



FINAL

**INDEPENDENT REMEDIAL ACTION
PROGRAM REPORT
NORTH POINT APARTMENTS SITE
EVERETT, WASHINGTON**

Prepared for:

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3063 Highway 105
P.O. Box 396
Grayland, Washington 98547**

Prepared by:

**Envirocon, Incorporated
10400 N. Burgard Way
Portland, Oregon 97203**

April 30, 2001

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INDEPENDENT REMEDIAL ACTION PROGRAM REPORT NORTH POINT APARTMENTS SITE EVERETT, WASHINGTON APRIL 30, 2001

1.0 PROJECT BACKGROUND/SITE DESCRIPTION

1.01 BACKGROUND

The following report summarizes the independent remedial action activities conducted at the future North Point Apartment Site (SEPA # 73-98), 1001 East Marine View Drive in Everett, WA (Figure I Site Location Map). The site is currently an undeveloped lot. The scope of work on this project included excavation and offsite disposal of approximately 16,000 cubic yards (25,000 tons) of arsenic containing soils above the MTCA 20-ppm residential action level, and performance of confirmation sampling to verify that action levels have been met. In August 2000 Envirocon excavated and transported offsite approximately 5,100 cubic yards (8,000 tons) of impacted soils. These soils represented the original removal area footprint as determined by a previous site assessment performed by GeoTech Consultants in 1998. During excavation activities Envirocon obtained samples from the slope on the western side of the site. After the removal of site vegetation it became apparent that the material in the slope was visibly different in grade and appearance from the rest of the site and appeared to be fill brought into the site some time in the past. Sample analysis showed arsenic concentrations in the slope were considerably higher than the rest of the site and ranged from 70-500 mg/kg at 6" in depth. Further test pits were performed on the slope to determine the vertical and lateral extent of soils exceeding the cleanup level of 20 mg/kg. The results of the test pitting indicated that the entire slope contained soils with elevated arsenic concentrations. Levels ranged from 28-2600 mg/kg, with an average value of approximately 300 mg/kg. The depth of the fill appeared to range from 6 – 10 feet bgs with most areas reaching a native silt layer by 10 feet bgs.

Envirocon demobilized from the site on 8/30/00 to await the results of test pit sampling and the resolution by its client of issues concerning the responsibility for funding of additional remediation. In mid February 2001 Envirocon remobilized to the site to remove the impacted slope soils as well as complete the removal of any remaining hot spots in the original excavation footprint. From mid February to mid April Envirocon excavated and transported offsite another 17,500 tons of impacted soils. After sampling confirmed that cleanup goals had been achieved Envirocon demobilized from the site.

1.02 LOCATION/LEGAL DESCRIPTION

A. Site Name
Proposed North Point Apartments Site

B. Site Location and Legal Description
The Site is located at 1001 East Marine View Drive Everett, Washington, ¼ miles northeast of downtown Everett. The site is located bordered on the west by Marine view drive, on the south by 11th street, on the North by an apartment complex and on the east by a rail yard.

The Site is situated in the NE quarter of Section 17, Township 29 North, Range 5 East, Willamette Meridian, in Snohomish County, Washington. The tax identification number is 172905-005-0006.

C. Phone Number
Offsite phone (360) 267-3342

D. Map of Site Location:
See Figure #1

1.03 TOPOGRAPHY AND GEOLOGY

The NPA site is an undeveloped 4.22-acre lot, rectangular in shape with approximate dimensions of 600 feet north to south and 335 feet east to west. It is fronted on the west side by East Marine View Drive and is flat in an eastward direction for 30 to 40 feet then drops steeply 10-15 feet in elevation. From this point the site slopes downward to the eastern property line. The western border of the site is at an approximate elevation of 90 feet above sea level. The eastern boundary of the site is approximately 30 feet above sea level. Prior to remediation activities the site was well vegetated with numerous trees and dense underbrush. The vegetation was all removed during Phase I remediation activities and the site is now covered with a thin layer of wood chips and straw for dust control purposes. GeoTech Consultants Incorporated performed test pitting at the site in July 1998 to facilitate a geotechnical engineering study on subsurface conditions and the suitability of construction of a multi-residential development. Boring logs from this study indicate that over the majority of the site a 6-12" of topsoil layer was underlain by native soils consisting of 3 to 5 feet of loose to medium dense, brown, weathered, silty sand with gravel which then became gray and very dense. The silty sands were referred to as glacier till. The till exhibits relatively low vertical hydraulic conductivity. The western portion of the site, which was the focus of the Phase II remediation activities, consisted of 6-10 feet of fill material, mostly loose silty sand with some concrete and asphalt debris. The fill layer was underlain by glacier till. The site's topsoil layer was removed during Phase I and Phase II remediation activities.

1.04 GROUNDWATER

Groundwater was not encountered onsite during any test pitting, boring or excavation activities. Geotech Consultants Phase I Site Assessment noted that the native till onsite exhibits low vertical hydraulic conductivity, which frequently results in formation of a perched water table along its upper contact. The perched water table would be seasonal and derive recharge primarily from infiltration of precipitation through more permeable overlying soils. The assessment also noted that based upon local drainage patterns and a review of a Geological Survey map, the likely flow of surface or shallow subsurface water would be to the east to the Snohomish River.

1.1 RELEASE INFORMATION/SITE CHARACTERIZATION

The subject property is located within the southeastern portion of the area designated as the Everett Smelter site. A smelter processing lead, gold, silver and arsenic ore operated in the area from 1894 to 1912. In 1990 it was discovered that many of the properties surrounding the smelter were impacted by air emissions from the smelter stacks and had elevated levels of arsenic in site soils. GeoTech Consultants performed a Phase I site assessment in November 1997 (Appendix A) on the subject property and a Phase II site assessment in March 1998 (Appendix B) to determine the extent of arsenic contamination from the ASARCO smelter. The Phase II assessment consisted of collection of 41 soil samples from the site at twelve locations. No samples were taken on the western slope. Sample depth varied from surface to 30" below ground surface (bgs). Samples were analyzed for total arsenic concentration. Based on the sampling results, GeoTech Consultants concluded that throughout the site, arsenic concentrations in shallow surface soils above 24" bgs exceeded MTCA Method A cleanup levels (20 ppm). The volume of arsenic impacted soils was estimated to be 5100 in-place cubic yards. Analytical results for the assessment are summarized in Table I. This material was removed during the Phase I remedial action activities.

During Phase I activities, Envirocon obtained samples from the steeply sloped area on the western side of the site. Sample analysis showed arsenic concentrations in the slope were considerably higher than the rest of the site and ranged from 70-500 mg/kg at 6" in depth. Further test pits were performed on the slope to determine the vertical and lateral extent of soils exceeding the cleanup level of 20 mg/kg. The results of the test pitting indicate that elevated arsenic concentrations were prevalent throughout the western side of the site to an average depth of 9 feet. Levels range from 28-2600 mg/kg, with an average value of approximately 300 mg/kg. The contamination appeared to be associated with fill material that comprised

this area. The depth of the fill layer ranged from 6 – 10 feet bgs with most areas reaching a native glacial till by 10 feet bgs. Refer to Appendix D, page 2 for a summary of test pit analytical results. The volume of arsenic impacted soils was estimated to be 12000 in-place cubic yards. This material was removed during the Phase II remedial action activities.

1.2 PREVIOUS INVESTIGATIONS

Documentation of site assessment, and remediation conducted at the site has been provided in the reports listed below:

Phase 1 Environmental Site Assessment, Undeveloped Land, East Marine View Drive Everett, Washington

- GEOTECH CONSULTANTS, Inc., November 10, 1997
- Phase 2 Environmental Site Assessment, Undeveloped Land, East Marine View Drive Everett, Washington
GEOTECH CONSULTANTS, Inc., March 20, 1998
- Geotechnical Engineering Study, Proposed North Point Apartments, East Marine View Drive Everett, Washington
GEOTECH CONSULTANTS, Inc., August 17, 1998
- Remedial Action Work Plan North Point Apartments Site Everett, Washington
Envirocon, Inc. February 12, 2001

Table I Summary of Laboratory Results Site Assessment Sampling

TOTAL ARSENIC CONCENTRATION												
Depth	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
0-6"	100	44	28	ND	33	39	110	ND	26	26	18	98
6-12"	ND	ND	ND	27	ND	28	ND	ND	25	51	ND	ND
12-18"	ND	ND	ND	ND	ND	32	ND	ND	ND	75	ND	22
18-24"	ND	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	32
24-30"	NS	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	ND

Notes:

1. Results are reported in parts per million (ppm).
2. ND denotes not detected above detection limit of 10-16 ppm.
3. NT denotes not tested.
4. NS denotes not sampled.

Source: GeoTech Consultants
March 18, 1998 Site Assessment

1.3 SELECTION OF CLEANUP STANDARDS

Cleanup standards used for this independent remedial action were determined using the State of Washington Model Toxics Control Act (MCTA) Method A cleanup levels for hazardous substances in soil and the remediation levels established in The Washington State Department of Ecology's Integrated Final Cleanup Action Plan and Final Environmental Impact for the Upland Area (FCAP/FEIS) for the Everett smelter site. Arsenic cleanup standards in soil were set at 20 mg/kg for all areas onsite with the exception of the landscape strip. This was a 20-foot wide area on the western boundary of the site, which was to be excavated to a depth of 4 –6 feet below ground surface and backfilled with imported fill sand. Due to the

depth of clean overburden fill soils the cleanup standard for the landscape strip was established at 500 mg/kg for arsenic.

1.4 EXPLANATION OF REMEDIAL ACTIONS TAKEN AND RATIONALE

Off-site disposal was chosen as the remedial action to be implemented at the site. This option was chosen due to a number of factors including; the planned development of the site into multi-unit residential dwellings, the shallow depth and ease of excavation of the contamination, the accelerated time frame in which the cleanup needed to be completed, and the costs of offsite disposal in comparison to any other feasible options such as onsite containment. Remedial Actions are to be evaluated by seven MCTA criteria:

Short term Effectiveness

Ability to achieve permanent reductions in toxicity, mobility; and volume

Long-term effectiveness

Overall protection of human health and the environment

Implementability;

Cleanup costs

Degree to which community concerns are addressed

Off-site disposal effectively meets the requirements of each of the seven evaluation criteria. It minimized the risk to human health and the environment, addressed the concerns of the community, could be readily implemented and was a cost effective option.

1.4.1 CONSTRUCTION ACTIVITIES

1.4.1.1 Clearing and Grubbing

Mobilization to the site occurred in August 2000. Prior to excavation of contaminated soils it was necessary to clear the brush and trees from the site. Excavators, a D-3 bulldozer and chain saws were used to fell trees and clear brush. Since it was not feasible to remove adhering contaminated soils from tree stumps, they were loaded into roll off boxes and shipped to Waste Management's Columbia Ridge landfill in Arlington, Oregon. Tree trunks, branches and brush were ground up onsite by a mobile chipping plant and stockpiled for later use as dust and erosion control material.

1.4.1.2 Excavation of Contaminated Soils

Excavation of arsenic contaminated soils was carried out in two phases. The first phase was conducted in August 2000. Envirocon excavated and transported offsite approximately 5,100 cubic yards (8,000 tons) of impacted soils. These soils represented the original removal area footprint as determined by the Phase II site assessment performed by GeoTech Consultants. Soils were excavated by a track hoe and direct loaded into truck and trailers. The site was segmented into 86'X86' grid squares and soils were removed to predetermined depths based on the site assessment. Fire hose connected to a hydrant or water truck provided dust control during excavation activities. A miniram was used to monitor airborne dust concentrations at the northern and southern fence lines adjacent to neighboring residential dwellings. Most excavations were 6"-12" deep. Confirmation samples were taken after initial soil removal. In areas not meeting the cleanup goals, a 30'X30' grid centered around the confirmation sample was excavated to an additional 6"-12" in depth (dependent on arsenic concentration of failing sample) and resampled. In late August 2000, Envirocon demobilized from the site after completing the initial removal of 5,100 cubic yards of soil per the site assessment.

During Phase I excavation activities, Envirocon obtained samples from the slope on the western side of the site indicating that the slope consisted of fill material and that the majority it would have to be removed to meet the cleanup goals of 20 mg/kg total arsenic for surface soils and 500 mg/kg for soils four feet and deeper below ground surface. Envirocon estimated that an additional 12,000 cubic yards (18,000 tons) of arsenic impacted soils would need to be removed from this area.

