ALISTO ENGINEERING GROUP

SEP 20 1996
BP OIL CO.
ENVIRONMENTAL
WEST COAST

September 19, 1996

Mr. Peter DeSantis
BP Oil Company
295 S.W. 41st Street
Renton, Washington 98055

20-008-003-02

Subject: Remediation System Well Installations
BP Oil Company Service Station No. 11066
2421 148th Avenue N.E.
Bellevue, Washington

Dear Mr. DeSantis:

BP Oil Company retained Alisto Engineering Group to install 13 air sparging and/or dual completion (air sparging and vapor extraction) wells at BP Oil Company Service Station No. 11066, 2421 148th Avenue N.E., Bellevue, Washington. The work was performed as part of the proposed remediation system. The well locations are shown on the attached site plan.

Before drilling, well start cards were acquired from the Washington State Department of Ecology by the drilling contractor, Geo-Tech Explorations. Copies of the start cards are attached. Seven dual completion wells (CW1 through CW-7) and six air sparging wells (SP-2 through SP-7) were completed between July 15 and 22, 1996. The borings were drilled to depths ranging from 37 to 38 feet using a truck-mounted drilling rig with hollow-stem augers. During drilling, soil cuttings were logged using the Unified Soil Classification System indicating soil type, color, and moisture content. Soil cuttings were also field-screened for organic vapors using a photo-ionization detector.

The wells were constructed in the borings through the auger to centralize the well casing and minimize the introduction of native material into the annulus space. In the dual completion wells, the air sparging wells were constructed of 1-inch-diameter schedule 40 poly-vinyl chloride (PVC) 0.010-inch slotted casing at the bottom 2 feet, with blank casing to approximately 2 feet below grade. The vapor extraction wells were constructed of 2-inch diameter PVC 0.010-inch slotted casing.

The annular space at the screened portion of the air sparging wells were backfilled with 10/20 sand (filter pack) to approximately six inches above the top of the screened section. Approximately 6 inches of bentonite was added to the annulus above the filter pack and hydrated to minimize intrusion of cement into the filter pack. The remaining annulus was then sealed with neat cement grout to between 21 and 25 feet. The augers were extracted to above the grout and left in-place overnight while the cement grout cured.

1102 INDUSTRY DRIVE • TUKWILA, WA 98188 • (206) 575-9013 • FAX (206) 575-9327
CONTRACTORS LICENSE NO. A-652544

The vapor extraction wells were installed within the same borehole as the air sparging wells. Each vapor extraction well was constructed with 2-inch-diameter PVC 0.010-inch slotted section from the top of the lower grout layer to between 5 and 7 feet below grade, and blank section from the top of the slotted casing to approximately 6 inches below grade.

The screened portion of the vapor extraction wells were backfilled with 10/20 sand to approximately 6 inches above the top of the screened interval. Approximately 6 inches of bentonite was added to the annulus above the filter pack and hydrated. The remaining annulus was sealed with cement to approximately 10 inches below grade. The surface seal was constructed with 6 inches of sand covered by 3 inches of quick-set concrete.

Sparging wells SP-2 through SP-7 were constructed with 2-inch-diameter PVC 0.010-inch slotted casing. The screened section of SP-2 extends from 36 to 37 feet, and the screened sections of SP-3 through SP-7 extend from 35 to 37 feet. Solid PVC casing was installed above the screened intervals to within 6 inches of grade. The annular space at the screened section was backfilled with 10/20 sand to approximately 6 inches above the screened interval. Approximately 6 inches of bentonite was added to the annulus above the filter pack, and the remainder of the annulus was sealed with neat cement grout to approximately 1 foot below grade. Sparging well SP-7 was constructed as above; however, the annular space above the filter pack was sealed to one foot below grade with bentonite chips and hydrated. The borings logs including details of well construction are included as attachments.

Please call if you have questions or comments.

