



GeoScience Management, Inc.

Environmental Consulting Services

18608 89th Avenue N.E. · Bothell, Washington 98011 · Telephone/FAX (206) 481-4538

July 2, 1995

Kathy Bahnick
Port of Seattle, Engineering Department
P. O. Box 1209
Seattle, WA 98111

Re:

Subsurface Investigation

Port of Seattle Terminal 115 Property

Dear Ms. Bahnick:

GeoScience Management, Inc. (GSM) is pleased to submit this report documenting the results of our recent subsurface investigation at the Terminal 115 property. The investigation was conducted during the period March through early June 1995 under Professional Services Agreement Number P-950137 with the Port of Seattle (Port). The work was conducted in general accordance with GSM's proposal to the Port, and subsequent discussions regarding modifications to the scope of work. Field work, drilling, laboratory analysis, and miscellaneous site work were performed by Quest, Inc., Cascade Drilling, Inc., North Creek Analytical, Inc. and Freidman and Bruya, Inc., CEcon Corporation, INCA Engineers, Inc. and Locating Inc., respectively, under contract to GSM.

INTRODUCTION

The project site is located at the northeast corner of West Marginal Way SW, and SW Front Street in Seattle Washington, and is part of the Port of Seattle's (Port) Terminal 115 property (Figure 1). The site currently contains one empty warehouse structure with attached office space and shed. According to information supplied by the Port of Seattle, the original structure was apparently built by Materials Reclamation Company, Inc. (d.b.a. Maralco Aluminum) about 1952. A later addition was built on the north side of the structure in approximately the early 1970's. Architectural drawings obtained by the Port indicate that an 8,000-gallon fuel oil underground storage tank was installed immediately adjacent to the original building on the east side. An apparent 4-inch diameter fill pipe and vent line were visible behind the building during a site visit on March 3, 1995, at the approximate locations shown on the architectural drawings.

PREVIOUS SITE INVESTIGATION

In November 1994; AGRA Earth and Environmental Technologies, Inc. (AGRA) conducted a geotechnical evaluation of the site for a prospective tenant who planned to install a card-lock fueling

Table 1
Port of Seattle - Terminal 115
Monitoring Well Survey and Depth to Water Data

	Conditions Conditions	Description of Mescrifing Boige	Egradopa (fi.Feet)	Depth to Product Proc		Depth to Water Water Water Lovel bTOC Elevation	Date Water Measured
MW-12	N: 1105.70	N. Edge Casing Rim	20.09			Mark to Mark the State of Stat	
	E: 30478.06	PVC (Black Mark)	19.78	7.65	8.00	Not Calc.	4/14/95
MW-13	N: 1114.95	Tag on Casing Rim	20.03				
	E: 30421.21	PVC (Black Mark)	19.71		4.68	15.03	4/14/95
MW-14	N: 1057.81	Tag on Casing Rim	20.19				
	E: 30482.72	PVC (Black Mark)	19.58		6.64	12.94	4/14/95
MW-15	N: 1072.37	Tag on Casing Rim	19.97				
	E: 30526.70	PVC (Black Mark)	19.53		4.79	14.74	4/14/95
MW-16	N: 1123,38	Tag on Casing Rim	21.23				
	E: 30493.70	PVC (Black Mark)	20.8		5.74	15.06	4/14/95
71-WM	N: 1025.97	Tag on Casing Rim	20.32				
	E: 30488.27	PVC (Black Mark)	18.61		86.9	12.83	4/14/95
MW-18	N: 1089,78	Tag on Casing Rim	20.24				
	E: 30466.39	PVC (Black Mark)	16.61	6.65	99.9	13.25	4/14/95

Notes:

Survey coodinates from information provided by the Port of Seattle Refereced to the Seattle Tide Lands Grid and Mean Low Low Water.