Envirocon remobilized to the site in February 2001 to begin the Phase II removal of arsenic contaminated soils. Excavation was carried out with a 60,000 lb track hoe and truck and trailers. Grid areas that are situated in the future location of building foundations were excavated to depths of 9-11' below ground surface in order to meet the cleanup levels of 20 mg/kg Arsenic. A 20' wide strip on the western side of the slope was excavated to 4'- 6' bgs for a landscape strip. A demarcation fabric consisting of 4 oz nonwoven geotextile was placed at the excavation bottoms in the landscape area to delineate contaminant removal boundaries for future construction personnel. In addition to the western slope removal, several grid squares in the Phase I removal area were re-excavated to address hot spots still above the cleanup level of 20 mg/kg total arsenic. Approximately 11,300 cubic yards of contaminated soil was removed during Phase II remediation activities.

1.4.1.3 Offsite Transport and Disposal

Contaminated soils were transported offsite by 32-ton capacity truck and trailers to Waste Management's Alaska Street Transfer Station in Seattle, Washington. The soils were then loaded by Waste Management into railcars for transport and final disposal at their Columbia Ridge Subtitle D facility in Arlington, Oregon. A summary of disposal tickets can be found in Appendix F.

1.4.1.4 Backfill

Envirocon commenced backfill activities onsite after confirmation sampling had indicated that soils in the future landscape area met the cleanup levels. Approximately 5,000 tons of imported sand was placed in the area and compacted to required specifications.

1.4.2 Groundwater Evaluation

A groundwater investigation was not conducted nor deemed necessary for a number of reasons. Groundwater was not encountered during any of the boring, test pitting or excavation activities conducted onsite. The contaminant of concern was arsenic, which has low mobility in soils, and site testing indicated no evidence of migration of metals to underlying soils. The geologic unit that characterizes the site is relatively low permeability. Shallow-seated subsurface water would be seasonal and transitory at the site. It is not believed that there are any potential groundwater users near the site as the area's potable water is provided by Spada Lake Reservoir.

1.5 INSTITUTIONAL CONTROLS

Contaminates were removed to required cleanup goals. No institutional controls were required.

1.6 SAMPLING AND ANALYSIS

The site was broken into 86' X 86' foot grids for sampling purposes. Soil samples were taken from excavation bottoms following initial excavation of an area. Three samples were taken per grid with the maximum spacing being at 50-foot intervals, and analyzed by a state certified laboratory for total arsenic content. Samples had a twenty four-hour analytical turnaround time to allow excavation activities to proceed unimpeded. Areas exceeding the cleanup levels of 20 ppm or 500 ppm arsenic (in the landscape area, 4' bgs and below) were-excavated in 30' X 30' sections and re-sampled. Approximately 10 % of confirmation samples from Phase II were also analyzed for total lead content. No lead samples exceeded the MCTA Method A limits of 250 ppm.

Samples were analyzed for total arsenic and/or lead according to EPA Method 6020. Analytical results for confirmation samples are summarized in Table II and Figure 5. Complete laboratory results are included as Appendix E.

TABLE II

Summary of Phase I Confirmation Sampling Results				
Confirmation Sample #	Grid #	Coordinates	Total Arsenic Concentration (mg/kg)	Comments
1	G-3	254-594-0.5	7.66	
2	G-3	215-559-0.5	55.00	30' X 30' X 6" area re-excavated See 80
3	G-3	176-526-0.5	6.97	
4	G-2	172-598-0.5	230.00	30' X 30'X6" area re-excavated - See 4a
4a	G-2	172-598-0.5 1 foot	8.64	
5	G-2	129-559-0.5	27.30	30' X 30'X6" area re-excavated - See 5a
5a	G-2	129-559-0.5 1 foot	3.18	
6	G-26	117-31-0.5	52.60	30' X 30'X6" area re-excavated - See 96
7	G-27	252-21-0.5	9.72	
8	G-27	185-78-0.5	2.67	
9	G-27	215-43-0.5	8.85	
10	G-28	341-81-1	1.45	
11	G-28	301-43-0.5	15.70	
12	G-28	318-20-0.5	51.40	30' X 30'X6" area re-excavated - See 12a
12a	G-28	318-20-1.5	7.89	
13	G-23	231-106-0.5	2.29	
14	G-1	24-540-0.5	959.00	Area Re-Excavated Approx. 10' (See Phase II)
15	G-1	67-567-0.5	74.70	Area Re-Excavated Approx. 10' (See Phase II)
16	G-5	35-500-0.5	36.20	Area Re-Excavated Approx. 10' (See Phase II)
17	G-5	30-450-0.5	33.60	Area Re-Excavated Approx. 10' (See Phase II)
18	G-9	28-395-0.5	323.00	Area Re-Excavated Approx. 10' (See Phase II)
19	G-13	25-309-0.5	513.00	Area Re-Excavated Approx. 10' (See Phase II)
20	G-17	20-258-0.5	2680.00	Area Re-Excavated Approx. 10' (See Phase II)
21	G-17	27-206-0.5	493.00	Area Re-Excavated Approx. 10' (See Phase II)
22	G-4	301-574-0.5	6.68	
23	G-4	288-528-0.5	5.93	
24	G-4	268-559-0.5	9.69	
25	G-3	238-537-0.5	6.42	
26	G-24	300-114-2	3.59	
27	G-24	301-129-2	7.39	
28	G-24	323-146-2	1.92	
29	G-24	258-215-2	6.40	
30	G-20	301-192-1	6.02	
31	G-20	312-227-1	14.20	
32	G-8	301-473-0.5	55.60	30' X 30'X6" area re-re-excavated - See 32a
32a	G-8	301-473-1.0	12.30	
33	G-8	258-451-0.5	13.30	
34	G-8	314-442-0.5	2.91	
35	G-7	223-486-0.5	2.66	
36	G-7	187-440-0.5	41.90	30' X 30'X6" area re-excavated - See 36a

Confirmation Sample #	Grid #	Coordinates	Total Arsenic Concentration (mg/kg)	Comments
36a	G-7	187-440-1.0	49.50	30' X 30'X6" area re-excavated – See 81
37	G-7	172-473-0.5	5.27	
38	G-21	25-129	Slope Test Pit	
39	G-21	60-86	Slope Test Pit	
40	G-6	129-423-0.5	5.81	
41	G-6	129-516-0.5	16.60	
42	G-6	102-445-0.5	11.90	
43	G-16	338-270-1	5.49	
44	G-16	301-301-0.5	3.40	
45	G-16	258-273-0.5	2.58	
46	G-12	305-354-1.5	35.40	30' X 30'X6" area re-excavated - See 85
47	G-12	258-354-1.5	7.47	
48	G-12	278-414-1.5	5.72	
49	G-23	236-152-0.5	4.56	
50	G-19	215-215-0.5	2.38	
51	G-10	129-415-0.5	32.30	30' X 30'X6" area re-excavated –See 82
52	G-18	129-215-0.5	5.99	
53	G-18	126-207-0.5	26.90	30' X 30'X6" area re-excavated -See 89
54	G-18	157-180-0.5	3.76	
55	G-14	164-329-0.5	2.51	
56	G-14	129-301-0.5	3.96	
57	G-14	98-341-0.5	8.24	
58	G-11	184-357-0.5	2.51	
59	G-11	241-406-0.5	4.26	
60	G-11	215-387-0.5	10.60	
61	G-15	222-338-0.5	32.00	30' X 30'X6" area re-excavated –See 86
62	G-15	215-301-0.5	22.00	30' X 30'X6" area re-excavated -See 86
63	G-15	251-292-0.5	2.55	

Summary of Phase II Confirmation Sampling Results

Sample #	Grid	Coordinate	Arsenic Concentration	Lead Concentration	Comments
64	G-1	43-559-6	5.71	NA	
65	G-1	13-556-6	11.6	NA	
66	G-1	73-529-6	3.39	NA	
67	G-2	10-502-6	63.6	NA	
68	G-2	64-509-9	5.77	NA	
69	G-2	8-448-6	39.7	NA	
70	G-9	45-466-8	82.5	NA	
71	G-9	14-412-4	153	NA	
72	G-9	51-403-9	4.43	NA	
73	G-9	63-370-9	42.6	NA	30'X30'X6" re-excavated – See 117

Sample #	Grid	Coordinate	Arsenic Concentration	Grid	Coordinate
74	G-13	13-319-4	222	NA	
75	G-13	39-289-6	61.6	NA	30'X30'X6" re-excavated – See 115
76	G-13	62-281-6	2.69	NA	
77	G-2	105-586-1.5	2.79	NA	
78	G-2	163-582-1.5	3.6	NA	
79	G-2	118-550-1.5	3.08	NA	
80	G-3	208-556-1	2.06	NA	
81	G-7	191-445-1.5	2.55	NA	
82	G-10	120-413-1.5	3.16	NA	
83	G-10	110-383-1	2.38	NA	
84	G-10	153-364-1	2.25	NA	
85	G-12	308-357-2	2.56	NA	
86	G-15	212-330--1	3.72	3.32	
87	G-18	147-252-0.5	2.08	NA	
88	G-19	182-253-0.5	2.10	NA	
89	G-18	113-193-1	5.66	2.81	
90	G-22	114-150-1	3.24	NA	
91	G-22	151-140-1	18.8	22.4	
92	G-23	189-150-0.5	2.24	NA	
93	G-22	125-115-1	2.20	NA	
94	G-26	109-72-1	2.87	NA	
95	G-26	150-52-1	3.01	NA	
96	G-26	116-35-1	2.61	NA	
97	G-5	55-457-9	14.3	NA	
98	G-9	58-423-10	3.08	3.86	
99	G-17	8-231-6	711	NA	30'X30'X6" re-excavated – See 108
100	G-17	50-240-10	2.21	NA	
101	G-17	70-221-10	3.48	NA	
102	G-21	48-137-10	4.34	NA	
103	G-21	68-104-10	2.41	1.82	
104	G-25	43-57-10	2.09	NA	
105	G-25	60-18-10	2.48	NA	
106	G-21	6-146-6	2.94	NA	
107	G-25	11-27-6	4.32	8.58	
108	G-17	8-231-6	4.09	NA	
109	G-13	50-305-9	44.6	NA	30'X30'X2' re-excavated – See 110
110	G-13	50-305-11	5.77	NA	
111	G-17	42-269-8	94.8	NA	30'X30'X2' re-excavated – See 114
112	G-13	41-297-10	81.7	NA	30'X30'X2' re-excavated – See 115
113	G-17	41-235-8	82.5	NA	30'X30'X2' re-excavated – See 116
114	G-13	45-340-10	3.20	NA	
115	G-13	45-310-12	4.77	NA	
116	G-17	45-257-10	5.41	NA	

Sample #	Grid	Coordinate	Arsenic Concentration	Grid	Coordinate
117	G-9	63-370-10	35.9	NA	12'X12'X1' re-excavated – See 118
118	G-9	63-370-11	2.36	NA	

