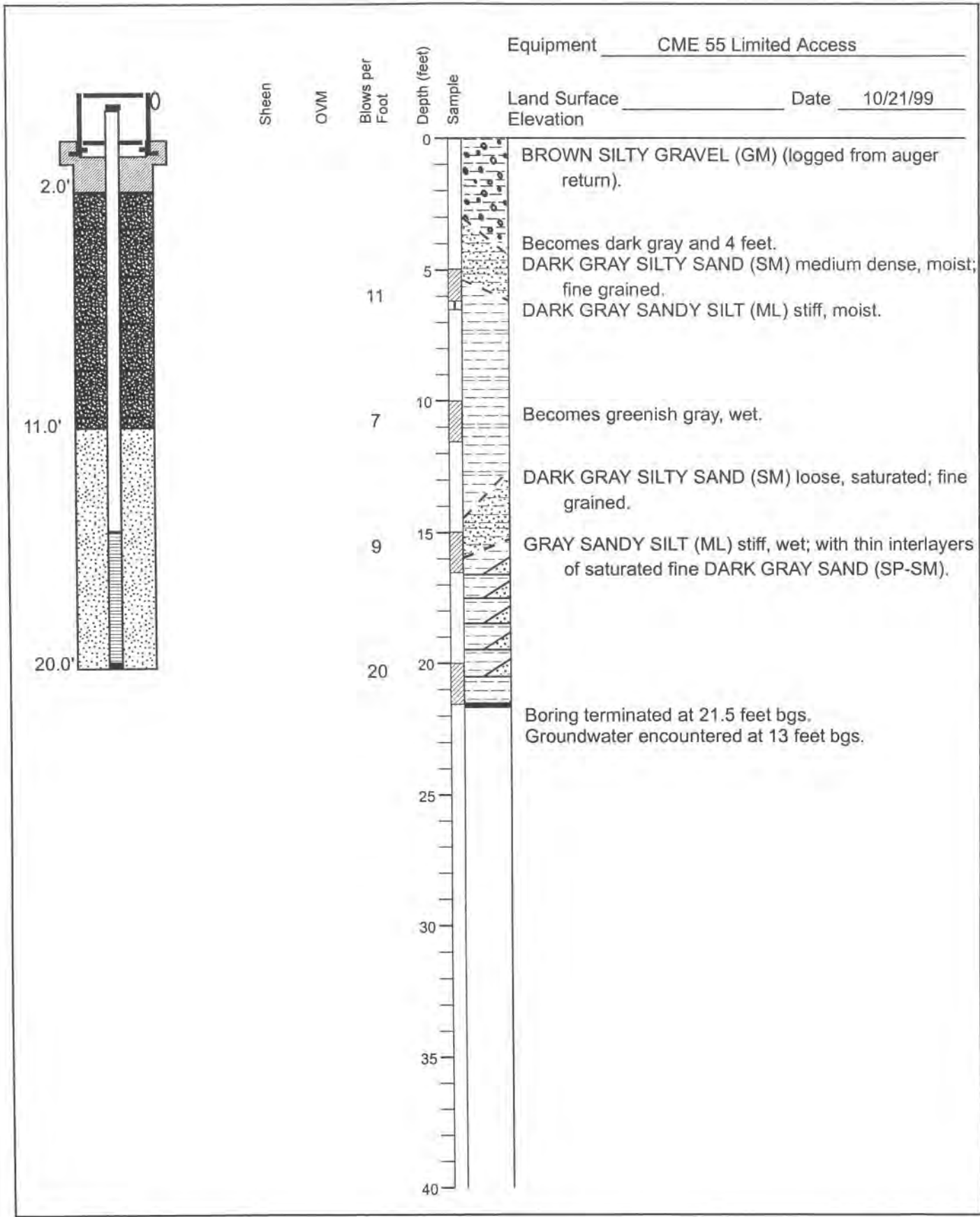
MONITOR WELL LOGS

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		TYPICAL NAMES	
COARSE GRAINED SOILS More than half is larger than No. 200 Sieve	GRAVELS More than half coarse fraction is larger than No. 4 sieve size	Clean gravels with little or no fines	GW Well graded gravels, gravel-sand mixtures
		Gravels with over 12% fines	GP Poorly graded gravels, gravel-sand mixtures
			GM Silty gravels, poorly graded gravel-sand-silt mixtures
		GC Clayey gravels, poorly graded gravel-sand-clay mixtures	
	SANDS More than half coarse fraction is smaller than No. 4 sieve size	Clean sands with little or no fines	SW Well graded sands, gravelly sands
		Sands with over 12% fines	SP Poorly graded sands, gravelly sands
			SM Silty sand, poorly graded sand-silt mixtures
			SC Clayey sands, poorly graded sand-clay mixtures
			SILTS AND CLAYS Liquid limit less than 50
		CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
OL Organic clays and organic silty clays of low plasticity			
SILTS AND CLAYS Liquid limit greater than 50	MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
	CH Inorganic clays of high plasticity, fat clays		
	OH Organic clays of medium to high plasticity, organic silts		
HIGHLY ORGANIC SOILS		PT Peat and other highly organic soils	

SAMPLE <input type="checkbox"/> "Undisturbed" <input type="checkbox"/> Bulk/Grab <input type="checkbox"/> Not Recovered <input type="checkbox"/> Recovered, Not Retained	CONTACT BETWEEN UNITS Well Defined Change Gradational Change Obscure Change End of Exploration	PHYSICAL PROPERTY TESTS Consol - Consolidation LL - Liquid Limit PL - Plastic Limit Gs - Specific Gravity SA - Size Analysis TxS - Triaxial Shear TxP - Triaxial Permeability Perm - Permeability Po - Porosity MC - Moisture Content MD - Moisture/Density DS - Direct Shear VS - Vane Shear Comp - Compaction UU - Unconsolidated, Undrained CU - Consolidated, Undrained CD - Consolidated, Drained
BLOWS PER FOOT Hammer is 140 pounds with 30-inch drop, unless otherwise noted S - SPT Sampler (2.0-Inch O.D.) T - Thin Wall Sampler (2.8-Inch Sample) H - Split Barrel Sampler (2.4-Inch Sample)		
MOISTURE DESCRIPTION Dry - Considerably less than optimum for compaction Moist - Near optimum moisture content Wet - Over optimum moisture content Saturated - Below water table, in capillary zone, or in perched groundwater		



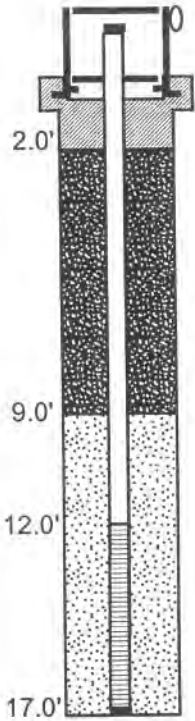


Log of Monitoring Well MW1
Boeing/Kent Gun Club
Kent, Washington

PLATE
D3

Equipment CME 55 Limited Access

Land Surface Elevation _____ Date 10/21/99



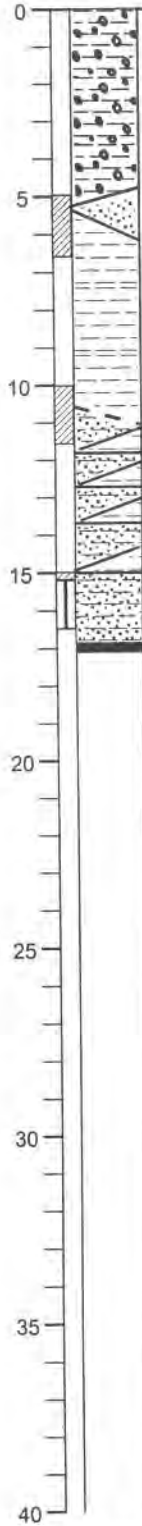
Sheen

OVM

Blows per Foot

Depth (feet)

Sample



BROWN SILTY GRAVEL (GM).

RED-BROWN SANDY SILT (ML) stiff, moist.

Becomes gray.

GRAY SILTY SAND (SM) loose, saturated; fine grained, with SANDY SILT (ML) interlayers.

Boring terminated at 17 feet bgs.
Groundwater encountered at 11 feet bgs.

AGI
TECHNOLOGIES

Log of Monitoring Well MW1
Boeing/Kent Gun Club
Kent, Washington

PLATE

D4

4327317wl.cdr

PROJECT NO.
14,327.317

DRAWN
PJS

DATE
1/19/00

APPROVED

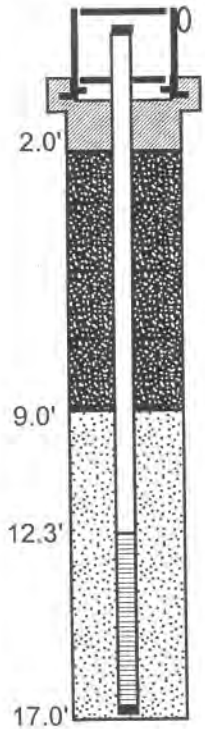
msc

REVISED

DATE

Equipment CME 55 Limited Access

Land Surface _____ Date 10/21/99
Elevation _____



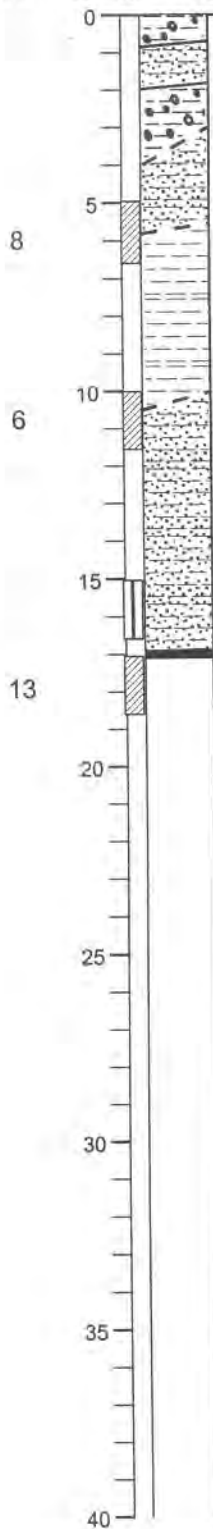
Sheen

OVM

Blows per Foot

Depth (feet)

Sample



BROWN SILTY GRAVEL (GM).
BROWN SILTY SAND (SM).
DARK GRAY SILTY GRAVEL (GM).
BROWN SAND (SP-SM) loose, moist.

GRAY SILT (ML) stiff, moist; slightly plastic, trace organics.

GRAY SILTY SAND (SM) loose, saturated; fine grained.

No recovery.

Boring terminated at 17 feet bgs.
Groundwater encountered at 10 feet bgs.

AGI
TECHNOLOGIES

Log of Monitoring Well MW1

Boeing/Kent Gun Club
Kent, Washington

PLATE
D5

4327317wl.cdr

PROJECT NO.
14,327.317

DRAWN
PJS

DATE
1/19/00

APPROVED
MSC

REVISED

DATE

CHEMISTRY DATA

QUALITY ASSURANCE/QUALITY CONTROL

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: Kent Gun Club
 Project No.: 14,327.321
 Lab Name: Analytical Resources, Incorporated
 Lab Number: BJ29
 Sample No.: KGC MW1-000306, KGC MW2-000306, KGC MW3-000306
 Matrix: Water

QUALITY ASSURANCE SUMMARY

All data were of known quality and acceptable for use.

ANALYTICAL METHODS

<u>Parameters</u>	<u>Technique</u>	<u>Method</u>
Arsenic	AA/GF	EPA 7060
Lead	AA/GF	EPA 7421

TIMELINESS

All samples were extracted and analyzed within recommended holding times.

<u>Parameters</u>	<u>Date</u> <u>Sampled</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Analyzed</u>	<u>Time</u> <u>Until</u> <u>Extraction</u>	<u>Time</u> <u>Until</u> <u>Analysis</u>
Dissolved Arsenic	3/06/00	3/07/00	3/07/00	1	1(180)
Dissolved Lead	3/06/00	3/07/00	3/07/00	1	1(180)
Total Arsenic	3/06/00	3/07/00	3/09/00	1	3(180)
Total Lead	3/06/00	3/07/00	3/09/00	1	3(180)

NR - not reported.

NA - not applicable.

() - numbers in parenthesis indicate recommended holding time in days.

QUALITY ASSURANCE REPORT

PROJECT AND SAMPLE INFORMATION

Project Name: Kent Gun Club
Project No.: 14,937.073
Lab Name: Analytical Resources, Incorporated
Lab Number: BJ29

FIELD QUALITY CONTROL SAMPLES

Field Duplicates: None
Rinsate: None.
Trip Blank: None.

LAB QUALITY CONTROL SAMPLES

Method Blanks: No analytes were detected at or above ARI reporting limits.
Blank Spikes: Blank Spike recoveries were within ARI control limit criteria.
Duplicates: None.
Surrogates: None.
Laboratory Control Sample: None.

SIGNATURES

Prepared by  Date 4/07/00

Checked by  Date 4/7/00



Analytical Resources, Incorporated
Analytical Chemists and Consultants

RECEIVED

11:00

March 10, 2000

AGI/A CDM COMPANY

Brian Anderson
The Boeing Company
P.O. Box 3707, M/S 7A-XA
Seattle, WA 98124-2207

RE: Project: Kent Gun Club
ARI Job: BJ29

Dear Brian:

Please find enclosed sample custody records and analytical results for the above referenced project. Analytical Resources, Inc. accepted three water samples in good condition on March 6, 2000.

The samples were analyzed for total and dissolved metals (arsenic and lead) referencing EPA methods 7060 and 7421. No analytical complications were noted.

Copies of the reports and all raw data will remain on file at ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

A handwritten signature in black ink, appearing to read "J. Reitan".

Jeff Reitan
Client Services Manager
jeff@arilabs.com

JJR/sl
Enclosure

cc: Martin Carlson, AGI Technologies Inc. (Bellevue, WA)

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
 Analytical Chemist and Consultants
 400 Ninth Avenue North
 Seattle, WA 98109-4708
 (206) 621-6490
 (206) 621-7523 (Fax)



Date: 3-6-00
 Page 1 of 1
 Number of coolers: 1
 Cooler Temp: 3.5

ARI Client: BOEING Phone#: _____

Client Contact: BRIAN ANDERSON

Client Project ID: KENT GUN CLUB

Samplers: CH. HARDY, KG. CHAPUT

Sample ID	Date	Time	Matx	No Cont	Lab ID
1 KGC MW1-000306	3-6-00	14:45	A	2	
2 KGC MW3-000306	3-6-00	15:35	A	2	
3 KGC MW2-000306	3-6-00	16:20	A	2	
4					
5					
6					
7					

Analysis Required		Notes/Comments
Total Pb & As		00-29102 to
Dissolved Pb & As		00-29107
✓		BJS29
✓		Dissolved Metals were Field Filtered
✓		
✓		
✓		

ARI Project No:	Relinquished by: <u>Ken Chaput</u> (Signature)	Relinquished by: _____ (Signature)
T.A.T. Requested: <u>RUSH</u>	Printed Name: <u>Ken Chaput</u>	Printed Name: _____
Comments/Special Instructions: <u>Report Results to Brian Anderson</u>	Company: <u>Boeing</u>	Company: _____
	Date: <u>3-6-00</u> Time: <u>1720</u>	Date: _____ Time: _____
	Received by: <u>Melnyk</u> (Signature)	Received by: _____ (Signature)
	Printed Name: <u>Melnyk</u>	Printed Name: _____
	Company: <u>ARI</u>	Company: _____
	Date: <u>3/6/00</u> Time: <u>1720</u>	Date: _____ Time: _____

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following Standard Operating Procedures and our Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI releases ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the client.


INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: KGCMW1-000306

Lab Sample ID: BJ29A
LIMS ID: 00-2962
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: 03/06/00
Date Received: 03/06/00

Data Release Authorized: 
Reported: 03/10/00

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7060	03/07/00	7060	03/09/00	7440-38-2	Arsenic	0.001	0.023
3020	03/07/00	7421	03/09/00	7439-92-1	Lead	0.001	0.002

U Analyte undetected at given RL

RL Reporting Limit


INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: KGCMW3-000306

Lab Sample ID: BJ29B
LIMS ID: 00-2963
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: 03/06/00
Date Received: 03/06/00

Data Release Authorized: 
Reported: 03/10/00

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7060	03/07/00	7060	03/09/00	7440-38-2	Arsenic	0.001	0.015
3020	03/07/00	7421	03/09/00	7439-92-1	Lead	0.001	0.003

U Analyte undetected at given RL

RL Reporting Limit


INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: KGCMW2-000306

Lab Sample ID: BJ29C
LIMS ID: 00-2964
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: 03/06/00
Date Received: 03/06/00

Data Release Authorized: 
Reported: 03/10/00

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7060	03/07/00	7060	03/09/00	7440-38-2	Arsenic	0.001	0.004
3020	03/07/00	7421	03/09/00	7439-92-1	Lead	0.001	0.002

U Analyte undetected at given RL

RL Reporting Limit


INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: Method Blank

Lab Sample ID: BJ29MB
LIMS ID: 00-2962
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: NA
Date Received: NA

Data Release Authorized: 
Reported: 03/10/00

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7060	03/07/00	7060	03/09/00	7440-38-2	Arsenic	0.001	0.001 U
3020	03/07/00	7421	03/09/00	7439-92-1	Lead	0.001	0.001 U

U Analyte undetected at given RL


RL Reporting Limit

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS



Lab Sample ID: BJ29LCS
LIMS ID: 00-2962
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Data Release Authorized: 
Reported: 03/10/00

BLANK SPIKE QUALITY CONTROL REPORT

<u>Analyte</u>	<u>Spike mg/L</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Q</u>
Arsenic	0.107	0.100	107%	
Lead	0.112	0.100	112%	

'Q' codes: N = control limit not met

Control Limits: 80-120%


INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: KGCMW1-000306

Lab Sample ID: BJ29D
LIMS ID: 00-2965
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: 03/06/00
Date Received: 03/06/00

Data Release Authorized 
Reported: 03/10/00

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7000	03/07/00	7060	03/07/00	7440-38-2	Arsenic	0.001	0.019
7000	03/07/00	7421	03/07/00	7439-92-1	Lead	0.001	0.001 U

U Analyte undetected at given RL

RL Reporting Limit

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: KGCMW3-000306

Lab Sample ID: BJ29E
LIMS ID: 00-2966
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: 03/06/00
Date Received: 03/06/00

Data Release Authorized
Reported: 03/10/00



Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7000	03/07/00	7060	03/07/00	7440-38-2	Arsenic	0.001	0.012
7000	03/07/00	7421	03/07/00	7439-92-1	Lead	0.001	0.001 U

U Analyte undetected at given RL

RL Reporting Limit


INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: KGCMW2-000306

Lab Sample ID: BJ29F
LIMS ID: 00-2967
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: 03/06/00
Date Received: 03/06/00

Data Release Authorized: 
Reported: 03/10/00

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7000	03/07/00	7060	03/07/00	7440-38-2	Arsenic	0.001	0.003
7000	03/07/00	7421	03/07/00	7439-92-1	Lead	0.001	0.001 U

U Analyte undetected at given RL

RL Reporting Limit

INORGANIC ANALYSIS DATA SHEET
DISSOLVED METALS

Sample No: Method Blank

Lab Sample ID: BJ29MB
LIMS ID: 00-2965
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 03/10/00



Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7000	03/07/00	7060	03/09/00	7440-38-2	Arsenic	0.001	0.001 U
7000	03/07/00	7421	03/07/00	7439-92-1	Lead	0.001	0.001 U

U Analyte undetected at given RL


RL Reporting Limit

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS



Lab Sample ID: BJ29LCS
LIMS ID: 00-2965
Matrix: Water

QC Report No: BJ29-Boeing Corporate SHEA
Project: Kent Gun Club

Data Release Authorized 
Reported: 03/10/00

BLANK SPIKE QUALITY CONTROL REPORT

<u>Analyte</u>	<u>Spike mg/L</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Q</u>
Arsenic	0.020	0.020	100%	
Lead	0.020	0.020	100%	

'Q' codes: N = control limit not met
NA = Not applicable - analyte not spiked

Control Limits: 80-120%



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (425) 649-7000

August 22, 2000

Mr. Brian Anderson
The Boeing Company
Shared Services Group
P.O. Box 3707, M/C 7A-WW
Seattle, WA. 98124-2207

Dear Mr. Anderson.

Re: Voluntary Cleanup Program Review
Boeing Space Center Gun Club, 20403 68th Ave. S., Kent, WA.

Thank you for submitting the results of your voluntary cleanup for review by the State of Washington's Department of Ecology (Ecology). Ecology appreciates your initiative in pursuing this administrative option under the Model Toxics Control Act (MTCA).

Ecology's Toxics Cleanup Program has reviewed the following information regarding the former Boeing Space Center Gun Club facility, located at 20403 68th Ave. S., Kent, WA.:

1. Report titled "Final Report: Site Characterization Study, Kent Gun Club, Kent, Washington", prepared for Boeing Environmental Affairs, Bellevue, WA., by Landau Associates, Inc., Edmonds, WA., and dated February 22, 1999.
2. Report titled "Work Plan, Soil Remediation, Boeing Kent Space Center Gun Club, 20403 68th Avenue South, Kent, Washington: Contract No. ENV-G-99KSC-417", prepared for The Boeing Company, Seattle, WA., by AGI Technologies, Bellevue, WA., and dated July 14, 1999.



Mr. Brian Anderson

8/22/2000

Page 2

3. Report titled "Final Report. Soil Cleanup, Boeing Kent Space Center Gun Club, 20403 68th Avenue South, Kent, Washington: Volumes 1 & 2: Contract No. ENV-G-99KSC-417", prepared for The Boeing Company, Seattle, WA., by AGI Technologies, Bellevue, WA., and dated April 17, 2000.

4. Report titled "Addendum: Groundwater Monitoring and Evaluation, Boeing Space Center Gun Club Soil Cleanup, Kent, Washington", prepared for The Boeing Company, Seattle, WA., by AGI Technologies, Bellevue, WA., and dated April 28, 2000.

The report listed above will be kept in the Central Files of the Northwest Regional Office (NWRO) of Ecology for review by appointment only. Appointments can be made by calling Sally Perkins at the NWRO at (425) 649-7190.

Based on the information in the reports listed above, Ecology has determined that, at this time, the releases of lead and carcinogenic polynuclear aromatic hydrocarbons (cPAH) into soil and groundwater no longer poses a threat to human health or the environment. Furthermore, it has been determined that arsenic concentrations in groundwater that exceed MTCA Method A limits are likely the result of nature, and not the result of a known release at the Gun Club site.

Therefore, Ecology is issuing this determination that no further remedial action is necessary at this site under MTCA, chapter 70.105D RCW. Please note that because your actions were not, or will not be conducted under a consent decree with Ecology, this letter is not a settlement by the state under RCW 70.105D.040(4) and is not binding on the agency.