Table 2
Port of Seattle - Terminal 115
Laboratory Analytical Results

Sample Number	Sample Date	Sample Depth	WIPH-D	Comments
Hand Auger Borings	Soil (mg/kg)			
HB-1	Not sampled - Mar	ximun depth was 3.5 fe	et bgs.	No odors
HB-2 @ 7'	3/22/95	7	900	Hydrocarbon-like odor
HB-3	3/22/95	6	N/A	No odors
HB-4	3/22/95	3	N/A	No odors
HB-5 @ 4'	3/22/95	4	8,600	Hydrocarbon-like odor
HB-6 @ 7'	3/23/95	7	ND .	No odors
HB-7	3/23/95	7	N/A	No odors
HB-8 @ 4.5'	3/23/95	4.5	3,300	Hydrocarbon-like odor
HB-9 @ 5.5'	3/23/95	5.5	ND	No odors
HB-10	Not Sampled - Ma	ximun depth was 4 fee	t bgs.	No odors
HB-11 @ 7'	3/23/95	7	ND	No odors
HB-12 @ 4.5'	4/21/95	4.5	52	No odors
Soil Borings - Soil (1	ng/kg)			The second secon
SB-3 @ 6'	4/7/95	6	N/A	No odors
Monitoring Well Borin	gs - Soil (mg/kg	V angasian ang kanalang kanal	and the same of	A CONTRACT OF THE CONTRACT OF
MW-2 @ 5' (MW-13)	4/7/95	5	ND	No odors
MW-3 @ 5' (MW-14)	4/7/95	5	N/A	Hydrocarbon-like odor
MW-4 @ 5' (MW-15)	4/7/95	5	ND	No odors
MW-5 @ 5' (MW-16)	4/7/95	5	21	No odors
MW-6 @ 5' (MW-17)	4/7/95	5	ND	No odors
MW-7 @ 5' (MW-18)	4/7/95		N/A	Hydrocarbon-like odor
Hand Auger Borings -	Groundwater (n	ng/E)	dag of the state o	
HB-6	4/14/95	N/A	0.34 (D-4)	No odors
Monitoring Wells - C	iroundwater (mg/L)	an Anna Anna Anna	W.
MW-12 (MW-1)	4/14/95	N/A	Product	Hydrocarbon-like odor
MW-13 (MW-2)	4/14/95	N/A	0.31	No odors
MW-14 (MW-3)	4/14/95	N/A	5.4 (D-3)	Hydrocarbon-like odor
MW-15 (MW-4)	4/14/95	N/A	1.3 (D-3, D-4)	No odors
MW-16 (MW-5)	4/14/95		1.7 (D-3, D-4)	No odors
MW-17 (MW-6)	4/14/95	N/A	0.57 (D-3)	No odors
MW-18 (MW-7)	4/14/95	N/A	Product	Hydrocarbon-like odor

Notes: MW-I was installed by AGRA in 1994. The well was renamed

as MW-12 to conform with the Port of Seattle Terminal 115 Well Numbering Program.

MW-13 (MW-2) - Well number in accordance with Port of Seattle Well Numbering Program. (Laboratory reports).

WTPH-D means Total Petroleum Hydrocarbons in the diesel range.

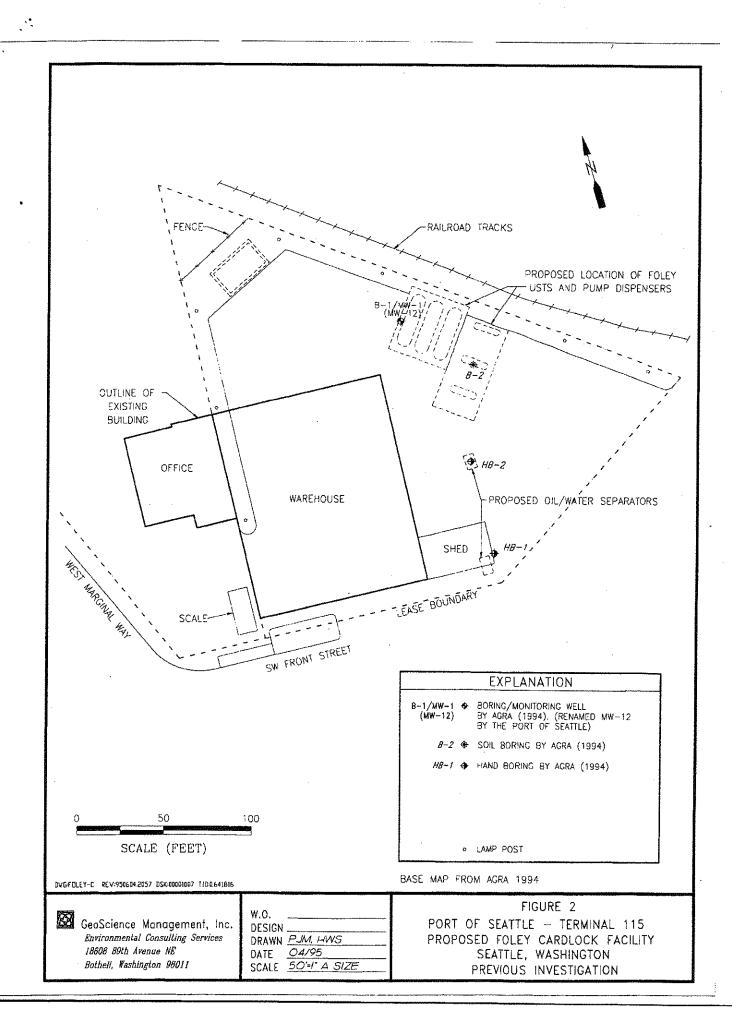
All reported concentrations are mg\kg (soil) and mg\L (water) which approximate parts per million (ppm) concentrations.

