GeoEngineers

Memorandum

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To:	Andy Kallus, Washington State Department of Ecology
From:	Erik Gerking, Port of Everett; Iain Wingard and John Herzog, GeoEngineers
Date:	April 6, 2018
File:	0676-020-05
Subject:	Notification of Well Decommissioning at Mill A Cleanup Site

PURPOSE AND BACKGROUND

The purpose of this memorandum is to notify the Washington State Department of Ecology (Ecology) Toxics Cleanup team for the need to decommission monitoring wells at the Weyerhaeuser Mill A Former (Mill A) Site (Site) located in Everett, Washington. The wells are to be decommissioned because they are located within an area undergoing construction to strengthen the marine terminal. Mill A is currently listed in Ecology's database of confirmed and suspected contaminated sites under Facility/Site Number 1884322 and Cleanup Site ID 2146. The Remedial Investigation (RI) for the Upland Area is being performed by the Port of Everett (Port), Weyerhaeuser Company (Weyerhaeuser) and Department of Natural Resources (DNR) under Agreed Order (AO) No. DE 8979 issued by the Ecology. Upland Area investigation activities included installation of and sampling and analysis from groundwater monitoring wells at the Site including the wells to be decommissioned.

SOUTH TERMINAL WHARF UPGRADES PROJECT

The Port is in the process of contracting to construct upgrades to the wharf at the South Terminal to strengthen the wharf to accommodate heavier loads. The South Terminal Wharf and Electrical Upgrades Project consists of wharf retrofit work including demolition of existing structures and pavement, installation of new steel pipe piles, utilities replacement, and repaving of the wharf. The work area encompasses the locations of wells installed as part of the investigation of the Upland Area at the South Terminal.

WELL DECOMMISSIONING WORK

The South Terminal Wharf Upgrades Project work will impact existing monitoring wells EST14, EST18 and EST19 (Figure 1). These monitoring wells are located within the footprint of the wharf upgrade project excavation and/or pavement demolition and replacement areas. Other wells in the vicinity of the construction project will be protected in place. The Port plans to decommission the three monitoring wells prior to construction activities at the South Terminal. It is possible that additional, adjacent monitoring wells may need to be decommissioned as a result of construction activities. If that is required, the Port will notify Ecology prior to decommissioning any additional monitoring wells.

The wells to be decommissioned are constructed of 2-inch-diameter, flush-threaded, Schedule 40 polyvinyl chloride (PVC) casing with machine-slotted PVC screen (0.010-inch). The top of the well screens were positioned approximately 5 feet above the observed groundwater level at the time of drilling, or within 3 feet of the ground surface, whichever was deeper. Screened intervals ranging from approximately 5 to 15 feet in length were positioned across the water table. Each well has a concrete surface seal and a flush-mount monument cemented in place. The well installation logs for EST14, EST18 and EST19 are provided in Attachment 1 and the Resource Protection Well Reports are provided Attachment 2.