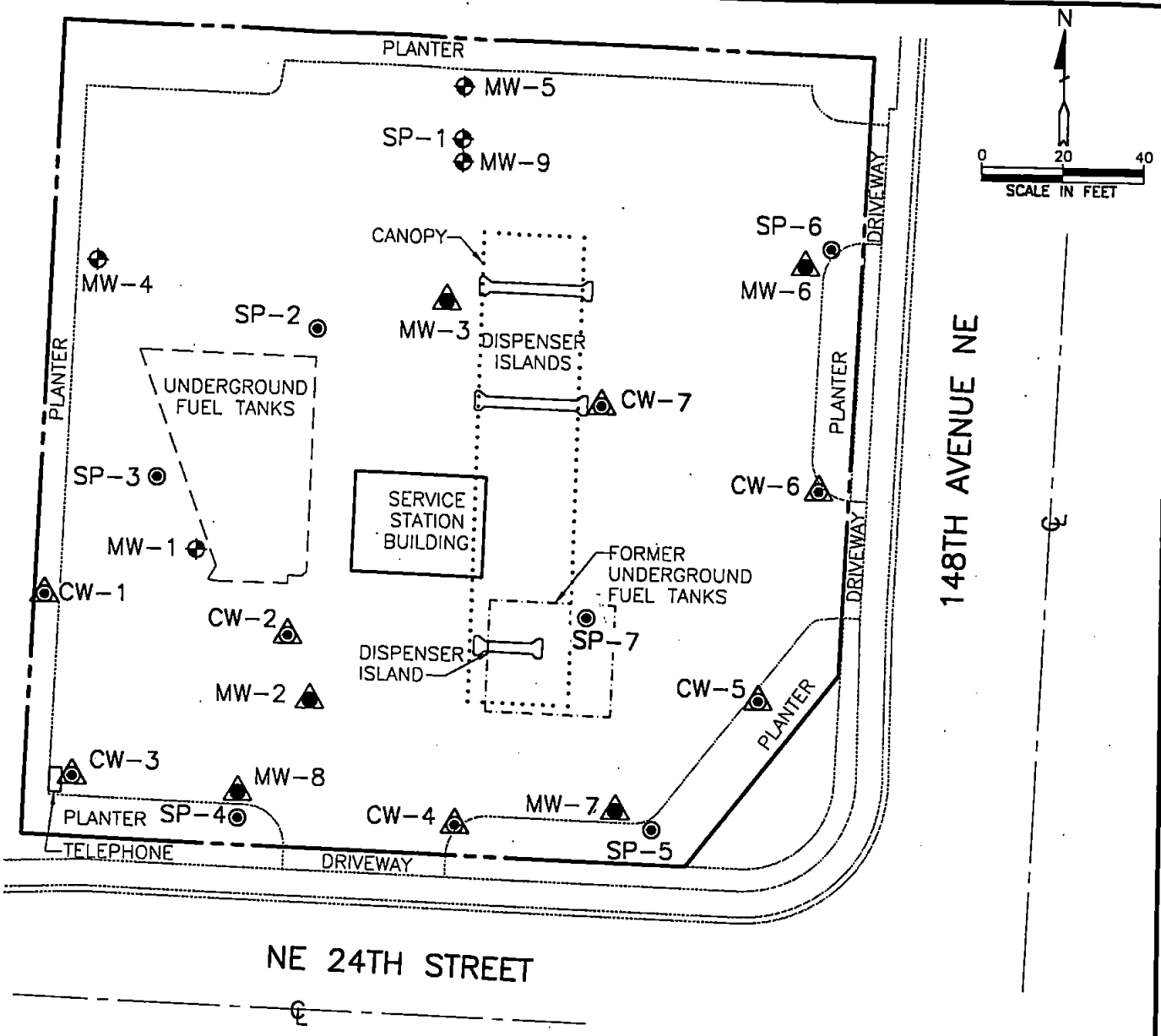
Sincerely,

ALISTO ENGINEERING GROUP

Craig W. Ware, R.G.
Project Manager

Attachments

Attachments



LEGEND

- GROUNDWATER MONITORING WELL
- VAPOR EXTRACTION WELL
- AIR SPARGING POINT
- DUAL COMPLETION AIR SPARGING/ VAPOR EXTRACTION WELL

FIGURE 1

SITE PLAN

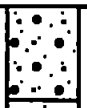
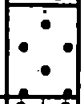
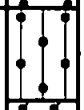
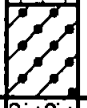
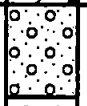
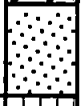
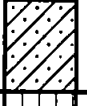
BP OIL SERVICE STATION NO. 11066
2421 148TH AVENUE N.E.
BELLEVUE, WASHINGTON

PROJECT NO. 20-008

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

20008CA-.DWG 8-28-96 RKW 1=40

GEOLOGIC LEGEND

COARSE-GRAINED SOILS	GRAVELS more than 1/2 of coarse fraction > No. 4 Sieve	LITTLE OR NO FINES		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly-graded gravels, gravel-sand mixtures
		APPRECIABLE NO FINES		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS more than 1/2 of coarse fraction < No. 4 Sieve	LITTLE OR NO FINES		SW	Well-graded sands, gravelly sands, little or no fines
				SP	Poorly-graded sands, gravelly sands, little or no fines
		APPRECIABLE NO FINES		SM	Silty sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS	SILTS AND CLAYS Liquid limit < 50			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit > 50			MH	Inorganic silts, micaceous or diatomoceous 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

SYMBOL LEGEND:

- Cement
- Sand
- Bentonite
- Driven Interval of Soil Sample
- Sample preserved for possible analysis
- No sample recovered
- Stabilized water level
- Groundwater level encountered during drilling

LEGEND TO BORING LOGS

BP OIL STATION NO. 11066
2421 148TH AVENUE
NORTH BELLEVUE, WASHINGTON

PROJECT NO. 20-008

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

20008JA-.DWG 8-16-96 DDM 1=1

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING SP-2

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/15/98
CLIENT: BP Oil Company
LOCATION: 2421 148th Avenue NE, Bellevue, Washington
DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings
DRILLING COMPANY: Geotech Exploration CASING ELEVATION:
LOGGED BY: J. Day APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3" asphalt over 12" agregate base.
	4	Sand Cap Concrete	6			SM	silty SAND: olive gray, moist; fine- to medium-grained sand.
	240	2" Sch. 40 PVC	12				
	440	Neat Cement	18				
		2" 0.010 Slotted PVC Screen	24				
		Bentonite Seal #10/20 Sand	30				
			36				Boring terminated at 37 feet.

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING SP-3

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/16/96
CLIENT: BP Oil Company
LOCATION: 2421 148th Avenue NE, Bellevue, Washington
DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings
DRILLING COMPANY: Geotech Exploration CASING ELEVATION:
LOGGED BY: J. Day APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		Sand Cap Concrete; 2" Sch.40 PVC; Neat Cement; 2" 0.010 Slotted PVC Screen; Bentonite Seal; #10/20 Sand	6			SM	3" asphalt over 8" agregate base. silty SAND: olive, moist; fine- to coarse-grained sand; occasional gravel; some wood debris. Same: at 5 feet, olive gray, moist; fine- to medium-grained sand; trace of coarse sand and gravel up to 2-inch-diameter. Same: at 10 feet, light brown; predominantly fine-grained sand.
			12				
			18				
			24				
			30				
			36				Boring terminated at 37 feet.

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING SP-4

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/17/96

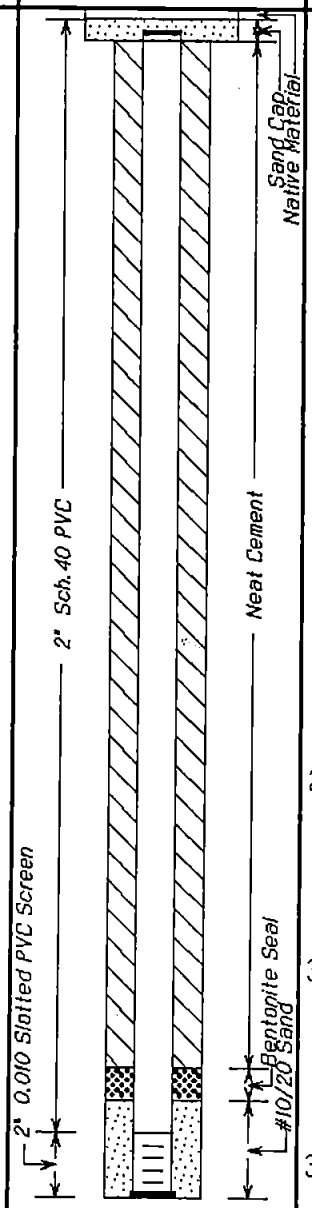
CLIENT: BP Oil Company

LOCATION: 2421 148th Avenue NE, Bellevue, Washington

DRILLING METHOD: Hollow-Stem Auger (8"); logged by cuttings

DRILLING COMPANY: Geotech Exploration CASING ELEVATION:

LOGGED BY: J. Day APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
			6 12 18 24 30 36			SM	silty SAND: yellow brown; fine- to coarse-grained sand; some gravel. Same: at 5 feet, color change to olive gray; decrease in silt. Same: at 11 feet, light olive gray; increase in gravels and cobbles. Boring terminated at 37 feet.