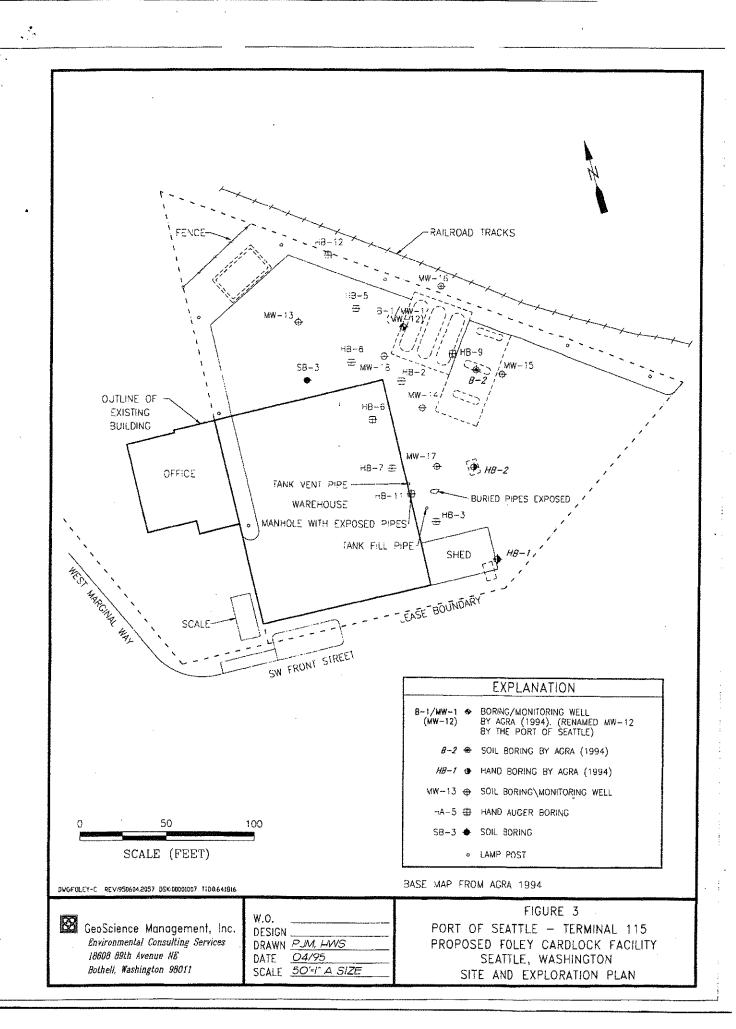
D-3 means results partially due to individual peak(s) eluting in the diesel/motor oil carbon range.

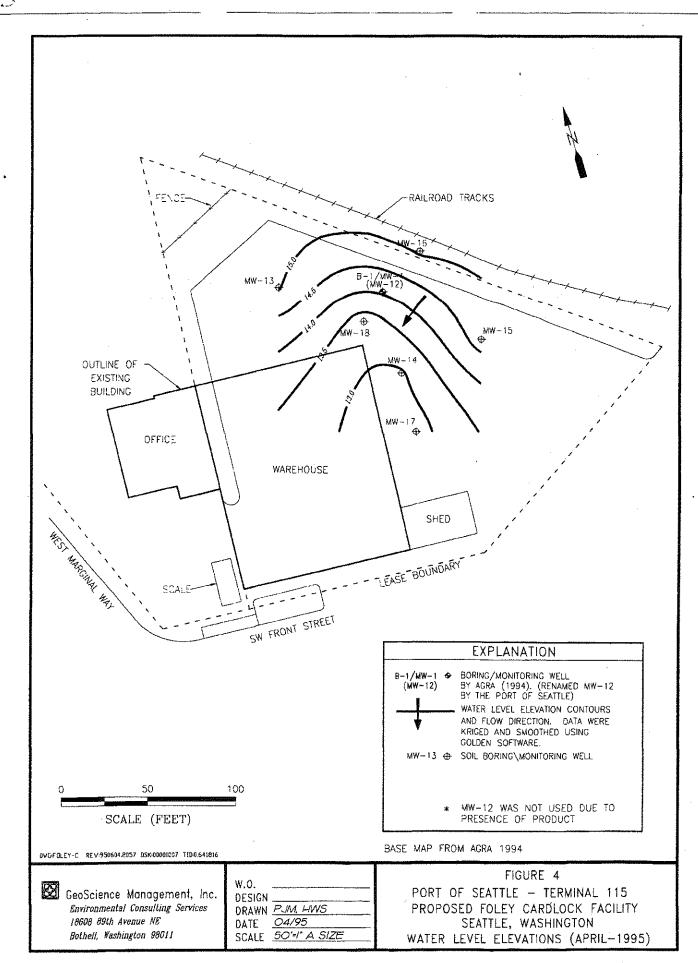
D-4 means laboratory detected complex mixture or diesel and oil-range organics.