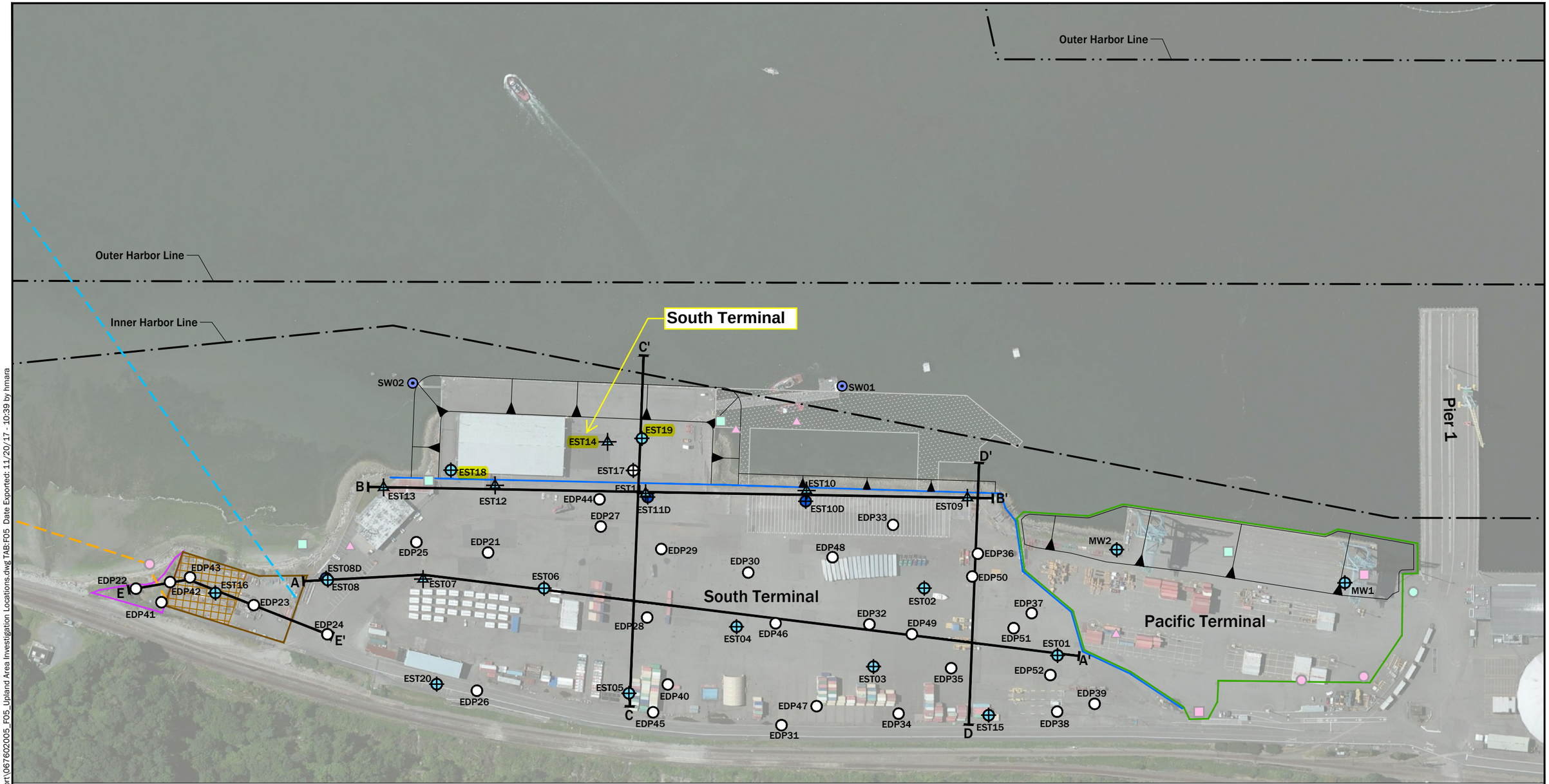
Well decommissioning will be completed by a Washington State licensed driller in accordance with Ecology requirements. GeoEngineers technical staff will oversee the well decommissioning activities. Well decommissioning will be completed in compliance with Revised Code of Washington (RCW) 173-160-460 and will consist of the following general procedures for each well:

- Driller will submit notice of intent (NOI) documents to Ecology a minimum of 72-hours prior to decommissioning;
- Place bentonite chips into the well casing to fill the entire well casing;
- Pour sufficient water into the well casing to activate the bentonite chips;
- Remove monument;
- Place concrete patch over the decommissioned well location; and
- Decommissioning reports will be submitted to Ecology.

This worked is scheduled to be completed by the end of April 2018. The Port will notify the Ecology Toxics Cleanup Program team after the monitoring wells are decommissioned.

FUTURE WELL REPLACEMENT

Currently there are no additional planned sampling events for completion of the Remedial Investigation/Feasibility Study for the Mill A Site. If groundwater samples are needed in the future at these monitoring well locations, the Port will coordinate with Ecology to re-install monitoring wells as required for the cleanup.



250 0 250
Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Base aerial from Bing Maps, 2011.
Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Legend

Remedial Investigation (RI) Location
- Soil Boring
- Shallow Soil Boring/Monitoring Well
- Deep Soil Boring/Monitoring Well
- Piezometer
- Surface Water Sample Location

Previous Soil/Groundwater Investigation Location
- Shallow Soil Boring/Monitoring Well

- Construction Berm Fill
- Historical Pier
- Nearshore Confined Disposal (NCD) Facility
- Bulkhead
- Open Space
- Equipment Storage Area (Bone Yard)
- Gravel Paved Working Surface
- A–A' Cross Section

- Historical Industrial Outfall
- Former Combined Sewer Outfall (CSO)
- Former Stormwater Outfall
- Current CSO
- Current Stormwater Outfall
- Current Kimberly-Clark/City of Everett/City of Marysville Outfall 100 (Approximate)
- Current Kimberly-Clark/Weyerhaeuser Outfall SW001 (Approximate)