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING SP-5

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/18/96

CLIENT: BP Oil Company

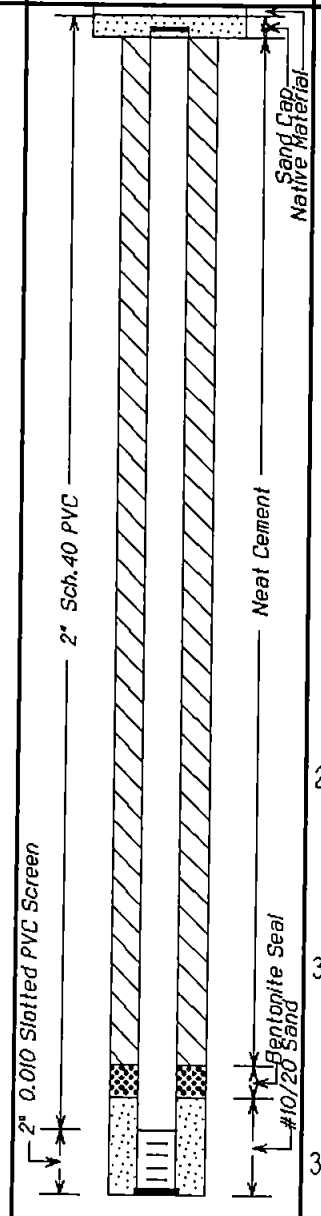
LOCATION: 2421 148th Avenue NE, Bellevue, Washington

DRILLING METHOD: Hollow-Stem Auger (8"); logged by cuttings

DRILLING COMPANY: Geotech Exploration CASING ELEVATION:

LOGGED BY: G.B.L. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						Pt	4" bark and mulch
						SM	silty SAND: olive gray, dense; fine- to coarse-grained sand; trace gravel.
			6				
			12				
			18				
			24				
			30				
			36				Boring terminated at 37 feet.



ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING SP-6

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/22/96
CLIENT: BP Oil Company
LOCATION: 2421 148th Avenue NE, Bellevue, Washington
DRILLING METHOD: Hollow-Stem Auger (8"); logged by cuttings
DRILLING COMPANY: Geotech Exploration CASING ELEVATION:
LOGGED BY: G.B.L. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		Sand Cap Concrete; 2" Sch.40 PVC; Neat Cement; 2" 0.010 Slotted PVC Screen; Bentonite Seal; #10/20 Sand	6			Pt	3" asphalt over 8" aggregate base
						OL	Organic sandy soil: brown with gravel and construction debris.
			12			SM	silty SAND: olive gray; fine- to medium-grained sand; trace of coarse-grained sand; trace gravel.
			18				
			24				
			30				
			36				Boring terminated at 38 feet.

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING SP-7

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/19/96
CLIENT: BP Oil Company
LOCATION: 2421 148th Avenue NE, Bellevue, Washington
DRILLING METHOD: Hollow-Stem Auger (8"); logged by cuttings
DRILLING COMPANY: Geotech Exploration CASING ELEVATION:
LOGGED BY: G.B.L. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		Sand Cap Concrete	0				3" asphalt over 12" aggregate base
			6			SW	SAND: light brown; well graded; trace silt to 8 feet.
	>850	2" Sch.40 PVC	12			SM	silty SAND: olive gray, compact; fine- to medium-grained sand; trace gravel.
	>800	Neat Cement	18				
		2" 0.010 Slotted PVC Screen	24				
		Bentonite Seal	30				
		#10/20 Sand	36				Boring terminated at 37 feet.

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING CW-1

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/16/98
CLIENT: BP Oil Company
LOCATION: 2421 148th Avenue NE, Bellevue, Washington
DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings
DRILLING COMPANY: Geotech Exploration CASING ELEVATION:
LOGGED BY: J. Day APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						ML	sandy SILT: brown, moist; fine- to medium-grained sand.
			6			SM	silty SAND: light olive brown, moist; fine- to coarse-grained sand.
							Same: at 8 feet, occasional gravel and cobbles.
			12				Same: at 11 feet, color change to light olive gray; decreased silt fraction.
			18				
			24			SW	SAND: light olive gray, moist to wet; fine- to medium-grained sand; trace coarse-grained sand; gravel and cobbles.
			30				
			36				Boring terminated at 37 feet.

WELL DIAGRAM: 1" Sch.40 PVC Casing; 1" 0.010 Slotted PVC Screen; 2" Sch.40 PVC Casing; 2" 0.010 Slotted PVC Screen; Sand Cap; Native Material; Neat Cement Grout; Bentonite; #10/20 Sand

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING CW-2

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/16/96

CLIENT: BP Oil Company

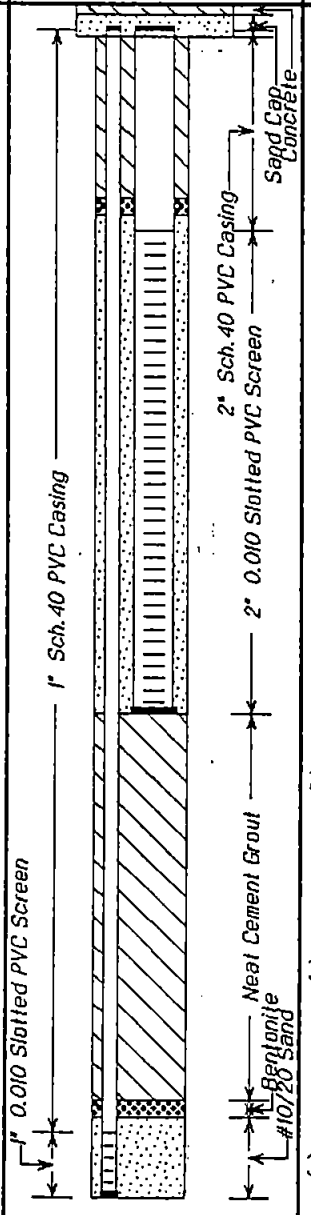
LOCATION: 2421 148th Avenue NE, Bellevue, Washington

DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings

DRILLING COMPANY: Geotech Exploration CASING ELEVATION:

LOGGED BY: J. Day APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3.5" asphalt over 12" aggregate base
			6			SM	silty SAND: yellowish brown, moist; fine- to medium-grained sand; some gravel up to 1 1/2-inch-diameter; high silt fraction. Same: at 5 feet, light olive brown; decreased silt fraction.
			12				Same: below 12 feet, color changes to olive gray.
			18			SP	SAND: light olive gray, moist; fine- to medium-grained sand; trace of coarse-grained sand and rounded gravel; occasional cobbles.
			24				
			30				
			36				Boring terminated at 37 feet.



ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING CW-3

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/16/98

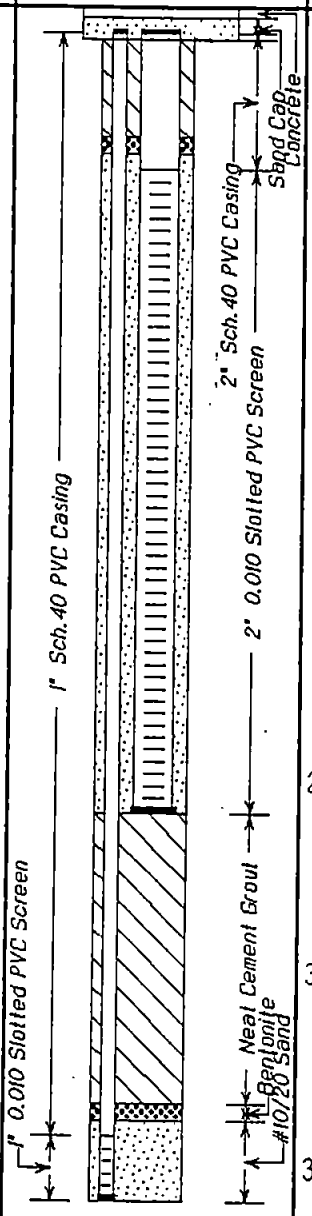
CLIENT: BP Oil Company

LOCATION: 2421 148th Avenue NE, Bellevue, Washington

DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings

DRILLING COMPANY: Geotech Exploration CASING ELEVATION:

LOGGED BY: J. Day APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
			0				3" asphalt underlain by pea gravel
			6			SM	silty SAND: olive to olive gray, moist; fine- to medium-grained sand; some coarse-grained sand.
			12				Same: decreased silt fraction.
			18			SW	SAND: pale olive gray, moist; fine- to coarse-grained sand; fine to 2-inch-diameter gravel; occasional cobbles.
			24				
			30				
			36				Boring terminated at 37 feet.

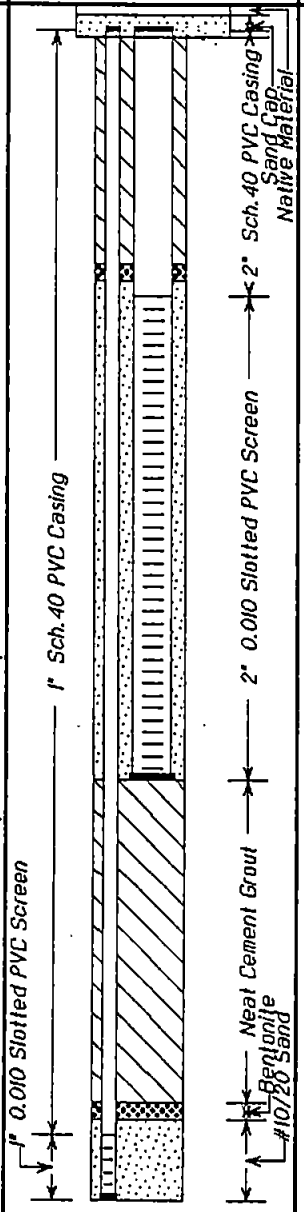
ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING CW-4

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/17/96
CLIENT: BP Oil Company
LOCATION: 2421 148th Avenue NE, Bellevue, Washington
DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings
DRILLING COMPANY: Geotech Exploration CASING ELEVATION:
LOGGED BY: G.B.L. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3.5" asphalt over 12" aggregate base
						SP	SAND: clean sand (backfill) to 4 feet with construction debris.
	ND		6			SM	silty SAND: olive gray, moist, dense; trace of coarse-grained sand; trace of gravel up to 2-inches-diameter.
	30		12				
	400+		18				Same: at 20 feet, strong hydrocarbon odor.
	430+		24				
			30				
			36				Boring terminated at 37 feet.



ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING CW-5

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/18/98

CLIENT: BP Oil Company

LOCATION: 2421 148th Avenue NE, Bellevue, Washington

DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings

DRILLING COMPANY: Geotech Exploration CASING ELEVATION:

LOGGED BY: G.B.L. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
			0			Pt	4" bark and mulch
						SM	silty SAND: olive gray, dense; trace of coarse sand and gravel.
			6				Same
	>120	1" Sch.40 PVC Casing; 1" 0.010 Slotted PVC Screen; 2" Sch.40 PVC Casing; 2" 0.010 Slotted PVC Screen; Sand Cap; Native Material; Neat Cement Grout; Bentonite; #10/20 Sand	12				
			18				
	>250		24				Same: at 25 feet, damp, more dense.
			30				
			36				Boring terminated at 37 feet.

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING CW-6

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/18/96

CLIENT: BP Oil Company

LOCATION: 2421 148th Avenue NE, Bellevue, Washington

DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings

DRILLING COMPANY: Geotech Exploration CASING ELEVATION:

LOGGED BY: G.B.L. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAN	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3.5" asphalt over 12" aggregate base
						SM	silty SAND: olive gray, compact; trace of coarse-grained sand; trace of gravel.
	>150	1" Sch.40 PVC Casing; 1" 0.010 Slotted PVC Screen; 2" Sch.40 PVC Casing; 2" 0.010 Slotted PVC Screen; Sand Cap Concrete; Neat Cement Grout; Bentonite; #10/20 Sand	6				
			12				
			18				
			24				
			30			SW	SAND: gray, damp, compact; fine-grained sand.
			36				Boring terminated at 37 feet.

ALISTO ENGINEERING GROUP
TUKWILA, WASHINGTON

LOG OF BORING CW-7

SEE SITE PLAN

ALISTO PROJECT NO: 20-008-03 DATE DRILLED: 07/18/96

CLIENT: BP Oil Company

LOCATION: 2421 148th Avenue NE, Bellevue, Washington

DRILLING METHOD: Hollow-Stem Auger (10"); logged by cuttings

DRILLING COMPANY: Geotech Exploration CASING ELEVATION:

LOGGED BY: G.B.L. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3.5" asphalt over 12" aggregate base
	15		6			SM	silty SAND: olive gray, moist; fine- to medium-grained sand; gravel up to 2-inch-diameter; trace of coarse-grained sand.
	1400		12				Same: at 15 feet, strong hydrocarbon odor.
			18				Same: at 20 feet, very dense.
			24			SW	SAND: olive gray, moist; fine-grained sand; trace of coarse-grained sand.
			30				
			36				Boring terminated at 37 feet.

WELL DIAGRAM: 1" Sch.40 PVC Casing; 1" 0.010 Slotted PVC Screen; 2" Sch.40 PVC Casing; 2" 0.010 Slotted PVC Screen; Sand Cap Concrete; Neat Cement Grout; Bentonite; #10/20 Sand

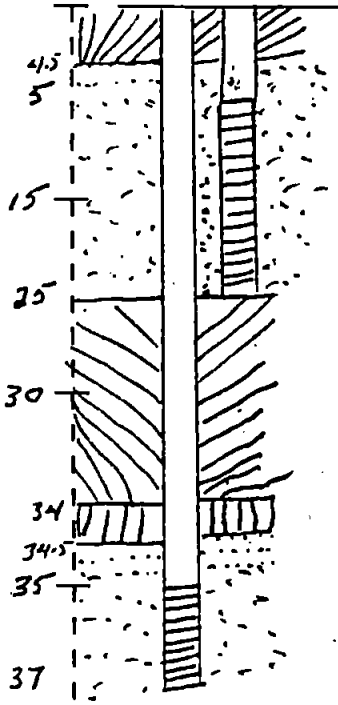
RESOURCE PROTECTION WELL REPORT

START CARD NO. 27446

PROJECT NAME: B.P. oil
WELL IDENTIFICATION NO. Dual completion A, B, C, D, E, F, G
DRILLING METHOD: Hollow stem
DRILLER: Robert D. Rogers
FIRM: Geotech Explorations
SIGNATURE:
CONSULTING FIRM: Aliston
REPRESENTATIVE: Bruce Lomer