Ecology's no further action determination is made only with respect to the releases identified in the independent remedial action reports listed above. This no further action determination applies only to the areas of the property affected by the releases identified in the reports listed above for the property at 20403 68th Ave. S., Kent, WA. It does not apply to any other releases at the property, any other areas on the property, nor any other properties owned or operated by The Boeing Company.

Ecology will update its database to reflect this "No Further Action" determination. Your site will not appear in future publications of the Confirmed and Suspected Contaminated Sites Report (previously known as the Affected Media and Contaminants Report). Ecology does not assume

Mr. Brian Anderson

8/22/2000

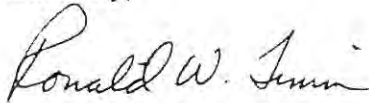
Page 3

any liability for any release, threatened release or other conditions at the site, or for any actions taken or omitted by any person or his/her agents or employees with regard to the release, threatened release, or other conditions at the site.

Again, thank you for taking the initiative to voluntarily address the contamination at your site. Your efforts are recognized by Ecology as a positive step in our work to protect human health and the environment in the State of Washington.

If you have any questions regarding this letter, please contact me at 425-649-7185.

Sincerely,

A handwritten signature in cursive script that reads "Ronald W. Timm".

Ronald W. Timm
Hydrogeologist III
Toxics Cleanup Program

RWT

TECHNICAL MEMORANDUM

TO: Joe Flaherty, Boeing Environment, Health, and Safety Remediation

FROM: Tim Syverson, Kathryn Hartley, and Chris Burke

DATE: December 12, 2011

RE: **NORTH DETENTION POND SAMPLING RESULTS
BOEING STRIKER PROPERTY
KENT, WASHINGTON**

INTRODUCTION

At the request of The Boeing Company (Boeing), Landau Associates conducted an investigation to document the current chemical quality of accumulated stormwater solids within and soils underlying the North Detention Pond located to the north of the Striker Property, on the west side of the Boeing Space Center at 20403 68th Avenue South, in Kent, Washington (subject property; Figure 1). The investigation was conducted as part of Boeing's pre-sale due diligence activities to document current site conditions and assess potential liabilities for Boeing due to its operations at the subject property. The scope of work (SOW) performed was established in our letter to Boeing dated October 18, 2011.

This technical memorandum summarizes the results of the soil and solids investigation conducted on November 1, 2011. The sampling locations and sample analytical results are shown on Figure 2. Table 1 summarizes the results of the soil and solids sampling analyses.

SOIL AND SOILS SAMPLING

On November 1, 2011, Landau Associates personnel mobilized to collect soil and stormwater solids samples from the North Detention Pond (NDP, Figure 2). The investigation included the collection of 21 samples from 12 locations to document the chemical quality of accumulated stormwater solids and underlying soils from the NDP. Sample locations were selected to provide spatial coverage of the NDP and included locations with ponded water, ditches leading into and out of the pond, and areas lower than the apparent high water mark of the pond where solids may have accumulated. At all locations, an attempt was made to collect two vertically discrete samples at approximate 1-foot (ft) intervals including samples of the accumulated stormwater solids (or of soil from the ground surface to a depth of 1 ft at locations where stormwater solids were not observed), and from the underlying soil (an interval from 1 to 2 ft below ground surface). Due to refusal at three locations, NDP-1, NDP-11 and NDP-12, only the upper sample interval could be collected. The samples were collected from both intervals as described above at the remaining locations.

Prior to all investigation activities, a one-call public utility clearance was requested to identify the location(s) of public subsurface utilities in the investigation area. The samples were collected at each location using a hand auger, or sediment core sampler. Samples from each interval were homogenized before being placed in the appropriate sample jars, except the samples to be analyzed for volatile organic compounds (VOCs), which were placed directly into the appropriate sample jars and not homogenized. All sampling equipment was decontaminated prior to sample collection at each interval.

The samples were delivered to Analytical Resources, Inc. (ARI) in Tukwila, Washington by a Landau Associates employee, under standard chain-of-custody procedures for analysis. All samples from the upper 1-ft interval collected during the investigation were submitted for analysis for VOCs by Method SW8260C, total petroleum hydrocarbons (TPH) using the hydrocarbon identification (HCID) method, and metals (arsenic, beryllium, cadmium, chromium, copper, lead, mercury, zinc) by Methods 6020 and 7040. The deeper samples collected were submitted to ARI and archived at the laboratory pending the analytical results for the shallower samples. Selected deeper samples were later analyzed for parameters that exceeded the screening levels in the corresponding upper-sample interval as described below.

SAMPLING RESULTS

The analytical results for the soil and solids samples were compared to preliminary Washington State Model Toxics Control Act (MTCA) Method B cleanup levels for screening purposes. The analytical results for the soil and solids samples are provided in Table 1 and are summarized as follows:

- Petroleum hydrocarbons in the diesel and gasoline ranges were not detected at concentrations greater than the laboratory reporting limits in the upper-interval samples by the HCID analysis. Therefore, none of the deeper samples were analyzed for petroleum hydrocarbons.
- VOCs were detected in each of the 12 upper-interval samples, at concentrations greater than the laboratory reporting limits, but less than the screening levels. Acetone was detected in each of the 12 samples; methylene chloride was detected in 8 samples (NDP-2, NDP-3, NDP-4, NDP-6, NDP-7, NDP-9, NDP-10, and NDP-12); and 2-butanone was detected at sampling locations NDP-1 and NDP-9. The compound 4-methyl-2-pentanone was detected at sampling location NDP-1 at a concentration greater than the laboratory reporting limit. There are no screening levels available for this compound. None of the samples collected from the lower interval was analyzed for VOCs.
- Arsenic was detected in each of the 12 upper-interval samples at concentrations greater than the laboratory reporting limits. The detected arsenic concentrations at 5 of the 12 locations were greater than the screening level [7 milligrams per kilogram (mg/kg)]: NDP-1 (21.0 mg/kg), NDP-2 (10.1 mg/kg), NDP-4 (13.2 mg/kg), NDP-5 (7.6 mg/kg), and NDP-6 (10.8 mg/kg). The deeper-interval samples collected at these locations were subsequently analyzed for arsenic, except for location NDP-1, where a deeper sample interval was not collected due to refusal. Arsenic was detected in each of the four deeper-interval samples submitted for analysis at concentrations greater than the laboratory reporting limits. The detected concentrations ranged from 4.0 mg/kg to 5.8 mg/kg and were less than in the shallower sample from the same location, and were all less than the screening level.

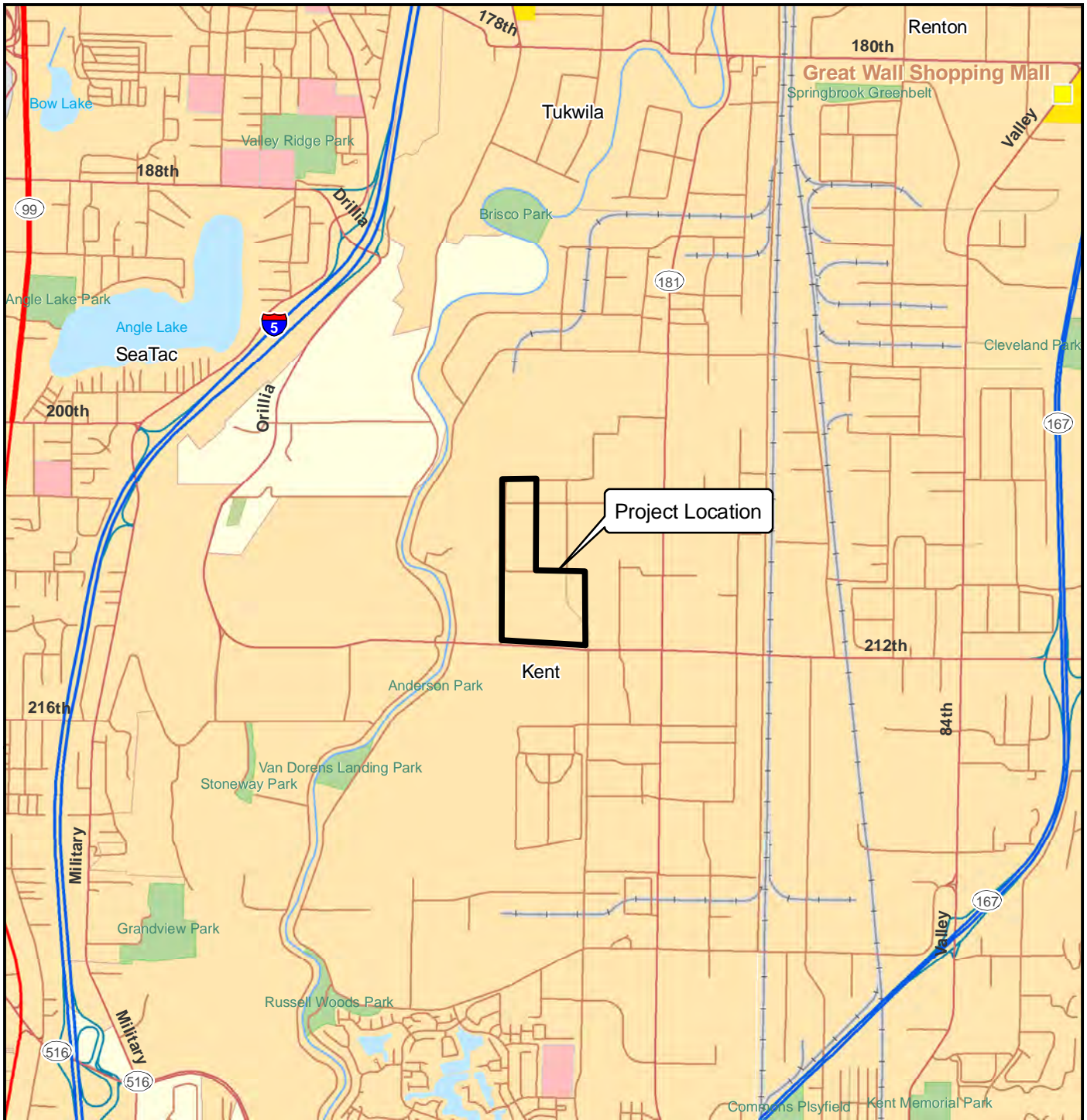
- Copper was detected in the upper-interval sample at NDP-1 at a concentration of 295 mg/kg, which is slightly greater than the screening level of 260 mg/kg. Cadmium was detected in this sample at a concentration of 1.7 mg/kg, which is slightly greater than the screening level of 1 mg/kg. As previously indicated, a deeper-interval sample was not collected at NDP-1.
- Beryllium, chromium, lead, mercury, and zinc were detected at concentrations greater than the laboratory reporting limits at all of the sampling locations, but the detected concentrations were all less than the respective screening levels.

CONCLUSIONS AND RECOMMENDATIONS

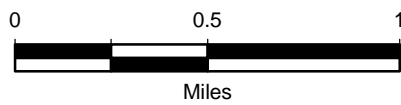
The purpose of the soil and solids investigation discussed above was to document the current chemical quality of the accumulated stormwater solids within and soils underlying the NDP. The analytical results for the samples collected indicate that only metals (primarily arsenic) were detected at concentrations greater than the screening levels, which were based on preliminary MTCA Method B cleanup levels. The detected concentrations in the deeper samples from the locations where the shallow metals concentrations were greater than the screening levels are all less than the screening levels. The detected metals concentrations are similar to concentrations found within stormwater solids and do not represent a potential threat to human health or the environment. Based on the findings of the investigation, further evaluation is not warranted. However, due to the presence of metals, any planning for removal of solids or soil from the pond should include provisions for appropriate handling and disposal of the material in accordance with applicable regulations.

ATTACHMENTS

- Figure 1: Vicinity Map
- Figure 2: North Detention Pond Sampling Locations and Arsenic Exceedances
- Table 1: Soil and Solids Analytical Results
- Attachment 1: Laboratory Analytical Reports (on CD-ROM)



Y:\Projects\025195\Mapdocs\Fig1.mxd 7/20/2010



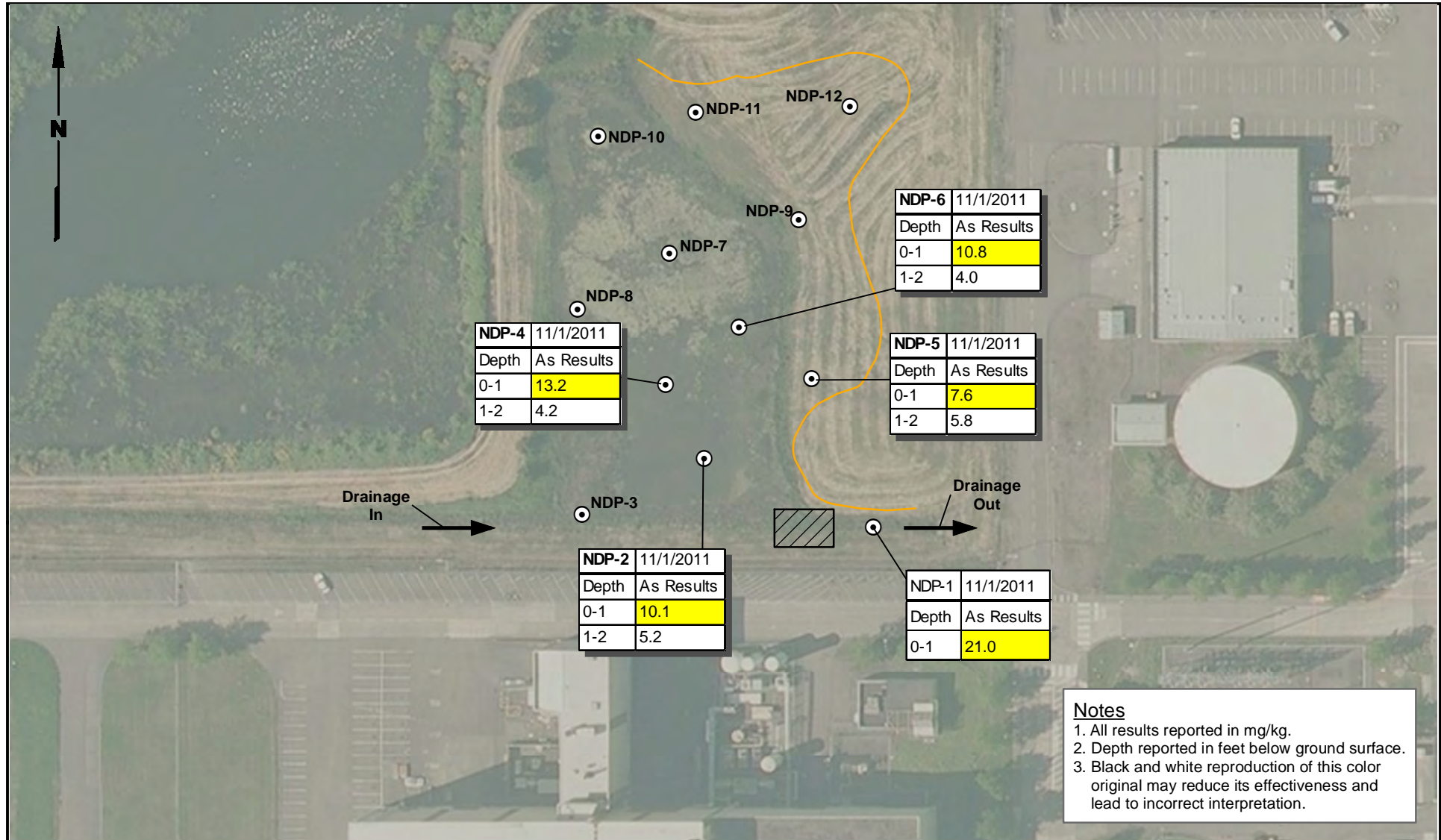
Data Source: ESRI 2008



Project Striker
Kent, Washington

Vicinity Map

Figure
1

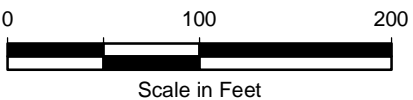


Notes
 1. All results reported in mg/kg.
 2. Depth reported in feet below ground surface.
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- ⊙ Solids/Soil Sampling Locations
- ⬆ Indicates Exceedance of Screening Level
- ➔ Flow Direction
- Approximate Terrace Bench
- ▨ Dam

Data Source: ESRI World Imagery



Project Striker Kent, Washington	North Detention Pond Sampling Locations and Arsenic Exceedances	Figure 2
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**TABLE 1
SOIL ANALYTICAL RESULTS
NORTH DETENTION POND
BOEING STRIKER PROPERTY – KENT, WASHINGTON**

	MCTA Method B Screening Levels	NDP-1(0-0.5)	NDP-2(0-1)	NDP-2(1-2)	NDP-3(0-1)	NDP-4(0-1)	NDP-4(1-2)	NDP-5(0-1)	NDP-5(1-2)	NDP-6(0-1)	NDP-6(1-2)	NDP-7(0-1)	NDP-8(0-1)	NDP-9(0-1)	NDP-10(0-1)	NDP-11(0-1)	NDP-12(0-1)
		TU89E 11/01/2011	TU89D 11/01/2011	TW18A 11/1/2011	TU89C 11/01/2011	TU89H 11/01/2011	TW18C 11/1/2011	TU89L 11/01/2011	TW18D 11/1/2011	TU89G 11/01/2011	TW18B 11/1/2011	TU89B 11/01/2011	TU89I 11/01/2011	TU89A 11/01/2011	TU89F 11/01/2011	TU89J 11/01/2011	TU89K 11/01/2011
HCID (mg/kg)																	
Method NWTPH-HCID																	
Gasoline Range Organics	100	36 U	20 U	NA	20 U	20 U	NA	20 U	NA	20 U	NA	20 U	20 U	20 U	20 U	20 U	20 U
Diesel Range Organics	2,000	89 U	50 U	NA	50 U	50 U	NA	50 U	NA	50 U	NA	50 U	50 U	50 U	50 U	50 U	50 U
Lube Oil	2,000	180 U	100 U	NA	100 U	100 U	NA	100 U	NA	100 U	NA	100 U	100 U	100 U	100 U	100 U	100 U
TOTAL METALS (mg/kg)																	
Methods EPA200.8/SW7471A																	
Arsenic	7	21.0	10.1	5.2 J	6.7	13.2	4.2	7.6	5.8	10.8	4.0	6.6	6.4	5.9	7.0	6.7	5.7
Beryllium	2	0.7 U	0.4	NA	0.4	0.4	NA	0.5	NA	0.4	NA	0.5	0.6	0.4	0.3	0.4	0.3
Cadmium	1	1.7	0.7	NA	0.6	0.5	NA	0.2	NA	0.2	NA	0.3	0.1 U	0.2	0.2 U	0.2	0.1 U
Chromium	120,000	49	21.3	NA	17.9	20.5	NA	19.5	NA	17.0	NA	17.4	20.3	15.7	17.0	16.7	22.4
Copper	260	295	63.4	NA	62.7	51.6	NA	40.4	NA	50.3	NA	45.7	42.3	30.6	30.7	29.4	20.5
Lead	250	132	27.8	NA	36.6	27.1	NA	15.8	NA	26.7	NA	14.2	12.0	66.8 J	9.8	88.3	7.3
Mercury	2.1	0.33	0.06	NA	0.07	0.07	NA	0.07	NA	0.05	NA	0.09	0.05	0.04	0.05	0.05	0.02 U
Zinc	6,000	400	147	NA	122	144	NA	67	NA	87	NA	65	57	62	54	50	40
VOLATILES (µg/kg)																	
Method SW8260C																	
Chloromethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Bromomethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Vinyl Chloride	1.8	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Chloroethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Methylene Chloride	22	8.2 U	3.9	NA	3.6	3.1	NA	2.7 U	NA	4.6	NA	4.7	2.9 U	4.2	4.7	2.3 U	1.7
Acetone	3,200	390	48	NA	61	28	NA	120	NA	50	NA	28	24	140	37	48	32
Carbon Disulfide	5,700	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,1-Dichloroethene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,1-Dichloroethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
trans-1,2-Dichloroethene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
cis-1,2-Dichloroethene	350	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Chloroform		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,2-Dichloroethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
2-Butanone	20,000	28	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	10	8.9 U	5.7 U	4.2 U
1,1,1-Trichloroethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Carbon Tetrachloride		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Vinyl Acetate		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
Bromodichloromethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,2-Dichloropropane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
cis-1,3-Dichloropropene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Trichloroethene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Dibromochloromethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,1,2-Trichloroethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Benzene	28	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
trans-1,3-Dichloropropene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
2-Chloroethylvinylether		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
Bromoform		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
4-Me hyl-2-Pentanone (MIBK)		29 M	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
2-Hexanone		280 U	8.0 U	NA	7.4 U	7.3 U	NA	51 U	NA	9.1 U	NA	7.9 U	7.3 U	76 U	8.9 U	36 U	35 U
Tetrachloroethene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,1,2,2-Tetrachloroethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Toluene	4,700	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Chlorobenzene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Ethylbenzene	6,000	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Styrene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Trichlorofluoromethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,1,2-Trichloro-1,2,2-trifluoroethane		8.2 U	3.2 U	NA	3.0 U	2.9 U	NA	2.7 U	NA	3.6 U	NA	3.2 U	2.9 U	2.7 U	3.6 U	2.3 U	1.7 U
m, p-Xylene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
o-Xylene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,2-Dichlorobenzene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U

**TABLE 1
SOIL ANALYTICAL RESULTS
NORTH DETENTION POND
BOEING STRIKER PROPERTY – KENT, WASHINGTON**

	MCTA Method B Screening Levels	NDP-1(0-0.5)	NDP-2(0-1)	NDP-2(1-2)	NDP-3(0-1)	NDP-4(0-1)	NDP-4(1-2)	NDP-5(0-1)	NDP-5(1-2)	NDP-6(0-1)	NDP-6(1-2)	NDP-7(0-1)	NDP-8(0-1)	NDP-9(0-1)	NDP-10(0-1)	NDP-11(0-1)	NDP-12(0-1)
		TU89E 11/01/2011	TU89D 11/01/2011	TW18A 11/1/2011	TU89C 11/01/2011	TU89H 11/01/2011	TW18C 11/1/2011	TU89L 11/01/2011	TW18D 11/1/2011	TU89G 11/01/2011	TW18B 11/1/2011	TU89B 11/01/2011	TU89I 11/01/2011	TU89A 11/01/2011	TU89F 11/01/2011	TU89J 11/01/2011	TU89K 11/01/2011
1,3-Dichlorobenzene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,4-Dichlorobenzene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Acrolein		200 U	80 U	NA	74 U	73 U	NA	69 U	NA	91 U	NA	79 U	73 U	67 U	89 U	57 U	42 U
Methyl Iodide		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Bromoethane		8.2 U	3.2 U	NA	3.0 U	2.9 U	NA	2.7 U	NA	3.6 U	NA	3.2 U	2.9 U	2.7 U	3.6 U	2.3 U	1.7 U
Acrylonitrile		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
1,1-Dichloropropene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Dibromomethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,1,1,2-Tetrachloroethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,2-Dibromo-3-chloropropane		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
1,2,3-Trichloropropane		8.2 U	3.2 U	NA	3.0 U	2.9 U	NA	2.7 U	NA	3.6 U	NA	3.2 U	2.9 U	2.7 U	3.6 U	2.3 U	1.7 U
trans-1,4-Dichloro-2-butene		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
1,3,5-Trimethylbenzene	4,000,000	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,2,4-Trimethylbenzene	4,000,000	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Hexachlorobutadiene		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
Ethylene Dibromide		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Bromochloromethane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
2,2-Dichloropropane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,3-Dichloropropane		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Isopropylbenzene	--	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
n-Propylbenzene	--	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
Bromobenzene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
2-Chlorotoluene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
4-Chlorotoluene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
tert-Butylbenzene		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
sec-Butylbenzene	--	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
4-Isopropyltoluene	--	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
n-Butylbenzene	--	4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U
1,2,4-Trichlorobenzene		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
Naphthalene	4,500	20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
1,2,3-Trichlorobenzene		20 U	8.0 U	NA	7.4 U	7.3 U	NA	6.9 U	NA	9.1 U	NA	7.9 U	7.3 U	6.7 U	8.9 U	5.7 U	4.2 U
Methyl tert-Butyl Ether		4.1 U	1.6 U	NA	1.5 U	1.5 U	NA	1.4 U	NA	1.8 U	NA	1.6 U	1.5 U	1.3 U	1.8 U	1.1 U	0.8 U

U = Indicates the compound was not detected at the reported concentration.
M = Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Bold = Detected compound.
Box = Detected concentration is greater than screening level.

