



GeoScience Management, Inc. *Environmental Consulting Services*

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

December 16, 1995

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

Re: Summary of Product Recovery Operations
Port of Seattle - Terminal 115 Site
6730 West Marginal Way South, Seattle, WA

Dear Ms. Bahnick:

This letter summarizes the results of recovery of diesel product through December 1, 1995, from wells MW-12 and MW-18 at the Terminal 115 site located at 6730 West Marginal Way, Seattle, WA. Product recovery operations have consisted of capturing and removing free product using a "Horner EZY Skimmer", a passive skimming device, augmented by hand bailing. The skimmer is approximately 4 feet long and 1 1/2 inches in diameter, and is constructed of PVC. A hydrophobic filter is attached to the upper 1 foot of the skimmer, which selectively allows product to enter the skimmer, with the lower 3 feet containing a reservoir or canister for collecting recovered product.

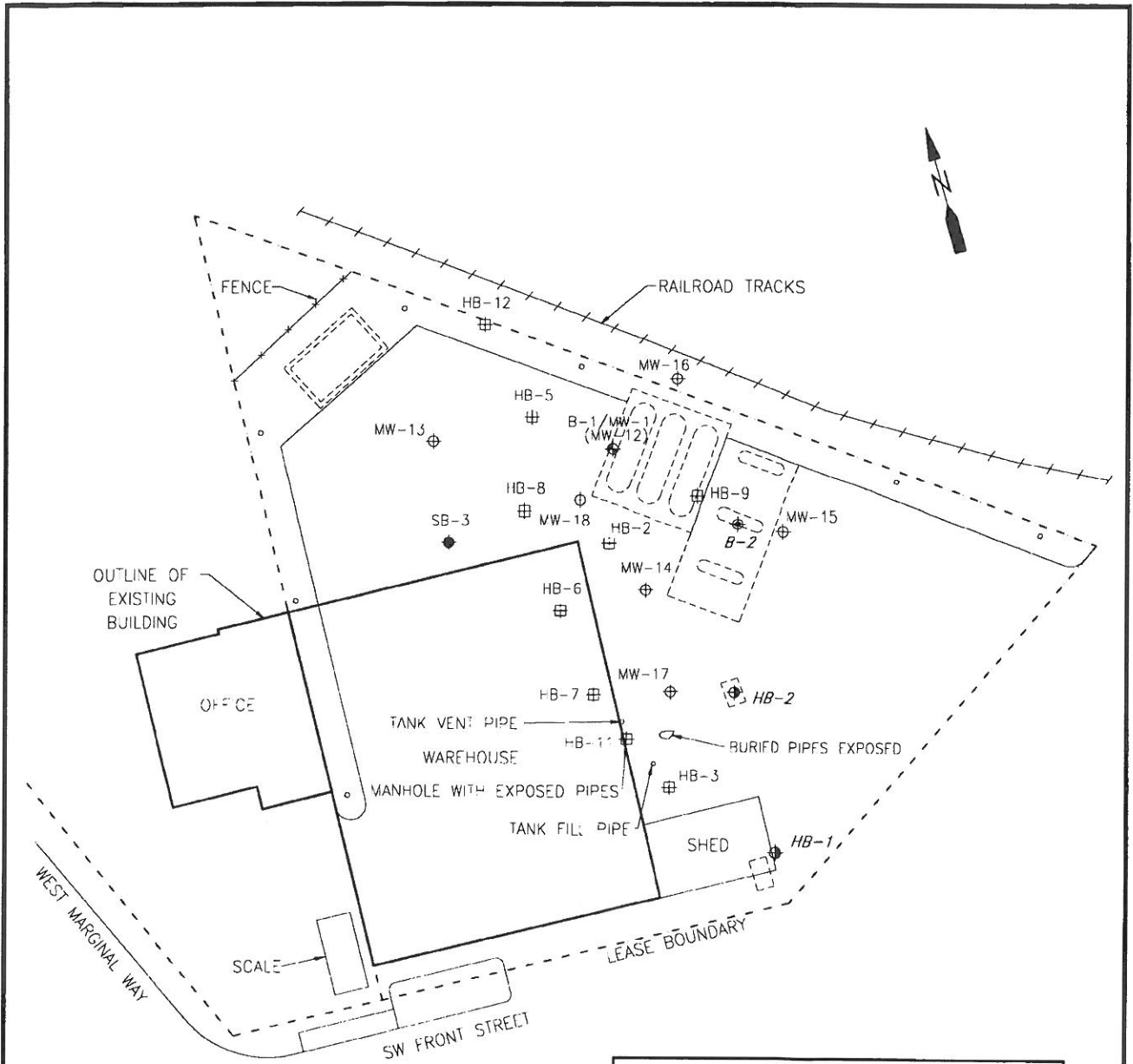
Table 1 (attached) summarizes the dates and approximate amounts of product recovered from both MW-12 and MW-18 through December 1, 1995. The skimmer was originally installed in well MW-12 (2-inch diameter PVC) on June 1, 1995. The skimmer was moved to well MW-18 (4-inch diameter PVC) on June 8, 1995, due to significantly reduced product thickness in MW-12. Well MW-12 was later abandoned on July 31, 1995, due to concerns regarding well construction. A total of approximately 7.3 gallons of product with minor amounts of water have been removed to date from wells MW-12 and MW-18. All recovered product has been disposed of at Clean Care's Tacoma facility.