COUNTY: King
LOCATION: ¼ ¼ Sec Twn R
STREET ADDRESS OF WELL: 2421 148th ave NE Bellview
WATER LEVEL ELEVATION: 26'
GROUND SURFACE ELEVATION:
INSTALLED: 18-19 July
DEVELOPED:

AS-BUILT



WELL DATA

Dual bottom A, B, C, D, E, F, G
- Screen 35-37 1" PVC
- Solid 0-35 1" PVC
- 10/20 sand 34.5-37
- Bentchips 34.0-34.5

Dual top A
- Cement Bent Grout 25-34
- Screen 5-25 2" PVC
- Solid 0-5 2" PVC
- 10/20 Sand 4.5-25.0
- Bentchips 4.0-4.5
- Cement Bent Grout 1-4
- Temp protective cover Befor trenching 0-1

Dual top B
- cement Bent Grout 21-34'
- Screen 5-21
- 10/20 Filter pack 4.5-21
- Bentchips 4.0-4.5
- cement Bent grout 1-4.0

Dual top C
- cement Bent Grout 22-34'
- Screen 7-22
- 10/20 sand 6.5-22
- Bentchip 6.0 6.5
- cement Bent Grout 1-6.0

Dual D top
- Cement Bent Grout 24-34
- screen 6-24
- 10/20 sand 5.5-24
- Bentchip 5.0-5.5
- cement Bent Grout 1-5.0

top C top
- cement Bent Grout 26.5-34
- screen 7-26.5
- 10/20 sand 6.5-26.5
- Bentchips 6.0-6.5
- Cement Grout 1-6.0

top F
- cement Bent Grout 27.5-34
- Screen 7.5-27.5
- 10/20 sand 7.0-27.5
- chips 6.5-7.0
- cement Grout 1-7.0

top G
- cement Grout 26-34'
- screen 6-26
- 10/20 sand 5.5-26
- Chips 5.0-5.5
- Grout 1-5

FORMATION DESCRIPTION

Gravel Sand Silt cobbles 0-37

SCALE: 1" = PAGE OF

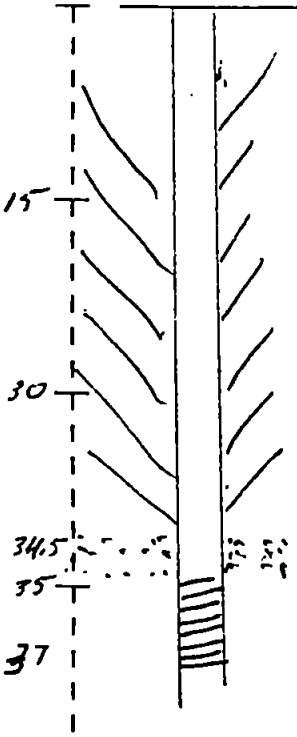
ECY 050-12 (Rev. 11/89)

RESOURCE PROTECTION WELL REPORT

START CARD NO. 27446

PROJECT NAME: B.P. Oil
WELL IDENTIFICATION NO. sparge 5
DRILLING METHOD: Hollow Stem
DRILLER: Robert D. Rogers
FIRM: Geotek Explorations
SIGNATURE:
CONSULTING FIRM: Hisito
REPRESENTATIVE: Bruce Lomer

COUNTY: King
LOCATION: ¼ ¼ Sec Twn R
STREET ADDRESS OF WELL: 2421 148th ave NE Bellevue
WATER LEVEL ELEVATION: 26'
GROUND SURFACE ELEVATION:
INSTALLED: 19July96
DEVELOPED:

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	35-37' Sch40PVC 010 screen 0-35' Sch40PVC Riser 34.5-37 10/20 sand filter pack 0-34.5' Bent chip seal 0-1 temp protective cap Befor trenching) 8" bore	Gravel sand silt cobbles 0-37

SCALE: 1" = _____ PAGE _____ OF _____

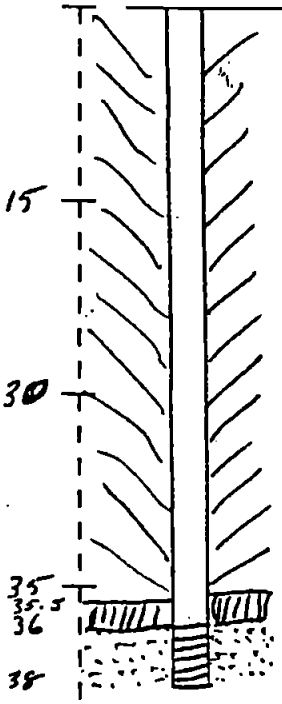
ECY 050-12 (Rev. 11/89)