Laboratory Analytical Reports (on CD-ROM)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

November 7, 2011

Kathryn Hartley
Landau Associates
130 Second Avenue South
Edmonds, WA 98020

RE: Project: Boeing Striker: North Detention Pond, 025195.040.045
ARI Job: TU89

Dear Kathryn,

Enclosed please find the original and revised Chain-of-Custody (COC) records, sample receipt documentation, email documentation, and the final data report for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted six soil samples, fifteen solid samples, and a trip blank on November 1, 2011. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form. Select samples were placed on hold pending further instructions.

The samples were analyzed for VOCs, NWTPH-HCID, and Total Metals, as requested on the COC.

N-Butylbenzene was out of control high in the VOCs continuing calibration. The calibration met overall acceptance criteria. There were no detections for this compound in the samples. "Q" qualifiers have been applied to the form III to indicate this outage.

Naphthalene was out of control high in the VOCs LCSD. It was in control in the LCS. The LCS and LCSD met overall acceptance criteria. There were no detections for this compound in the samples.

Lead was recovered out of control high in the Total Metals matrix spike. All other quality control measures passed, and no further corrective action was taken.

There were no other analytical complications noted.

Quality control analysis results are included for your review. An electronic copy of this report and all associated raw data will be kept on file at ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,
ANALYTICAL RESOURCES, INC

Eric Branson
Project Manager
-for-

Kelly Bottem
Client Services Manager
(206) 695-6211
kellyb@arilabs.com
www.arilabs.com

Sample ID Cross Reference Report



ARI Job No: TU89
Client: Landau Associates, Inc.
Project Event: 025195.040.045
Project Name: Boeing Striker: North Detention Pon

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. NDP-9(0-1)-111101	TU89A	11-25251	Soil	11/01/11 09:30	11/01/11 16:25
2. NDP-7(0-1)-111101	TU89B	11-25252	Solid	11/01/11 10:30	11/01/11 16:25
3. NDP-3(0-1)-111101	TU89C	11-25253	Soild	11/01/11 11:00	11/01/11 16:25
4. NDP-2(0-1)-111101	TU89D	11-25254	Solid	11/01/11 11:30	11/01/11 16:25
5. NDP-1(0-0.5)-111101	TU89E	11-25255	Solid	11/01/11 12:00	11/01/11 16:25
6. NDP-10(0-1)-111101	TU89F	11-25256	Solid	11/01/11 12:20	11/01/11 16:25
7. NDP-6(0-1)-111101	TU89G	11-25257	Solid	11/01/11 12:40	11/01/11 16:25
8. NDP-4(0-1)-111101	TU89H	11-25258	Solid	11/01/11 13:00	11/01/11 16:25
9. NDP-8(0-1)-111101	TU89I	11-25259	Solid	11/01/11 14:00	11/01/11 16:25
10. NDP-11(0-1)-111101	TU89J	11-25260	Soil	11/01/11 14:20	11/01/11 16:25
11. NDP-12(0-1)-111101	TU89K	11-25261	Soil	11/01/11 14:40	11/01/11 16:25
12. NDP-5(0-1)-111101	TU89L	11-25262	Soil	11/01/11 15:00	11/01/11 16:25
13. NDP-9(1-2)-111101	TU89M	11-25263	Soil	11/01/11 09:45	11/01/11 16:25
14. NDP-7(1-2)-111101	TU89N	11-25264	Solid	11/01/11 10:45	11/01/11 16:25
15. NDP-3(1-2)-111101	TU89O	11-25265	Solid	11/01/11 11:15	11/01/11 16:25
16. NDP-2(1-2)-111101	TU89P	11-25266	Solid	11/01/11 11:45	11/01/11 16:25
17. NDP-10(1-2)-111101	TU89Q	11-25267	Solid	11/01/11 12:25	11/01/11 16:25
18. NDP-6(1-2)-111101	TU89R	11-25268	Solid	11/01/11 12:45	11/01/11 16:25
19. NDP-4(1-2)-111101	TU89S	11-25269	Solid	11/01/11 13:15	11/01/11 16:25
20. NDP-8(1-2)-111101	TU89T	11-25270	Solid	11/01/11 14:05	11/01/11 16:25
21. NDP-5(1-2)-111101	TU89U	11-25271	Soil	11/01/11 15:05	11/01/11 16:25
22. Trip Blanks	TU89V	11-25272	Water	11/01/11	11/01/11 16:25

Printed 11/07/11

Subject: Boeing Striker North Detention Pond sampling
From: "Chris Burke" <cburke@landauinc.com>
Date: Wed, 2 Nov 2011 13:37:18 -0700
To: Kelly Bottem <kellyb@arilabs.com>
CC: "Kathryn Hartley" <khartley@landauinc.com>

Hey Kelly,

Kathryn and I noticed a few errors on the COC from yesterday's sampling at the Striker property. I've edited the COCs and attached a scan of those edits.

The changes I made were:

- fixed the sample IDs to use proper date format, i.e., NDP-1(0-1)-110111 became the correct NDP-1(0-1)-111101
- Changed matrix type from sediment to solids
- Checked VOCs analysis for the trip blanks
- Added 'Boeing' to the project name

I highlighted all the changes for clarity, let me know if you have any questions,

Chris Burke " Senior Staff Hydrogeologist
Landau Associates, Inc.

130 2nd Ave. S, Edmonds, WA 98020
425.329.0297 " fax 425.778.6409" cell 716.579.2975
cburke@landauinc.com " <http://www.landauinc.com>

Email is a sustainable communications tool – please consider this before printing.

Notice: This communication may contain privileged or other confidential information. If you have received it in error, please advise the sender by reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.

Boeing Striker NPD COC 110111 - revised.pdf	<p style="text-align: right;">Boeing Striker NPD</p> <p>Content-Description: COC 110111 - revised.pdf</p> <p>Content-Type: application/pdf</p> <p>Content-Encoding: base64</p>
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Seattle/Edmonds (425) 778-0907
 Tacoma (253) 926-2493
 Spokane (509) 327-9737
 Portland (503) 542-108C

Date _____
 Page _____ of 2

Chain-of-Custody Record

Project Name		Project No.		Testing Parameters				Turnaround Time	
Project Location/Event								Standard	
Sampler's Name								Accelerated	
Project Contact								<u>X 3-day</u>	
Send Results To									
Sample I.D.	Date	Time	Matrix	No. of Containers	HLID*	Metals**	VOCs	Archive	Observations/Comments
NDP-9(0-1)-H0111	11/1/11	0930	Soil	7	X	X	X		<input checked="" type="checkbox"/> Allow water samples to settle, collect aliquot from clear portion <input checked="" type="checkbox"/> NWTPH-Dx - run acid wash/silica gel cleanup
NDP-9(1-2)-H0111	11/1/11	0945	Soil	7				X	
NDP-7(0-1)-H0111	11/1/11	1030	Sediment	7	X	X	X		<input type="checkbox"/> run samples standardized to _____ product <input type="checkbox"/> Analyze for EPH if no specific product identified
NDP-7(1-2)-H0111	11/1/11	1045	Sediment	7				X	
NDP-3(0-1)-H0111	11/1/11	1100	Sediment	7	X	X	X		<input type="checkbox"/> Dissolved metal water samples field filtered
NDP-3(1-2)-H0111	11/1/11	1115	Sediment	7				X	
NDP-2(0-1)-H0111	11/1/11	1130	Sediment	7	X	X	X		Other * Halo
NDP-2(1-2)-H0111	11/1/11	1145	Sediment	7				X	
NDP-1(0-0.5)-H0111	11/1/11	1200	Sediment	7	X	X	X		Method of Shipment _____
NDP-10(0-1)-H0111	11/1/11	1220	Sediment	7	X	X	X		
NDP-10(1-2)-H0111	11/1/11	1225	Sediment	7				X	Relinquished by: <u>[Signature]</u> Signature: _____ Printed Name: _____ Company: _____ Date: _____ Time: _____
NDP-6(0-1)-H0111	11/1/11	1240	Sediment	7	X	X	X		
NDP-6(1-2)-H0111	11/1/11	1245	Sediment	7				X	Received by: <u>[Signature]</u> Signature: _____ Printed Name: _____ Company: _____ Date: _____ Time: _____
NDP-4(0-1)-H0111	11/1/11	1300	Sediment	7	X	X	X		
NDP-4(1-2)-H0111	11/1/11	1315	Sediment	7				X	Relinquished by: <u>[Signature]</u> Signature: _____ Printed Name: _____ Company: _____ Date: _____ Time: _____
NDP-8(0-1)-H0111	11/1/11	1400	Sediment	7	X	X	X		
NDP-8(1-2)-H0111	11/1/11	1405	Sediment	7				X	Received by: <u>[Signature]</u> Signature: _____ Printed Name: _____ Company: _____ Date: _____ Time: _____
NDP-11(0-1)-H0111	11/1/11	1420	Soil	7	X	X	X		



Chain-of-Custody Record

Project Name: Staker Project No. 025195.070.075

Project Location/Event: Kent, WA

Sampler's Name: CFB/mud

Project Contact: Kathryn Hentle, Tom Spurgeon

Send Results To: ILU, CFB, Joe Flaherty

Turnaround Time:
 Standard
 Accelerated

Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters				Observations/Comments
					HCID*	MEAS**	VOCs	ARSENIC	
NDP-12 (0-1)-40TH	11/11/11	1440	Soil	7	X	X	X		<input checked="" type="checkbox"/> Allow water samples to settle, collect aliquot from clear portion <input checked="" type="checkbox"/> NWTPH-Dx run acid wash/silica gel cleanup <input type="checkbox"/> run samples standardized to _____ product: <input type="checkbox"/> Analyze for EPH if no specific product identified VOC/BTEX/VPH (soil): <input type="checkbox"/> non-preserved <input type="checkbox"/> preserved w/methanol <input type="checkbox"/> preserved w/sodium bisulfate <input type="checkbox"/> Freeze upon receipt <input type="checkbox"/> Dissolved metal water samples field filtered Other *Hold over O ₂ until H ₂ O Results are in ** metals: Ag, As, Cd, Cr, Cu, Pb, Hg, Zn
NDP-5 (0-1)-40TH	11/11/11	1500	Soil	7	X	X	X		
NDP-5 (1-2)-40TH	11/11/11	1505	Soil	7				X	
TRIP BLANKS			Water	6					

Special Shipment/Handling or Storage Requirements: DRILL

Method of Shipment: Delivered to ARI

Relinquished by	Received by	Relinquished by	Received by
Signature: <u>[Signature]</u>	Signature: <u>[Signature]</u>	Signature: _____	Signature: _____
Printed Name: <u>Chris Breen</u>	Printed Name: _____	Printed Name: _____	Printed Name: _____
Company: <u>LANDAU</u>	Company: _____	Company: _____	Company: _____
Date: <u>11/11/11</u> Time: <u>6:55</u>	Date: _____ Time: _____	Date: _____ Time: _____	Date: _____ Time: _____



- Seattle/Edmonds (425) 778-0907
- Tacoma (253) 926-2493
- Spokane (509) 327-9737
- Portland (503) 542-1080
- _____

Date 11/1/11
Page 1 of 2

Chain-of-Custody Record

175

Project Name Steiker: North Detention Pond Project No. 025195.040.045

Project Location/Event Kent, WA

Sampler's Name CFB / MWB

Project Contact Kathryn Hartley, Tim Sverson

Send Results To " , TLS, CFB, Joe Flaherty

Turnaround Time
 Standard
 Accelerated
 3-day

Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters										Observations/Comments			
					HLID*	Metals**	VOCs	Archive										
NDP-9(0-1)-110111	11/1/11	0930	Soil	7	X	X	X											X Allow water samples to settle, collect aliquot from clear portion
NDP-9(1-2)-110111	11/1/11	0945	Soil	7														X NWTPH-Dx - run acid wash/silica gel cleanup
NDP-7(0-1)-110111	11/1/11	1030	Sediment	7	X	X	X											
NDP-7(1-2)-110111	11/1/11	1045	Sediment	7														
NDP-3(0-1)-110111	11/1/11	1100	Sediment	7	X	X	X											run samples standardized to _____ product
NDP-3(1-2)-110111	11/1/11	1115	Sediment	7														Analyze for EPH if no specific product identified
NDP-2(0-1)-110111	11/1/11	1130	Sediment	7	X	X	X											VOC/BTEX/VPH (soil):
NDP-2(1-2)-110111	11/1/11	1145	Sediment	7														non-preserved
NDP-1(0-0.5)-110111	11/1/11	1200	Sediment	7	X	X	X											preserved w/methanol
NDP-10(0-1)-110111	11/1/11	1220	Sediment	7	X	X	X											preserved w/sodium bisulfate
NDP-10(1-2)-110111	11/1/11	1225	Sediment	7														Freeze upon receipt
NDP-6(0-1)-110111	11/1/11	1240	Sediment	7	X	X	X											Dissolved metal water samples field filtered
NDP-6(1-2)-110111	11/1/11	1245	Sediment	7														Other * Hold Gx+Dx until
NDP-4(0-1)-110111	11/1/11	1300	Sediment	7	X	X	X											HCD results are in
NDP-4(1-2)-110111	11/1/11	1315	Sediment	7														** METALS: As, Be, Cd, Cr, Cu, Pb, Hg, Zn
NDP-8(0-1)-110111	11/1/11	1400	Sediment	7	X	X	X											
NDP-8(1-2)-110111	11/1/11	1405	Sediment	7														
NDP-11(0-1)-110111	11/1/11	1420	Soil	7	X	X	X											

Special Shipment/Handling or Storage Requirements On ice

Method of Shipment Dropped @ ARI

Relinquished by Signature <u>[Signature]</u> Printed Name <u>Chris Burke</u> Company <u>Landau</u> Date <u>11/1/11</u> Time <u>1625</u>	Received by Signature <u>[Signature]</u> Printed Name <u>A. Volgardsen</u> Company <u>ARI</u> Date <u>11/1/11</u> Time <u>1625</u>	Relinquished by Signature _____ Printed Name _____ Company _____ Date _____ Time _____	Received by Signature _____ Printed Name _____ Company _____ Date _____ Time _____
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- Seattle/Edmonds (425) 778-0907
- Tacoma (253) 926-2493
- Spokane (509) 327-9737
- Portland (503) 542-1080
- _____

Date 11/1/11
Page 2 of 2

Chain-of-Custody Record

TS

Project Name Striker: North Detention Pond Project No. 025195.040.045

Project Location/Event Kent, WA

Sampler's Name CFB/mwB

Project Contact Kathryn Hartley, Tim Syverson

Send Results To " , TLS , CFB, Joe Flaherty

Testing Parameters

Turnaround Time
 Standard
 Accelerated
 3-day

Sample I.D.	Date	Time	Matrix	No. of Containers	HCID*	Metals**	VOCs	Archive	Observations/Comments
NDP-12(0-1)-110111	11/1/11	1440	Soil	7	X	X	X		X Allow water samples to settle, collect aliquot from clear portion
NDP-5(0-1)-110111	11/1/11	1500	Soil	7	X	X	X		X NWTPH-Dx - run acid wash/silica gel cleanup
NDP-5(1-2)-110111	11/1/11	1505	Soil	7				X	
TRIP BLANKS			water	6 6					run samples standardized to product
									Analyze for EPH if no specific product identified
									VOC/BTEX/VPH (soil):
									<input type="checkbox"/> non-preserved
									<input type="checkbox"/> preserved w/methanol
									<input type="checkbox"/> preserved w/sodium bisulfate
									<input type="checkbox"/> Freeze upon receipt
									<input type="checkbox"/> Dissolved metal water samples field filtered
									Other <u>* Hold Gx + Dx until HCID results are in</u>
									<u>** metals: As, Be, Cd, Co, Cr, Cu, Pb, Hg, Zn</u>

Special Shipment/Handling or Storage Requirements on ice Method of Shipment Deliver to ART

<p>Relinquished by</p> <p>Signature <u>[Signature]</u></p> <p>Printed Name <u>Chris Bree</u></p> <p>Company <u>LANDAU</u></p> <p>Date <u>11/1/11</u> Time <u>1625</u></p>	<p>Received by</p> <p>Signature <u>[Signature]</u></p> <p>Printed Name <u>A. Volgardsen</u></p> <p>Company <u>ART</u></p> <p>Date <u>11/1/11</u> Time <u>1625</u></p>	<p>Relinquished by</p> <p>Signature _____</p> <p>Printed Name _____</p> <p>Company _____</p> <p>Date _____ Time _____</p>	<p>Received by</p> <p>Signature _____</p> <p>Printed Name _____</p> <p>Company _____</p> <p>Date _____ Time _____</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------



Cooler Receipt Form

ARI Client Boeing
 COC No(s) _____ (NA)
 Assigned ARI Job No 7297

Project Name: Striker: North Detention Pond
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc) YES NO
 Temperature of Cooler(s) (°C) (recommended 2 0-6 0 °C for chemistry) 5.9 3.3
 If cooler temperature is out of compliance fill out form 00070F

Cooler Accepted by AV Date: 11/1/11 Time 1625
 Temp Gun ID#: 90941619
Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) NO YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI. NA 11-2-11
 Was Sample Split by ARI: NO YES Date/Time: _____ Equipment: _____ Split by _____

Samples Logged by TS Date: 11-2-11 Time: 800
**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
Trip blank 1 'pb'
 By TS Date 11-2-11

			Small → "sm"
			Peabubbles → "pb"
			Large → "lg"
			Headspace → "hs"

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-9(0-1)-111101

Page 1 of 2

SAMPLE

Lab Sample ID: TU89A


QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25251

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Data Release Authorized: 

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 3.71 g-dry-wt

Date Analyzed: 11/02/11 12:44

Purge Volume: 5.0 mL

Moisture: 26.6%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.3	< 1.3	U
74-83-9	Bromomethane	1.3	< 1.3	U
75-01-4	Vinyl Chloride	1.3	< 1.3	U
75-00-3	Chloroethane	1.3	< 1.3	U
75-09-2	Methylene Chloride	2.7	4.2	
67-64-1	Acetone	6.7	140	
75-15-0	Carbon Disulfide	1.3	< 1.3	U
75-35-4	1,1-Dichloroethene	1.3	< 1.3	U
75-34-3	1,1-Dichloroethane	1.3	< 1.3	U
156-60-5	trans-1,2-Dichloroethene	1.3	< 1.3	U
156-59-2	cis-1,2-Dichloroethene	1.3	< 1.3	U
67-66-3	Chloroform	1.3	< 1.3	U
107-06-2	1,2-Dichloroethane	1.3	< 1.3	U
78-93-3	2-Butanone	6.7	10	
71-55-6	1,1,1-Trichloroethane	1.3	< 1.3	U
56-23-5	Carbon Tetrachloride	1.3	< 1.3	U
108-05-4	Vinyl Acetate	6.7	< 6.7	U
75-27-4	Bromodichloromethane	1.3	< 1.3	U
78-87-5	1,2-Dichloropropane	1.3	< 1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	< 1.3	U
79-01-6	Trichloroethene	1.3	< 1.3	U
124-48-1	Dibromochloromethane	1.3	< 1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	< 1.3	U
71-43-2	Benzene	1.3	< 1.3	U
10061-02-6	trans-1,3-Dichloropropene	1.3	< 1.3	U
110-75-8	2-Chloroethylvinylether	6.7	< 6.7	U
75-25-2	Bromoform	1.3	< 1.3	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	6.7	< 6.7	U
591-78-6	2-Hexanone	76	< 76	Y
127-18-4	Tetrachloroethene	1.3	< 1.3	U
79-34-5	1,1,2,2-Tetrachloroethane	1.3	< 1.3	U
108-88-3	Toluene	1.3	< 1.3	U
108-90-7	Chlorobenzene	1.3	< 1.3	U
100-41-4	Ethylbenzene	1.3	< 1.3	U
100-42-5	Styrene	1.3	< 1.3	U
75-69-4	Trichlorofluoromethane	1.3	< 1.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.7	< 2.7	U
179601-23-1	m,p-Xylene	1.3	< 1.3	U
95-47-6	o-Xylene	1.3	< 1.3	U
95-50-1	1,2-Dichlorobenzene	1.3	< 1.3	U
541-73-1	1,3-Dichlorobenzene	1.3	< 1.3	U
106-46-7	1,4-Dichlorobenzene	1.3	< 1.3	U
107-02-8	Acrolein	67	< 67	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-9(0-1)-111101

Page 2 of 2

SAMPLE

Lab Sample ID: TU89A

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25251

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Date Analyzed: 11/02/11 12:44

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.3	< 1.3	U
74-96-4	Bromoethane	2.7	< 2.7	U
107-13-1	Acrylonitrile	6.7	< 6.7	U
563-58-6	1,1-Dichloropropene	1.3	< 1.3	U
74-95-3	Dibromomethane	1.3	< 1.3	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	< 1.3	U
96-12-8	1,2-Dibromo-3-chloropropane	6.7	< 6.7	U
96-18-4	1,2,3-Trichloropropane	2.7	< 2.7	U
110-57-6	trans-1,4-Dichloro-2-butene	6.7	< 6.7	U
108-67-8	1,3,5-Trimethylbenzene	1.3	< 1.3	U
95-63-6	1,2,4-Trimethylbenzene	1.3	< 1.3	U
87-68-3	Hexachlorobutadiene	6.7	< 6.7	U
106-93-4	Ethylene Dibromide	1.3	< 1.3	U
74-97-5	Bromochloromethane	1.3	< 1.3	U
594-20-7	2,2-Dichloropropane	1.3	< 1.3	U
142-28-9	1,3-Dichloropropane	1.3	< 1.3	U
98-82-8	Isopropylbenzene	1.3	< 1.3	U
103-65-1	n-Propylbenzene	1.3	< 1.3	U
108-86-1	Bromobenzene	1.3	< 1.3	U
95-49-8	2-Chlorotoluene	1.3	< 1.3	U
106-43-4	4-Chlorotoluene	1.3	< 1.3	U
98-06-6	tert-Butylbenzene	1.3	< 1.3	U
135-98-8	sec-Butylbenzene	1.3	< 1.3	U
99-87-6	4-Isopropyltoluene	1.3	< 1.3	U
104-51-8	n-Butylbenzene	1.3	< 1.3	U
120-82-1	1,2,4-Trichlorobenzene	6.7	< 6.7	U
91-20-3	Naphthalene	6.7	< 6.7	U
87-61-6	1,2,3-Trichlorobenzene	6.7	< 6.7	U
1634-04-4	Methyl tert-Butyl Ether	1.3	< 1.3	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	125%
d8-Toluene	103%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-7(0-1)-111101