MAPS AND FIGURES

Northpoint Apartment Site
City Of Everett
SEPA #98-073

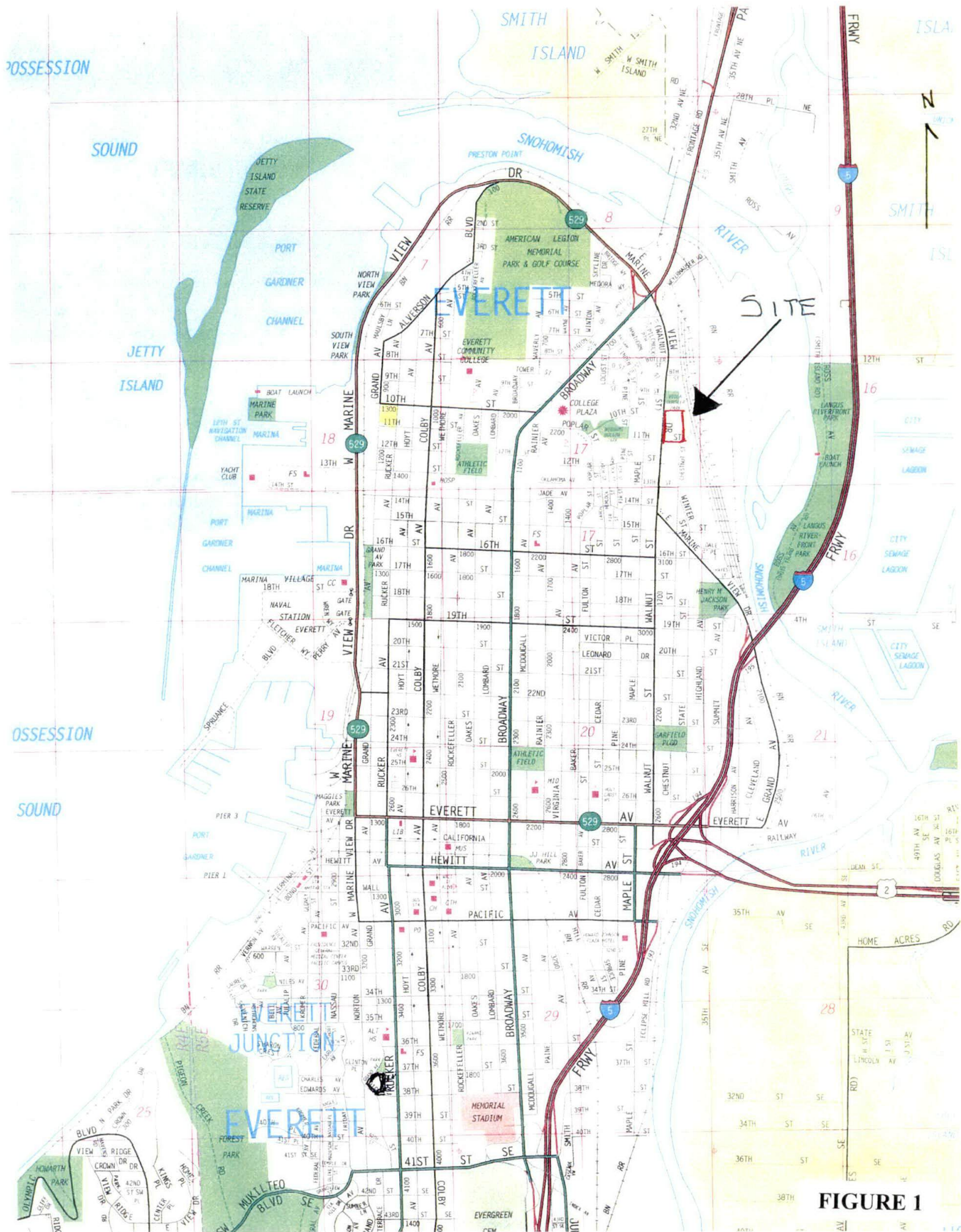
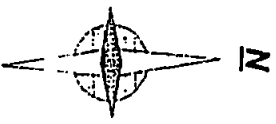
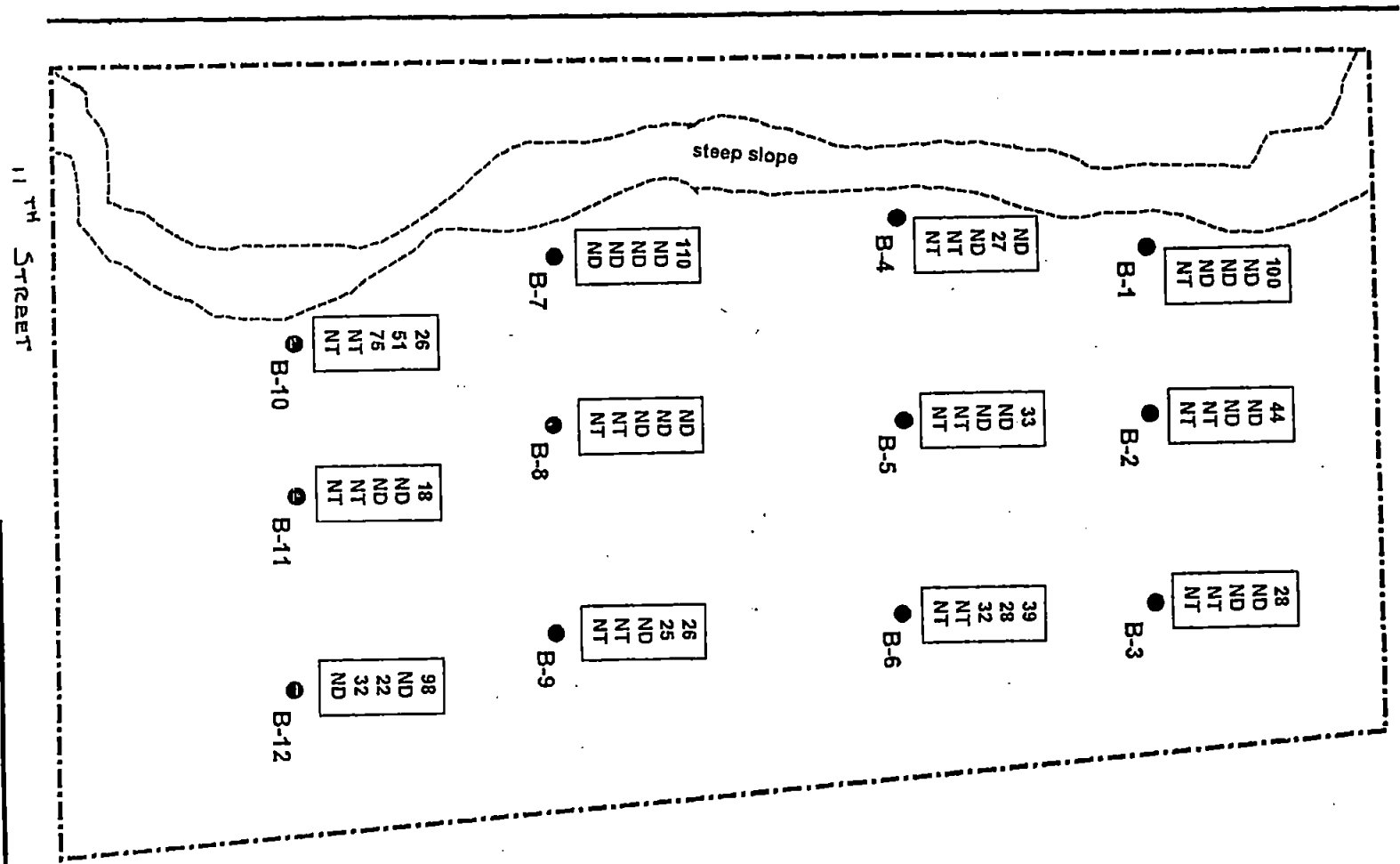


FIGURE 1



East Marine View Drive



Legend

Arsenic Concentration
in Soil v. Depth

0" - 6"	100
6" - 12"	65
12" - 18"	25
18" - 24"	10
24" - 30"	ND

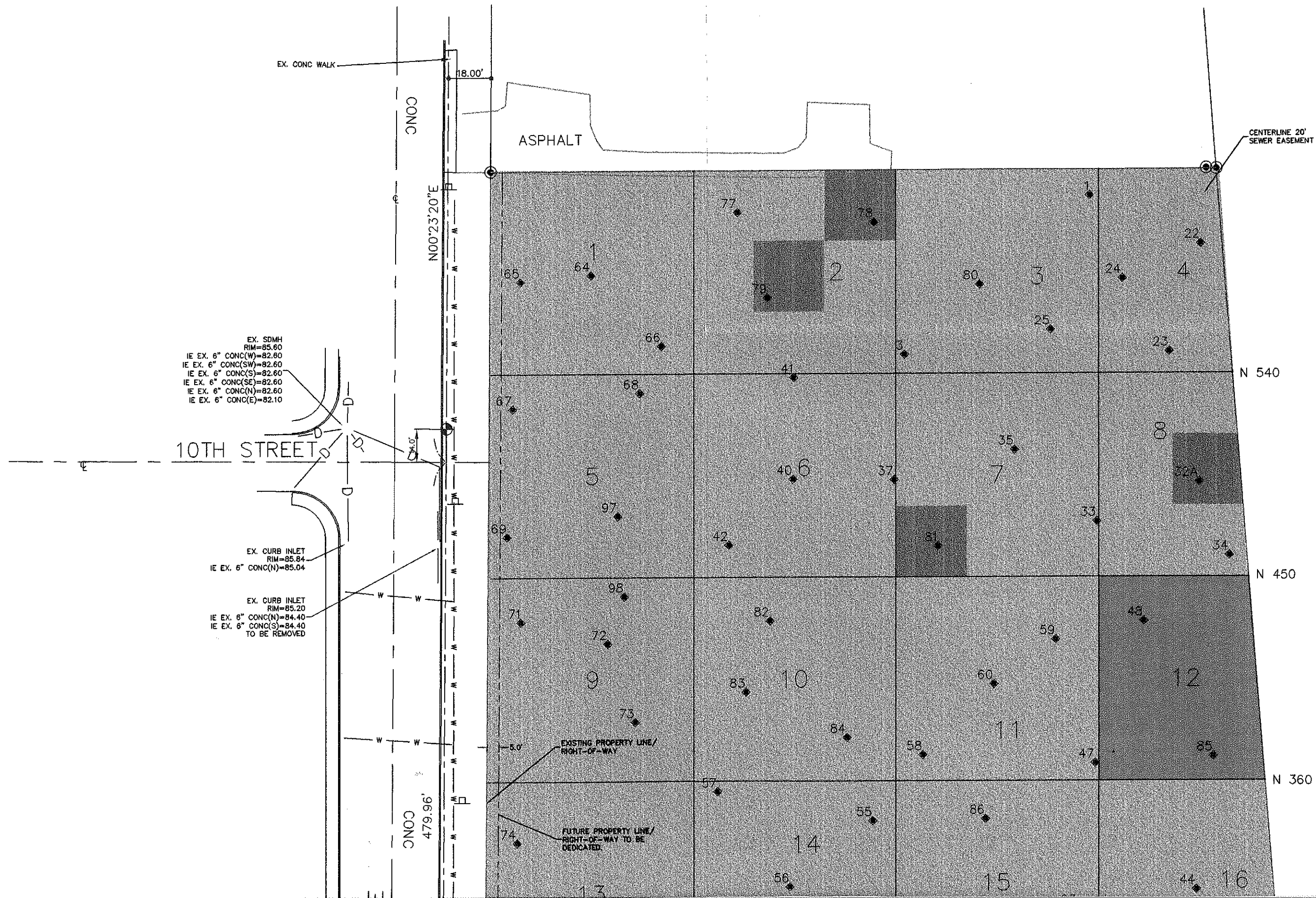
Key:
 50 = arsenic in parts per million
 ND = not detected
 NT = not tested

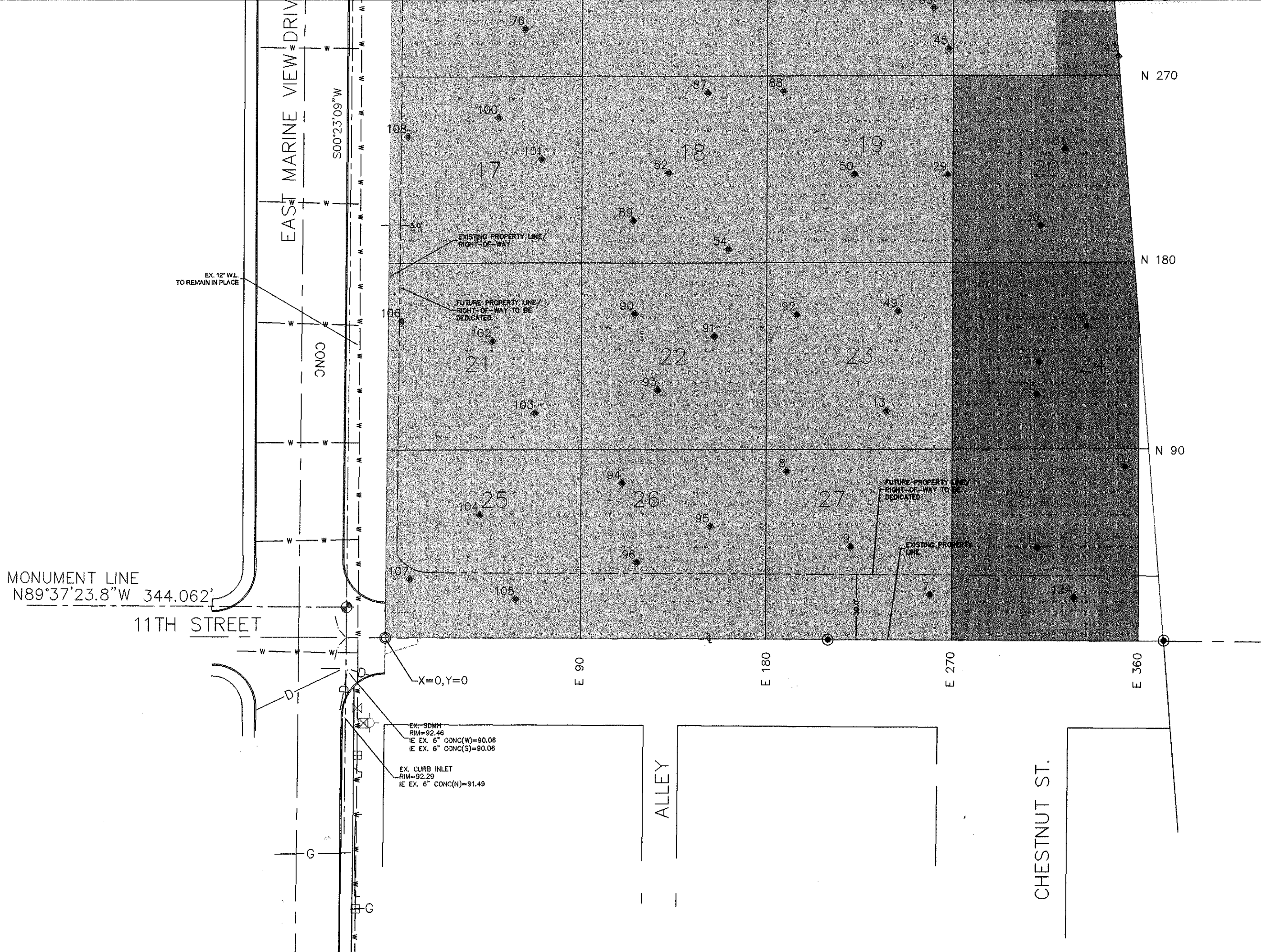
GEOTECH
CONSULTANTS, INC.