N/A means Not Analyzed

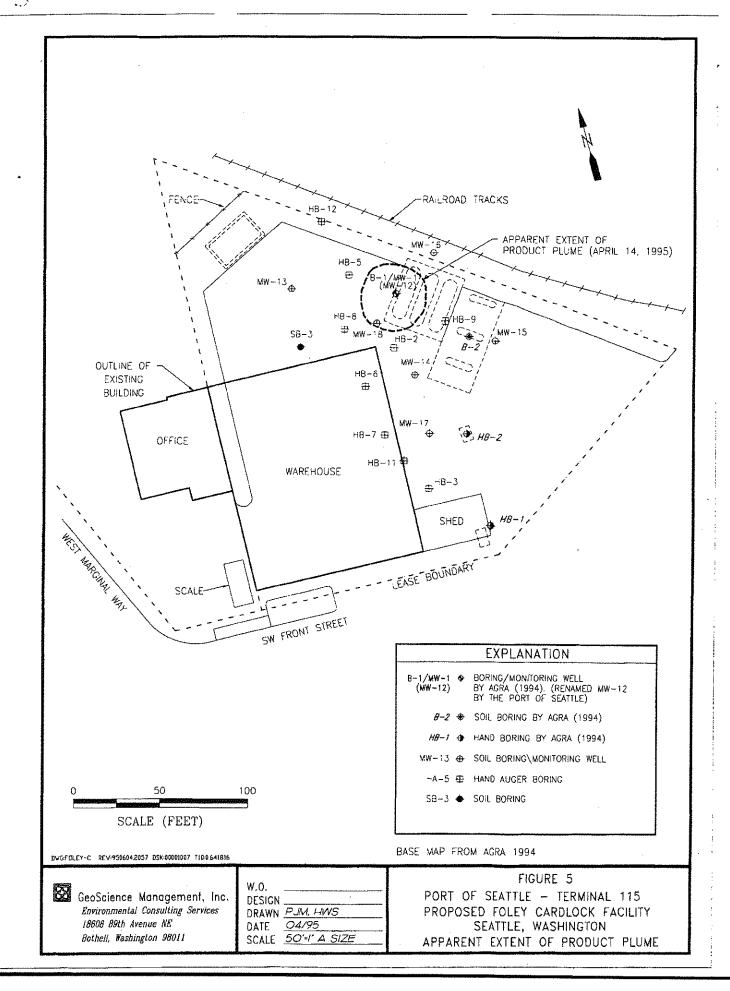
ND Meands Not Detected







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GeoScience Manageme Environmental Consulting 18608 89th Avenue NE	nt inc. Services		Pnaid	ect Nu		ogic Borehole Log/Well Construction Well Nu. / Sheet
Bothell, Washington 9801		<u> </u>	J	-1002.	01	MW-13 (MW-2) I of 1
Project Name Port of Project Location Term Start/End Date April Driller/Equip Casca Sampler/Method C. Go Survey Datum Seattl	nal 115 7, 1995 to A de Drilling nerous / Sp	/ Hollo lit spoc	w Stem on	_		Surface Elev NS TOC Elevation 19.71 Northing 1114.95 Easting 30421.21 Hole Depth 14.00 r elevation Hole Diam 8"
Well Construction/ Borehole Abandonment	<u>a</u>	mple Da	Blow Cnt/ft	uscs	Material Graphic	Soli Description
8" Flush mount					X//X	CONCRETE
Well vault with concrete seal				Cata		
				3"	· o	Gravely Sand, fine to medium sand and fine to coarse gravel, bro (loose) damp, no odor. (FILL)
					.0	
2" Sch 40 PVC					0	
	i					
Bentonite seal				MIL		Clayey Silt, gray, stiff, moist, no odor. (FILL?)
4						
	ļ.					
	MW2@5		16			
	and the second					
6						
4	:			SM	ЩЩ	Candy Cit five cond or av year of the
	MW2@7.5		22	GIVI		Sandy Sik, fine sand, gray, very stiff, wet, no odor. (FILL?)
8 .01' screen			V			
10/20 silica sand						
			.]			1
10						-
· []			***************************************			•
			-			
12						
	MW2@12.5] 11			
				ML		Clayer Sist, brown, stiff, roots and wood fragments, moist to wet, odor.
Slip cap w/ SS screw						
- DD SCLEW						Bottom of boring at 14.0 ft.

Ş.	GeoScience Managemer Environmental Consulting S 18608 89th Avenue NE	nt Inc. Services					gic Borehole Log/Well Construction
آد	18608 89th Avenue NE Bothell, Washington 98011		·	Proje J.	ct Nur -1002.	nber)1	Well foer MW-14 (MW-3)
	Project Name Port of Project Location Termin Start/End Date April 7 Driller/Equip Cascad Sampler/Method C. Ger Survey Datum Scattle	nal 115 7, 1995 to A de Drilling / nerous / Spl	Hollo it spoo	ow Stem on		v Water	Surface TOC Elev Nor Ea Hole C elevation
feet	Well Construction/ Borehole Abandonment		iple Da		nscs	Material Graphic	Soll Description
	8" Flush mount Well vault with concrete seal				SM		Asphait Pea Gravel Siky Sand, gray, (medium dense), slightly moist,
2	2" Sch 40 PVC Bentonite seal		The state of the s				
4		MW3@s		14	MIL		Clayey Silt, gray, stiff, moist, no odor. (FILL?)
6 ≌				an Annaha Annaha maraka	SM		Wet at 6.5 feet. Sandy Silt, with fine sand, gray, stiff, wet, petrol
8	.01' screen 10/20 silica sand	MW3@7.5		15			(FILL?)
0				distribution in the state of th			
4	Slip cap w/ SS screw	MW3 @ 12.5		19	ML		Clayer Salt, brown, (very stiff), roots and organic no odor. Bottom of boring at 14.0 ft.