Page 1 of 2

SAMPLE

Lab Sample ID: TU89B

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25252

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized:

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 3.15 g-dry-wt

Date Analyzed: 11/02/11 13:06

Purge Volume: 5.0 mL

Moisture: 30.2%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.6	< 1.6	U
74-83-9	Bromomethane	1.6	< 1.6	U
75-01-4	Vinyl Chloride	1.6	< 1.6	U
75-00-3	Chloroethane	1.6	< 1.6	U
75-09-2	Methylene Chloride	3.2	4.7	
67-64-1	Acetone	7.9	28	
75-15-0	Carbon Disulfide	1.6	< 1.6	U
75-35-4	1,1-Dichloroethene	1.6	< 1.6	U
75-34-3	1,1-Dichloroethane	1.6	< 1.6	U
156-60-5	trans-1,2-Dichloroethene	1.6	< 1.6	U
156-59-2	cis-1,2-Dichloroethene	1.6	< 1.6	U
67-66-3	Chloroform	1.6	< 1.6	U
107-06-2	1,2-Dichloroethane	1.6	< 1.6	U
78-93-3	2-Butanone	7.9	< 7.9	U
71-55-6	1,1,1-Trichloroethane	1.6	< 1.6	U
56-23-5	Carbon Tetrachloride	1.6	< 1.6	U
108-05-4	Vinyl Acetate	7.9	< 7.9	U
75-27-4	Bromodichloromethane	1.6	< 1.6	U
78-87-5	1,2-Dichloropropane	1.6	< 1.6	U
10061-01-5	cis-1,3-Dichloropropene	1.6	< 1.6	U
79-01-6	Trichloroethene	1.6	< 1.6	U
124-48-1	Dibromochloromethane	1.6	< 1.6	U
79-00-5	1,1,2-Trichloroethane	1.6	< 1.6	U
71-43-2	Benzene	1.6	< 1.6	U
10061-02-6	trans-1,3-Dichloropropene	1.6	< 1.6	U
110-75-8	2-Chloroethylvinylether	7.9	< 7.9	U
75-25-2	Bromoform	1.6	< 1.6	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	7.9	< 7.9	U
591-78-6	2-Hexanone	7.9	< 7.9	U
127-18-4	Tetrachloroethene	1.6	< 1.6	U
79-34-5	1,1,2,2-Tetrachloroethane	1.6	< 1.6	U
108-88-3	Toluene	1.6	< 1.6	U
108-90-7	Chlorobenzene	1.6	< 1.6	U
100-41-4	Ethylbenzene	1.6	< 1.6	U
100-42-5	Styrene	1.6	< 1.6	U
75-69-4	Trichlorofluoromethane	1.6	< 1.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	< 3.2	U
179601-23-1	m,p-Xylene	1.6	< 1.6	U
95-47-6	o-Xylene	1.6	< 1.6	U
95-50-1	1,2-Dichlorobenzene	1.6	< 1.6	U
541-73-1	1,3-Dichlorobenzene	1.6	< 1.6	U
106-46-7	1,4-Dichlorobenzene	1.6	< 1.6	U
107-02-8	Acrolein	79	< 79	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-7(0-1)-111101

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SAMPLE

Lab Sample ID: TU89B

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25252

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Date Analyzed: 11/02/11 13:06

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.6	< 1.6	U
74-96-4	Bromoethane	3.2	< 3.2	U
107-13-1	Acrylonitrile	7.9	< 7.9	U
563-58-6	1,1-Dichloropropene	1.6	< 1.6	U
74-95-3	Dibromomethane	1.6	< 1.6	U
630-20-6	1,1,1,2-Tetrachloroethane	1.6	< 1.6	U
96-12-8	1,2-Dibromo-3-chloropropane	7.9	< 7.9	U
96-18-4	1,2,3-Trichloropropane	3.2	< 3.2	U
110-57-6	trans-1,4-Dichloro-2-butene	7.9	< 7.9	U
108-67-8	1,3,5-Trimethylbenzene	1.6	< 1.6	U
95-63-6	1,2,4-Trimethylbenzene	1.6	< 1.6	U
87-68-3	Hexachlorobutadiene	7.9	< 7.9	U
106-93-4	Ethylene Dibromide	1.6	< 1.6	U
74-97-5	Bromochloromethane	1.6	< 1.6	U
594-20-7	2,2-Dichloropropane	1.6	< 1.6	U
142-28-9	1,3-Dichloropropane	1.6	< 1.6	U
98-82-8	Isopropylbenzene	1.6	< 1.6	U
103-65-1	n-Propylbenzene	1.6	< 1.6	U
108-86-1	Bromobenzene	1.6	< 1.6	U
95-49-8	2-Chlorotoluene	1.6	< 1.6	U
106-43-4	4-Chlorotoluene	1.6	< 1.6	U
98-06-6	tert-Butylbenzene	1.6	< 1.6	U
135-98-8	sec-Butylbenzene	1.6	< 1.6	U
99-87-6	4-Isopropyltoluene	1.6	< 1.6	U
104-51-8	n-Butylbenzene	1.6	< 1.6	U
120-82-1	1,2,4-Trichlorobenzene	7.9	< 7.9	U
91-20-3	Naphthalene	7.9	< 7.9	U
87-61-6	1,2,3-Trichlorobenzene	7.9	< 7.9	U
1634-04-4	Methyl tert-Butyl Ether	1.6	< 1.6	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	126%
d8-Toluene	103%
Bromofluorobenzene	103%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-3(0-1)-111101

Page 1 of 2

SAMPLE

Lab Sample ID: TU89C

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25253

Project: Boeing Striker: North Detention Pon

Matrix: Soild

025195.040.045

Data Release Authorized:

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 3.37 g-dry-wt

Date Analyzed: 11/02/11 13:27

Purge Volume: 5.0 mL

Moisture: 24.4%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.5	< 1.5	U
74-83-9	Bromomethane	1.5	< 1.5	U
75-01-4	Vinyl Chloride	1.5	< 1.5	U
75-00-3	Chloroethane	1.5	< 1.5	U
75-09-2	Methylene Chloride	3.0	3.6	
67-64-1	Acetone	7.4	61	
75-15-0	Carbon Disulfide	1.5	< 1.5	U
75-35-4	1,1-Dichloroethene	1.5	< 1.5	U
75-34-3	1,1-Dichloroethane	1.5	< 1.5	U
156-60-5	trans-1,2-Dichloroethene	1.5	< 1.5	U
156-59-2	cis-1,2-Dichloroethene	1.5	< 1.5	U
67-66-3	Chloroform	1.5	< 1.5	U
107-06-2	1,2-Dichloroethane	1.5	< 1.5	U
78-93-3	2-Butanone	7.4	< 7.4	U
71-55-6	1,1,1-Trichloroethane	1.5	< 1.5	U
56-23-5	Carbon Tetrachloride	1.5	< 1.5	U
108-05-4	Vinyl Acetate	7.4	< 7.4	U
75-27-4	Bromodichloromethane	1.5	< 1.5	U
78-87-5	1,2-Dichloropropane	1.5	< 1.5	U
10061-01-5	cis-1,3-Dichloropropene	1.5	< 1.5	U
79-01-6	Trichloroethene	1.5	< 1.5	U
124-48-1	Dibromochloromethane	1.5	< 1.5	U
79-00-5	1,1,2-Trichloroethane	1.5	< 1.5	U
71-43-2	Benzene	1.5	< 1.5	U
10061-02-6	trans-1,3-Dichloropropene	1.5	< 1.5	U
110-75-8	2-Chloroethylvinylether	7.4	< 7.4	U
75-25-2	Bromoform	1.5	< 1.5	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	7.4	< 7.4	U
591-78-6	2-Hexanone	7.4	< 7.4	U
127-18-4	Tetrachloroethene	1.5	< 1.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.5	< 1.5	U
108-88-3	Toluene	1.5	< 1.5	U
108-90-7	Chlorobenzene	1.5	< 1.5	U
100-41-4	Ethylbenzene	1.5	< 1.5	U
100-42-5	Styrene	1.5	< 1.5	U
75-69-4	Trichlorofluoromethane	1.5	< 1.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	3.0	< 3.0	U
179601-23-1	m,p-Xylene	1.5	< 1.5	U
95-47-6	o-Xylene	1.5	< 1.5	U
95-50-1	1,2-Dichlorobenzene	1.5	< 1.5	U
541-73-1	1,3-Dichlorobenzene	1.5	< 1.5	U
106-46-7	1,4-Dichlorobenzene	1.5	< 1.5	U
107-02-8	Acrolein	74	< 74	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: NDP-3(0-1)-111101

SAMPLE

Lab Sample ID: TU89C

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25253

Project: Boeing Striker: North Detention Pon

Matrix: Soild

025195.040.045

Date Analyzed: 11/02/11 13:27

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.5	< 1.5	U
74-96-4	Bromoethane	3.0	< 3.0	U
107-13-1	Acrylonitrile	7.4	< 7.4	U
563-58-6	1,1-Dichloropropene	1.5	< 1.5	U
74-95-3	Dibromomethane	1.5	< 1.5	U
630-20-6	1,1,1,2-Tetrachloroethane	1.5	< 1.5	U
96-12-8	1,2-Dibromo-3-chloropropane	7.4	< 7.4	U
96-18-4	1,2,3-Trichloropropane	3.0	< 3.0	U
110-57-6	trans-1,4-Dichloro-2-butene	7.4	< 7.4	U
108-67-8	1,3,5-Trimethylbenzene	1.5	< 1.5	U
95-63-6	1,2,4-Trimethylbenzene	1.5	< 1.5	U
87-68-3	Hexachlorobutadiene	7.4	< 7.4	U
106-93-4	Ethylene Dibromide	1.5	< 1.5	U
74-97-5	Bromochloromethane	1.5	< 1.5	U
594-20-7	2,2-Dichloropropane	1.5	< 1.5	U
142-28-9	1,3-Dichloropropane	1.5	< 1.5	U
98-82-8	Isopropylbenzene	1.5	< 1.5	U
103-65-1	n-Propylbenzene	1.5	< 1.5	U
108-86-1	Bromobenzene	1.5	< 1.5	U
95-49-8	2-Chlorotoluene	1.5	< 1.5	U
106-43-4	4-Chlorotoluene	1.5	< 1.5	U
98-06-6	tert-Butylbenzene	1.5	< 1.5	U
135-98-8	sec-Butylbenzene	1.5	< 1.5	U
99-87-6	4-Isopropyltoluene	1.5	< 1.5	U
104-51-8	n-Butylbenzene	1.5	< 1.5	U
120-82-1	1,2,4-Trichlorobenzene	7.4	< 7.4	U
91-20-3	Naphthalene	7.4	< 7.4	U
87-61-6	1,2,3-Trichlorobenzene	7.4	< 7.4	U
1634-04-4	Methyl tert-Butyl Ether	1.5	< 1.5	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	122%
d8-Toluene	102%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-2(0-1)-111101

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SAMPLE

Lab Sample ID: TU89D

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25254

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized:

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 3.13 g-dry-wt

Date Analyzed: 11/02/11 13:48

Purge Volume: 5.0 mL

Moisture: 35.3%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.6	< 1.6	U
74-83-9	Bromomethane	1.6	< 1.6	U
75-01-4	Vinyl Chloride	1.6	< 1.6	U
75-00-3	Chloroethane	1.6	< 1.6	U
75-09-2	Methylene Chloride	3.2	3.9	
67-64-1	Acetone	8.0	48	
75-15-0	Carbon Disulfide	1.6	< 1.6	U
75-35-4	1,1-Dichloroethene	1.6	< 1.6	U
75-34-3	1,1-Dichloroethane	1.6	< 1.6	U
156-60-5	trans-1,2-Dichloroethene	1.6	< 1.6	U
156-59-2	cis-1,2-Dichloroethene	1.6	< 1.6	U
67-66-3	Chloroform	1.6	< 1.6	U
107-06-2	1,2-Dichloroethane	1.6	< 1.6	U
78-93-3	2-Butanone	8.0	< 8.0	U
71-55-6	1,1,1-Trichloroethane	1.6	< 1.6	U
56-23-5	Carbon Tetrachloride	1.6	< 1.6	U
108-05-4	Vinyl Acetate	8.0	< 8.0	U
75-27-4	Bromodichloromethane	1.6	< 1.6	U
78-87-5	1,2-Dichloropropane	1.6	< 1.6	U
10061-01-5	cis-1,3-Dichloropropene	1.6	< 1.6	U
79-01-6	Trichloroethene	1.6	< 1.6	U
124-48-1	Dibromochloromethane	1.6	< 1.6	U
79-00-5	1,1,2-Trichloroethane	1.6	< 1.6	U
71-43-2	Benzene	1.6	< 1.6	U
10061-02-6	trans-1,3-Dichloropropene	1.6	< 1.6	U
110-75-8	2-Chloroethylvinylether	8.0	< 8.0	U
75-25-2	Bromoform	1.6	< 1.6	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	8.0	< 8.0	U
591-78-6	2-Hexanone	8.0	< 8.0	U
127-18-4	Tetrachloroethene	1.6	< 1.6	U
79-34-5	1,1,2,2-Tetrachloroethane	1.6	< 1.6	U
108-88-3	Toluene	1.6	< 1.6	U
108-90-7	Chlorobenzene	1.6	< 1.6	U
100-41-4	Ethylbenzene	1.6	< 1.6	U
100-42-5	Styrene	1.6	< 1.6	U
75-69-4	Trichlorofluoromethane	1.6	< 1.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	< 3.2	U
179601-23-1	m,p-Xylene	1.6	< 1.6	U
95-47-6	o-Xylene	1.6	< 1.6	U
95-50-1	1,2-Dichlorobenzene	1.6	< 1.6	U
541-73-1	1,3-Dichlorobenzene	1.6	< 1.6	U
106-46-7	1,4-Dichlorobenzene	1.6	< 1.6	U
107-02-8	Acrolein	80	< 80	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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**Sample ID: NDP-2(0-1)-111101
SAMPLE**

Lab Sample ID: TU89D

LIMS ID: 11-25254

Matrix: Solid

Date Analyzed: 11/02/11 13:48

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon
025195.040.045

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.6	< 1.6	U
74-96-4	Bromoethane	3.2	< 3.2	U
107-13-1	Acrylonitrile	8.0	< 8.0	U
563-58-6	1,1-Dichloropropene	1.6	< 1.6	U
74-95-3	Dibromomethane	1.6	< 1.6	U
630-20-6	1,1,1,2-Tetrachloroethane	1.6	< 1.6	U
96-12-8	1,2-Dibromo-3-chloropropane	8.0	< 8.0	U
96-18-4	1,2,3-Trichloropropane	3.2	< 3.2	U
110-57-6	trans-1,4-Dichloro-2-butene	8.0	< 8.0	U
108-67-8	1,3,5-Trimethylbenzene	1.6	< 1.6	U
95-63-6	1,2,4-Trimethylbenzene	1.6	< 1.6	U
87-68-3	Hexachlorobutadiene	8.0	< 8.0	U
106-93-4	Ethylene Dibromide	1.6	< 1.6	U
74-97-5	Bromochloromethane	1.6	< 1.6	U
594-20-7	2,2-Dichloropropane	1.6	< 1.6	U
142-28-9	1,3-Dichloropropane	1.6	< 1.6	U
98-82-8	Isopropylbenzene	1.6	< 1.6	U
103-65-1	n-Propylbenzene	1.6	< 1.6	U
108-86-1	Bromobenzene	1.6	< 1.6	U
95-49-8	2-Chlorotoluene	1.6	< 1.6	U
106-43-4	4-Chlorotoluene	1.6	< 1.6	U
98-06-6	tert-Butylbenzene	1.6	< 1.6	U
135-98-8	sec-Butylbenzene	1.6	< 1.6	U
99-87-6	4-Isopropyltoluene	1.6	< 1.6	U
104-51-8	n-Butylbenzene	1.6	< 1.6	U
120-82-1	1,2,4-Trichlorobenzene	8.0	< 8.0	U
91-20-3	Naphthalene	8.0	< 8.0	U
87-61-6	1,2,3-Trichlorobenzene	8.0	< 8.0	U
1634-04-4	Methyl tert-Butyl Ether	1.6	< 1.6	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	123%
d8-Toluene	103%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-1(0-0.5)-111101

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SAMPLE

Lab Sample ID: TU89E


QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25255

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized: 

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 1.22 g-dry-wt

Date Analyzed: 11/02/11 14:09

Purge Volume: 5.0 mL

Moisture: 72.0%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	4.1	< 4.1	U
74-83-9	Bromomethane	4.1	< 4.1	U
75-01-4	Vinyl Chloride	4.1	< 4.1	U
75-00-3	Chloroethane	4.1	< 4.1	U
75-09-2	Methylene Chloride	8.2	< 8.2	U
67-64-1	Acetone	20	390	
75-15-0	Carbon Disulfide	4.1	< 4.1	U
75-35-4	1,1-Dichloroethene	4.1	< 4.1	U
75-34-3	1,1-Dichloroethane	4.1	< 4.1	U
156-60-5	trans-1,2-Dichloroethene	4.1	< 4.1	U
156-59-2	cis-1,2-Dichloroethene	4.1	< 4.1	U
67-66-3	Chloroform	4.1	< 4.1	U
107-06-2	1,2-Dichloroethane	4.1	< 4.1	U
78-93-3	2-Butanone	20	28	
71-55-6	1,1,1-Trichloroethane	4.1	< 4.1	U
56-23-5	Carbon Tetrachloride	4.1	< 4.1	U
108-05-4	Vinyl Acetate	20	< 20	U
75-27-4	Bromodichloromethane	4.1	< 4.1	U
78-87-5	1,2-Dichloropropane	4.1	< 4.1	U
10061-01-5	cis-1,3-Dichloropropene	4.1	< 4.1	U
79-01-6	Trichloroethene	4.1	< 4.1	U
124-48-1	Dibromochloromethane	4.1	< 4.1	U
79-00-5	1,1,2-Trichloroethane	4.1	< 4.1	U
71-43-2	Benzene	4.1	< 4.1	U
10061-02-6	trans-1,3-Dichloropropene	4.1	< 4.1	U
110-75-8	2-Chloroethylvinylether	20	< 20	U
75-25-2	Bromoform	4.1	< 4.1	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	29	M
591-78-6	2-Hexanone	280	< 280	Y
127-18-4	Tetrachloroethene	4.1	< 4.1	U
79-34-5	1,1,2,2-Tetrachloroethane	4.1	< 4.1	U
108-88-3	Toluene	4.1	< 4.1	U
108-90-7	Chlorobenzene	4.1	< 4.1	U
100-41-4	Ethylbenzene	4.1	< 4.1	U
100-42-5	Styrene	4.1	< 4.1	U
75-69-4	Trichlorofluoromethane	4.1	< 4.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	8.2	< 8.2	U
179601-23-1	m,p-Xylene	4.1	< 4.1	U
95-47-6	o-Xylene	4.1	< 4.1	U
95-50-1	1,2-Dichlorobenzene	4.1	< 4.1	U
541-73-1	1,3-Dichlorobenzene	4.1	< 4.1	U
106-46-7	1,4-Dichlorobenzene	4.1	< 4.1	U
107-02-8	Acrolein	200	< 200	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: NDP-1(0-0.5)-111101

SAMPLE

Lab Sample ID: TU89E

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25255

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Date Analyzed: 11/02/11 14:09

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	4.1	< 4.1	U
74-96-4	Bromoethane	8.2	< 8.2	U
107-13-1	Acrylonitrile	20	< 20	U
563-58-6	1,1-Dichloropropene	4.1	< 4.1	U
74-95-3	Dibromomethane	4.1	< 4.1	U
630-20-6	1,1,1,2-Tetrachloroethane	4.1	< 4.1	U
96-12-8	1,2-Dibromo-3-chloropropane	20	< 20	U
96-18-4	1,2,3-Trichloropropane	8.2	< 8.2	U
110-57-6	trans-1,4-Dichloro-2-butene	20	< 20	U
108-67-8	1,3,5-Trimethylbenzene	4.1	< 4.1	U
95-63-6	1,2,4-Trimethylbenzene	4.1	< 4.1	U
87-68-3	Hexachlorobutadiene	20	< 20	U
106-93-4	Ethylene Dibromide	4.1	< 4.1	U
74-97-5	Bromochloromethane	4.1	< 4.1	U
594-20-7	2,2-Dichloropropane	4.1	< 4.1	U
142-28-9	1,3-Dichloropropane	4.1	< 4.1	U
98-82-8	Isopropylbenzene	4.1	< 4.1	U
103-65-1	n-Propylbenzene	4.1	< 4.1	U
108-86-1	Bromobenzene	4.1	< 4.1	U
95-49-8	2-Chlorotoluene	4.1	< 4.1	U
106-43-4	4-Chlorotoluene	4.1	< 4.1	U
98-06-6	tert-Butylbenzene	4.1	< 4.1	U
135-98-8	sec-Butylbenzene	4.1	< 4.1	U
99-87-6	4-Isopropyltoluene	4.1	< 4.1	U
104-51-8	n-Butylbenzene	4.1	< 4.1	U
120-82-1	1,2,4-Trichlorobenzene	20	< 20	U
91-20-3	Naphthalene	20	< 20	U
87-61-6	1,2,3-Trichlorobenzene	20	< 20	U
1634-04-4	Methyl tert-Butyl Ether	4.1	< 4.1	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	121%
d8-Toluene	103%
Bromofluorobenzene	99.6%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-10(0-1)-111101