SAMPLE LOCATION PLAN

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:	Date:	No Scale	Plate:
97382E	March 1998		2



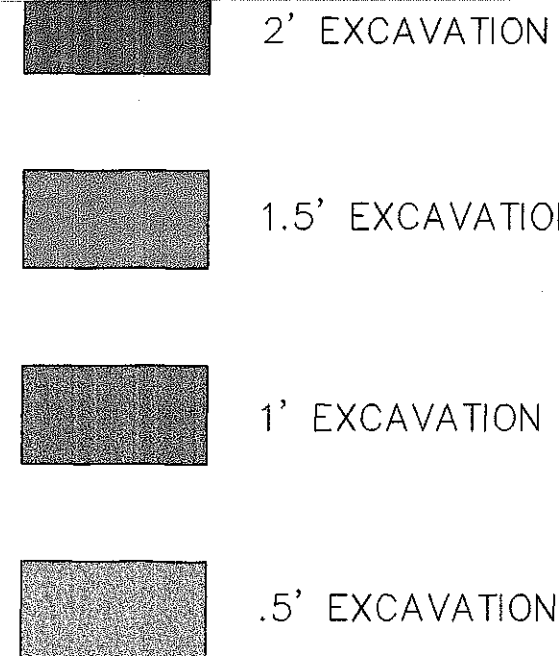




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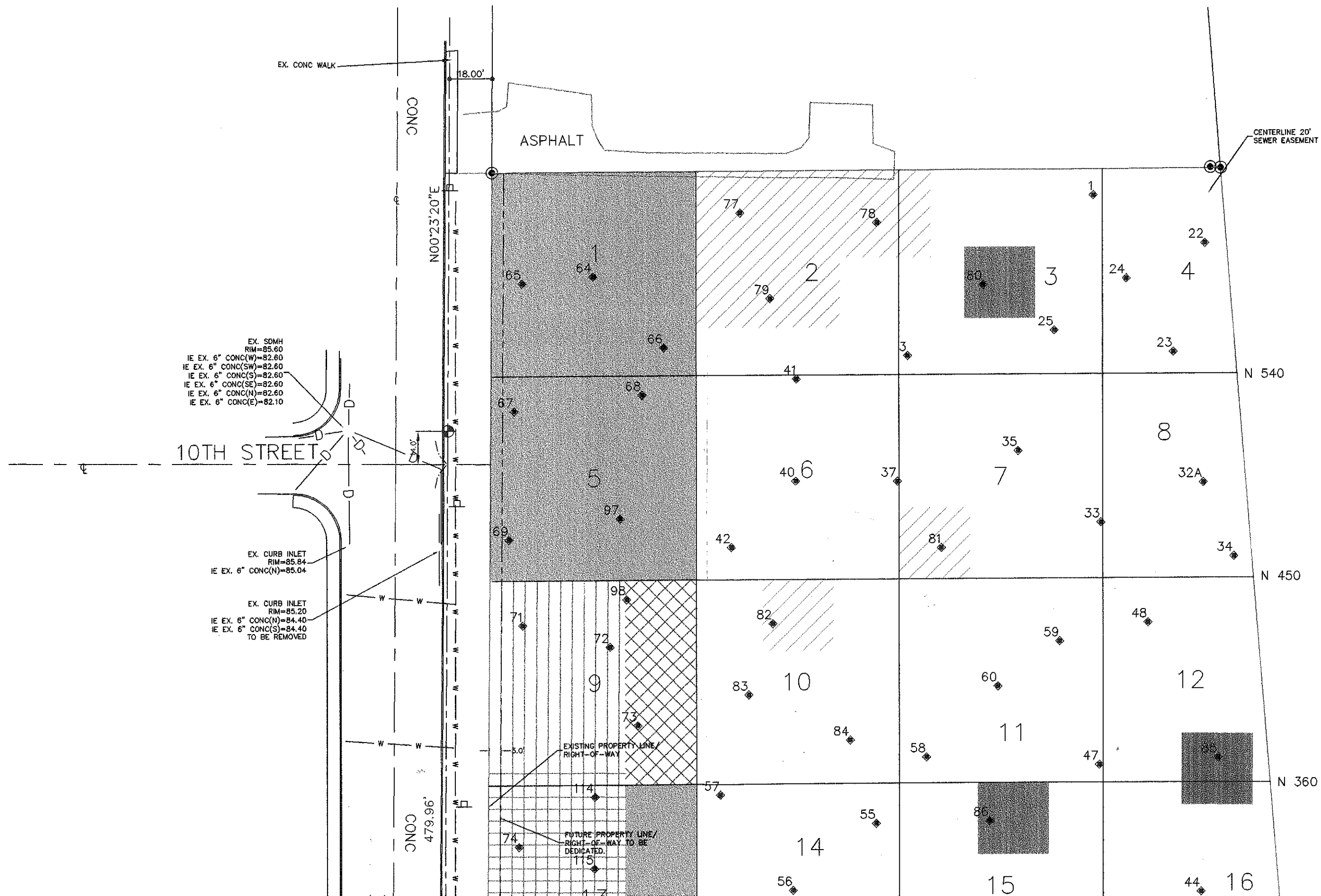


1 SAMPLE LOCATIONS



Scale: 1" = 40'

LOCATION		North Point Apartment Site 1001 East Marine View Drive Everett, Washington	
PREPARED FOR:		PREPARED BY:	
Stephen Jacobson		ENVIROCON 500 TAYLOR STREET MISSOULA, MONTANA 59807	
TITLE	SCALE 1" = 40'		REVISION
	DRAWING No.		
	14313—CONFIRMATION FIG 3		
Figure 3 Phase 1 Excavation Profile	DRAWN BY:	CHECKED BY:	DATE:
	INS	D.J.	04/05/01



MONUMENT LINE
N89°37'23.8"W 344.062'

11TH STREET

EX. 12" WL
TO REMAIN IN PLACE

EAST MARINE VIEW DR

S00°23'09"W

CONC

EXISTING PROPERTY LINE/
RIGHT-OF-WAY

FUTURE PROPERTY LINE/
RIGHT-OF-WAY TO BE
DEDICATED

X=0, Y=0

EX. SDMH
RIM=92.46
IE EX. 6" CONC(W)=90.06
IE EX. 6" CONC(S)=90.06

EX. CURB INLET
RIM=92.29
IE EX. 6" CONC(N)=91.49

ALLEY

CHESTNUT ST.

N 270

N 180

N 90

E 90

E 180

E 270

E 360

18

19

20

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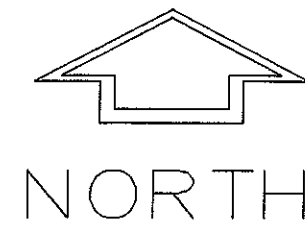
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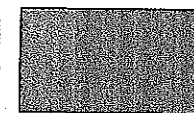
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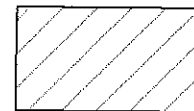
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SAMPLE POINTS



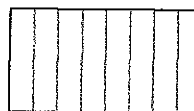
1' EXCAVATION (TOTAL)



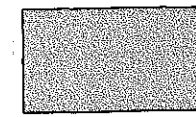
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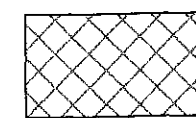
2' EXCAVATION (TOTAL)



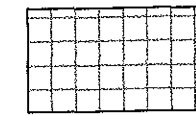
4' EXCAVATION (TOTAL)



9' EXCAVATION (TOTAL)



10' EXCAVATION (TOTAL)

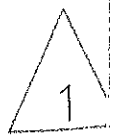


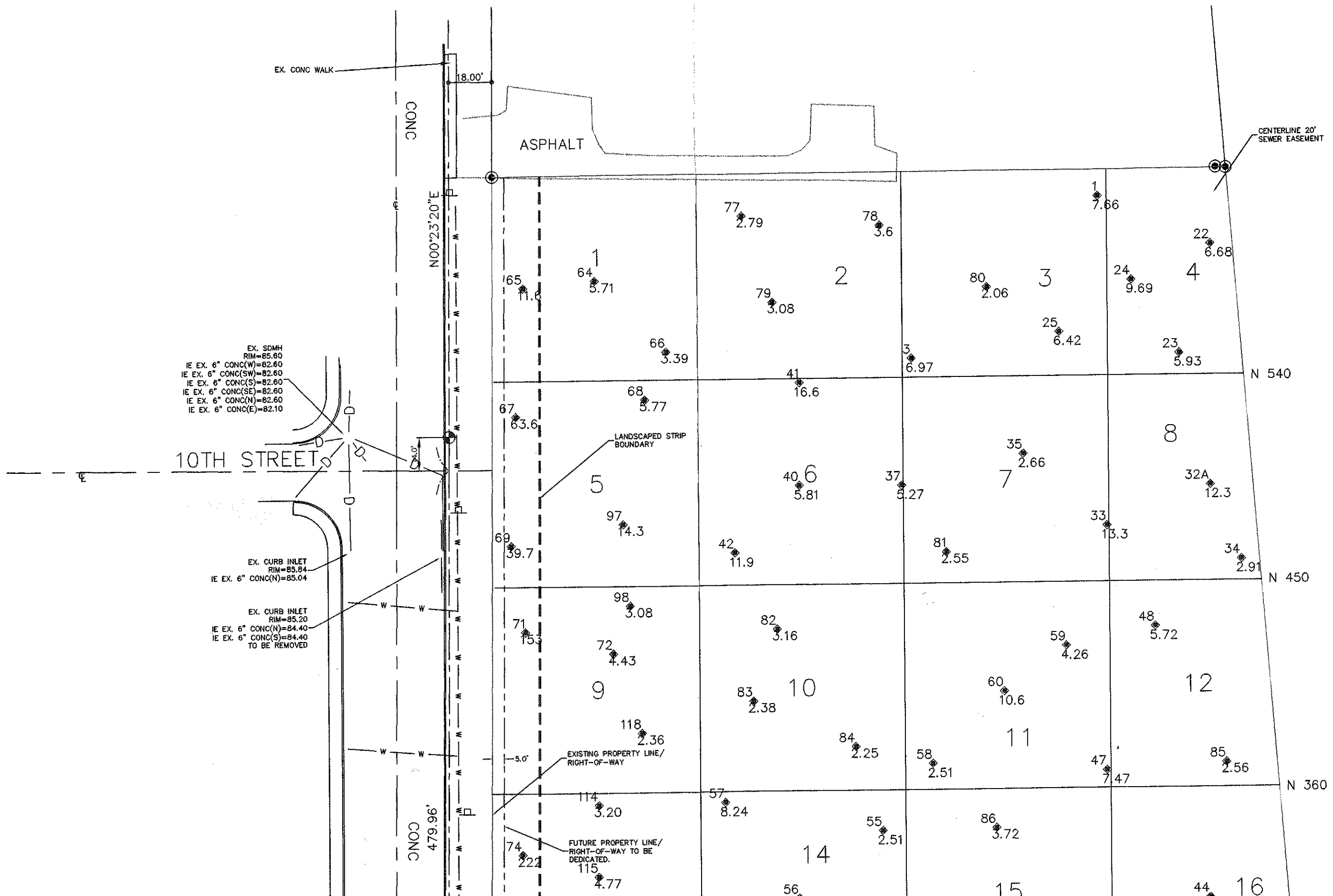
12' EXCAVATION (TOTAL)