Figure No:

¥ Water Level (At Time of Drilling)

San	ject Location Terminart/End Date April Driller/Equip Cascampler/Method C. Genurvey Datum Seattle	7, 1995 to A de Drilling / nerous / Spl : Tideland G	Hollow it spoon	Stem		v Wate	elevation	TOC Elevation 19.53 Northing 1072.3' Easting 30526.' Hole Depth 14.00 Hole Diam 8"
Depth feet	Well Construction/ forehole Abandonment	2		Siow Chr/ft	uscs	Material Graphic	Soil Description	
- 4	.01' screen 10/20 silica sand	MW4@5.5		9	MIL.		Asphalt Pea Gravel Silty Sand, gray, moist, no odor. (FILI Wet at 7.0 feet. Sandy Silt, gray, (stiff), wet, no odor (Fili Silt, with fine sand and clay, gray, stiff, odor.	. (FILL)
	Slip cap w/ SS screw			treman de la compete de la		Lappengapangapangapangapangapangapangapan	Rottom of boring at 14.0 ft. 300 lb hammer. Hand excavated from 0 to	, , , , , , , , , , , , , , , , , , ,

	GeoScience Manageme	nt Inc.					ogic Borehole Log/Well Construction
	GeoScience Manageme Environmental Consulting S 18608 89th Avenue NE Bothell, Washington 98011	SETAICE?		Proje J-	ct Nur -1002.0	nber N	Well \
	Project Name Port of Project Location Termin Start/End Date April 7 Driller/Equip Cascad Sampler/Method C. Ger Survey Datum Seattle	f Seattle nal 115 7, 1995 to A le Drilling / terous / Spli	Holic t spoc	w Stem	•	v Water	Surface E TOC Elevat North East Hole De r elevation Hole Di
Depth feet	Well Construction/ Borehole Abandonment	Sam Se Z	ple Da ≘	Blow Cnt/ft	uscs	Material Graphic	Soil Description
- 4 - 8 - 8		MW5@5		110			
-12 - - -14	Slip cap w/ SS screw	MW5@12.5		13	MIL		Clayey Sik, gray/brown, stiff, cohesive, roots and or moist to wet, no odor. Bottom of boring at 14.0 ft.

CE	GeoScience Manageme	nt Inc.				Geolo	gic Bore	hole Log/\^/ell C	onstruction
(22)	GeoScience Manageme Environmental Consulting S 18608 89th Avenue NE Bothell, Washington 98011	services		Proje J	ct Nur -1002.	nber 01		Well Nu. ,r MW-17 (MW-6)	Sheet 1 of 1
	Project Name Port o Project Location Termin Start/End Date April Driller/Equip Cascad Sampler/Method C. Get Survey Datum Seattle	nal 115 7, 1995 to A de Drilling / nerous / Spli	Hollo t spoc	w Stem on			elevation		Surface Elev NS TOC Elevation 19.81 Northing 1025.97 Easting 30488.27 Hole Depth 14.00 Hole Diam 8"
		Sam	ple Da	IC3					
Depth	Well Construction/ Borehole Abandonment	Name	e e	Blow Gov	uscs	Material Graphic		Soli Descripi	tion
2	8" Flush mount Well vault with concrete seal 2" Sch 40 PVC				sw		CONCRE Sand and (FILL)		to medium dense), moist, no odor.
- - 4	Bentonite seal					o. o.			
- - 6		MW6@5		20	M	0	A	:	
- - 8 <u>√</u> - - -10	.01' screen 10/20 silica sand	MW6@7.5		22	ML		Wet at 8.0		st to wet, no odor (FILL)
- - - - -	Slip cap w/ SS screw	MW6@12.5		27	GP [*]	00000	no odor.		ots and organic matter, moist to wet,
NOT	ES: Samples were collecte	d using a 3"	OD s	plit spoo	n samp	ole with a	:		rom 0 to 4 feet.
포	Water Level (At Time of I	Orilling)							Figure No: B-5