Page 1 of 2

SAMPLE

Lab Sample ID: TU89F

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25256

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized: *AB*

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 2.81 g-dry-wt

Date Analyzed: 11/02/11 14:30

Purge Volume: 5.0 mL

Moisture: 36.8%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.8	< 1.8	U
74-83-9	Bromomethane	1.8	< 1.8	U
75-01-4	Vinyl Chloride	1.8	< 1.8	U
75-00-3	Chloroethane	1.8	< 1.8	U
75-09-2	Methylene Chloride	3.6	4.7	
67-64-1	Acetone	8.9	37	
75-15-0	Carbon Disulfide	1.8	< 1.8	U
75-35-4	1,1-Dichloroethene	1.8	< 1.8	U
75-34-3	1,1-Dichloroethane	1.8	< 1.8	U
156-60-5	trans-1,2-Dichloroethene	1.8	< 1.8	U
156-59-2	cis-1,2-Dichloroethene	1.8	< 1.8	U
67-66-3	Chloroform	1.8	< 1.8	U
107-06-2	1,2-Dichloroethane	1.8	< 1.8	U
78-93-3	2-Butanone	8.9	< 8.9	U
71-55-6	1,1,1-Trichloroethane	1.8	< 1.8	U
56-23-5	Carbon Tetrachloride	1.8	< 1.8	U
108-05-4	Vinyl Acetate	8.9	< 8.9	U
75-27-4	Bromodichloromethane	1.8	< 1.8	U
78-87-5	1,2-Dichloropropane	1.8	< 1.8	U
10061-01-5	cis-1,3-Dichloropropene	1.8	< 1.8	U
79-01-6	Trichloroethene	1.8	< 1.8	U
124-48-1	Dibromochloromethane	1.8	< 1.8	U
79-00-5	1,1,2-Trichloroethane	1.8	< 1.8	U
71-43-2	Benzene	1.8	< 1.8	U
10061-02-6	trans-1,3-Dichloropropene	1.8	< 1.8	U
110-75-8	2-Chloroethylvinylether	8.9	< 8.9	U
75-25-2	Bromoform	1.8	< 1.8	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	8.9	< 8.9	U
591-78-6	2-Hexanone	8.9	< 8.9	U
127-18-4	Tetrachloroethene	1.8	< 1.8	U
79-34-5	1,1,2,2-Tetrachloroethane	1.8	< 1.8	U
108-88-3	Toluene	1.8	< 1.8	U
108-90-7	Chlorobenzene	1.8	< 1.8	U
100-41-4	Ethylbenzene	1.8	< 1.8	U
100-42-5	Styrene	1.8	< 1.8	U
75-69-4	Trichlorofluoromethane	1.8	< 1.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6	< 3.6	U
179601-23-1	m,p-Xylene	1.8	< 1.8	U
95-47-6	o-Xylene	1.8	< 1.8	U
95-50-1	1,2-Dichlorobenzene	1.8	< 1.8	U
541-73-1	1,3-Dichlorobenzene	1.8	< 1.8	U
106-46-7	1,4-Dichlorobenzene	1.8	< 1.8	U
107-02-8	Acrolein	89	< 89	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-10(0-1)-111101

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SAMPLE

Lab Sample ID: TU89F

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25256

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Date Analyzed: 11/02/11 14:30

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.8	< 1.8	U
74-96-4	Bromoethane	3.6	< 3.6	U
107-13-1	Acrylonitrile	8.9	< 8.9	U
563-58-6	1,1-Dichloropropene	1.8	< 1.8	U
74-95-3	Dibromomethane	1.8	< 1.8	U
630-20-6	1,1,1,2-Tetrachloroethane	1.8	< 1.8	U
96-12-8	1,2-Dibromo-3-chloropropane	8.9	< 8.9	U
96-18-4	1,2,3-Trichloropropane	3.6	< 3.6	U
110-57-6	trans-1,4-Dichloro-2-butene	8.9	< 8.9	U
108-67-8	1,3,5-Trimethylbenzene	1.8	< 1.8	U
95-63-6	1,2,4-Trimethylbenzene	1.8	< 1.8	U
87-68-3	Hexachlorobutadiene	8.9	< 8.9	U
106-93-4	Ethylene Dibromide	1.8	< 1.8	U
74-97-5	Bromochloromethane	1.8	< 1.8	U
594-20-7	2,2-Dichloropropane	1.8	< 1.8	U
142-28-9	1,3-Dichloropropane	1.8	< 1.8	U
98-82-8	Isopropylbenzene	1.8	< 1.8	U
103-65-1	n-Propylbenzene	1.8	< 1.8	U
108-86-1	Bromobenzene	1.8	< 1.8	U
95-49-8	2-Chlorotoluene	1.8	< 1.8	U
106-43-4	4-Chlorotoluene	1.8	< 1.8	U
98-06-6	tert-Butylbenzene	1.8	< 1.8	U
135-98-8	sec-Butylbenzene	1.8	< 1.8	U
99-87-6	4-Isopropyltoluene	1.8	< 1.8	U
104-51-8	n-Butylbenzene	1.8	< 1.8	U
120-82-1	1,2,4-Trichlorobenzene	8.9	< 8.9	U
91-20-3	Naphthalene	8.9	< 8.9	U
87-61-6	1,2,3-Trichlorobenzene	8.9	< 8.9	U
1634-04-4	Methyl tert-Butyl Ether	1.8	< 1.8	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	120%
d8-Toluene	103%
Bromofluorobenzene	99.4%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-6(0-1)-111101

Page 1 of 2

SAMPLE

Lab Sample ID: TU89G

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25257

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized:

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 2.74 g-dry-wt

Date Analyzed: 11/02/11 14:52

Purge Volume: 5.0 mL

Moisture: 39.0%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.8	< 1.8	U
74-83-9	Bromomethane	1.8	< 1.8	U
75-01-4	Vinyl Chloride	1.8	< 1.8	U
75-00-3	Chloroethane	1.8	< 1.8	U
75-09-2	Methylene Chloride	3.6	4.6	
67-64-1	Acetone	9.1	50	
75-15-0	Carbon Disulfide	1.8	< 1.8	U
75-35-4	1,1-Dichloroethene	1.8	< 1.8	U
75-34-3	1,1-Dichloroethane	1.8	< 1.8	U
156-60-5	trans-1,2-Dichloroethene	1.8	< 1.8	U
156-59-2	cis-1,2-Dichloroethene	1.8	< 1.8	U
67-66-3	Chloroform	1.8	< 1.8	U
107-06-2	1,2-Dichloroethane	1.8	< 1.8	U
78-93-3	2-Butanone	9.1	< 9.1	U
71-55-6	1,1,1-Trichloroethane	1.8	< 1.8	U
56-23-5	Carbon Tetrachloride	1.8	< 1.8	U
108-05-4	Vinyl Acetate	9.1	< 9.1	U
75-27-4	Bromodichloromethane	1.8	< 1.8	U
78-87-5	1,2-Dichloropropane	1.8	< 1.8	U
10061-01-5	cis-1,3-Dichloropropene	1.8	< 1.8	U
79-01-6	Trichloroethene	1.8	< 1.8	U
124-48-1	Dibromochloromethane	1.8	< 1.8	U
79-00-5	1,1,2-Trichloroethane	1.8	< 1.8	U
71-43-2	Benzene	1.8	< 1.8	U
10061-02-6	trans-1,3-Dichloropropene	1.8	< 1.8	U
110-75-8	2-Chloroethylvinylether	9.1	< 9.1	U
75-25-2	Bromoform	1.8	< 1.8	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	9.1	< 9.1	U
591-78-6	2-Hexanone	9.1	< 9.1	U
127-18-4	Tetrachloroethene	1.8	< 1.8	U
79-34-5	1,1,2,2-Tetrachloroethane	1.8	< 1.8	U
108-88-3	Toluene	1.8	< 1.8	U
108-90-7	Chlorobenzene	1.8	< 1.8	U
100-41-4	Ethylbenzene	1.8	< 1.8	U
100-42-5	Styrene	1.8	< 1.8	U
75-69-4	Trichlorofluoromethane	1.8	< 1.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	3.6	< 3.6	U
179601-23-1	m,p-Xylene	1.8	< 1.8	U
95-47-6	o-Xylene	1.8	< 1.8	U
95-50-1	1,2-Dichlorobenzene	1.8	< 1.8	U
541-73-1	1,3-Dichlorobenzene	1.8	< 1.8	U
106-46-7	1,4-Dichlorobenzene	1.8	< 1.8	U
107-02-8	Acrolein	91	< 91	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: NDP-6(0-1)-111101

SAMPLE

Lab Sample ID: TU89G

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25257

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Date Analyzed: 11/02/11 14:52

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.8	< 1.8	U
74-96-4	Bromoethane	3.6	< 3.6	U
107-13-1	Acrylonitrile	9.1	< 9.1	U
563-58-6	1,1-Dichloropropene	1.8	< 1.8	U
74-95-3	Dibromomethane	1.8	< 1.8	U
630-20-6	1,1,1,2-Tetrachloroethane	1.8	< 1.8	U
96-12-8	1,2-Dibromo-3-chloropropane	9.1	< 9.1	U
96-18-4	1,2,3-Trichloropropane	3.6	< 3.6	U
110-57-6	trans-1,4-Dichloro-2-butene	9.1	< 9.1	U
108-67-8	1,3,5-Trimethylbenzene	1.8	< 1.8	U
95-63-6	1,2,4-Trimethylbenzene	1.8	< 1.8	U
87-68-3	Hexachlorobutadiene	9.1	< 9.1	U
106-93-4	Ethylene Dibromide	1.8	< 1.8	U
74-97-5	Bromochloromethane	1.8	< 1.8	U
594-20-7	2,2-Dichloropropane	1.8	< 1.8	U
142-28-9	1,3-Dichloropropane	1.8	< 1.8	U
98-82-8	Isopropylbenzene	1.8	< 1.8	U
103-65-1	n-Propylbenzene	1.8	< 1.8	U
108-86-1	Bromobenzene	1.8	< 1.8	U
95-49-8	2-Chlorotoluene	1.8	< 1.8	U
106-43-4	4-Chlorotoluene	1.8	< 1.8	U
98-06-6	tert-Butylbenzene	1.8	< 1.8	U
135-98-8	sec-Butylbenzene	1.8	< 1.8	U
99-87-6	4-Isopropyltoluene	1.8	< 1.8	U
104-51-8	n-Butylbenzene	1.8	< 1.8	U
120-82-1	1,2,4-Trichlorobenzene	9.1	< 9.1	U
91-20-3	Naphthalene	9.1	< 9.1	U
87-61-6	1,2,3-Trichlorobenzene	9.1	< 9.1	U
1634-04-4	Methyl tert-Butyl Ether	1.8	< 1.8	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	128%
d8-Toluene	102%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	105%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-4(0-1)-111101

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SAMPLE

Lab Sample ID: TU89H

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25258

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized: *AB*

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 3.42 g-dry-wt

Date Analyzed: 11/02/11 15:13

Purge Volume: 5.0 mL

Moisture: 36.0%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.5	< 1.5	U
74-83-9	Bromomethane	1.5	< 1.5	U
75-01-4	Vinyl Chloride	1.5	< 1.5	U
75-00-3	Chloroethane	1.5	< 1.5	U
75-09-2	Methylene Chloride	2.9	3.1	
67-64-1	Acetone	7.3	28	
75-15-0	Carbon Disulfide	1.5	< 1.5	U
75-35-4	1,1-Dichloroethene	1.5	< 1.5	U
75-34-3	1,1-Dichloroethane	1.5	< 1.5	U
156-60-5	trans-1,2-Dichloroethene	1.5	< 1.5	U
156-59-2	cis-1,2-Dichloroethene	1.5	< 1.5	U
67-66-3	Chloroform	1.5	< 1.5	U
107-06-2	1,2-Dichloroethane	1.5	< 1.5	U
78-93-3	2-Butanone	7.3	< 7.3	U
71-55-6	1,1,1-Trichloroethane	1.5	< 1.5	U
56-23-5	Carbon Tetrachloride	1.5	< 1.5	U
108-05-4	Vinyl Acetate	7.3	< 7.3	U
75-27-4	Bromodichloromethane	1.5	< 1.5	U
78-87-5	1,2-Dichloropropane	1.5	< 1.5	U
10061-01-5	cis-1,3-Dichloropropene	1.5	< 1.5	U
79-01-6	Trichloroethene	1.5	< 1.5	U
124-48-1	Dibromochloromethane	1.5	< 1.5	U
79-00-5	1,1,2-Trichloroethane	1.5	< 1.5	U
71-43-2	Benzene	1.5	< 1.5	U
10061-02-6	trans-1,3-Dichloropropene	1.5	< 1.5	U
110-75-8	2-Chloroethylvinylether	7.3	< 7.3	U
75-25-2	Bromoform	1.5	< 1.5	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	7.3	< 7.3	U
591-78-6	2-Hexanone	7.3	< 7.3	U
127-18-4	Tetrachloroethene	1.5	< 1.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.5	< 1.5	U
108-88-3	Toluene	1.5	< 1.5	U
108-90-7	Chlorobenzene	1.5	< 1.5	U
100-41-4	Ethylbenzene	1.5	< 1.5	U
100-42-5	Styrene	1.5	< 1.5	U
75-69-4	Trichlorofluoromethane	1.5	< 1.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.9	< 2.9	U
179601-23-1	m,p-Xylene	1.5	< 1.5	U
95-47-6	o-Xylene	1.5	< 1.5	U
95-50-1	1,2-Dichlorobenzene	1.5	< 1.5	U
541-73-1	1,3-Dichlorobenzene	1.5	< 1.5	U
106-46-7	1,4-Dichlorobenzene	1.5	< 1.5	U
107-02-8	Acrolein	73	< 73	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: NDP-4(0-1)-111101

SAMPLE

Lab Sample ID: TU89H

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25258

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Date Analyzed: 11/02/11 15:13

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.5	< 1.5	U
74-96-4	Bromoethane	2.9	< 2.9	U
107-13-1	Acrylonitrile	7.3	< 7.3	U
563-58-6	1,1-Dichloropropene	1.5	< 1.5	U
74-95-3	Dibromomethane	1.5	< 1.5	U
630-20-6	1,1,1,2-Tetrachloroethane	1.5	< 1.5	U
96-12-8	1,2-Dibromo-3-chloropropane	7.3	< 7.3	U
96-18-4	1,2,3-Trichloropropane	2.9	< 2.9	U
110-57-6	trans-1,4-Dichloro-2-butene	7.3	< 7.3	U
108-67-8	1,3,5-Trimethylbenzene	1.5	< 1.5	U
95-63-6	1,2,4-Trimethylbenzene	1.5	< 1.5	U
87-68-3	Hexachlorobutadiene	7.3	< 7.3	U
106-93-4	Ethylene Dibromide	1.5	< 1.5	U
74-97-5	Bromochloromethane	1.5	< 1.5	U
594-20-7	2,2-Dichloropropane	1.5	< 1.5	U
142-28-9	1,3-Dichloropropane	1.5	< 1.5	U
98-82-8	Isopropylbenzene	1.5	< 1.5	U
103-65-1	n-Propylbenzene	1.5	< 1.5	U
108-86-1	Bromobenzene	1.5	< 1.5	U
95-49-8	2-Chlorotoluene	1.5	< 1.5	U
106-43-4	4-Chlorotoluene	1.5	< 1.5	U
98-06-6	tert-Butylbenzene	1.5	< 1.5	U
135-98-8	sec-Butylbenzene	1.5	< 1.5	U
99-87-6	4-Isopropyltoluene	1.5	< 1.5	U
104-51-8	n-Butylbenzene	1.5	< 1.5	U
120-82-1	1,2,4-Trichlorobenzene	7.3	< 7.3	U
91-20-3	Naphthalene	7.3	< 7.3	U
87-61-6	1,2,3-Trichlorobenzene	7.3	< 7.3	U
1634-04-4	Methyl tert-Butyl Ether	1.5	< 1.5	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	131%
d8-Toluene	104%
Bromofluorobenzene	103%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-8(0-1)-111101

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SAMPLE

Lab Sample ID: TU89I

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25259

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized:

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 3.45 g-dry-wt

Date Analyzed: 11/02/11 15:34

Purge Volume: 5.0 mL

Moisture: 30.4%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.5	< 1.5	U
74-83-9	Bromomethane	1.5	< 1.5	U
75-01-4	Vinyl Chloride	1.5	< 1.5	U
75-00-3	Chloroethane	1.5	< 1.5	U
75-09-2	Methylene Chloride	2.9	< 2.9	U
67-64-1	Acetone	7.3	24	
75-15-0	Carbon Disulfide	1.5	< 1.5	U
75-35-4	1,1-Dichloroethene	1.5	< 1.5	U
75-34-3	1,1-Dichloroethane	1.5	< 1.5	U
156-60-5	trans-1,2-Dichloroethene	1.5	< 1.5	U
156-59-2	cis-1,2-Dichloroethene	1.5	< 1.5	U
67-66-3	Chloroform	1.5	< 1.5	U
107-06-2	1,2-Dichloroethane	1.5	< 1.5	U
78-93-3	2-Butanone	7.3	< 7.3	U
71-55-6	1,1,1-Trichloroethane	1.5	< 1.5	U
56-23-5	Carbon Tetrachloride	1.5	< 1.5	U
108-05-4	Vinyl Acetate	7.3	< 7.3	U
75-27-4	Bromodichloromethane	1.5	< 1.5	U
78-87-5	1,2-Dichloropropane	1.5	< 1.5	U
10061-01-5	cis-1,3-Dichloropropene	1.5	< 1.5	U
79-01-6	Trichloroethene	1.5	< 1.5	U
124-48-1	Dibromochloromethane	1.5	< 1.5	U
79-00-5	1,1,2-Trichloroethane	1.5	< 1.5	U
71-43-2	Benzene	1.5	< 1.5	U
10061-02-6	trans-1,3-Dichloropropene	1.5	< 1.5	U
110-75-8	2-Chloroethylvinylether	7.3	< 7.3	U
75-25-2	Bromoform	1.5	< 1.5	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	7.3	< 7.3	U
591-78-6	2-Hexanone	7.3	< 7.3	U
127-18-4	Tetrachloroethene	1.5	< 1.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.5	< 1.5	U
108-88-3	Toluene	1.5	< 1.5	U
108-90-7	Chlorobenzene	1.5	< 1.5	U
100-41-4	Ethylbenzene	1.5	< 1.5	U
100-42-5	Styrene	1.5	< 1.5	U
75-69-4	Trichlorofluoromethane	1.5	< 1.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.9	< 2.9	U
179601-23-1	m,p-Xylene	1.5	< 1.5	U
95-47-6	o-Xylene	1.5	< 1.5	U
95-50-1	1,2-Dichlorobenzene	1.5	< 1.5	U
541-73-1	1,3-Dichlorobenzene	1.5	< 1.5	U
106-46-7	1,4-Dichlorobenzene	1.5	< 1.5	U
107-02-8	Acrolein	73	< 73	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-8(0-1)-111101

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SAMPLE

Lab Sample ID: TU89I

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25259

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Date Analyzed: 11/02/11 15:34

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.5	< 1.5	U
74-96-4	Bromoethane	2.9	< 2.9	U
107-13-1	Acrylonitrile	7.3	< 7.3	U
563-58-6	1,1-Dichloropropene	1.5	< 1.5	U
74-95-3	Dibromomethane	1.5	< 1.5	U
630-20-6	1,1,1,2-Tetrachloroethane	1.5	< 1.5	U
96-12-8	1,2-Dibromo-3-chloropropane	7.3	< 7.3	U
96-18-4	1,2,3-Trichloropropane	2.9	< 2.9	U
110-57-6	trans-1,4-Dichloro-2-butene	7.3	< 7.3	U
108-67-8	1,3,5-Trimethylbenzene	1.5	< 1.5	U
95-63-6	1,2,4-Trimethylbenzene	1.5	< 1.5	U
87-68-3	Hexachlorobutadiene	7.3	< 7.3	U
106-93-4	Ethylene Dibromide	1.5	< 1.5	U
74-97-5	Bromochloromethane	1.5	< 1.5	U
594-20-7	2,2-Dichloropropane	1.5	< 1.5	U
142-28-9	1,3-Dichloropropane	1.5	< 1.5	U
98-82-8	Isopropylbenzene	1.5	< 1.5	U
103-65-1	n-Propylbenzene	1.5	< 1.5	U
108-86-1	Bromobenzene	1.5	< 1.5	U
95-49-8	2-Chlorotoluene	1.5	< 1.5	U
106-43-4	4-Chlorotoluene	1.5	< 1.5	U
98-06-6	tert-Butylbenzene	1.5	< 1.5	U
135-98-8	sec-Butylbenzene	1.5	< 1.5	U
99-87-6	4-Isopropyltoluene	1.5	< 1.5	U
104-51-8	n-Butylbenzene	1.5	< 1.5	U
120-82-1	1,2,4-Trichlorobenzene	7.3	< 7.3	U
91-20-3	Naphthalene	7.3	< 7.3	U
87-61-6	1,2,3-Trichlorobenzene	7.3	< 7.3	U
1634-04-4	Methyl tert-Butyl Ether	1.5	< 1.5	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	129%
d8-Toluene	104%
Bromofluorobenzene	103%
d4-1,2-Dichlorobenzene	105%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 2

Sample ID: NDP-11(0-1)-111101

SAMPLE

Lab Sample ID: TU89J


QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25260

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Data Release Authorized: 

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 4.41 g-dry-wt

Date Analyzed: 11/02/11 15:55

Purge Volume: 5.0 mL

Moisture: 21.1%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.1	< 1.1	U
74-83-9	Bromomethane	1.1	< 1.1	U
75-01-4	Vinyl Chloride	1.1	< 1.1	U
75-00-3	Chloroethane	1.1	< 1.1	U
75-09-2	Methylene Chloride	2.3	< 2.3	U
67-64-1	Acetone	5.7	48	
75-15-0	Carbon Disulfide	1.1	< 1.1	U
75-35-4	1,1-Dichloroethene	1.1	< 1.1	U
75-34-3	1,1-Dichloroethane	1.1	< 1.1	U
156-60-5	trans-1,2-Dichloroethene	1.1	< 1.1	U
156-59-2	cis-1,2-Dichloroethene	1.1	< 1.1	U
67-66-3	Chloroform	1.1	< 1.1	U
107-06-2	1,2-Dichloroethane	1.1	< 1.1	U
78-93-3	2-Butanone	5.7	< 5.7	U
71-55-6	1,1,1-Trichloroethane	1.1	< 1.1	U
56-23-5	Carbon Tetrachloride	1.1	< 1.1	U
108-05-4	Vinyl Acetate	5.7	< 5.7	U
75-27-4	Bromodichloromethane	1.1	< 1.1	U
78-87-5	1,2-Dichloropropane	1.1	< 1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	< 1.1	U
79-01-6	Trichloroethene	1.1	< 1.1	U
124-48-1	Dibromochloromethane	1.1	< 1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	< 1.1	U
71-43-2	Benzene	1.1	< 1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	< 1.1	U
110-75-8	2-Chloroethylvinylether	5.7	< 5.7	U
75-25-2	Bromoform	1.1	< 1.1	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.7	< 5.7	U
591-78-6	2-Hexanone	36	< 36	Y
127-18-4	Tetrachloroethene	1.1	< 1.1	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	< 1.1	U
108-88-3	Toluene	1.1	< 1.1	U
108-90-7	Chlorobenzene	1.1	< 1.1	U
100-41-4	Ethylbenzene	1.1	< 1.1	U
100-42-5	Styrene	1.1	< 1.1	U
75-69-4	Trichlorofluoromethane	1.1	< 1.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.3	< 2.3	U
179601-23-1	m,p-Xylene	1.1	< 1.1	U
95-47-6	o-Xylene	1.1	< 1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	< 1.1	U
541-73-1	1,3-Dichlorobenzene	1.1	< 1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	< 1.1	U
107-02-8	Acrolein	57	< 57	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: NDP-11(0-1)-111101