Upland Area Investigation Locations

Weyerhaeuser Mill A Former
Everett, Washington

GeoEngineers

Figure 1

P:\0\0676020\05\CAD\Task 1400 Upland Data Report\0676020005_F05_Upland Area Investigation Locations.dwg TAB:F05 Date Exported: 11/20/17 - 10:39 by hmara

ATTACHMENT 1
Monitoring Well Logs

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	1/13/2010	1/14/2010	86.5	GRL	Cascade Drilling	Hollow Stem Auger

Hammer Data	300 lb/30 in Drop	Drilling Equipment	CME 75 Truck Rig
Surface Elevation (ft) Vertical Datum	Undetermined	Top of Casing Elevation (ft)	
Easting (X) Northing (Y)		Horizontal Datum	

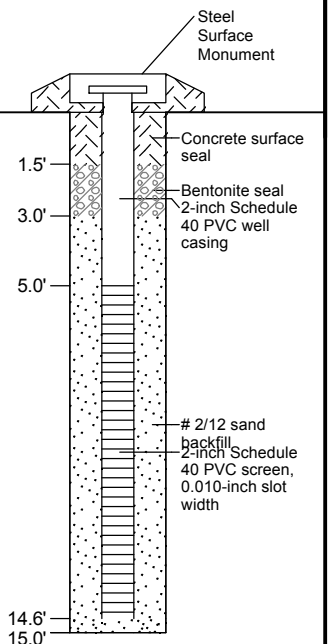
Licensing agency well number: **#BCC-519**
A 2 inch well was installed 10 feet south of boring on 1/13/2010 to a depth of 15 feet.

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
1/13/2010	10.1	

Notes: Auger Data: 5 foot long continuous flight 4" I.D., 8" O.D.

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor
	0							AC	6 inches of Asphalt concrete		
								GP	Base course gravel (very dense, moist) (fill) (note: 1 inch crushed rock)		
		15	50					SP-SM	Gray fine to coarse sand with silt and occasional gravel (very dense, moist) (fill)	NS	0.0
		4	50/5"						Grades to with gravel	SS	0.0
	5							SP	Gray fine to coarse sand with occasional gravel and trace silt (medium dense, moist) (fill)	NS	0.0
		15	25					SP-SM	Gray fine to coarse sand with silt, occasional gravel, and trace shell fragments (very dense, moist) (fill) (slight sulfur odor)	SS	0.0
		18	74								
		18	31						Grades to dense	SS	0.0
		18	14					SM/ML	Dark gray laminae of silty fine sand and sandy silt, trace wood (medium dense/stiff, moist to wet) (fill)		
	10					▽		SP		SS	0.0
		18	21						Gray fine to coarse sand with occasional gravel and trace silt (medium dense, wet) (fill)	NS	0.0
		14	31						(slight sulfur odor)	NS	0.0
									Grades to dense	NS	0.0
		14	36								
	15	13	34							NS	0.0
									Grades to with gravel, medium dense	NS	0.0
		11	19							NS	0.0
		6	14							NS	0.0
										NS	0.0
	20	10	11						Grades to with fine gravel	NS	0.0
		8	13							NS	0.0
		10	7						Grades to no gravel, loose	NS	0.0
										NS	0.0
		6	19							NS	0.0
	25								Grades to medium dense	NS	0.0
									Grades to fine to medium sand		
		11	22					GP-GM	Gray fine to coarse gravel with sand, trace silt (medium dense, wet) (fill) (note: one 2 inch gravel (subrounded))	NS	0.0
		18	19					SP		NS	0.0
									Gray fine to coarse sand with gravel, trace silt (medium dense, wet) (fill)	NS	0.0
		6	20							NS	0.0
	30	0	27								
		0	27								
		0	44								
		10	10					GP	Gray fine to coarse gravel, trace silt (dense, wet) (fill)	NS	0.0
	35	0	20						Grades to medium dense		