	GeoS Enviro	cience Managemental Consulting 89th Avenue NE	ent Inc. Services					ogic Borehole Log/Well Construction
Ø	18608 Bothe	89th Avenue NE II, Washington 9801	1	l .	Proje J	-1002.	mber 01	Well N /er MW-18 (iviW-7)
	Proje Sta I Samj	roject Name Port of ect Location Term rrt/End Date April Driller/Equip Casca pler/Method C. Ge rvey Datum Seattl	inal 115 7, 1995 to A ide Drilling A enerous / Spl	Holle it spo	ow Stem on		w Water	Surface TOC Elev Not Ex Hole C elevation Hole
				iple D				
Depth feet		Well Construction/ rehole Abandonment	Name	€ Q	Blow Cnt/ft	uscs	Material Graphic	Soll Description
		8" Flush mount Well vault with concrete seal				SM		CONCRETE Silty Sand, brown, (medium dense), moist, brick (FILL)
- 2 -		2" Sch 40 PVC Bentonite seal	The same of the sa	***************************************	Annual management of the control of			
- 4 -			Total control of the					
- 6			MW7@5		19	MIL		Clayey Silt, gray, (very stiff), moist to wet, petrol (FILL?)
- - 8 <u>⊻</u>		011	MW7 @ 7.5		22	SM		Silty Sand, gray, moist to wet, petroleum-like odo Wet at 8.0 feet.
		.01' screen 10/20 silica sand	A THE TAXABLE PROPERTY OF TAXABLE					
-10								
-12			MW7@12.5		11	ML		Clayey Sile, gray, (stiff), wet, petroleum-like odor.
		Slip cap w/ SS screw				-		Bottom of boring at 14.0 ft.

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ð	Environmental Consulting S	nt Inc. Services	·				gic Borehole Log/Well Construction
4	GeoScience Managemel Environmental Consulting S 18608 89th Avenue NE Bothell, Washington 98011		1		ot Nur 1002.0		Well Nt. :r Sheet HB- 2 i of i
	Project Name Port of Project Location Termin Start/End Date March Driller/Equip C. Ger Sampler/Method C. Ger Survey Datum Seattle	nal 115 22, 1995 to nerous / Ha nerous / Ha Tideland (nd Au nd Au Grid &	ch 22, 19 ger ger Mean L	95		Surface Elev NS TOC Elevation NS Northing 0.00 Easting 0.00 Hole Depth 7.00
	34.00 4.4		nple D			<u> </u>	
1991	Well Construction/ Borehole Abandonment	Name	<u>S</u>	Blow Cnt/ft	USCS	Material Graphic	Soll Description
						• • • • •	Asphalt Pea Gravel
	Concrete				ML		Sandy Sift, brick fragments, brown, (stiff), moist, no odor (FILL).
2							Becomes gray at 2 ft.
4	Hydrated bentonite chips						
					MIL		Clayey Silt, gray, (stiff), moist to wet, no odor. (FILL?)
6 ¥	₹///\	HB2 @6 HB2 @ 6.5	51 79	X			Petroleum-like odor at 6 ft. Wet at 6.3 feet.
	122221						Bottom of boring at 7.0 ft.
8							-
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0	Y THE PASS OF THE						
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				7		, province and the second seco	
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101	TES: Samples were collected	using a 3*	OD	nand auge	:r.	1	
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②	GeoScience Manageme Environmental Consulting 18608 89th Avenue NE	Services		Proje	ect Nu	nber	gic Borehole Log/Well Construction Well N. ,er
	Bothell, Washington 9801		<u> </u>	J	-1002.)1	HB- 3
	Project Name Port of Project Location Termi				•		Surfac TOC Elev
	Start/End Date March	1 22, 1995 t			995		No
	Driller/Equip C. Ge Sampler/Method C. Ge						C E Hole I
	Survey Datum Scattle				ow-Lov	w Water	
		Şar	nple D	ata			
Lepth feet	Well Construction/ Borehole Abandonment	Name	PID	Blow Cnt/ft	uscs	Material Graphic	Soil Description
*			+			W///	Concrete
- 👺	Concrete				ML		Sandy Silt, brick fragments, brown, (stiff), moist
- 2	Hydrated bentonite chips	HB3@3	Anna de capacida de la capacida del capacida de la capacida del capacida de la capacida del la capacida de la c	X			Becomes gray at 3 ft.
. 6		HB3@6			MIL		Clayey Silt, gray, (stiff), moist to wet, no odor. Organic matter.
		noves		M			Wet at 7.0 feet.
- =							Bottom of boring at 7.0 ft.
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	GeoScience Manageme Environmental Consulting 18608 89th Avenue NE	nt Inc.					gic B	orehole Log/	Well Cons	truction
	18608 89th Avenue NE Bothell, Washington 98011	Jervicos		Proj J	-1002.	nber)1		Well Nu HDB- 5	₽ Γ	Sheet I of I
	Project Name Port of Project Location Termin Start/End Date March Driller/Equip C. Get Sampler/Method C. Get Survey Datum Seattle	nal 115 122, 1995 to nerous / Han nerous / Han	id Au _l id Au _l	ger ger		v Water	elevatio	on		Surface Elev NS TOC Elevation NS Northing 0.00 Easting 0.00 Hole Depth 5.00 Hole Diam 3*
			ple Da			·				
feet 2	Well Construction/ Borehole Abandonment	Name	P.O	Blow Cnt/ft	uscs	Material Graphic			oli Description	
	Concrete		The second secon		SM		Conc: Sand, (loose		th small, grave (FILL).	el and brick fragments, brown,
2		HB5@3		∇						
ļ	bentonite chips			M	MIL		Clave	y Silt, (stiff), mois	t to wet. no o	dor. (FILL2)
4		HB5@4		X	•			leum-like odor, w		
Į.							Botto	m of boring at 5.0	ft.	
6										
	·									
8	ļ									
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0	The state of the s			,						
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2	engermunasses									
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4	,			į						
•			-	-		7				
	ES: Samples were collected Water Level (At Time of E	•	OD ha	and auge	er.				. ——	Figure No: B-9