SAMPLE

Lab Sample ID: TU89J

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25260

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Date Analyzed: 11/02/11 15:55

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.1	< 1.1	U
74-96-4	Bromoethane	2.3	< 2.3	U
107-13-1	Acrylonitrile	5.7	< 5.7	U
563-58-6	1,1-Dichloropropene	1.1	< 1.1	U
74-95-3	Dibromomethane	1.1	< 1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	< 1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	< 5.7	U
96-18-4	1,2,3-Trichloropropane	2.3	< 2.3	U
110-57-6	trans-1,4-Dichloro-2-butene	5.7	< 5.7	U
108-67-8	1,3,5-Trimethylbenzene	1.1	< 1.1	U
95-63-6	1,2,4-Trimethylbenzene	1.1	< 1.1	U
87-68-3	Hexachlorobutadiene	5.7	< 5.7	U
106-93-4	Ethylene Dibromide	1.1	< 1.1	U
74-97-5	Bromochloromethane	1.1	< 1.1	U
594-20-7	2,2-Dichloropropane	1.1	< 1.1	U
142-28-9	1,3-Dichloropropane	1.1	< 1.1	U
98-82-8	Isopropylbenzene	1.1	< 1.1	U
103-65-1	n-Propylbenzene	1.1	< 1.1	U
108-86-1	Bromobenzene	1.1	< 1.1	U
95-49-8	2-Chlorotoluene	1.1	< 1.1	U
106-43-4	4-Chlorotoluene	1.1	< 1.1	U
98-06-6	tert-Butylbenzene	1.1	< 1.1	U
135-98-8	sec-Butylbenzene	1.1	< 1.1	U
99-87-6	4-Isopropyltoluene	1.1	< 1.1	U
104-51-8	n-Butylbenzene	1.1	< 1.1	U
120-82-1	1,2,4-Trichlorobenzene	5.7	< 5.7	U
91-20-3	Naphthalene	5.7	< 5.7	U
87-61-6	1,2,3-Trichlorobenzene	5.7	< 5.7	U
1634-04-4	Methyl tert-Butyl Ether	1.1	< 1.1	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	130%
d8-Toluene	104%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	106%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-12(0-1)-111101

Page 1 of 2

SAMPLE

Lab Sample ID: TU89K


QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25261

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Data Release Authorized: 

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 5.94 g-dry-wt

Date Analyzed: 11/02/11 16:17

Purge Volume: 5.0 mL

Moisture: 9.6%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.8	< 0.8	U
74-83-9	Bromomethane	0.8	< 0.8	U
75-01-4	Vinyl Chloride	0.8	< 0.8	U
75-00-3	Chloroethane	0.8	< 0.8	U
75-09-2	Methylene Chloride	1.7	1.7	
67-64-1	Acetone	4.2	32	
75-15-0	Carbon Disulfide	0.8	< 0.8	U
75-35-4	1,1-Dichloroethene	0.8	< 0.8	U
75-34-3	1,1-Dichloroethane	0.8	< 0.8	U
156-60-5	trans-1,2-Dichloroethene	0.8	< 0.8	U
156-59-2	cis-1,2-Dichloroethene	0.8	< 0.8	U
67-66-3	Chloroform	0.8	< 0.8	U
107-06-2	1,2-Dichloroethane	0.8	< 0.8	U
78-93-3	2-Butanone	4.2	< 4.2	U
71-55-6	1,1,1-Trichloroethane	0.8	< 0.8	U
56-23-5	Carbon Tetrachloride	0.8	< 0.8	U
108-05-4	Vinyl Acetate	4.2	< 4.2	U
75-27-4	Bromodichloromethane	0.8	< 0.8	U
78-87-5	1,2-Dichloropropane	0.8	< 0.8	U
10061-01-5	cis-1,3-Dichloropropene	0.8	< 0.8	U
79-01-6	Trichloroethene	0.8	< 0.8	U
124-48-1	Dibromochloromethane	0.8	< 0.8	U
79-00-5	1,1,2-Trichloroethane	0.8	< 0.8	U
71-43-2	Benzene	0.8	< 0.8	U
10061-02-6	trans-1,3-Dichloropropene	0.8	< 0.8	U
110-75-8	2-Chloroethylvinylether	4.2	< 4.2	U
75-25-2	Bromoform	0.8	< 0.8	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	4.2	< 4.2	U
591-78-6	2-Hexanone	35	< 35	Y
127-18-4	Tetrachloroethene	0.8	< 0.8	U
79-34-5	1,1,2,2-Tetrachloroethane	0.8	< 0.8	U
108-88-3	Toluene	0.8	< 0.8	U
108-90-7	Chlorobenzene	0.8	< 0.8	U
100-41-4	Ethylbenzene	0.8	< 0.8	U
100-42-5	Styrene	0.8	< 0.8	U
75-69-4	Trichlorofluoromethane	0.8	< 0.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.7	< 1.7	U
179601-23-1	m,p-Xylene	0.8	< 0.8	U
95-47-6	o-Xylene	0.8	< 0.8	U
95-50-1	1,2-Dichlorobenzene	0.8	< 0.8	U
541-73-1	1,3-Dichlorobenzene	0.8	< 0.8	U
106-46-7	1,4-Dichlorobenzene	0.8	< 0.8	U
107-02-8	Acrolein	42	< 42	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: NDP-12(0-1)-111101

SAMPLE

Lab Sample ID: TU89K

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25261

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Date Analyzed: 11/02/11 16:17

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	0.8	< 0.8	U
74-96-4	Bromoethane	1.7	< 1.7	U
107-13-1	Acrylonitrile	4.2	< 4.2	U
563-58-6	1,1-Dichloropropene	0.8	< 0.8	U
74-95-3	Dibromomethane	0.8	< 0.8	U
630-20-6	1,1,1,2-Tetrachloroethane	0.8	< 0.8	U
96-12-8	1,2-Dibromo-3-chloropropane	4.2	< 4.2	U
96-18-4	1,2,3-Trichloropropane	1.7	< 1.7	U
110-57-6	trans-1,4-Dichloro-2-butene	4.2	< 4.2	U
108-67-8	1,3,5-Trimethylbenzene	0.8	< 0.8	U
95-63-6	1,2,4-Trimethylbenzene	0.8	< 0.8	U
87-68-3	Hexachlorobutadiene	4.2	< 4.2	U
106-93-4	Ethylene Dibromide	0.8	< 0.8	U
74-97-5	Bromochloromethane	0.8	< 0.8	U
594-20-7	2,2-Dichloropropane	0.8	< 0.8	U
142-28-9	1,3-Dichloropropane	0.8	< 0.8	U
98-82-8	Isopropylbenzene	0.8	< 0.8	U
103-65-1	n-Propylbenzene	0.8	< 0.8	U
108-86-1	Bromobenzene	0.8	< 0.8	U
95-49-8	2-Chlorotoluene	0.8	< 0.8	U
106-43-4	4-Chlorotoluene	0.8	< 0.8	U
98-06-6	tert-Butylbenzene	0.8	< 0.8	U
135-98-8	sec-Butylbenzene	0.8	< 0.8	U
99-87-6	4-Isopropyltoluene	0.8	< 0.8	U
104-51-8	n-Butylbenzene	0.8	< 0.8	U
120-82-1	1,2,4-Trichlorobenzene	4.2	< 4.2	U
91-20-3	Naphthalene	4.2	< 4.2	U
87-61-6	1,2,3-Trichlorobenzene	4.2	< 4.2	U
1634-04-4	Methyl tert-Butyl Ether	0.8	< 0.8	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	133%
d8-Toluene	105%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	105%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: NDP-5(0-1)-111101

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SAMPLE

Lab Sample ID: TU89L


QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25262

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Data Release Authorized: 

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 3.65 g-dry-wt

Date Analyzed: 11/02/11 16:38

Purge Volume: 5.0 mL

Moisture: 26.6%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.4	< 1.4	U
74-83-9	Bromomethane	1.4	< 1.4	U
75-01-4	Vinyl Chloride	1.4	< 1.4	U
75-00-3	Chloroethane	1.4	< 1.4	U
75-09-2	Methylene Chloride	2.7	< 2.7	U
67-64-1	Acetone	6.9	120	
75-15-0	Carbon Disulfide	1.4	< 1.4	U
75-35-4	1,1-Dichloroethene	1.4	< 1.4	U
75-34-3	1,1-Dichloroethane	1.4	< 1.4	U
156-60-5	trans-1,2-Dichloroethene	1.4	< 1.4	U
156-59-2	cis-1,2-Dichloroethene	1.4	< 1.4	U
67-66-3	Chloroform	1.4	< 1.4	U
107-06-2	1,2-Dichloroethane	1.4	< 1.4	U
78-93-3	2-Butanone	6.9	< 6.9	U
71-55-6	1,1,1-Trichloroethane	1.4	< 1.4	U
56-23-5	Carbon Tetrachloride	1.4	< 1.4	U
108-05-4	Vinyl Acetate	6.9	< 6.9	U
75-27-4	Bromodichloromethane	1.4	< 1.4	U
78-87-5	1,2-Dichloropropane	1.4	< 1.4	U
10061-01-5	cis-1,3-Dichloropropene	1.4	< 1.4	U
79-01-6	Trichloroethene	1.4	< 1.4	U
124-48-1	Dibromochloromethane	1.4	< 1.4	U
79-00-5	1,1,2-Trichloroethane	1.4	< 1.4	U
71-43-2	Benzene	1.4	< 1.4	U
10061-02-6	trans-1,3-Dichloropropene	1.4	< 1.4	U
110-75-8	2-Chloroethylvinylether	6.9	< 6.9	U
75-25-2	Bromoform	1.4	< 1.4	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	6.9	< 6.9	U
591-78-6	2-Hexanone	51	< 51	Y
127-18-4	Tetrachloroethene	1.4	< 1.4	U
79-34-5	1,1,2,2-Tetrachloroethane	1.4	< 1.4	U
108-88-3	Toluene	1.4	< 1.4	U
108-90-7	Chlorobenzene	1.4	< 1.4	U
100-41-4	Ethylbenzene	1.4	< 1.4	U
100-42-5	Styrene	1.4	< 1.4	U
75-69-4	Trichlorofluoromethane	1.4	< 1.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.7	< 2.7	U
179601-23-1	m,p-Xylene	1.4	< 1.4	U
95-47-6	o-Xylene	1.4	< 1.4	U
95-50-1	1,2-Dichlorobenzene	1.4	< 1.4	U
541-73-1	1,3-Dichlorobenzene	1.4	< 1.4	U
106-46-7	1,4-Dichlorobenzene	1.4	< 1.4	U
107-02-8	Acrolein	69	< 69	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: NDP-5(0-1)-111101

SAMPLE

Lab Sample ID: TU89L

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25262

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Date Analyzed: 11/02/11 16:38

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.4	< 1.4	U
74-96-4	Bromoethane	2.7	< 2.7	U
107-13-1	Acrylonitrile	6.9	< 6.9	U
563-58-6	1,1-Dichloropropene	1.4	< 1.4	U
74-95-3	Dibromomethane	1.4	< 1.4	U
630-20-6	1,1,1,2-Tetrachloroethane	1.4	< 1.4	U
96-12-8	1,2-Dibromo-3-chloropropane	6.9	< 6.9	U
96-18-4	1,2,3-Trichloropropane	2.7	< 2.7	U
110-57-6	trans-1,4-Dichloro-2-butene	6.9	< 6.9	U
108-67-8	1,3,5-Trimethylbenzene	1.4	< 1.4	U
95-63-6	1,2,4-Trimethylbenzene	1.4	< 1.4	U
87-68-3	Hexachlorobutadiene	6.9	< 6.9	U
106-93-4	Ethylene Dibromide	1.4	< 1.4	U
74-97-5	Bromochloromethane	1.4	< 1.4	U
594-20-7	2,2-Dichloropropane	1.4	< 1.4	U
142-28-9	1,3-Dichloropropane	1.4	< 1.4	U
98-82-8	Isopropylbenzene	1.4	< 1.4	U
103-65-1	n-Propylbenzene	1.4	< 1.4	U
108-86-1	Bromobenzene	1.4	< 1.4	U
95-49-8	2-Chlorotoluene	1.4	< 1.4	U
106-43-4	4-Chlorotoluene	1.4	< 1.4	U
98-06-6	tert-Butylbenzene	1.4	< 1.4	U
135-98-8	sec-Butylbenzene	1.4	< 1.4	U
99-87-6	4-Isopropyltoluene	1.4	< 1.4	U
104-51-8	n-Butylbenzene	1.4	< 1.4	U
120-82-1	1,2,4-Trichlorobenzene	6.9	< 6.9	U
91-20-3	Naphthalene	6.9	< 6.9	U
87-61-6	1,2,3-Trichlorobenzene	6.9	< 6.9	U
1634-04-4	Methyl tert-Butyl Ether	1.4	< 1.4	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	129%
d8-Toluene	105%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

**Sample ID: Trip Blanks
SAMPLE**

Page 1 of 2

Lab Sample ID: TU89V


QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25272

Project: Boeing Striker: North Detention Pon

Matrix: Water

025195.040.045

Data Release Authorized: 

Date Sampled: 11/01/11

Reported: 11/03/11

Date Received: 11/01/11

Instrument/Analyst: NT9/PAB

Sample Amount: 5.00 mL

Date Analyzed: 11/02/11 16:59

Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

**Sample ID: Trip Blanks
SAMPLE**

Lab Sample ID: TU89V

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25272

Project: Boeing Striker: North Detention Pon

Matrix: Water

025195.040.045

Date Analyzed: 11/02/11 16:59

CAS Number	Analyte	RL	Result	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	10	< 10	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	Ethylene Dibromide	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	5.0	< 5.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	124%
d8-Toluene	104%
Bromofluorobenzene	99.8%
d4-1,2-Dichlorobenzene	106%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

VOA SURROGATE RECOVERY SUMMARY



Matrix: Soil

QC Report No: TU89-Landau Associates, Inc.
 Project: Boeing Striker: North Detention Pon
 025195.040.045

ARI ID	Client ID	Level	DCE	TOL	BFB	DCB	TOT OUT
MB-110211	Method Blank	Low	102%	100%	99.0%	102%	0
LCS-110211	Lab Control	Low	98.7%	100%	102%	99.5%	0
LCSD-110211	Lab Control Dup	Low	98.2%	99.1%	97.8%	103%	0
TU89A	NDP-9(0-1)-111101	Low	125%	103%	102%	103%	0
TU89B	NDP-7(0-1)-111101	Low	126%	103%	103%	104%	0
TU89C	NDP-3(0-1)-111101	Low	122%	102%	100%	103%	0
TU89D	NDP-2(0-1)-111101	Low	123%	103%	102%	103%	0
TU89E	NDP-1(0-0.5)-111101	Low	121%	103%	99.6%	104%	0
TU89F	NDP-10(0-1)-111101	Low	120%	103%	99.4%	102%	0
TU89G	NDP-6(0-1)-111101	Low	128%	102%	102%	105%	0
TU89H	NDP-4(0-1)-111101	Low	131%	104%	103%	104%	0
TU89I	NDP-8(0-1)-111101	Low	129%	104%	103%	105%	0
TU89J	NDP-11(0-1)-111101	Low	130%	104%	101%	106%	0
TU89K	NDP-12(0-1)-111101	Low	133%	105%	102%	105%	0
TU89L	NDP-5(0-1)-111101	Low	129%	105%	102%	104%	0

LCS/MB LIMITS

QC LIMITS

SW8260C	LCS/MB LIMITS		QC LIMITS	
	Low	Med	Low	Med
(DCE) = d4-1,2-Dichloroethane	79-121	76-120	75-152	69-120
(TOL) = d8-Toluene	80-120	80-120	82-115	80-120
(BFB) = Bromofluorobenzene	80-120	80-120	64-120	76-128
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120	80-120	80-120

Log Number Range: 11-25251 to 11-25262

VOA SURROGATE RECOVERY SUMMARY



Matrix: Water

QC Report No: TU89-Landau Associates, Inc.
Project: Boeing Striker: North Detention Pon
025195.040.045

<u>ARI ID</u>	<u>Client ID</u>	<u>PV</u>	<u>DCE</u>	<u>TOL</u>	<u>BFB</u>	<u>DCB</u>	<u>TOT OUT</u>
TU89V	Trip Blanks	5	124%	104%	99.8%	106%	0

LCS/MB LIMITS

QC LIMITS

SW8260C

(DCE) = d4-1,2-Dichloroethane
(TOL) = d8-Toluene
(BFB) = Bromofluorobenzene
(DCB) = d4-1,2-Dichlorobenzene

80-122
80-120
80-120
80-120

80-125
80-120
80-120
80-120

Prep Method: SW5030B
Log Number Range: 11-25272 to 11-25272

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: LCS-110211

Page 1 of 2

LAB CONTROL SAMPLE

Lab Sample ID: LCS-110211

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25251

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Data Release Authorized: *BB*

Date Sampled: NA

Reported: 11/03/11

Date Received: NA

Instrument/Analyst LCS: NT9/PAB

Sample Amount LCS: 5.00 g-dry-wt

LCSD: NT9/PAB

LCSD: 5.00 g-dry-wt

Date Analyzed LCS: 11/02/11 09:43

Purge Volume LCS: 5.0 mL

LCSD: 11/02/11 10:04

LCSD: 5.0 mL

Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	43.3	50.0	86.6%	43.8	50.0	87.6%	1.1%
Bromomethane	49.5	50.0	99.0%	50.6	50.0	101%	2.2%
Vinyl Chloride	44.8	50.0	89.6%	45.9	50.0	91.8%	2.4%
Chloroethane	43.4	50.0	86.8%	47.1	50.0	94.2%	8.2%
Methylene Chloride	40.3	50.0	80.6%	40.4	50.0	80.8%	0.2%
Acetone	263	250	105%	266	250	106%	1.1%
Carbon Disulfide	43.9	50.0	87.8%	45.3	50.0	90.6%	3.1%
1,1-Dichloroethene	43.5	50.0	87.0%	45.0	50.0	90.0%	3.4%
1,1-Dichloroethane	42.2	50.0	84.4%	43.6	50.0	87.2%	3.3%
trans-1,2-Dichloroethene	41.9	50.0	83.8%	43.3	50.0	86.6%	3.3%
cis-1,2-Dichloroethene	44.6	50.0	89.2%	46.0	50.0	92.0%	3.1%
Chloroform	44.0	50.0	88.0%	44.8	50.0	89.6%	1.8%
1,2-Dichloroethane	42.9	50.0	85.8%	44.8	50.0	89.6%	4.3%
2-Butanone	229	250	91.6%	251	250	100%	9.2%
1,1,1-Trichloroethane	45.2	50.0	90.4%	47.1	50.0	94.2%	4.1%
Carbon Tetrachloride	47.2	50.0	94.4%	50.0	50.0	100%	5.8%
Vinyl Acetate	47.4	50.0	94.8%	50.0	50.0	100%	5.3%
Bromodichloromethane	46.1	50.0	92.2%	47.5	50.0	95.0%	3.0%
1,2-Dichloropropane	43.6	50.0	87.2%	45.3	50.0	90.6%	3.8%
cis-1,3-Dichloropropene	48.7	50.0	97.4%	50.1	50.0	100%	2.8%
Trichloroethene	44.5	50.0	89.0%	46.8	50.0	93.6%	5.0%
Dibromochloromethane	47.2	50.0	94.4%	50.8	50.0	102%	7.3%
1,1,2-Trichloroethane	44.2	50.0	88.4%	46.0	50.0	92.0%	4.0%
Benzene	43.4	50.0	86.8%	46.0	50.0	92.0%	5.8%
trans-1,3-Dichloropropene	49.1	50.0	98.2%	50.6	50.0	101%	3.0%
2-Chloroethylvinylether	51.2	50.0	102%	55.3	50.0	111%	7.7%
Bromoform	47.4	50.0	94.8%	56.7	50.0	113%	17.9%
4-Methyl-2-Pentanone (MIBK)	231	250	92.4%	259	250	104%	11.4%
2-Hexanone	240	250	96.0%	285	250	114%	17.1%
Tetrachloroethene	44.6	50.0	89.2%	49.1	50.0	98.2%	9.6%
1,1,2,2-Tetrachloroethane	41.9	50.0	83.8%	52.2	50.0	104%	21.9%
Toluene	43.1	50.0	86.2%	45.3	50.0	90.6%	5.0%
Chlorobenzene	42.7	50.0	85.4%	46.1	50.0	92.2%	7.7%
Ethylbenzene	44.0	50.0	88.0%	47.8	50.0	95.6%	8.3%
Styrene	48.2	50.0	96.4%	52.0	50.0	104%	7.6%
Trichlorofluoromethane	40.8	50.0	81.6%	46.2	50.0	92.4%	12.4%
1,1,2-Trichloro-1,2,2-trifluoroethane	43.5	50.0	87.0%	44.9	50.0	89.8%	3.2%
m,p-Xylene	93.0	100	93.0%	101	100	101%	8.2%
o-Xylene	47.4	50.0	94.8%	51.1	50.0	102%	7.5%
1,2-Dichlorobenzene	42.2	50.0	84.4%	49.5	50.0	99.0%	15.9%
1,3-Dichlorobenzene	43.5	50.0	87.0%	50.6	50.0	101%	15.1%
1,4-Dichlorobenzene	42.8	50.0	85.6%	50.0	50.0	100%	15.5%
Acrolein	224	250	89.6%	241	250	96.4%	7.3%
Methyl Iodide	43.8	50.0	87.6%	45.5	50.0	91.0%	3.8%
Bromoethane	41.3	50.0	82.6%	43.2	50.0	86.4%	4.5%
Acrylonitrile	48.8	50.0	97.6%	48.2	50.0	96.4%	1.2%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: LCS-110211