RESOURCE PROTECTION WELL REPORT

START CARD NO. 27446

PROJECT NAME: B.P. oil
WELL IDENTIFICATION NO. Srarge 6
DRILLING METHOD: Hollow Stem
DRILLER: [illegible]
FIRM: Geotech Explorations
SIGNATURE: [illegible]
CONSULTING FIRM: Histo
REPRESENTATIVE: Bruce Lomer

COUNTY: King
LOCATION: ¼ ¼ Sec Twn R
STREET ADDRESS OF WELL: 2421 148th Ave NE Bellview
WATER LEVEL ELEVATION: 26'
GROUND SURFACE ELEVATION:
INSTALLED: 22 July 96
DEVELOPED:

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	36-38 sch40 pvc 010 slot 0-36 sch40 pvc Riser 35.5-38 10/20 sand filter pack 35-35.5 Bent chip 0-35 cement Bent Grout 0-1 temp protective cap Befor trench 6" bore	gravel Sand Silt cobbles 0-38

SCALE: 1" = _____ PAGE _____ OF _____

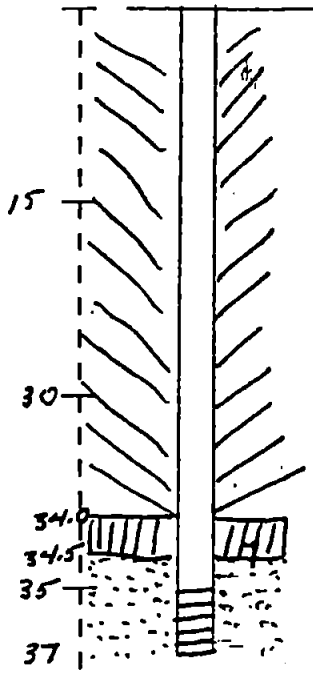
ECY 050-12 (Rev. 11/89)

RESOURCE PROTECTION WELL REPORT

START CARD NO. 27446

PROJECT NAME: B.P. Oil
WELL IDENTIFICATION NO. Sparge 3, 4, [redacted]
DRILLING METHOD: Hollow stem
DRILLER: Robert U. Rogers
FIRM: Geotek Explorations
SIGNATURE: [redacted]
CONSULTING FIRM: Alcsto
REPRESENTATIVE: Bruce Lomer

COUNTY: King
LOCATION: ¼ ¼ Sec Twn R
STREET ADDRESS OF WELL: 2421 148th ave NE Bellview
WATER LEVEL ELEVATION: 26'
GROUND SURFACE ELEVATION:
INSTALLED: 17, 18, [redacted] July
DEVELOPED:

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	35-37' sch 40 PVC .010 slot 0-35 sch 40 PVC Riser 34.5-37 10/20 Filterpack 34-34.5 Bent chip 1-34 cement Bent Grout 0-1 temp protive cap before trenching 8" Bore	Gravel sand silt cobbles 0-37

SCALE: 1" = _____ PAGE _____ OF _____

ECY 050-12 (Rev. 11/89)

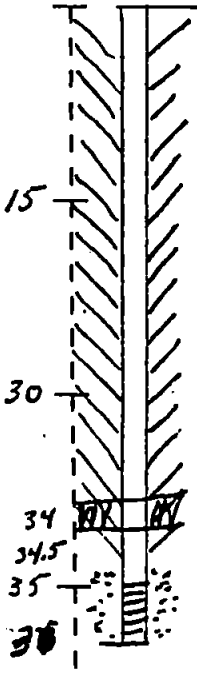
RESOURCE PROTECTION WELL REPORT

START CARD NO. 27446

PROJECT NAME: B.P. Oil
WELL IDENTIFICATION NO. Sparge 1 & 2
DRILLING METHOD: Hollowstem
DRILLER: Robert D. Rogers
FIRM: Geoteck Explorations
SIGNATURE:
CONSULTING FIRM: Alisto
REPRESENTATIVE: Bruce Lomer

COUNTY: King
LOCATION: ¼ ¼ Sec Twn R
STREET ADDRESS OF WELL: 2421 148th ave NE Bellview
WATER LEVEL ELEVATION: 26'
GROUND SURFACE ELEVATION:
INSTALLED: 15, 16 July 96
DEVELOPED:

AS-BUILT



WELL DATA

Riser 0-35 sch 40 PVC
screen 010 35-85' sch 40 PVC
Filterpack 10/20 sand 38-34.5
Cement Bent Grout 34-0
Bent chips 34.5-34
completed in 10' bore hole
Temp cap before Trenching 1-0
10" Bore

FORMATION DESCRIPTION

Gravel Sand silt cobbles 38-0

SCALE: 1" = PAGE OF

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