WELL LOG



Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well EST14

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-8
Sheet 1 of 3

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor
	35		12	8							NS	0.0
										Grades to loose	NS	0.0
										Gray fine to coarse gravel with medium to coarse sand (medium dense, wet) (fill)		
			6	20								
			5	25							NS	0.0
	40		1	27							NS	0.0
											NS	0.0
			3	26								
			0	21								
										(Note: slight sulfur odor)		
	45		2	29								
									SP	Gray medium to coarse sand (medium dense, wet) (fill)		
			2	19							NS	0.0
			3	37						Grades to dense		
	50		1	31							NS	0.0
			12	15							NS	0.0
									WD	Sawdust, bark, wood fragments (note: sulfur odor) (fill)	NS	0.0
			18	94					SP	Gray fine sand with trace silt, shell fragments, and wood (very dense, wet) (note: trace shell and wood each < 1% by mass (estimate)) (native)	NS	0.0
	55		18	78						Grades to no wood	NS	0.0
	60		18	66							NS	0.0
											NS	0.0
	65		18	56						Grades to trace wood (note: wood is 1 piece of bark at 65.5 feet) (native)	NS	0.0
											NS	0.0
	70		10	75/10"						Grades to no wood or shells	NS	0.0
	75		16	97/10"							NS	0.0
									SP-SM	Gray fine to coarse sand with silt and occasional		

Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well EST14 (continued)

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-8
Sheet 2 of 3

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name	FIELD DATA: Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor	WELL LOG
	80	11.5	70/11.5"					gravel (very dense, wet) (native) (note: trace organic material at 81 feet)	NS	0.0	
	85	16	87/10"						NS	0.0	

Samples collected for chemical analysis or archive at 9'-10', 19.5'-20.5', and 53'-54'.

Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well EST14 (continued)

GeoEngineers

Project: Port of Everett South Terminal Redevelopment
Project Location: Everett, Washington
Project Number: 0676-018-04

Figure A-8
Sheet 3 of 3

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	8/4/2016	8/4/2016	36	PDR / RST	Cascade Drilling, LP	Hollow-Stem Auger

Hammer Data	Rope & Cathead 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	18.04 MLLW	Top of Casing Elevation (ft)	17.63
Easting (X) Northing (Y)	358084.4 1298527	Horizontal Datum	NAD83

DOE Well I.D.: BJY-120
A 2 (in) well was installed on 8/4/2016 to a depth of 18 (ft).

Groundwater	Depth to Water (ft)	Elevation (ft)
Date Measured		
9/29/2016	10.6	7.0

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered %	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0								AC	8 inches of asphalt concrete		
									GM	Brown silty fine to coarse gravel with sand (moist) (fill)		
									SP-SM	Brown fine to coarse sand with silt and occasional gravel (medium dense, moist)	NS	1.2
			100	12								
	5		100	11	●	EST18_4-5_CA			SP	Brown fine to coarse sand with occasional silt and gravel (medium dense, moist)	NS	2.7
			100	18							NS	2.5
			100	10					SP	Brown fine to coarse sand with occasional gravel (medium esne, moist)	NS	1.6
			100	17	●	EST18_9-10					NS	2.8
	10		100	9	●	EST18_10-11_CA	▼		SP	Gray fine to coarse sand with gravel (medium dense, wet)	NS	1.3
			67	11					SP	Gray-brown fine to coarse sand with gravel (medium dense, wet)	NS	2.1
			67	9							NS	2.2
	15		100	14	●	EST18_14-15			SP	Gray medium to coarse sand with gravel (medium dense, wet) (native)	NS	2.8
			100	11							NS	3.1
			100	8	●	EST18_17-18_CA					NS	3
	20		100	11							NS	22
			67	10							NS	1.7
			33	8							NS	1.3
			67	9	●	EST18_24-25			SP	Gray fine to coarse sand with gravel (medium dense, wet)	NS	1.3
	25		56	7							NS	<1
			67	11							NS	<1
			33	10							NS	<1
									SP	Gray fine to coarse sand (medium dense, wet)		
	30		83	15	●	EST18_30-31					NS	<1
	35			16							NS	<1

WELL LOG

Steel surface monument
Concrete surface seal
1.5'
2.0'
2.8'
2-inch Schedule 40 PVC well casing
Pure gold bentonite chips
10/20 silica sand backfill
2-inch Schedule 40 PVC screen, 0.010-inch slot width
17.8'
18.0'
2-inch Schedule 40 end cap
Pure gold bentonite chips

Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well EST18

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Project:	Weyerhaeuser Mill A Former
Project Location:	Everett, Washington
Project Number:	0676-020-05