LAB CONTROL SAMPLE

Lab Sample ID: LCS-110211

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25251

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCS	LCS	Spike Added-LCS	LCS	RPD
1,1-Dichloropropene	45.9	50.0	91.8%	49.4	50.0	98.8%	7.3%	
Dibromomethane	44.2	50.0	88.4%	46.4	50.0	92.8%	4.9%	
1,1,1,2-Tetrachloroethane	45.0	50.0	90.0%	48.3	50.0	96.6%	7.1%	
1,2-Dibromo-3-chloropropane	46.6	50.0	93.2%	58.8	50.0	118%	23.1%	
1,2,3-Trichloropropane	42.8	50.0	85.6%	53.2	50.0	106%	21.7%	
trans-1,4-Dichloro-2-butene	44.3	50.0	88.6%	57.0	50.0	114%	25.1%	
1,3,5-Trimethylbenzene	45.7	50.0	91.4%	53.9	50.0	108%	16.5%	
1,2,4-Trimethylbenzene	46.4	50.0	92.8%	54.4	50.0	109%	15.9%	
Hexachlorobutadiene	45.4	50.0	90.8%	55.7	50.0	111%	20.4%	
Ethylene Dibromide	46.2	50.0	92.4%	48.5	50.0	97.0%	4.9%	
Bromochloromethane	44.3	50.0	88.6%	45.6	50.0	91.2%	2.9%	
2,2-Dichloropropane	47.3	50.0	94.6%	49.1	50.0	98.2%	3.7%	
1,3-Dichloropropane	43.9	50.0	87.8%	47.7	50.0	95.4%	8.3%	
Isopropylbenzene	45.8	50.0	91.6%	55.3	50.0	111%	18.8%	
n-Propylbenzene	44.0	50.0	88.0%	52.9	50.0	106%	18.4%	
Bromobenzene	42.1	50.0	84.2%	49.3	50.0	98.6%	15.8%	
2-Chlorotoluene	43.6	50.0	87.2%	51.8	50.0	104%	17.2%	
4-Chlorotoluene	44.4	50.0	88.8%	52.2	50.0	104%	16.1%	
tert-Butylbenzene	45.4	50.0	90.8%	54.3	50.0	109%	17.9%	
sec-Butylbenzene	45.2	50.0	90.4%	54.3	50.0	109%	18.3%	
4-Isopropyltoluene	47.8	50.0	95.6%	57.0	50.0	114%	17.6%	
n-Butylbenzene	48.4 Q	50.0	96.8%	58.0 Q	50.0	116%	18.0%	
1,2,4-Trichlorobenzene	50.6	50.0	101%	58.3	50.0	117%	14.1%	
Naphthalene	53.0	50.0	106%	63.8	50.0	128%	18.5%	
1,2,3-Trichlorobenzene	50.4	50.0	101%	57.4	50.0	115%	13.0%	
Methyl tert-Butyl Ether	44.6	50.0	89.2%	44.7	50.0	89.4%	0.2%	

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCS
d4-1,2-Dichloroethane	98.7%	98.2%
d8-Toluene	100%	99.1%
Bromofluorobenzene	102%	97.8%
d4-1,2-Dichlorobenzene	99.5%	103%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

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Sample ID: MB-110211

METHOD BLANK

Lab Sample ID: MB-110211

LIMS ID: 11-25251

Matrix: Soil

Data Release Authorized: *AB*

Reported: 11/03/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: NA

Date Received: NA

Instrument/Analyst: NT9/PAB

Date Analyzed: 11/02/11 10:25

Sample Amount: 5.00 g-dry-wt

Purge Volume: 5.0 mL

Moisture: NA

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethane	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	< 2.0	U
179601-23-1	m,p-Xylene	1.0	< 1.0	U
95-47-6	o-Xylene	1.0	< 1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0	U
107-02-8	Acrolein	50	< 50	U

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MB-110211

Page 2 of 2

METHOD BLANK

Lab Sample ID: MB-110211

QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25251

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Date Analyzed: 11/02/11 10:25

CAS Number	Analyte	RL	Result	Q
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	2.0	< 2.0	U
107-13-1	Acrylonitrile	5.0	< 5.0	U
563-58-6	1,1-Dichloropropene	1.0	< 1.0	U
74-95-3	Dibromomethane	1.0	< 1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0	U
96-18-4	1,2,3-Trichloropropane	2.0	< 2.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0	U
87-68-3	Hexachlorobutadiene	5.0	< 5.0	U
106-93-4	Ethylene Dibromide	1.0	< 1.0	U
74-97-5	Bromochloromethane	1.0	< 1.0	U
594-20-7	2,2-Dichloropropane	1.0	< 1.0	U
142-28-9	1,3-Dichloropropane	1.0	< 1.0	U
98-82-8	Isopropylbenzene	1.0	< 1.0	U
103-65-1	n-Propylbenzene	1.0	< 1.0	U
108-86-1	Bromobenzene	1.0	< 1.0	U
95-49-8	2-Chlorotoluene	1.0	< 1.0	U
106-43-4	4-Chlorotoluene	1.0	< 1.0	U
98-06-6	tert-Butylbenzene	1.0	< 1.0	U
135-98-8	sec-Butylbenzene	1.0	< 1.0	U
99-87-6	4-Isopropyltoluene	1.0	< 1.0	U
104-51-8	n-Butylbenzene	1.0	< 1.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0	U
91-20-3	Naphthalene	5.0	< 5.0	U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	< 1.0	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	100%
Bromofluorobenzene	99.0%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET

NWTPH-HCID Method by GC/FID


Page 1 of 2

Matrix: Soil

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention

025195.040.045

Data Release Authorized: 

Reported: 11/04/11

ARI ID	Sample ID	Extraction Date	Analysis Date	DL	Range	Result
TU89A 11-25251	NDP-9(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 114%
TU89B 11-25252	NDP-7(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 111%
TU89C 11-25253	NDP-3(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 111%
TU89D 11-25254	NDP-2(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 112%
TU89E 11-25255	NDP-1(0-0.5)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 36 U < 89 U < 180 U 111%
TU89F 11-25256	NDP-10(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 117%
TU89G 11-25257	NDP-6(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 113%
TU89H 11-25258	NDP-4(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 109%
TU89I 11-25259	NDP-8(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 107%

ORGANICS ANALYSIS DATA SHEET

NWTPH-HCID Method by GC/FID

Page 2 of 2

Matrix: Soil

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention

025195.040.045

Data Release Authorized: *RB*

Reported: 11/04/11

ARI ID	Sample ID	Extraction Date	Analysis Date	DL	Range	Result
TU89J 11-25260	NDP-11(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 108%
MB-110211 11-25261	Method Blank	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 100%
TU89K 11-25261	NDP-12(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 107%
TU89KDP 11-25261	NDP-12(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 105%
TU89L 11-25262	NDP-5(0-1)-111101 HC ID: ---	11/02/11	11/03/11	1.0	Gas Diesel Oil o-Terphenyl	< 20 U < 50 U < 100 U 105%

Reported in mg/kg (ppm)

Gas value based on total peaks in the range from Toluene to C12.

Diesel value based on the total peaks in the range from C12 to C24.

Oil value based on the total peaks in the range from C24 to C38.

HCID SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: TU89-Landau Associates, Inc.
Project: Boeing Striker: North Detention Pon
025195.040.045

<u>Client ID</u>	<u>O-TER TOT OUT</u>	
NDP-9 (0-1)-111101	114%	0
NDP-7 (0-1)-111101	111%	0
NDP-3 (0-1)-111101	111%	0
NDP-2 (0-1)-111101	112%	0
NDP-1 (0-0.5)-111101	111%	0
NDP-10 (0-1)-111101	117%	0
NDP-6 (0-1)-111101	113%	0
NDP-4 (0-1)-111101	109%	0
NDP-8 (0-1)-111101	107%	0
NDP-11 (0-1)-111101	108%	0
110211MB	100%	0
NDP-12 (0-1)-111101	107%	0
NDP-12 (0-1)-111101 DP	105%	0
NDP-5 (0-1)-111101	105%	0

LCS/MB LIMITS QC LIMITS

(O-TER) = o-Terphenyl

(68-122)

(50-150)

Prep Method: SW3550B
Log Number Range: 11-25251 to 11-25262

TOTAL HCID RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Soil
Date Received: 11/01/11

ARI Job: TU89
Project: Boeing Striker: North Detention Pon
025195.040.045

ARI ID	Client ID	Sample Amt	Final Vol	Basis	Prep Date
11-25251-TU89A	NDP-9(0-1)-111101	7.37 g	5.00 mL	D	11/02/11
11-25252-TU89B	NDP-7(0-1)-111101	6.99 g	5.00 mL	D	11/02/11
11-25253-TU89C	NDP-3(0-1)-111101	7.63 g	5.00 mL	D	11/02/11
11-25254-TU89D	NDP-2(0-1)-111101	6.47 g	5.00 mL	D	11/02/11
11-25255-TU89E	NDP-1(0-0.5)-111101	2.80 g	5.00 mL	D	11/02/11
11-25256-TU89F	NDP-10(0-1)-111101	6.39 g	5.00 mL	D	11/02/11
11-25257-TU89G	NDP-6(0-1)-111101	6.25 g	5.00 mL	D	11/02/11
11-25258-TU89H	NDP-4(0-1)-111101	6.55 g	5.00 mL	D	11/02/11
11-25259-TU89I	NDP-8(0-1)-111101	6.96 g	5.00 mL	D	11/02/11
11-25260-TU89J	NDP-11(0-1)-111101	8.08 g	5.00 mL	D	11/02/11
11-25261-110211MB	Method Blank	10.0 g	5.00 mL	-	11/02/11
11-25261-TU89K	NDP-12(0-1)-111101	9.04 g	5.00 mL	D	11/02/11
11-25261-TU89KDP	NDP-12(0-1)-111101	9.28 g	5.00 mL	D	11/02/11
11-25262-TU89L	NDP-5(0-1)-111101	7.36 g	5.00 mL	D	11/02/11

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

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Sample ID: NDP-9(0-1)-111101

SAMPLE

Lab Sample ID: TU89A

LIMS ID: 11-25251

Matrix: Soil

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 76.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	5.9	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.4	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.2	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.6	15.7	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.6	30.6	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	66.8	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.04	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	5	62	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: NDP-7(0-1)-111101
SAMPLE

Lab Sample ID: TU89B

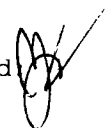
QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25252

Project: Boeing Striker: North Detention Pon

Matrix: Solid

025195.040.045

Data Release Authorized 

Date Sampled: 11/01/11

Reported: 11/07/11

Date Received: 11/01/11

Percent Total Solids: 68.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	6.6	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.5	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.3	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.7	17.4	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.7	45.7	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	14.2	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.09	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	6	65	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-3(0-1)-111101
SAMPLE

Lab Sample ID: TU89C

LIMS ID: 11-25253

Matrix: Soild

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 75.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.2	6.7	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.2	0.4	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.6	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.6	17.9	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.6	62.7	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	36.6	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.07	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	5	122	


U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS
Page 1 of 1

Sample ID: NDP-2(0-1)-111101
SAMPLE

Lab Sample ID: TU89D
LIMS ID: 11-25254
Matrix: Solid
Data Release Authorized: 
Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.
Project: Boeing Striker: North Detention Pon
025195.040.045
Date Sampled: 11/01/11
Date Received: 11/01/11

Percent Total Solids: 64.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	10.1	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.4	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.7	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.7	21.3	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.7	63.4	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	27.8	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.04	0.06	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	6	147	

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-1(0-0.5)-111101
SAMPLE

Lab Sample ID: TU89E

LIMS ID: 11-25255

Matrix: Solid

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 28.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.7	21.0	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.7	0.7	U
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.3	1.7	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	2	49	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	2	295	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.3	132	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.08	0.33	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	10	400	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-10(0-1)-111101
SAMPLE

Lab Sample ID: TU89F

LIMS ID: 11-25256

Matrix: Solid

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 62.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	7.0	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.3	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.2	0.2	U
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.8	17.0	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.8	30.7	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.2	9.8	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.05	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	6	54	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-6(0-1)-111101
SAMPLE

Lab Sample ID: TU89G

LIMS ID: 11-25257

Matrix: Solid

Data Release Authorized 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 56.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	10.8	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.4	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.2	0.2	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.8	17.0	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.8	50.3	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.2	26.7	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.04	0.05	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	7	87	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-4(0-1)-111101
SAMPLE

Lab Sample ID: TU89H

LIMS ID: 11-25258

Matrix: Solid

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 62.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	13.2	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.4	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.5	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.7	20.5	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.7	51.6	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	27.1	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.07	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	6	144	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-8(0-1)-111101
SAMPLE

Lab Sample ID: TU89I

LIMS ID: 11-25259

Matrix: Solid

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 68.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	6.4	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.6	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.1	U
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.7	20.3	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.7	42.3	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	12.0	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.05	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	6	57	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

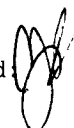
Page 1 of 1

Sample ID: NDP-11(0-1)-111101
SAMPLE

Lab Sample ID: TU89J

LIMS ID: 11-25260

Matrix: Soil

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 78.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.2	6.7	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.2	0.4	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.2	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.6	16.7	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.6	29.4	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	88.3	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.05	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	5	50	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: NDP-12(0-1)-111101
SAMPLE**

Lab Sample ID: TU89K

LIMS ID: 11-25261

Matrix: Soil

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon
025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 90.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.2	5.7	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.2	0.3	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.1	U
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.5	22.4	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.5	20.5	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	7.3	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.02	0.02	U
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	4	40	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

**Sample ID: NDP-5(0-1)-111101
SAMPLE**

Lab Sample ID: TU89L

LIMS ID: 11-25262

Matrix: Soil

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 72.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.3	7.6	
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.3	0.5	
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.2	
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.7	19.5	
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.7	40.4	
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	15.8	
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.03	0.07	
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	5	67	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: NDP-9(0-1)-111101
MATRIX SPIKE**

Lab Sample ID: TU89A


QC Report No: TU89-Landau Associates, Inc.

LIMS ID: 11-25251

Project: Boeing Striker: North Detention Pon

Matrix: Soil

025195.040.045

Data Release Authorized: 

Date Sampled: 11/01/11

Reported: 11/07/11

Date Received: 11/01/11

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	5.9	35.3	32.0	91.9%	
Beryllium	200.8	0.4	34.5	32.0	107%	
Cadmium	200.8	0.2	32.2	32.0	100%	
Chromium	200.8	15.7	43.7	32.0	87.5%	
Copper	200.8	30.6	66.0	32.0	111%	
Lead	200.8	66.8	110	32.0	135%	N
Mercury	7471A	0.04	0.31	0.266	102%	
Zinc	200.8	62	175	102	111%	

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

**Sample ID: NDP-9(0-1)-111101
DUPLICATE**

Lab Sample ID: TU89A
LIMS ID: 11-25251
Matrix: Soil
Data Release Authorized
Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.
Project: Boeing Striker: North Detention Pon
025195.040.045
Date Sampled: 11/01/11
Date Received: 11/01/11



MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	5.9	6.5	9.7%	+/- 20%	
Beryllium	200.8	0.4	0.4	0.0%	+/- 0.3	L
Cadmium	200.8	0.2	0.2	0.0%	+/- 0.1	L
Chromium	200.8	15.7	16.4	4.4%	+/- 20%	
Copper	200.8	30.6	31.0	1.3%	+/- 20%	
Lead	200.8	66.8	64.8	3.0%	+/- 20%	
Mercury	7471A	0.04	0.05	22.2%	+/- 0.03	L
Zinc	200.8	62	62	0.0%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: TU89LCS

LIMS ID: 11-25252

Matrix: Solid

Data Release Authorized 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: NA

Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	26.1	25.0	104%	
Beryllium	200.8	27.0	25.0	108%	
Cadmium	200.8	27.2	25.0	109%	
Chromium	200.8	26.6	25.0	106%	
Copper	200.8	29.3	25.0	117%	
Lead	200.8	28.5	25.0	114%	
Mercury	7471A	0.50	0.50	100%	
Zinc	200.8	92	80	115%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: TU89MB

LIMS ID: 11-25252

Matrix: Solid

Data Release Authorized: 

Reported: 11/07/11

QC Report No: TU89-Landau Associates, Inc.

Project: Boeing Striker: North Detention Pon

025195.040.045

Date Sampled: NA

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/02/11	200.8	11/03/11	7440-38-2	Arsenic	0.2	0.2	U
3050B	11/02/11	200.8	11/03/11	7440-41-7	Beryllium	0.2	0.2	U
3050B	11/02/11	200.8	11/03/11	7440-43-9	Cadmium	0.1	0.1	U
3050B	11/02/11	200.8	11/03/11	7440-47-3	Chromium	0.5	0.5	U
3050B	11/02/11	200.8	11/03/11	7440-50-8	Copper	0.5	0.5	U
3050B	11/02/11	200.8	11/03/11	7439-92-1	Lead	0.1	0.1	U
CLP	11/02/11	7471A	11/03/11	7439-97-6	Mercury	0.02	0.02	U
3050B	11/02/11	200.8	11/03/11	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL

RL-Reporting Limit



Analytical Resources, Incorporated
Analytical Chemists and Consultants

November 22, 2011

Kathryn Hartley
Landau Associates
130 Second Avenue South
Edmonds, WA 98020

RE: Project: Boeing Striker: North Detention Pond, 025195.040.045
ARI Job: TW18

Dear Kathryn,

Enclosed please find a revised Chain-of-Custody (COC) record, sample receipt documentation, email documentation, and the final data report for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted six soil samples, fifteen solid samples, and a trip blank on November 1, 2011. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form. Select samples were placed on hold pending further instructions.

The samples were originally analyzed for VOCs, NWTPH-HCID, and Total Metals, as requested on the COC and reported under ARI SDG TU89.

At the request of Landau Associates, select samples were analyzed for arsenic.

The matrix spike duplicate RPD is outside the +/-20% control limit in association with sample NDP-2 (1-2)110111.

There were no other analytical complications noted.

Quality control analysis results are included for your review. An electronic copy of this report and all associated raw data will be kept on file at ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,
ANALYTICAL RESOURCES, INC

A handwritten signature in black ink, appearing to read "Kelly Bottem".

Kelly Bottem
Client Services Manager
(206) 695-6211
kellyb@arilabs.com
www.arilabs.com



- Seattle/Edmonds (425) 778-0907
- Tacoma (253) 926-2493
- Spokane (509) 327-9737
- Portland (503) 542-1080
-

Edited by CFB 11/2/11
 Edited by CFB 11/8/11

Date 11/1/11
 Page 1 of 2

Chain-of-Custody Record

Project Name Beering Worked: North Detention Pond Project No. 025145.010.015

Project Location/Event Kent, WA

Sampler's Name CFB / mWOR

Project Contact Kathleen Hartley, Tom Strickland

Send Results To TLS, CFB, Joe Flaherty

Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters					Observations/Comments
					HLID*	Metals**	VOCs	Archival	Arsenic	
NDP-9(0-1)-HOTT	11/1/11	0930	Soil	7	X	X	X			X Allow water samples to settle, collect aliquot from clear portion
NDP-9(1-2)-HOTT	11/1/11	0945	Soil	7				X		X NWTPH-Dx - run acid wash/silica gel cleanup
NDP-7(0-1)-HOTT	11/1/11	1030	Sediment	7	X	X	X			
NDP-7(1-2)-HOTT	11/1/11	1045	Sediment	7				X		
NDP-3(0-1)-HOTT	11/1/11	1100	Sediment	7	X	X	X			run samples standardized to _____ product
NDP-3(1-2)-HOTT	11/1/11	1115	Sediment	7				X		Analyze for EPH if no specific product identified
NDP-2(0-1)-HOTT	11/1/11	1130	Sediment	7	X	X	X			VOC/BTEX/VPH (soil): ___ non-preserved ___ preserved w/methanol ___ preserved w/sodium bisulfate ___ Freeze upon receipt
NDP-2(1-2)-HOTT	11/1/11	1145	Sediment	7				X	X	___ Dissolved metal water samples field filtered
NDP-1(0-0.5)-HOTT	11/1/11	1200	Sediment	7	X	X	X			Other *Halo Sw De wood HCD results are in of metals: As, Be, Cd, Cr, Cu, Pb, Hg, Zn
NDP-10(0-1)-HOTT	11/1/11	1220	Sediment	7	X	X	X			
NDP-10(1-2)-HOTT	11/1/11	1225	Sediment	7				X		
NDP-6(0-1)-HOTT	11/1/11	1240	Sediment	7	X	X	X			
NDP-6(1-2)-HOTT	11/1/11	1245	Sediment	7				X	X	
NDP-4(0-1)-HOTT	11/1/11	1300	Sediment	7	X	X	X			
NDP-4(1-2)-HOTT	11/1/11	1315	Sediment	7				X	X	
NDP-8(0-1)-HOTT	11/1/11	1400	Sediment	7	X	X	X			
NDP-8(1-2)-HOTT	11/1/11	1405	Sediment	7				X		
NDP-11(0-1)-HOTT	11/1/11	1420	Soil	7	X	X	X			

Special Shipment/Handling or Storage Requirements On ice

Method of Shipment Dropped @ ARI

Relinquished by Signature <u>[Signature]</u> Printed Name <u>Chris Suarez</u> Company <u>Landau</u> Date <u>11/1/11</u> Time <u>1625</u>	Received by Signature <u>[Signature]</u> Printed Name <u>A. Volgardsen</u> Company <u>ARI</u> Date <u>11/1/11</u> Time <u>1625</u>	Relinquished by Signature _____ Printed Name _____ Company _____ Date _____ Time _____	Received by Signature _____ Printed Name _____ Company _____ Date _____ Time _____
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- Seattle/Edmonds (425) 778-0907
- Tacoma (253) 926-2498
- Spokane (509) 327-9737
- Portland (503) 542-1080
-

Edited by CFB 11/1/11

Date 11/1/11
Page 2 of 2

Chain-of-Custody Record

Project Information						Testing Parameters						Turnaround Time	
Project Name: <u>Stellar: North Detention Pond</u>			Project No. <u>025145.010.015</u>			<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">HCLID</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Metals</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Aroclor</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Misc</div> </div>						<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Accelerated <u>7 days</u>	
Project Location/Event: <u>Kent, WA</u>													
Sampler's Name: <u>CFB/mwd</u>													
Project Contact: <u>Kathryn Hartley, Tim Sverson</u>													
Send Results To: <u>"", TUS, CFB, Joe Flaherty</u>													
Sample I.D.	Date	Time	Matrix	No. of Containers	Observations/Comments								
NDP-12 (0-1)-401H	11/1/11	1440	Soil	7	X	X	X						X Allow water samples to settle, collect aliquot from clear portion
NDP-5 (0-1)-401H	11/1/11	1500	Soil	7	X	X	X						
NDP-5 (1-2)-401H	11/1/11	1505	Soil	7				X	X				X NWTPH-Dx - run acid wash/silica gel cleanup
TRIP BLANKS				Water	6								
NDP 2 (1-2) 11101	11/1/11												run samples standardized to product
NDP 4 (1-2) 11101	11/1/11												Analyze for EPH if no specific product identified
NDP 5 (1-2) 11101	11/1/11												VOC/BTEX/VPH (soil):
NDP 6 (1-2) 11101	11/1/11												non-preserved
													preserved w/methanol
													preserved w/sodium bisulfate
													Freeze upon receipt
													Dissolved metal water samples field filtered
													Other: <u>* Hold Cr + D_x until HCLID Results are in</u>
													<u>* Metals: Ag, Be, Cd, Cr, Cu, Pb, Hg, Zn</u>

CFB #1

Special Shipment/Handling or Storage Requirements: <u>on ice</u>		Method of Shipment: <u>Deliver to ARI</u>	
Relinquished by Signature <u>Chris Breece</u> Printed Name <u>LANDAU</u> Company Date <u>11/1/11</u> Time <u>1625</u>	Received by Signature <u>A. Volgardsen</u> Printed Name <u>ARI</u> Company Date <u>11/1/11</u> Time <u>1625</u>	Relinquished by Signature Printed Name Company Date _____ Time _____	Received by Signature Printed Name Company Date _____ Time _____



Cooler Receipt Form

ARI Client Boeing
 COC No(s) _____ (NA)
 Assigned ARI Job No 7297

Project Name: Striker: North Detention Pond
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES NO
 Were custody papers included with the cooler? YES NO
 Were custody papers properly filled out (ink, signed, etc) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.9 3.3
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID# 90941619

Cooler Accepted by AV Date 11/1/11 Time 1625

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO
 What kind of packing material was used? Bubble Wrap Ice Gel Packs Baggies Foam Block Paper Other: _____
 Was sufficient ice used (if appropriate)? NA YES NO
 Were all bottles sealed in individual plastic bags? YES NO
 Did all bottles arrive in good condition (unbroken)? YES NO
 Were all bottle labels complete and legible? YES NO
 Did the number of containers listed on COC match with the number of containers received? YES NO
 Did all bottle labels and tags agree with custody papers? YES NO
 Were all bottles used correct for the requested analyses? YES NO
 Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) YES NO
 Were all VOC vials free of air bubbles? NA YES NO
 Was sufficient amount of sample sent in each bottle? YES NO
 Date VOC Trip Blank was made at ARI. NA 11-2-11
 Was Sample Split by ARI: YES NO Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by TS Date 11-2-11 Time 800

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
trip blank 1 pb

By TS Date 11-2-11

Small Air Bubbles ~2mm 	Peabubbles 2-4 mm 	LARGE Air Bubbles > 4 mm 	Small → "sm" Peabubbles → "pb" Large → "lg" Headspace → "hs"
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Sample ID Cross Reference Report



ARI Job No: TW18
Client: The Boeing Company
Project Event: 02519.040.045
Project Name: Striker: North Detention Pond

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. NDP-2(1-2)110111	TW18A	11-25906	Solid	11/01/11 11:45	11/01/11 16:25
2. NDP-6(1-2)110111	TW18B	11-25907	Solid	11/01/11 12:45	11/01/11 16:25
3. NDP-4(1-2)110111	TW18C	11-25908	Solid	11/01/11 13:15	11/01/11 16:25
4. NDP-5(1-2)110111	TW18D	11-25909	Soil	11/01/11 15:05	11/01/11 16:25

Printed 11/08/11

Subject: Boeing Striker North Detention Pond sampling
From: "Chris Burke" <cburke@landauinc.com>
Date: Wed, 2 Nov 2011 13:37:18 -0700
To: Kelly Bottem <kellyb@arilabs.com>
CC: "Kathryn Hartley" <khartley@landauinc.com>

Hey Kelly,

Kathryn and I noticed a few errors on the COC from yesterday's sampling at the Striker property. I've edited the COCs and attached a scan of those edits.