We appreciate the opportunity to provide these services to you. Please call if you have any questions, or would like to discuss further any of the information presented here.

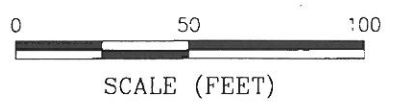
Sincerely,

Howard W. Small, R.G., C.P.G.
Project Manager

Attachment: Table 1 - Passive Product Recovery, Port of Seattle Terminal 115 Project




EXPLANATION	
B-1/MW-1 (MW-12)	✦ BORING/MONITORING WELL BY AGRA (1994). (RENAMED MW-12 BY THE PORT OF SEATTLE)
B-2	⊕ SOIL BORING BY AGRA (1994)
HB-1	⊕ HAND BORING BY AGRA (1994)
MW-13	⊕ SOIL BORING/MONITORING WELL
HA-5	⊕ HAND AUGER BORING
SB-3	◆ SOIL BORING
○	LAMP POST



DVGFDLEY-C REV-950604 2057 DSK-00001007 T1DD 641816

BASE MAP FROM AGRA 1994

 **GeoScience Management, Inc.**
 Environmental Consulting Services
 18608 89th Avenue NE
 Bothell, Washington 98011

W.O. _____
 DESIGN _____
 DRAWN PJM, HWS
 DATE 04/95
 SCALE 50'-1" A SIZE

FIGURE 3
PORT OF SEATTLE - TERMINAL 115
PROPOSED FOLEY CARDLOCK FACILITY
SEATTLE, WASHINGTON
SITE AND EXPLORATION PLAN

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

Monitoring Well Name	Coordinates	Description of Measuring Point	Elevations (in Feet)	Depth to Product bTOC (in Feet)	Depth to Water bTOC (in Feet)	Water Level Elevation (in Feet)	Date Water Measured
MW-12	N: 1105.70	N. Edge Casing Rim	20.09				
	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
MW-17	N: 1025.97	Tag on Casing Rim	20.32				
	E: 30488.27	PVC (Black Mark)	19.81		6.98	12.83	4/14/95
MW-18	N: 1089.78	Tag on Casing Rim	20.24				
	E: 30466.39	PVC (Black Mark)	19.91	6.65	6.66	13.25	4/14/95

Notes:
 Survey coordinates from information provided by the Port of Seattle
 Referenced 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	WTPH-D	Comments
Hand Auger Borings - Soil (mg/kg)				
HB-1	Not sampled - Maximum depth was 3.5 feet 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 - Maximum depth was 4 feet 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 (mg/kg)				
SB-3 @ 6'	4/7/95	6	N/A	No odors
Monitoring Well Borings - Soil (mg/kg)				
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 (mg/L)				
HB-6	4/14/95	N/A	0.34 (D-4)	No odors
Monitoring Wells - Groundwater (mg/L)				
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	N/A	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-1 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 Means Not Detected