Figure A-56
Sheet 1 of 2

Seattle: Date:2/16/17 Path:W:\PROJECTS\0676020\GINT\0676020G5.GPJ DBTemplate/LibTemplate:GEOENGINEERS_DF_STD_US.GDT/GEI8_ENVIRONMENTAL_WELL

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered %	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	WELL LOG
	35					EST18_ 35-36							36.0'

Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well EST18 (continued)

GeoEngineers

Project: Weyerhaeuser Mill A Former
Project Location: Everett, Washington
Project Number: 0676-020-05

Figure A-56
Sheet 2 of 2

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	8/4/2016	8/4/2016	52	PDR	RST	Cascade Drilling, LP	Hollow-Stem Auger

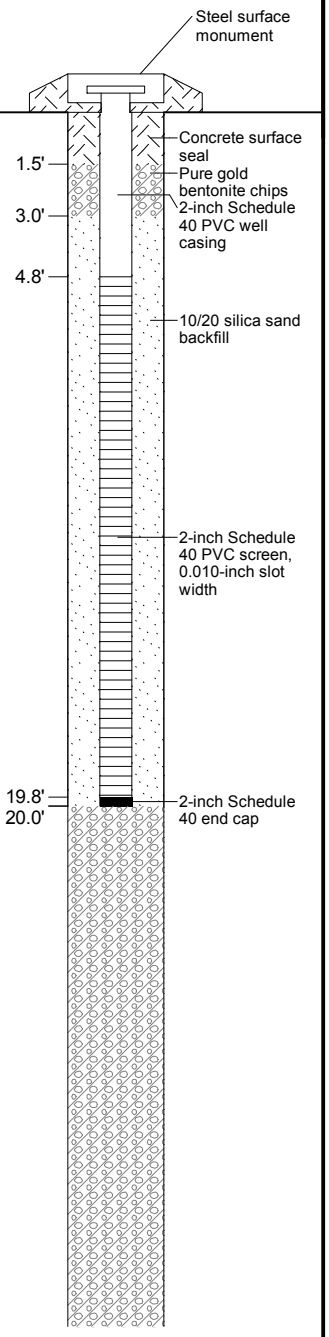
Hammer Data	Rope & Cathead 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	17.99 MLLW	Top of Casing Elevation (ft)	17.56
Easting (X) Northing (Y)	358524.2 1298756.5	Horizontal Datum	NAD83

DOE Well I.D.: BJY-121
A 2 (in) well was installed on 8/4/2016 to a depth of 20 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
10/10/2016	11.7	5.9

Notes:

Depth (feet)	Elevation (feet)	Interval	Recovered %	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
0									AC	10 inches of asphalt concrete		
									GP	Gray 5/8-inch minus crushed rock with fine to coarse sand (moist) (structural fill)		
			100	26					SP	Brown-gray fine to coarse sand with occasional silt (medium dense, moist) (fill)	NS	<1
			100	13		EST19_ 4-5			SP	Brown fine to coarse sand with occasional silt (loose to medium dense, moist)	NS	<1
5			100	9							NS	<1
			100	9							NS	<1
			100	7							NS	<1
10			100	7		EST19_ 10-11 CA					NS	<1
			100	18		EST19_ 12-13 CA			SP	Gray medium to coarse sand (medium dense, wet)	NS	<1
			100	18					SP	Gray coarse sand with occasional gravel (medium dense, wet)	NS	<1
15			100	9							NS	<1
			100	10		EST19_ 16-17					NS	<1
			100	6							NS	<1
			100	8					SP	Gray fine to coarse sand with occasional gravel (loose, wet)	NS	<1
20			100	14		EST19_ 20-21					NS	<1
			100	11							NS	<1
			67	8		EST19_ 23-24 CA					NS	<1
25			78	12					SP	Gray medium to coarse sand (loose to medium dense, wet) (native)	NS	<1
			100	7		EST19_ 27-28					NS	<1
			100	10							NS	<1
30			67	10							NS	<1
			67	14							NS	<1
			100	14		EST19_ 33-34			SP	Gray medium to coarse sand with occasional silt (medium dense, wet)	NS	<1
35			67	15					SP	Gray fine to coarse sand (medium dense, wet)	NS	<1



Note: See Figure A-1 for explanation of symbols.