The changes I made were:

- fixed the sample IDs to use proper date format, i.e., NDP-1(0-1)-110111 became the correct NDP-1(0-1)-111101
- Changed matrix type from sediment to solids
- Checked VOCs analysis for the trip blanks
- Added 'Boeing' to the project name

I highlighted all the changes for clarity, let me know if you have any questions,

Chris Burke " Senior Staff Hydrogeologist
Landau Associates, Inc.

130 2nd Ave. S, Edmonds, WA 98020
425.329.0297 fax 425.778.6409 cell 716.579.2975
cburke@landauinc.com " <http://www.landauinc.com>

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Boeing Striker NPD COC 110111 - revised.pdf	Boeing Striker NPD Content-Description: COC 110111 - revised.pdf Content-Type: application/pdf Content-Encoding: base64
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INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1


Sample ID: NDP-2(1-2)110111

SAMPLE

Lab Sample ID: TW18A

LIMS ID: 11-25906

Matrix: Solid

Data Release Authorized: 

Reported: 11/22/11

QC Report No: TW18-The Boeing Company

Project: Striker: North Detention Pond

02519.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 70.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/14/11	200.8	11/21/11	7440-38-2	Arsenic	0.3	5.2	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

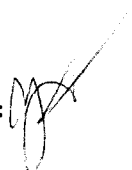
Page 1 of 1

Sample ID: NDP-2(1-2)110111
DUPLICATE

Lab Sample ID: TW18A

LIMS ID: 11-25906

Matrix: Solid

Data Release Authorized: 

Reported: 11/22/11

QC Report No: TW18-The Boeing Company

Project: Striker: North Detention Pond

02519.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	5.2	3.6	36.4%	+/- 20%	*

Reported in mg/kg-dry

*-Control Limit Not Met

L-RPD Invalid, Limit = Detection Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-2(1-2)110111
MATRIX SPIKE

Lab Sample ID: TW18A

LIMS ID: 11-25906

Matrix: Solid

Data Release Authorized: 

Reported: 11/22/11

QC Report No: TW18-The Boeing Company

Project: Striker: North Detention Pond

02519.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	5.2	39.0	33.6	101%	

Reported in mg/kg-dry

N-Control Limit Not Met

H-% Recovery Not Applicable, Sample Concentration Too High

NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-6(1-2)110111
SAMPLE

Lab Sample ID: TW18B

LIMS ID: 11-25907

Matrix: Solid

Data Release Authorized: 

Reported: 11/22/11

QC Report No: TW18-The Boeing Company

Project: Striker: North Detention Pond

02519.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 72.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/14/11	200.8	11/21/11	7440-38-2	Arsenic	0.3	4.0	

U-Analyte undetected at given RL
RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS


Page 1 of 1

Sample ID: NDP-4(1-2)110111
SAMPLE

Lab Sample ID: TW18C

LIMS ID: 11-25908

Matrix: Solid

Data Release Authorized: 

Reported: 11/22/11

QC Report No: TW18-The Boeing Company

Project: Striker: North Detention Pond

02519.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 73.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/14/11	200.8	11/21/11	7440-38-2	Arsenic	0.3	4.2	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

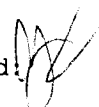
Sample ID: NDP-5(1-2)110111

SAMPLE

Lab Sample ID: TW18D

LIMS ID: 11-25909

Matrix: Soil

Data Release Authorized: 

Reported: 11/22/11

QC Report No: TW18-The Boeing Company

Project: Striker: North Detention Pond

02519.040.045

Date Sampled: 11/01/11

Date Received: 11/01/11

Percent Total Solids: 74.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/14/11	200.8	11/21/11	7440-38-2	Arsenic	0.3	5.8	

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: TW18MB

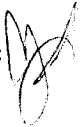
QC Report No: TW18-The Boeing Company

LIMS ID: 11-25907

Project: Striker: North Detention Pond

Matrix: Solid

02519.040.045

Data Release Authorized: 

Date Sampled: NA

Reported: 11/22/11

Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	11/14/11	200.8	11/21/11	7440-38-2	Arsenic	0.2	0.2	U

U-Analyte undetected at given RL

RL-Reporting Limit

INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: TW18LCS

LIMS ID: 11-25907

Matrix: Solid

Data Release Authorized

Reported: 11/22/11

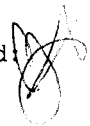
QC Report No: TW18-The Boeing Company

Project: Striker: North Detention Pond

02519.040.045

Date Sampled: NA

Date Received: NA



BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	26.2	25.0	105%	

Reported in mg/kg-dry

N-Control limit not met

NA-Not Applicable, Analyte Not Spiked

Control Limits: 80-120%

March 16, 2012
9L-22-N410-JLF-049

Washington State Department of Ecology
Northwest Regional Office
Hazardous Waste and Toxics Reduction Program
3190 160th Avenue SE
Bellevue, Washington 98008-5452



Attn: Byung Maeng, P.E.

**RE: ADDITIONAL EVALUATION OF ARSENIC IN GROUNDWATER
BOEING SPACE CENTER AREA
KENT, WASHINGTON**

Dear Mr. Maeng:

The Boeing Company (Boeing) has submitted a request to the Washington State Department of Ecology (Ecology) for removal of the Striker Property (subject property) from the Boeing Space Center (BSC) Resource Conservation and Recovery Act (RCRA) Interim Status Facility (WAD 061670766; Boeing 2011). As part of its review, Ecology requested additional information regarding the dissolved arsenic concentrations detected in groundwater at the BSC. Boeing responded with our October 11, 2011 letter that presents a summary of the available data regarding arsenic in groundwater at the subject property and the BSC.

During our meeting at Ecology's Northwest Regional Office on December 13, 2011, Ecology requested that additional data be collected to evaluate the concentrations of dissolved arsenic in groundwater including any existing data from other properties in the area around the BSC, and/or the collection and analysis of additional groundwater samples from around the subject property on the BSC or on nearby properties. We were unable to find additional existing arsenic in groundwater data for the BSC beyond what was provided in our October 11, 2011 letter. There are currently no monitoring wells located at the BSC and no offsite monitoring wells (except wells associated with the Western Processing site discussed below) were identified in the proximity of the BSC. Additional groundwater samples were collected using direct-push drilling and sampling techniques from locations at the BSC and on City of Kent Property in the area around the BSC. Samples were also collected from existing monitoring wells associated with the nearby Western Processing site.

The sampling locations were provided for Ecology's review and concurrence in advance of sample collection, and our correspondence with Ecology regarding the locations is documented in e-mails dated January 5 and 18, 2012, and February 6, 2012. The groundwater sampling was conducted between January 25 and February 9, 2012. This letter provides a summary of the additional data for dissolved arsenic in groundwater.

BACKGROUND

Direct-push drilling and soil and groundwater sampling were conducted at the subject property in 2010 and 2011 as part of due diligence prior to the potential sale of the Striker Property. The results of the subsurface investigations indicate that the BSC and subject property are underlain by approximately 10 feet (ft) of fill material underlain by alluvium. The fill generally consists of brown, fine to medium sand to a maximum depth of 8 ft below ground surface (BGS). Beneath the fill, the native soil consists of gray sands and silts. Groundwater was encountered during drilling at depths ranging from 3 to 8 ft BGS (Landau Associates 2010). Based on topography, the groundwater gradient within the Kent Valley and the BSC area is locally very flat, with the overall direction of groundwater flow to the west-northwest toward the Green River. Elevation measurements from monitoring wells at the BSC in 2001 indicate local variability in groundwater elevations and direction of flow (Landau Associates 2002).

The dissolved arsenic concentrations detected in groundwater samples collected throughout the subject property during the 2010 and 2011 investigations range from 0.3 micrograms per liter ($\mu\text{g/L}$) to 115 $\mu\text{g/L}$, and the concentrations detected at many locations were greater than the screening level of 5 $\mu\text{g/L}$, which was developed based on the Model Toxics Control Act (MTCA) Method B cleanup level for protection of groundwater as drinking water (Landau Associates 2010). The investigations conducted to date, which included assessment of the nature and extent of the dissolved arsenic concentrations detected in groundwater, have not identified a potential source of arsenic at the subject property or at the BSC. Based on the available data, and as discussed below, the elevated concentrations of arsenic in groundwater are isolated/localized, reflect area-wide conditions, are not attributable to sources at the BSC, and do not pose a risk to human health or the environment.

ADDITIONAL ARSENIC GROUNDWATER DATA

As noted above, in January and February 2012 Boeing collected groundwater samples to document dissolved arsenic concentrations in shallow groundwater at locations on and around the BSC, including locations that are hydraulically upgradient and downgradient based on overall shallow groundwater flow to the west-northwest toward the Green River. The groundwater samples were collected on the BSC, on the Western Processing site (located to the northeast of the BSC), and on City of Kent property. As requested in the e-mail correspondence with Ecology noted above, the selected City of Kent locations include the closest, upgradient, accessible locations that appeared to be the least affected by development/human activities. The selected Western Processing wells consist of a background/upgradient well, and a shallow downgradient well that are part of the Western Processing monitoring network, but that have not been affected by site activities.

Eighteen groundwater samples were collected from fifteen locations, as shown on Figure 1. The groundwater samples were submitted to Lancaster Laboratories for analysis of dissolved arsenic by U.S. Environmental Protection Agency (EPA) Method 6020. The arsenic analytical data are summarized in Table 1. Field screening conducted during direct push drilling and groundwater sample collection did not identify evidence of potential soil or

groundwater contamination at any of the sampling locations. A summary of the information regarding the groundwater sampling and analysis is presented below:

BSC Property

- Nine groundwater samples were collected at six direct-push sampling locations (including DP-40 and -41, which are just outside the northern BSC property boundary).
- Co-located samples were collected at three locations.
- Depths to groundwater ranged from about 5 to 8 ft BGS.
- Dissolved arsenic was detected above the laboratory reporting limit in all nine samples, at concentrations ranging from 3.3 to 58.4 µg/L.

Western Processing Site

- Groundwater samples were collected from two shallow monitoring wells that have not been affected by activities at the Western Processing site.
- Depth to groundwater was about 5 ft BGS.
- Dissolved arsenic was detected above the laboratory reporting limit in one of the two samples at a concentration of 10.8 µg/L.

City of Kent Property

- Groundwater samples were collected at seven direct-push sampling locations.
- Depths to groundwater ranged from about 16 to 18 ft BGS at locations near the Green River (Kent-1 through -4) and from about 7 to 9 ft BGS at locations farther away from the river.
- Dissolved arsenic was detected above the laboratory reporting limit at four of the seven locations at concentrations ranging from 3.9 to 115 µg/L.
- Sampling was planned for one additional location (Kent-5), but a sample could not be collected due to the presence of utilities that prevented drilling.

DISSOLVED ARSENIC CONCENTRATIONS

The dissolved arsenic concentrations detected in the additional groundwater samples are shown on Figure 1. The analytical results for dissolved arsenic are summarized as follows:

- Dissolved arsenic was detected at concentrations above the laboratory reporting limit in 14 of the 18 groundwater samples, and at concentrations ranging from 3.3 to 115 µg/L. Of the detected dissolved arsenic concentrations, 11 concentrations were greater than the screening level of 5 µg/L.
- The highest concentration of dissolved arsenic (115 µg/L) was detected in the groundwater sample collected from southeast of the BSC at location Kent-7. The

nearest sample (Kent-8 collected approximately 1,300 ft to the east of Kent-7) indicated a concentration of 14.5 µg/L.

- The next highest concentrations were detected southwest of the BSC near the Green River (Kent-1; 59.6 µg/L), from the north portion of the BSC (DP-39; 58.4 µg/L), and near the east boundary of the BSC (DP-36; 47.1 µg/L).
- The co-located samples indicated concentrations with relative percent differences (RPDs) of 0 percent (DP-40 and -41; both 3.3 µg/L), 4.35 percent (DP-34 and -35; 12.6 and 15.0 µg/L), and 34 percent (DP-37 and -38; 5.2 and 27.9 µg/L). Concentrations with RPD's less than 20 are considered similar and concentrations with RPDs greater than 20 are considered different.
- The sample from Western Processing shallow monitoring well 13M30A indicated a concentration of 10.8 µg/L.
- The samples collected from east-southeast of the BSC, and hydraulically upgradient based on a west-northwest direction of groundwater flow, indicated dissolved arsenic concentrations ranging from 3.9 to 115 µg/L.
- The samples collected along the Green River to the west-northwest of the BSC, and hydraulically downgradient based on a west-northwest direction of groundwater flow, did not indicate dissolved arsenic concentrations above the laboratory reporting limit.

CONCLUSIONS

Dissolved arsenic was detected in 11 of the 18 groundwater samples collected at and around the BSC at concentrations greater than the screening level. The concentrations above the screening level were detected in samples collected upgradient and cross gradient of the subject property. As noted above, the detected concentrations varied locally, including in one pair of the co-located samples. Based on the investigations conducted to date, the available analytical data, and the historical data presented in our October 11, 2011 letter, the elevated concentrations of dissolved arsenic detected in groundwater are isolated/localized, are the result of regional conditions, and are not the result of sources associated with Boeing operations. Groundwater downgradient of the subject property does not indicate concentrations of dissolved arsenic greater than the laboratory reporting limit.

As we have discussed, groundwater at the BSC or in the surrounding area is not used for drinking water. Boeing's purchase and sale agreement with the prospective buyer of the Striker Property includes a restriction on the use of groundwater. The City of Kent does not allow the installation of private wells in areas serviced by a municipal water purveyor, which includes the BSC area. As an added level of protection, Boeing is willing to pursue a formal environmental covenant to restrict the use of groundwater. The dissolved arsenic concentrations present in groundwater at the Striker Property are similar to those detected at other locations in the Kent Valley near the BSC and do not pose a potential threat to human health or the environment; therefore, Boeing requests that the site not be listed on the Confirmed and Suspected Contaminated Sites List.

We would appreciate the opportunity to discuss the information presented in this letter with you and to answer questions that you may have regarding the detected concentrations of dissolved arsenic in groundwater in the BSC area, and at the Striker Property. Please e-mail or call me to schedule a time to discuss this request.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Flaherty". The signature is fluid and cursive, with the first name "Joe" and last name "Flaherty" clearly distinguishable.

Joe Flaherty
Project Manager
EHS Remediation Group
(206) 769-5987
joseph.l.flaherty@boeing.com

REFERENCES

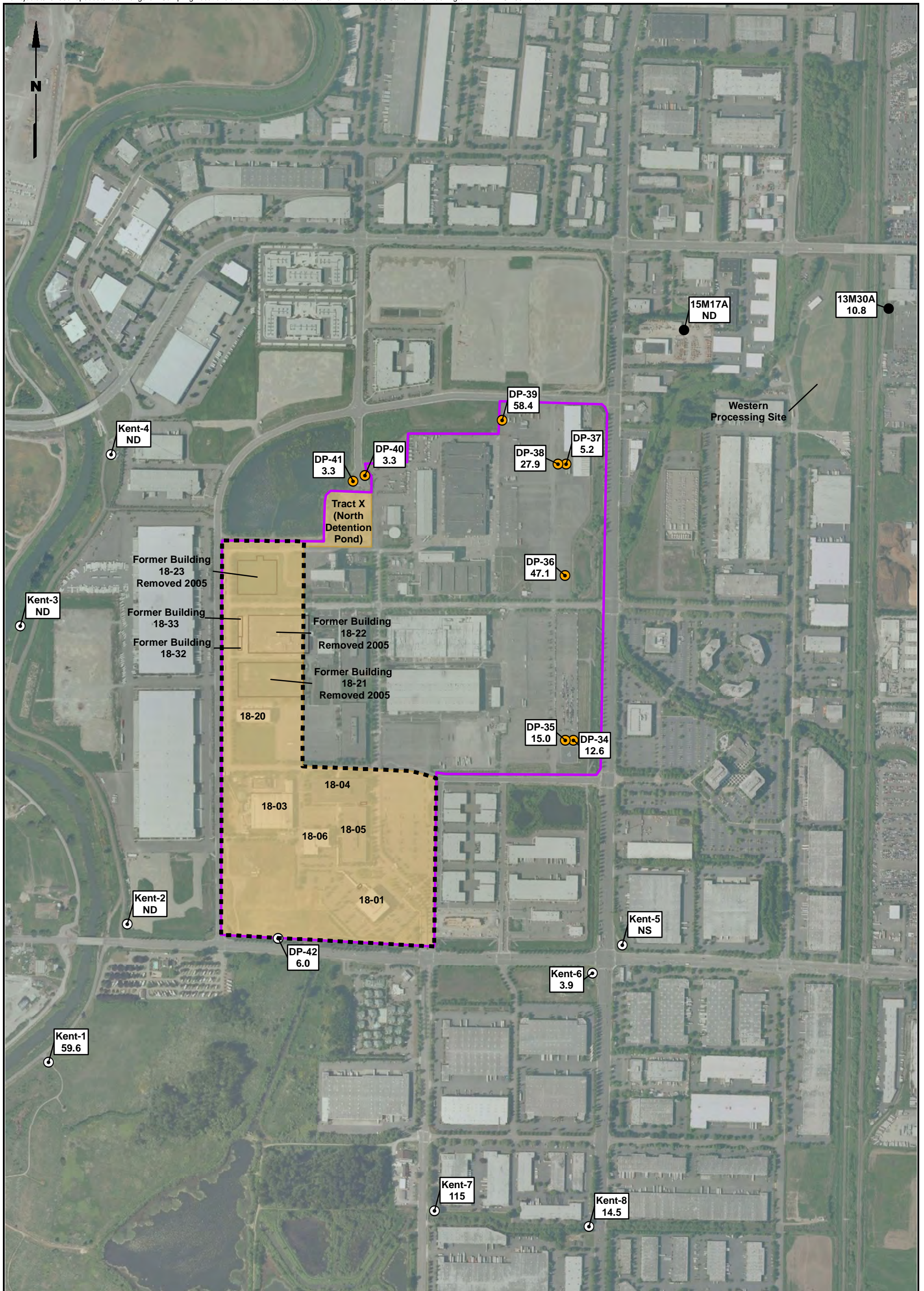
Landau Associates. 2010. Report: *Phase II Environmental Site Assessment, Striker Property South, Boeing Space Center, 20403 68th Avenue South, Kent, Washington*. November 30.

Landau Associates. 2002b. Report: *Phase II Environmental Site Assessment, Boeing Clearwater, Kent, Washington*. June 4.

ATTACHMENTS

Figure 1: Striker Property Sampling Locations and Arsenic Concentrations

Table 1: Groundwater Analytical Results for Dissolved Arsenic

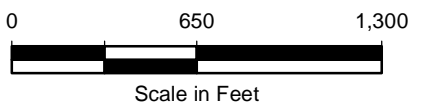


Legend

- Direct Push Sample - Boeing Property
- ⊙ Direct Push Sample - City of Kent Property
- Monitoring Well - Western Processing
- Striker Project Boundary
- Property to Be Sold and Removed From RCRA Interim Status Facility
- Current Boeing Kent Space Center Boundary
- Historic Buildings

Notes

1. All Arsenic results shown in µg/L.
2. ND = Not Detected, NS = Not Sampled
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Data Source: ESRI World Imagery

TABLE 1
GROUNDWATER ANALYTICAL RESULTS FOR DISSOLVED ARSENIC
BOEING STRIKER
KENT, WASHINGTON

Location	LLI SDG	Lab ID	Date Collected	Arsenic (Dissolved) EPA Method 6020 µg/L
KSC-DP-34	1286934	6533689	1/25/2012	12.6
KSC-DP-35	1286934	6533690	1/25/2012	15.0
KSC-DP-36	1286934	6533691	1/25/2012	47.1
KSC-DP-37	1286934	6533692	1/25/2012	5.2
KSC-DP-38	1286934	6533693	1/25/2012	27.9
KSC-DP-39	1286934	6533694	1/25/2012	58.4
KSC-DP-40	1286934	6533695	1/25/2012	3.3
KSC-DP-41	1286934	6533696	1/25/2012	3.3
KSC-DP-42	1289491	6546694	2/9/2012	6.0
Kent-1	1289491	6546687	2/9/2012	59.6
Kent-2	1289491	6546688	2/9/2012	2.0 U
Kent-3	1289491	6546689	2/8/2012	2.0 U
Kent-4	1289491	6546690	2/8/2012	2.0 U
Kent-6	1289491	6546691	2/8/2012	3.9
Kent-7	1289491	6546692	2/9/2012	115.0
Kent-8	1289491	6546693	2/9/2012	14.5
15M17S	1289491	6546695	2/9/2012	2.0 U
15M30A	1289491	6546696	2/9/2012	10.8

U = Indicates the compound was not detected at the reported concentration.

Bold = Detected compound.