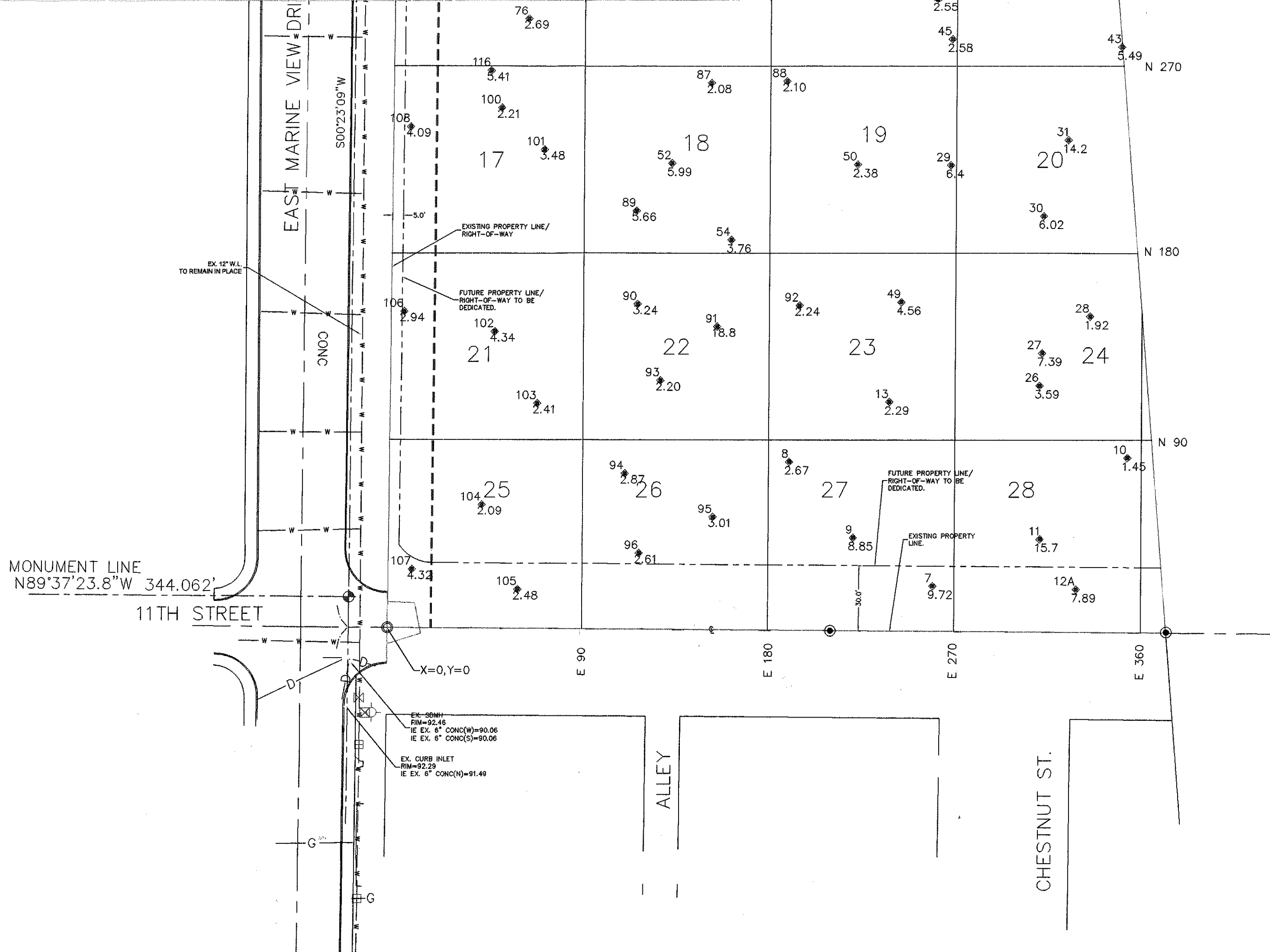


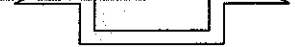
Scale: 1" = 40'

LOCATION		North Point Apartment Site 1001 East Marine View Drive Everett, Washington	
PREPARED FOR:		PREPARED BY:	
Stephen Jacobson		ENVIROCON 500 TAYLOR STREET MISSOULA, MONTANA 59807	
TITLE	SCALE 1" = 40'		REVISION
	DRAWING No.		
	14313—CONFIRMATION FIG 4		
Figure 4 Phase 2 Excavation Profile		DRAWN BY:	CHECKED BY:
		DATE:	









NORTH



1 ————— Top number is the sample number
7.66 ————— The bottom number represents the concentration of arsenic in ppm

1 ————— Confirmation samples with results under 20 ppm total arsenic
7.66

----- LANDSCAPED STRIP BOUNDARY



Scale: 1" = 40'

LOCATION				North Point Apartment Site 1001 East Marine View Drive Everett, Washington			
PREPARED FOR:				PREPARED BY:			
Stephen Jacobson				 500 TAYLOR STREET MISSOULA, MONTANA 59807			
TITLE				SCALE 1" = 40'		REVISION	
Figure 5 Footprint of Phase 1 & 2 Confirmation Sampling Locations				DRAWING No.			
				14313-CONFIRMATION FIG 5			
DRAWN BY:		CHECKED BY:		DATE:			

APPENDIX A

PHASE I

SITE ASSESSMENT

Geotech Consultants, Inc.

Phase 1 Environmental Site Assessment

November 10, 1997

Northpoint Apartment Site
City of Everett
SEPA # 98-073

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington

**GEOTECH
CONSULTANTS, INC.**

13256 NE 20th Street, Suite 16
Bellevue, WA 98005
(425) 747-5618
FAX (425) 747-8561

November 10, 1997

JN 97382A

Steffen Jacobson
3035 Fairweather Place
Hunts Point, Washington 98004-1002

Subject: **Transmittal Letter**
Phase 1 Environmental Site Assessment
Undeveloped Land
East Marine View Drive
Everett, Washington

Dear Mr. Jacobson:

Geotech Consultants, Inc. is pleased to present the results of our recently completed Phase 1 Environmental Site Assessment for the subject property. Our work was completed in accordance with our proposal dated October 21, 1997. Please find the assessment attached.

We appreciate this opportunity to be of service to you on this project. If you have any questions, or if we may be of additional service, please contact us.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

David Bair

David Bair
Environmental Engineer

DLB:alt



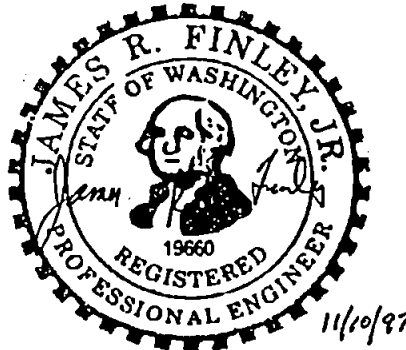
**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington**

Submitted by:

GEOTECH CONSULTANTS, INC.

David Bair

**David Bair
Environmental Engineer**



EXPIRES 8/17/97

**James R. Finley, P.E.
Principal**

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ATTACHMENTS

Plate 1	Vicinity Map
Plate 2	Site Plan
Plate 3	Site Photographs
Appendix A	<i>VISTA's Site Assessment Report</i>
Appendix B	<i>Public Health Advisory - Everett Smelter Study Area</i>

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington

1.0 EXECUTIVE SUMMARY

The subject property is located along East Marine View Drive between 10th Street and 11th Street, approximately one and three-quarters miles northeast of downtown Everett. The Vicinity Map, Plate 1, illustrates the general location of the site. Land use in the surrounding area is characterized by residences to the north, south, and west and railroad tracks to the east.

Presently, no permanent structures are on the site. Historical research indicates that the property was undeveloped prior to 1947. The property is the proposed location for a 240-unit apartment complex.

Based upon research completed for this report, it appears that the subject property is within the area designated as the Everett Smelter Study Area. Soil within this area has the potential for containing concentrations of arsenic, cadmium, lead, and other metals above natural background levels due to past activities at the former Asarco smelter in Everett. The Snohomish Health District has made recommendations for working with soil in this area, and those recommendations are attached to this report. This assessment did not reveal any other recognized environmental conditions in connection with the subject property. A discussion of the scope of our work, our site observations, and our conclusions are contained in this report.

2.0 INTRODUCTION

This report presents the results of our Phase 1 Environmental Site Assessment of the property at East Marine View Drive in Everett, Washington.

2.1 Special Terms and Conditions

The scope of work for our review of this site did not include the examination, sampling, or analysis of subsurface soil or groundwater on the site for potential environmental contaminants. If new information is developed in future site work, which may include excavations, borings, or studies, Geotech Consultants, Inc. should be given the opportunity to review the findings, re-evaluate the conclusions of this report, and provide amendments as required.

2.2 Purpose and Scope Of Work

The purpose of an environmental assessment is to satisfy one of the requirements to qualify for the innocent landowner defense in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): that is, to make "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." Our scope of work and the limitations of our study are consistent with American Society for Testing and Materials (ASTM) Designation E1527: *Standard Practice for Environmental Site Assessments: Phase 1*

Environmental Site Assessment Process. The objective of a Phase 1 assessment is to minimize potential future liability for environmental problems by demonstrating that at the time this report was prepared, the owner, holder, or buyer had no knowledge or reason to know that any hazardous substance had been released or disposed on, in, or at the property. An additional objective of the Phase 1 assessment is to identify potential contamination sources.

The goal of the processes established by the ASTM is to identify recognized environmental conditions. The term "recognized environmental conditions" means the presence, or likely presence, of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of the appropriate governmental agencies.

Our study included:

- A review of the chronology of ownership and site history, using county assessor records, historical maps, and aerial photography as primary resources. An attempt was made to identify possible former industries or uses at, on, or near the site and presenting some probability of generating waste, which may have included dangerous or hazardous substances, as defined by state and federal laws and regulations.
- A reconnaissance of the property to look for evidence of potential contamination in the form of soil stains, odors, vegetation stress, discarded drums, or discolored water.
- The acquisition and review of available reports and other documentation pertaining to the subject property or nearby sites.
- A search of available state and federal government records using software and a database developed and maintained by VISTA Information Solutions, Inc. (VISTA). VISTA reported those sites and businesses that are located within the minimum search distances specified by American Society for Testing and Materials (ASTM) Designation E 1527. Additionally, through observations made during our site reconnaissance, we attempted to identify local topographic conditions that may influence the potential for regulated facilities to adversely impact the subject property.

3.0 SITE DESCRIPTION AND RECONNAISSANCE

3.1 Location and Legal Description

Located on the eastern side of East Marine View Drive between 10th Street and 11th Street, the subject property totals 4.22 acres of land. The Vicinity Map, Plate 1, illustrates the general location of the site.

The property is situated in the northeast quarter of Section 17, Township 29 North, Range 5 East,

Willamette Meridian, in Snohomish County, Washington. The tax identification number, as recorded by the Snohomish County Assessor's Office, is 172905-005-0006.

3.2 Site and Vicinity Characteristics

An environmental engineer from our firm visited the site on October 22, 1997 to observe on-site conditions and land use practices in the surrounding area. The undeveloped subject property is covered with trees, brambles, grass, and other native vegetation. All accessible areas on the property were visited. Land use in the immediate vicinity is generally characterized by older single-family dwellings.

3.2.1 Site Improvements

The entire 4.22-acre lot is undeveloped and covered by native vegetation. Access to the property is from East Marine View Drive on the west and from 11th Street on the south.

Potable water, storm, and sanitary sewer services in the area are provided by the City of Everett.

3.2.2 Building Materials

No structures exist on the site.

3.2.3 Current Uses of Property

Undeveloped presently, the subject property is the proposed location for a 240-unit apartment complex. The property is covered by trees, brambles, grass, and other native vegetation. The property slopes down to the east, dropping approximately 60 feet over 300 feet.