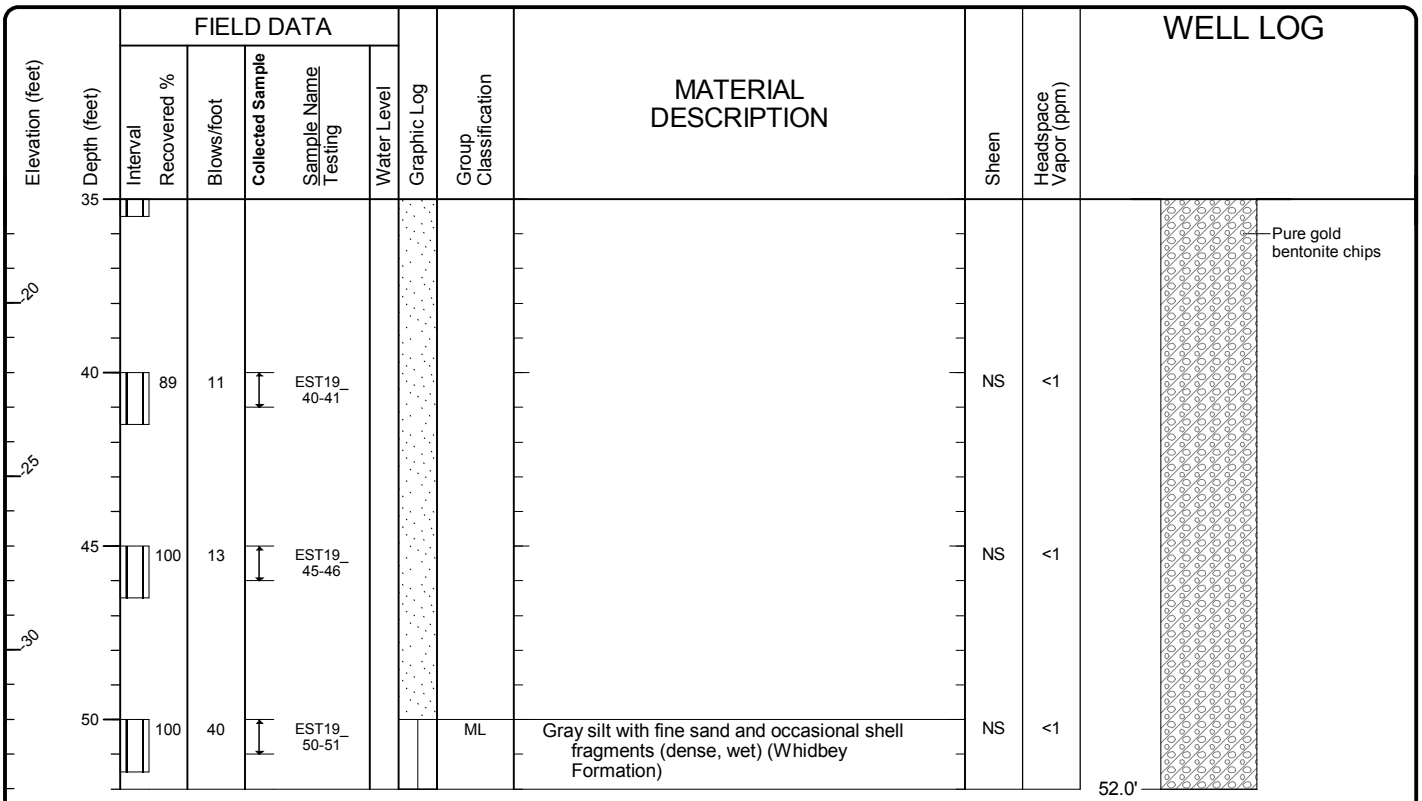
Log of Monitoring Well EST19

GeoEngineers

Project: Weyerhaeuser Mill A Former
Project Location: Everett, Washington
Project Number: 0676-020-05

Figure A-57
Sheet 1 of 2

Seattle: Date:2/16/17 Path:W:\PROJECTS\0676020\GINT\0676020G5.GPJ DBTemplate/LibTemplate:GEOENGINEERS_DF_STD_US.GDT/GEI8_ENVIRONMENTAL_WELL



Note: See Figure A-1 for explanation of symbols.

Log of Monitoring Well EST19 (continued)

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Project: Weyerhaeuser Mill A Former
Project Location: Everett, Washington
Project Number: 0676-020-05

Figure A-57
Sheet 2 of 2

ATTACHMENT 2
Resource Protection Well Reports

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

29-5E-30D

CURRENT Notice of Intent No. RE 04166

Construction/Decommission 369447

- [X] Construction
- [ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well
- [X] Resource Protection
- [ ] Geotechnical Soil Boring

Property Owner: Port of Everett

Site Address: Terminal St. & Bond St.