	GeoScience Manageme	nt Inc.				Geolo	gic Borehole Log/Well Constructi	ion
	GeoScience Manageme Environmental Consulting 18608 89th Avenue NE Bothell, Washington 98011	Services .		Proje J	ect Nui -1002.	nber	Well N er HB-6	, -
	Project Name Port of Project Location Termin Start/End Date March Driller/Equip C. Ge Sampler/Method C. Ge Survey Datum Scaule	nai 115 n 23, 1995 to nerous / Hai nerous / Hai e Tideland C	nd Au nd Au Frid &	ger ger Mean L		v Water	Toc	urface C Eleva Nort Eas Hole D Hole C
repu Fee	Well Construction/ Borehole Abandonment	2	iple D	Blow Cnt/ft	uscs	Material Graphic	Soil Description	
- 2	Concrete Hydrated bentonite chips				ML		Concrete Silf, brown, (stiff), moist, no odor (FILL).	
- 4 - 6		HB6@7	AND THE RESIDENCE AND ASSESSMENT OF THE PROPERTY OF THE PROPER		ML		Wet at 7 feet, gray.	
8 Z			AND THE REAL PROPERTY OF THE P		IVAL	THE PARTY OF THE P	Sandy Silt, fine gravel, gray, (stiff), wet, no Bottom of boring at 8.0 ft.	odor,
.12								
14	٠,							

Figure No: .

¥ Water Level (At Time of Drilling)

C.	GeoScience Manageme	nt Inc.				Geolo	gic Borehole Log/Well Const	ruction
00	GeoScience Manageme Environmental Consulting S 18608 89th Avenue NE Bothell, Washington 98011	SELVICES		Proje J.	ct Nur 1002.(nber)1	Well Nt # HB-7	Sheet 1 of 1
-	Project Name Port of Project Location Termin Start/End Date March Driller/Equip C. Ger Sampler/Method C. Ger Survey Datum Seattle	f Seattle nal 115 23, 1995 to nerous / Han nerous / Han	d Aug d Aug	er er		v Water	elevation	Surface Elev NS TOC Elevation NS Northing 0.00 Easting 0.00 Hole Depth 9.00 Hole Diam 3"
feet	Well Construction/ Borehole Abandonment	Satu . Satu	pie Da	Blow E Cnt/ft	uscs	Material Graphic	Soil Description	
000000000000000000000000000000000000000	Concrete		ď	a 0	MIL		Concrete Sandy Silt with Small Gravel, brown,	(stiff), moist, no odor (FILL).
2	Hydrated bentonite chips	НВ7@3		M	MIL		Clayey Silt, brown, (stiff), moist, no o	dor. (FILL?)
6		HB7 @ 7		7	•		Becomes gray at 5 ft.	
8≱		HB7 @ 8.5		<u>A</u>			Wet at 8 feet. Bottom of boring at 9.0 ft.	
10					, , , , , , , , , , , , , , , , , , , ,			
2								
4	٠.				an eri, e e e e e e e e e e e e e e e e e e e			
	ES: Samples were collected Water Level (At Time of I		OD ha	and auge	er.			Figure No: B-11

125	GeoScience Manageme Environmental Consulting 18608 89th Avenue NE	nt Inc.					gic Borehole Log/Well	Construction
	18608 89th Avenue NE Bothell, Washington 98011	Setvices		Proje J	ect Nu -1002.	mber 01	Well N. Jer HB-8	, s
,	Project Name Port of Project Location Terming Start/End Date March Driller/Equip C. Ge Sampler/Method C. Ge Survey Datum Seattle	nal 115 i 23, 1995 to nerous / Hai nerous / Hai	nd Au nd Au	ger ger		w Water	elevation	Surface Elevation TOC Elevation Northin Eastli Hole Dep
Depth feet	Well Construction/ Borehole Abandonment	2	ple Da	Blow En	uscs	Material Graphic	Soil Desc	ription
-	Concrete				MI		Concrete Clayey Slit with brick fragme	nts, gray, (stiff), moist,
- 2							Petroleum-like odor at 2 ft.	
- ₩	Hydrated bentonite chips	HB8@3	38		ML		Sandy Silt, gray, (stiff), moist Wet at 4 feet.	to wet, petroleum-like
		HB8@4.5	71	X			Bottom of boring at 5.0 R.	
- 6 -								
- - - 8								
- -								
10 								
-								
-12 -								
-14	٠.				-		÷	