At the time of our site visit, we observed small amounts of litter along East Marine View Drive and several piles of yard wastes on the margins of the property, but no major stains, odors, or unusual vegetative conditions that might indicate the potential presence of contamination on the subject property.

3.2.4 Current Uses of Adjoining Properties

Land use in the site vicinity is characterized by residential development. More specifically, the property is bordered as follows:

North: The subject property is bordered to the north by an apartment building constructed in the early 1980's, then single-family residences.

East: To the east of the property and lower in elevation lie railroad tracks operated by the Burlington Northern Railroad.

South: The property is bordered on the south by 11th Street and older single-family residences.

West: East Marine View Drive forms the western border of the subject property. Across this street are single-family residences.

During our reconnaissance, we did not observe any signs of improper storage or disposal practices of hazardous waste on any of the neighboring sites that would negatively impact the subject property.

3.3 Hazardous Materials

3.3.1 Storage Tanks and Containers

At the time of our site visit, we looked for evidence of underground or above-ground storage tanks on the subject parcel. No signs of underground or above-ground storage tanks were observed during our site reconnaissance.

3.3.2 Asbestos-Containing Materials

No structures are on the site. We did not observe signs of asbestos-containing materials on the property.

3.3.3 Lead-Based Paint

Until the 1960's, paint containing 30 to 40 percent lead was commonly used on the interior and exterior surfaces of buildings. Exposure to particles of lead-based paint (LBP), either through inhalation or ingestion, has been found to cause a variety of adverse human health effects. Children are particularly sensitive to these effects, and chronic exposure to lead can cause learning difficulties, mental retardation, and delayed neurological and physical development. In 1977, the Consumer Products Safety Commission banned consumer use of paint products that contain lead in excess of 0.06 percent. The current LBP standard, as defined by the Lead-Based Paint Poisoning Prevention Act and the Department of Housing and Community Development Act, Title 10, is any paint or other surface coating that contains lead in excess of 1.0 milligrams per square centimeter or 0.5 percent by weight (5,000 parts per million).

No structures are on the subject property. We did not observe any signs of lead-based paint on the site.

3.3.4 PCBs

Prior to 1979, polychlorinated biphenyls (PCBs) were widely used in electrical equipment, such as transformers, capacitors, switches, fluorescent light ballasts, and voltage regulators, owing to their excellent cooling properties. In 1976, the EPA initiated the regulation of PCBs through the Toxic Substances Control Act (TSCA). These regulations generally control the use, manufacture, storage, documentation, and disposal of PCBs. The EPA eventually banned PCB use in 1978, and the adoption of

amendments to TSCA under Public Law 94-469 in 1979 prohibited any further manufacturing of PCBs in the United States.

No buildings are on the property.

We observed two pole-mounted transformers on the subject property. No certifications or labels regarding PCBs were noted on the transformers. Careful examination of the transformers revealed no cracks, staining, or other evidence of potential leakage.

3.3.5 Waste Generation and Disposal

No hazardous or solid waste is generated at the subject property.

3.4 Other Conditions of Concern

Radon is a naturally occurring, highly mobile, chemically inert, radioactive gas created through the radioactive decay of uranium and thorium. The potential for the occurrence of radon varies widely and depends on: (1) the concentration of radioactive materials in the underlying bedrock, (2) the relative permeability of soils with respect to gases, and (3) the amount of fracturing or faulting in the surficial materials (EPA, 1987). The EPA has established a concentration for radon of 4 pico-Curies per liter (pCi/l) of air as a maximum permissible concentration "action level." According to some studies, the average concentration in homes across the United States is on the order of 1.4 pCi/l.

Typically, the Puget Sound area of Washington is underlain by a consolidated thickness of glacial drift and rocks that do not contain radon-forming minerals. The Washington Department of Health, Division of Radiation Protection, published a study listing the Snohomish County average as 0.5 pCi/l. Based on this information, it is our opinion that the potential for elevated levels of radon at this site is low.

4.0 HISTORICAL USE INFORMATION

Sources reviewed for information on site and area development and land use included historic aerial photography and resources at the Snohomish County Assessor's Office and the Everett Public Library.

4.1 Previous Environmental and Geotechnical Investigations

Geotech Consultants, Inc. has not completed geotechnical or environmental engineering studies for the site. We were not provided with these types of documents for review.

4.2 Historical Maps

A Sanborn Fire Insurance map prepared in 1914 and revised in 1955 shows the subject property as undeveloped. Development in the property's vicinity in 1914 consisted of single-family residences.

4.3 Tax Assessor Records

The Snohomish County Assessor's Office lists the current taxpayer as Nenadics Investments of Burnaby, B.C. Additional information indicates that Nenadics Investments purchased the property from Anton Kravagna in 1978. No restrictive conditions, contamination, or open space conditions are associated with the property.

4.4 Everett Public Library - Everett Directories

We examined Everett city directories at approximate five-year intervals from 1944 through 1990 for the subject site and surrounding properties. There was no listing for the subject site during those years. Properties to the north, south, and west were in residential use during that period.

4.5 Aerial Photographs

From a review of aerial photographs, dated 1947, 1955, 1967, 1976, 1981, 1985, 1989, and 1993, it appears that the subject property was undeveloped prior to 1947. Site conditions on the subject property and development in the surrounding area for each of these years are discussed in the paragraphs that follow.

- 1947:** In this photograph, the subject property is covered by trees and other vegetation. The land to the north is also wooded. Railroad tracks are visible to the east, at the base of the hill. Two houses can be seen to the west, across East Marine View Drive. Farther west is denser residential development. To the south is additional residential development. Two mills are visible approximately one mile to the north.
- 1955:** The subject property remains undeveloped and wooded. Residential development in the area has increased. An unpaved road on the south of the subject property now leads down to the railroad tracks.
- 1967:** An area of the southwestern corner of the subject property has been cleared of trees. The remainder of the property is wooded. Along the southern border of the subject property, 11th Street has been extended downhill to the railroad tracks. The unpaved road on the subject property described in the 1955 photograph is no longer visible.
- 1976:** The subject property and immediately surrounding parcels appear as described in the 1967 paragraph.
- 1981:** A new school is visible approximately one-quarter mile to the west.
- 1985:** The subject property remains undeveloped and wooded. An apartment building has been constructed immediately to the north. To the west, more houses have been constructed.
- 1989:** 11th Street, to the south of the subject property, no longer extends east to the railroad tracks.

1993: The subject property and immediately surrounding parcels appear as described in our 1997 site visit.

5.0 ENVIRONMENTAL SETTING

5.1 Regional Physiographic Conditions

The site is situated on a gently rolling elevated drift plain in the Puget Sound Lowland geomorphic province. The Puget Sound Lowland is a basin lying between the Cascade Mountains to the east and the Olympic Mountains to the west and is covered mainly by glacially-deposited sediments. The plain was formed during the last period of continental glaciation that ended approximately 13,500 years ago. The site lies on the side of an east-facing slope. The western border of the site is at an approximate elevation of 90 feet above sea level. The eastern border is approximately 60 feet lower in elevation.

5.2 Soil and Geologic Conditions

A published geologic map for the site vicinity suggests that much of the material underlying the subject site is glacial till, a dense, heterogeneous mixture of silt, sand, and gravel. Typically, the till exhibits relatively low vertical hydraulic conductivity which frequently results in formation of a perched water table along its upper contact. The perched water table (if present) is frequently seasonal and derives recharge primarily from infiltration of precipitation through more permeable overlying soils.

We were not provided with any geotechnical studies for review and cannot comment more definitively upon the subsurface conditions beneath the site.

5.3 Hydrogeologic Conditions

The geologic unit that we assume characterizes the site is of relatively low permeability. Based upon local drainage patterns and upon our review of a U.S. Geological Survey map of the area, it is likely that the flow of surface, or shallow-seated subsurface, water across the property would be toward the east to the Snohomish River. According to a U.S. EPA Ground Water Handbook, water tables typically conform to surface topography.

6.0 RECORDS REVIEW

Geotech Consultants, Inc. utilized software and a database developed and maintained by VISTA Information Solutions, Inc. (VISTA) to complete a search of available state and federal government records. VISTA reported those sites and businesses that are located within the minimum search distances specified by American Society for Testing and Materials (ASTM) Designation E 1527. Additionally, through observations made during our site reconnaissance, we attempted to identify local topographic conditions that may influence the potential for regulated facilities to adversely impact the subject property. The databases searched by VISTA, as well as the search areas applied to each, are summarized in the following sections. A copy of the *VISTA Site Assessment Report* is included with this report as Appendix A.

6.1 Federal Records Sources

6.1.1 NPL

No sites within a one-mile radius of the subject property are found on the National Priority List.

6.1.2 CERCLIS

A review of the EPA's CERCLIS listing reveals no active sites within approximately one-half mile of the subject property that have been designated as potentially hazardous or eligible for participation in the Superfund cleanup program.

6.1.3 ERNS

The subject property does not appear on the Emergency Response Notification System (ERNS) database of spill response activities.

6.1.4 FINDS

A review of the Facility Index System (FINDS) listing and the EPA's Resource Conservation and Recovery Act (RCRA) Notifiers list, along with our site and area reconnaissance, reveals no RCRA-regulated businesses on the subject property or adjacent sites.

6.1.5 TSD

A review of the RCRIS-TSD list shows no sites within a one-mile radius of the subject property.

6.2 State Records Sources

6.2.1 WDOE Underground Storage Tanks

A review of the WDOE listing of underground storage tanks (USTs) reveals no registered USTs on, or adjacent to, the subject property. A review of the current Leaking Underground Storage Tank (LUST) list reveals five sites (two of the sites are listed twice) within a half-mile radius of the subject property that have experienced leaks of petroleum into the environment.

COMPANY AND ADDRESS	LOCATION	WDOE REMARKS
Everett Area 3 Mnt HQ 709 N Broadway	three-eighths mile northwest, crossgradient	cleanup completed for contaminated soil
Everett School Dist. 2301 12th St.	one-half mile south- southwest, crossgradient	cleanup completed for contaminated soil
Everett School Dist. 1110 Poplar St.	one-quarter mile west, crossgradient	cleanup in progress for contaminated soil

COMPANY AND ADDRESS	LOCATION	WDOE REMARKS
Time Oil Food Mart 928 N Broadway	one-half mile west, crossgradient	cleanup in progress for contaminated soil and groundwater
Time Station 168 928 N Broadway	one-half mile west, crossgradient	cleanup in progress for contaminated soil and groundwater
WDOT N Broadway 709 N Broadway	three-eighths mile northwest, crossgradient	cleanup completed for contaminated soil
Weyerhaeuser Everett Mill 515 E Marine View Dr.	three-eighths mile north, crossgradient	cleanup in progress for contaminated soil

Based upon the distances separating these sites from the subject property and upon their crossgradient hydrologic positions, it is our opinion that the potential for environmental impairment of the subject property from these sources is very low.

6.2.2 WDOE Hazardous Site Listings

A review of the WDOE Confirmed & Suspected Contaminated Sites (C&SCS) report shows four sites within an approximate one mile radius of the subject property that have been designated as confirmed hazardous substance sites.

SITE AND ADDRESS	LOCATION	AFFECTED MEDIA AND CONTAMINANTS
Alley Shop 1321 Broadway	five-eighths mile SW, crossgradient	Awaiting a site assessment for soil contaminated by metals.
BNRR/Delta Yard 3429 15th St.	three-eighths mile SE, crossgradient	Soil and groundwater contaminated by petroleum products.
Everett Smelter/Slag Site SR 529 and E Marine View Dr.	five-eighths mile N, crossgradient	Soil and groundwater contaminated by metals and petroleum; air, sediment, and surface water may also be affected.
Weyerhaeuser Everett 101 E Marine View Dr.	one mile N, crossgradient	Air, groundwater, surface water, soil, and possibly sediment contaminated by metals, PCBs, petroleum, and phenolic compounds.

Based upon the distances separating these sites (with the exception of the Everett Smelter/Slag site) from the subject property and upon their crossgradient hydrologic positions, it is our opinion that the potential for environmental impairment of the subject property from these sources is very low.