Consulting Firm: GeoEngineers-Tacoma

City: Everett County: 31-Snohomish EWM

Location: 1/4 NW 1/4 NW Sec 30 Twn 29N R 5E or WWM

Unique Ecology Well ID Tag No. BCG-519

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

Tax Parcel No. _____

[X] Driller [ ] Trainee Name (Print) Steve Choate

Driller/Trainee Signature _____

Driller/Trainee License No. 2682

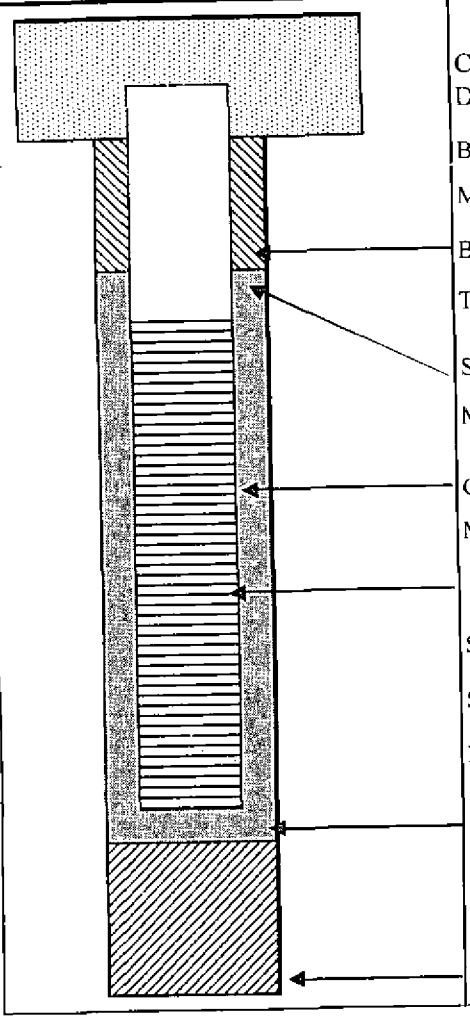
Cased or Uncased Diameter 8" Static Level 10'

Work/Decommission Start Date 1/13/2010

Work/Decommission End Date 1/15/2010

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

Construction/Design



Well Data W10-008

Concrete Surface Seal Depth	1.5	FT
Blank Casing (dia x dep)	2" x 5'	
Material	PVC	
Backfill	1.5	FT
Type	Bent	
Seal		
Material		
Gravel Pack	12	FT
Material	Sand	
Screen (dia x dep)	2" x 10	
Slot Size	010	
Material	PVC	
Well Depth	15	FT
Backfill		
Material		
Total Hole Depth		FT

Formation Description

0 - 15 FT (Black Sand)

0 - _____ FT

0 - _____ FT

RECEIVED

MAR 01 2010

Dept of Ecology WR-NWRO

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. RE13154

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Consulting Firm **GeoEngineers**

Property Owner **Port of Everett**

Site Address **2900 Terminal Ave**

City **Everett** County **Snohomish**

Unique Ecology Well ID Tag No. BJY-120

Location 1/4 **NE** 1/4 **NW** Sec **30** TWN **29N** R **5E** [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 x Lat Min/Sec x Long Deg x Long Min/Sec x

[X] [ ] Trainee Name (Print) **James Goble**

Driller/Trainee Signature

Tax Parcel No. **0**

Driller/Trainee License No. **3131**

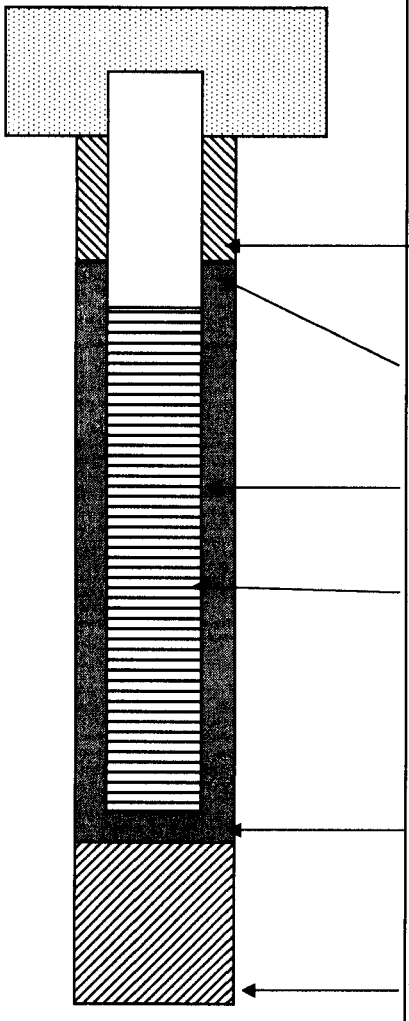
Cased or Uncased Diameter 8" Static Level 10'