8	GeoScience Managemer Environmental Consulting S 18608 89th Avenue NE Bothell, Washington 98011	nt Inc.		Prois	ct Nun		gic Borehole Log/*/ell Well Nu ar	Construction Sheet
	Bothell, Washington 98011	1		J	1002.0	1	НВ- 9	1 of 1
	Project Name Port of							Surface Elev NS
	Project Location Termin Start/End Date March		Marc	h 23, 19	95			TOC Elevation NS Northing 0.00
	Driller/Equip C. Ger	nerous / Han	d Aug	ger				Easting 0.00
1	Sampler/Method C. Ger Survey Datum Seattle				ou.Lou	Water	Alexation	Hole Depth 7.00
-	Survey Datum Seattle		ple Da	·	OW-LOW	water	nevation	Hole Diam 3"
L	Well Construction/) oo		S	훈율	Soil Desc	rintion
Depth	Borehole Abandonment	Name	윤	Blow Cnt/ft	USCS	Material Graphic		
	OXXXXXX					27776		
							Concrete	
	Concrete				SM		Fine to Medium Sand with Gr	ravel, brown, (loose), wet, no odor
				. •			(FILL).	
h								· -
- 2					MIL		Clayey Silt, gray, (stiff), moist	t. no odar.
- 1							, , , , , , , , , , , , , , , , , , , ,	
		HB9@3		-				
	Hydrated bentonite chips	пржез		XI I				;
								
-4								_
								-
上哥							Wet at 5 feet.	
F (HB9@5.5		73				-
- 6								
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「							Bottom of boring at 7.0 ft.	
-								-
- 8								
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NOT!	ES: Complete research	Lucine - 2"	0D 2-	and over		<u></u>		
NU	ES: Samples were collected	i using 2 3"	א עט	anu auge	er.			
,,								
<u>¥</u>	Water Level (At Time of D	rilling)						Figure No: B-13

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	GeoScience Manageme Environmental Consulting 18608 89th Avenue NE		Proi	ct Nu	gic Borehole Log/Well Co	nstruction		
	18608 89th Avenue NE Bothell, Washington 98011			J	-1002.6)1	HB-11	
	Project Name Port of Project Location Terming Start/End Date March Driller/Equip C. Ge Samplar/Method C. Ge Survey Datum Seattle	nal 115 n 23, 1995 t nerous / Ha nerous / Ha	nd Au nd Au	ger ger		v Water	elevation	Surface TOC Eleva Nort Eas Hole D Hole D
		:	nple Da			1		
Depth	Well Construction/ Borehole Abandonment	و	£ €	Blow Cnt/ft	uscs	Material Graphic	Soil Descripti	on
. 2	Concrete	The state of the s			ML		Clayey Silt, brown, (stiff), moist,	no odor (FILL?)
- 4	Hydrated bentonite chips	HB11@3		X				
- 6								
- ¥		HB11@7		X		The state of the s	Wet at 7 feet. Bottom of boring at 8.0 ft.	
-10								
-12								

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	GeoScience Managemi Environmental Consulting 18608 89th Avenue NE Bothell, Washington 9801: Project Name Port of Project Location Term. Start/End Date April Driller/Equip C. Ge Sampler/Method C. Ge Survey Datum Seattle	of Seattle inal 115 19, 1995 to nerous / Hai nerous / Hai e Tideland C	nd Aug nd Aug	19, 1995 ger ger Mean L			HB-12 1 of 1 Surface Elev NS TOC Elevation NS Northing 0.00 Easting 0.00 Hole Depth 4.00 Hole Diam 3*
Depth feet	Well Construction/ Borehole Abandonment	ē	<u>e</u>	Blow Cnt/ft	USCS	Material	Soli Description
6	Concrete Hydrated bentonite chips	HB12@3 HB12@3.5					Sand, fine to coarse gravel, brown, (loose), moist, no odor (FII Wet at 4 feet, no odor, Bottom of boring at 4.0 ft.
-10 -12 -14							

	GeoScience Manageme Environmental Consulting 18608 89th Avenue NE	ent Inc.				Geolo	c Borehole Log/Well Construction		
	18608 89th Avenue NE Bothell, Washington 98011	SCITACES			ect Nu I-1002.		Well ≀ ⊃er SB- ₃		
	Project Name Port of Project Location Terms Start/End Date April Driller/Equip Casca Sampler/Method C. Ge Survey Datum Scattle	inal 115 7, 1995 to A de Drilling / merous / Spl	Hollo it spoo	ow Stem		,	тос	face i Elever North East ole De	
		<u> </u>	pie Da			1			
Depth feet	Well Construction/ Borehole Abandonment	a	윤	Blow Cnt/ft	uscs	Material Graphk	Soil Description		
- 4 - 6 - 8 - 10	Hydrated bentonite chips	SB3@7.5		13	ML		CONCRETE Clayey Silt, stiff, gray, moist with rubble frag Sandy Silt, gray, very stiff, wet, no odor. (FIL Bottom of boring at 9.0 ft.		