The Everett Smelter/Slag Site at State Route 529 and East Marine View Drive is located approximately five-eighths of a mile northeast of the subject property. This area is the historic location of a lead, gold, silver, and arsenic smelter which operated from 1893 to 1914. In the 1930s and 1940s, part of the site was developed into residential properties, some of which are in the exact location of the former smelter structures. Soil on the historic smelter site was contaminated through activities on the site itself, while airborne emissions affected the surrounding properties. WDOE first investigated the site in October 1990. Since then, a series of studies have been completed to investigate the quality of soil and groundwater on the

former smelter site and in the surrounding area. The smelter site itself has undergone some remediation. The subject property is located near the southeastern corner of this study area. Two soil samples near the subject property were obtained and analyzed during the course of the remedial investigation. Sample S-209 was obtained at 1014 East Marine View Drive, immediately west of the subject property, and another sample, S-309, was obtained at a property on the west side of the 1100 block of East Marine View Drive, less than one-half block south-southwest of the subject property. The results of these analyses, along with proposed cleanup levels and natural background levels, appear in the table which follows:

SOIL ANALYSES

SAMPLE NUMBER	ARSENIC	CADMIUM	LEAD
S-209	22 ¹	0.5	44
S-309	31	1.2	314
Cleanup Levels ²	7	2	250
Background levels ³	7.30	0.77	16.83

Notes:

1. Results are reported in parts per million (ppm).
2. Cleanup levels for soil from the *Everett Smelter Site Remedial Investigation*, Hydrometrics, Inc., September 1995.
3. Natural background levels appear in *Natural Background Soil Metals Concentrations in Washington State*, WDOE Publication No. 94-115, October 1994.

As shown in the preceding table, concentrations of arsenic, cadmium, and lead above those considered to be natural background levels have been found on sites adjacent to or very near the subject property. It is possible that soils at the subject property as well may have been affected by the former activities at the Everett Smelter.

6.3 Local Agency Sources

A review of the Snohomish Health District records pertaining to current and abandoned landfills within the county suggests that one closed landfill is located approximately one mile north of the subject property: the former Weyerhaeuser kraft landfill at 101 East Marine View Drive. Based upon the distance separating this closed landfill from the subject property and upon its crossgradient hydrologic position, it appears to pose little risk to the subject site.

No active landfills are listed as being within a one-mile radius of the subject property.

6.4 Assumptions and Opinion of Contaminant Mobility and Site Vulnerability

We have not confirmed any potential sources of environmental contamination on the subject property. No confirmed hazardous waste-contaminated sites lie within 1,000 feet of the subject property in an upgradient hydraulic position. As such, it is our professional opinion that the potential for the migration of theoretical water-borne contamination onto the subject property is very

low. As discussed earlier, the subject property is in the Everett Smelter Study Area and has the potential to have been affected by past airborne migration of contaminants.

7.0 RESULTS OF INVESTIGATION

We performed a Phase 1 Environmental Site Assessment, consistent with the scope and limitations of ASTM Designation E 1527, for the property at East Marine View Drive in Seattle, Washington.

7.1 Findings

Based upon research completed for this report, it appears that the subject property is within the area designated as the Everett Smelter Study Area. Soil at properties within this area has the potential for containing concentrations of arsenic, cadmium, lead, and other metals above natural background levels due to past activities at the Everett smelter. The Snohomish Health District has made recommendations for working with soil in this area, and those recommendations are attached to this report. This assessment did not reveal any other recognized environmental conditions in connection with the subject property.

7.2 Conclusions and Recommendations

The Snohomish Health District has issued a Public Health Advisory offering guidelines for reducing potential exposure to elevated concentrations of metals by people living or working in the Everett Smelter Study Area. The Advisory notes that soil removed from the area has the potential to be designated as a Dangerous Waste due to high metals content and that construction activities should be planned to reduce potential exposure of workers to contaminated soil. A copy of this Advisory appears in Appendix B.

7.3 Limitations

This report has been prepared for the exclusive use of Steffen Jacobson and his representatives for specific application to this site. This work was performed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work is in accordance with our Fee Schedule and General Conditions and our signed proposal, which is dated October 21, 1997.

8.0 REFERENCES

Defenbach, Jeffrey R. *Solid Waste Sites of Record*. Snohomish Health District. Everett, Washington. June 17, 1996.

Division of Radiation Protection, Department of Health, State of Washington. Radiation Fact Sheet.

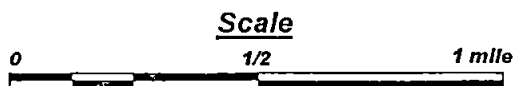
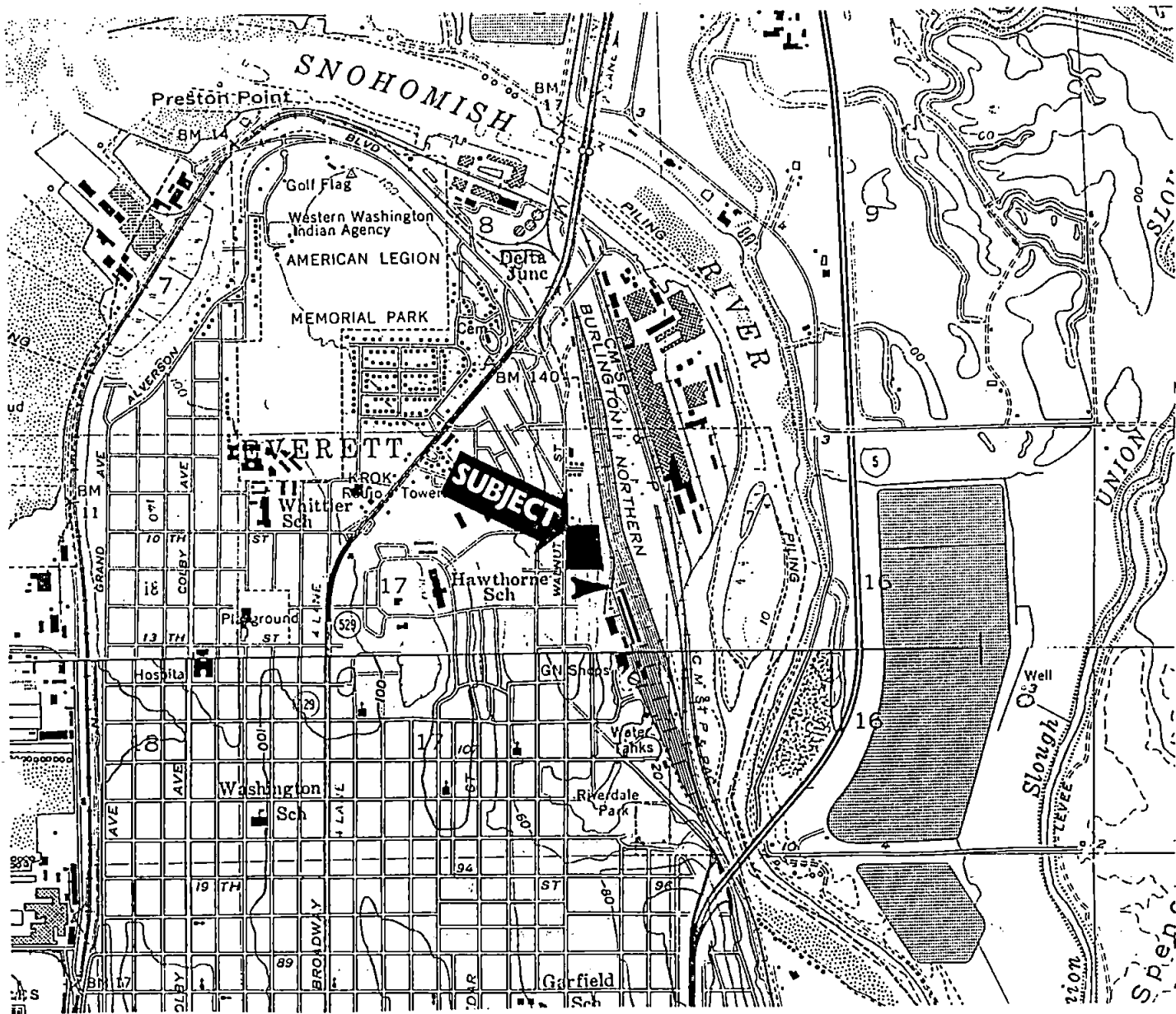
Hydrometrics, Inc. *Everett Smelter Site Remedial Investigation, Everett, Washington. (3 vol.)*
September 1995.

Newcomb, R. C. *Ground Water Resources of Snohomish County Washington Geological Survey*
Water-Supply Paper 1135. 1952.

Office of Research and Development, U.S. EPA. *U.S. EPA Ground Water Handbook - Volume 1:*
Ground Water and Contamination. EPA/625/6-90/016a. September 1990.

Washington Department of Ecology. *Natural Background Soil Metals Concentrations in Washington*
State, Publication No. 94-145. October 1994.

Washington Department of Ecology. *Everett Smelter Site Update. May 1996.*



**Inferred Direction of Shallow
Groundwater Flow**

(Source: U.S. Geologic Survey map of Marysville and Everett Quadrangles, 1973)



VICINITY MAP

**Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington**

Job No:
97382A

Date:
Oct. 1997

Plate:
1



house

house

house

house

house

house

apartments

10th Street

house

house

house

house

house

S-209 ●

East
Marine
View
Drive

Subject
Property

Burlington
Northern
Railroad

house

house

11th Street

house

house

house

S-309 ●

house

house

house

house

house

● Indicates location of soil sample



Inferred Direction of Groundwater Flow



GEOTECH
CONSULTANTS, INC.

SITE PLAN

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:
97382A

Date:
Oct. 1997

No Scale

Plate:
2



Looking northeast at property.



Looking east across property.



SITE PHOTOGRAPHS

**Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington**

Job No: 97382A	Date: Oct. 1997	Plate: 3
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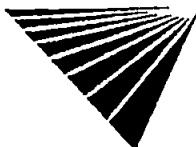
APPENDIX A

VISTA's Site Assessment Report

SITE ASSESSMENT REPORT

PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: Not Provided Undeveloped Land 1000 E Marine View Drive Everett, WA 98201 Latitude/Longitude: (48.003655, 122.187900)	Steffen Jacobson 3035 Fairweather Place Hunts Point, WA 98004-1002

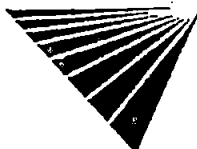
Site Distribution Summary			within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
Agency / Database - Type of Records						
A) Databases searched to 1 mile:						
US EPA	NPL	National Priority List	0	0	0	0
US EPA	CORRACTS (TSD)	RCRA Corrective Actions and associated TSD	0	0	0	0
STATE	SPL	State equivalent priority list	0	0	1	1
STATE	SCL	State equivalent CERCLIS list	0	0	1	1
B) Databases searched to 1/2 mile:						
US EPA	CERCLIS / NFRAP	Sites currently or formerly under review by US EPA	0	0	0	-
US EPA	TSD	RCRA permitted treatment, storage, disposal facilities	0	0	0	-
STATE	LUST	Leaking Underground Storage Tanks	0	1	6	-
STATE	SWLF	Permitted as solid waste landfills, incinerators, or transfer stations	0	0	0	-
STATE	TOXICS	Washington Site Register	0	0	5	-
C) Databases searched to 1/4 mile:						
STATE	UST	Registered underground storage tanks	0	0	-	-
D) Databases searched to 1/8 mile:						
US EPA	ERNS	Emergency Response Notification System of spills	0	-	-	-
US EPA	LG GEN	RCRA registered large generators of hazardous waste	0	-	-	-
US EPA	SM GEN	RCRA registered small generators of hazardous waste	0	-	-	-