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

Work/Decommision Start Date 8/4/16

Work/Decommision End Date 8/4/16

Construction/Design



Well Data 103-16-8228

Concrete Surface Seal Depth	1½' FT
Blank Casing (dia x dep)	2"x 3'
Material	PVC
Backfill	½' FT
Type	Med
Seal	Bent.
Material	Chips
Gravel Pack	16' FT
Material	10/20 Sand
Screen (dia x dep)	2"x 15'
Slot Size	010
Material	PVC
Well Depth	~~36'~~ 18' FT
Backfill	* 2' 10/20 Sand
Material	* 16' ~~10/20~~ Bent chips
Total Hole Depth	36' FT

Formation Description

0 - 7' FT Sand to Silty Sand & gravel

0 7' - 36' FT Fine to med. black Sand w/ small gravels

0 - FT

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rec=v 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. RE13154

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner **Port of Everett**

Site Address **2900 Terminal Ave**

Consulting Firm **GeoEngineers**

City **Everett** County **Snohomish**

Unique Ecology Well ID Tag No. BJY-121

Location 1/4 **NE** 1/4 **NW** Sec **30** TWN **29N** R **5E** [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 x Lat Min/Sec x Long Deg x Long Min/Sec x

[X] [ ] Trainee Name (Print) **James Goble**

Driller/Trainee Signature _____

Driller/Trainee License No. **3131**

Tax Parcel No. **0**

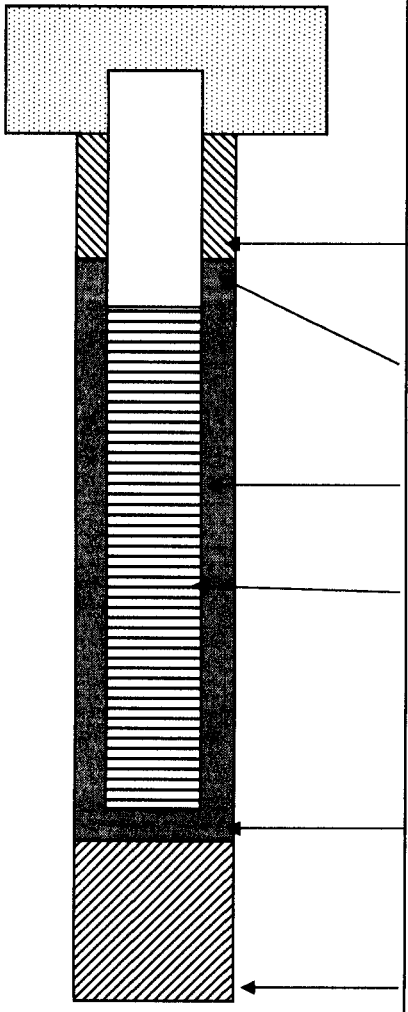
Cased or Uncased Diameter 8" Static Level 9'

Work/Decommision Start Date 8/4/16

Work/Decommision End Date 8/4/16

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

Construction/Design — Well Data 103-16-8228 — Formation Description



Concrete Surface Seal Depth	2' FT
Blank Casing (dia x dep)	2"x 5'
Material	PVC
Backfill	2' FT
Type	Med.
Seal	Bent.
Material	Chips
Gravel Pack	16' FT
Material	10/20 Sand
Screen (dia x dep)	2"x 15'
Slot Size	010
Material	PVC
Well Depth	20' FT
Backfill	4' 10/20 Sand
Material	32' Med Bent Chips
Total Hole Depth	56' FT

0 - 6' FT	Silty Sand to Sand & gravels
0 6' - 56' FT	Fine to Med. Black Sand w/ small gravels & Timber
0 - FT	

Scale 1" = _____ Page _____ of _____