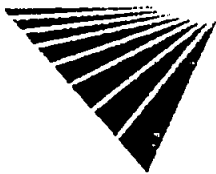


LIMITATION OF LIABILITY

LIMITATION OF LIABILITY
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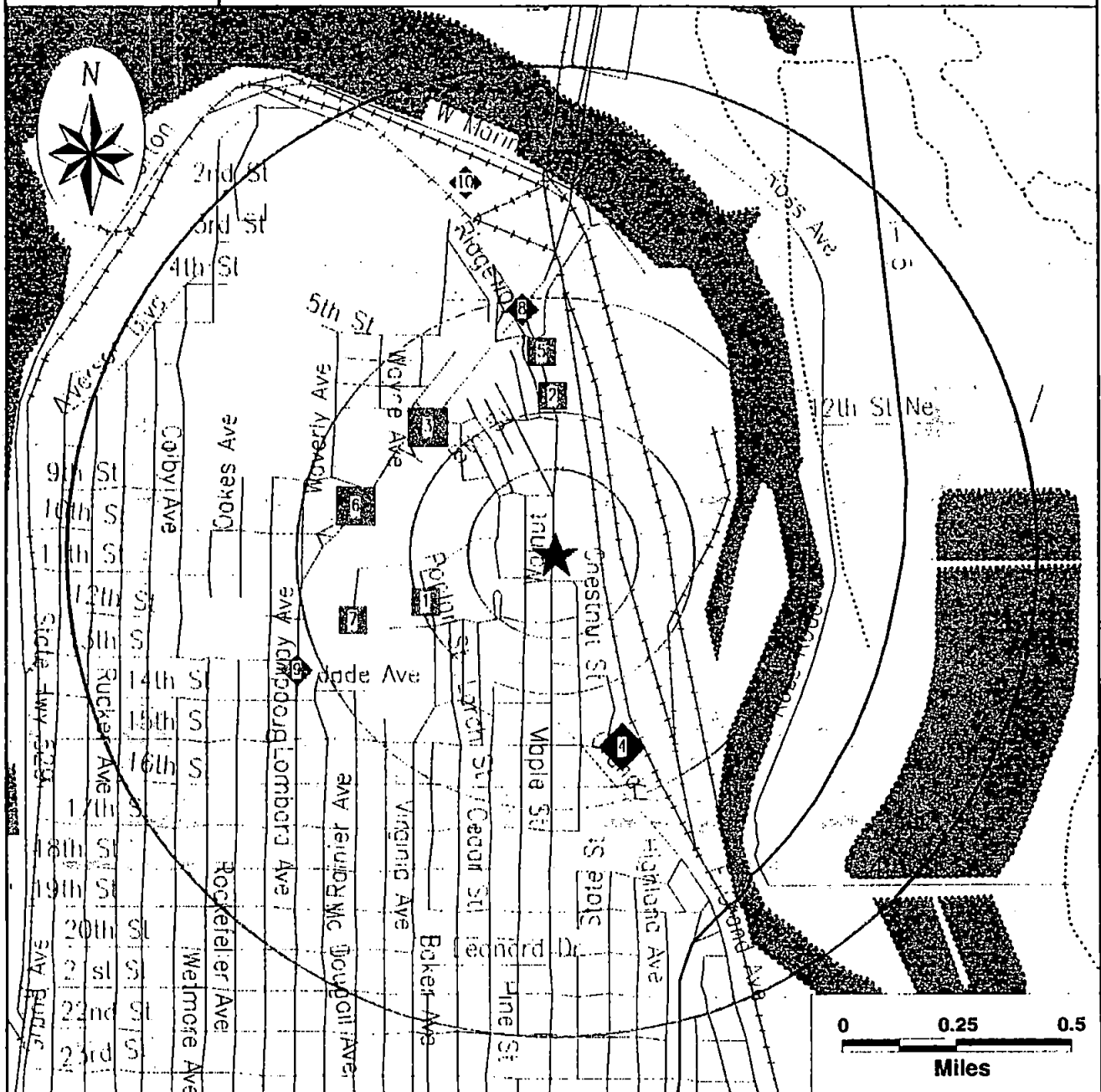
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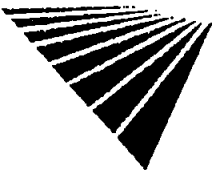


SITE ASSESSMENT REPORT

Map of Sites within 1 Mile

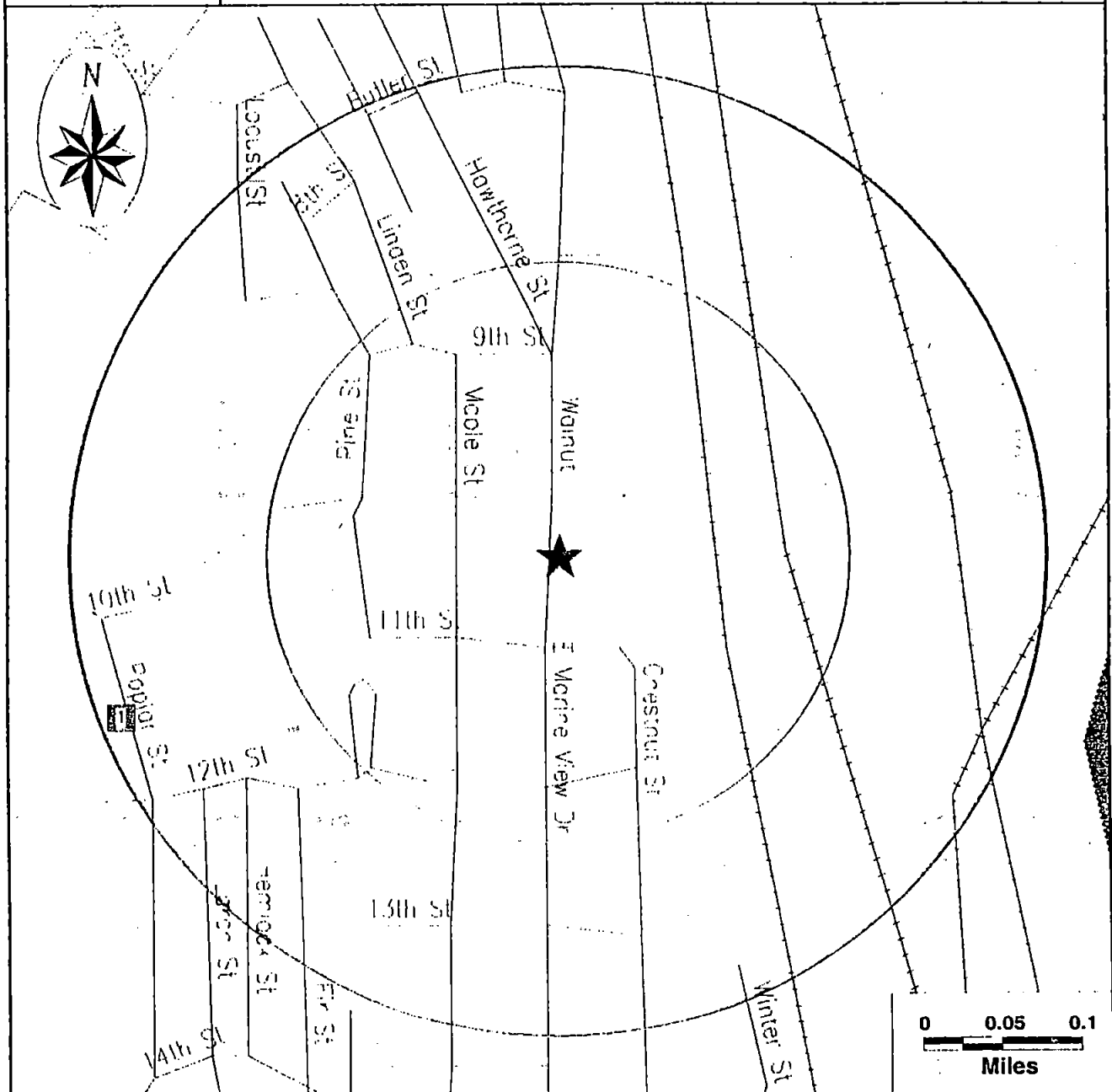












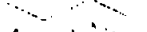
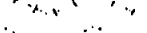
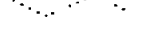

Subject Site	Category:	A	B	C	D
★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	■	▲	○
	Multiple Sites	◆	■	▲	○
	Highways and Major Roads	NPL, SPL, CORRACTS (TSD), SCL	CERCLIS, NFRAP, TSD, LUST, SWLF	UST	ERNS, GENERATORS
	Railroads				
	Rivers or Water Bodies				
	Utilities				



SITE ASSESSMENT REPORT

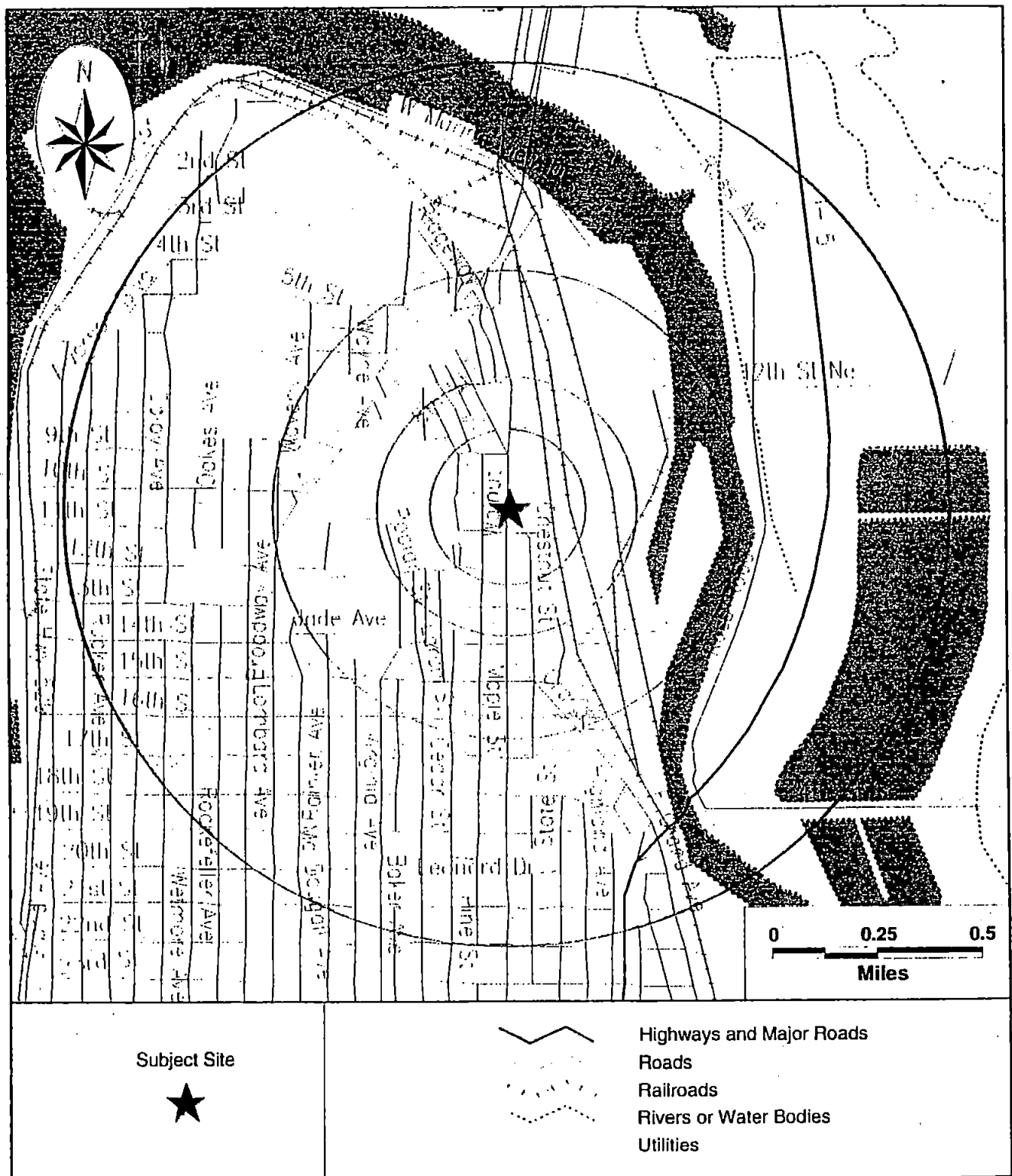
Map of Sites within 1/4 Mile



Subject Site 	Category: Databases Searched to: Single Sites Multiple Sites	A 1 mi.  	B 1/2 mi.  	C 1/4 mi.  	D 1/8 mi.  
 Highways and Major Roads  Roads  Railroads  Rivers or Water Bodies  Utilities		NPL, SPL, CORRACTS (TSD), SCL	CERCLIS/ NFRAP, TSD, LUST, SWLF	UST	ERNS, GENERATORS

SITE ASSESSMENT REPORT

Street Map



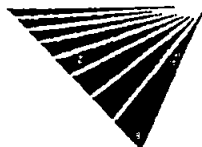
SITE ASSESSMENT REPORT

SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID DISTANCE DIRECTION	A				B				C	D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN
No Records Found														

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID DISTANCE DIRECTION	A				B				C	D			
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
1	EVERETT SCHOOL HAWTHORNE ELEMENTA 1110 POPLAR EVERETT, WA	3629340 0.24 MI W							X						

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID DISTANCE DIRECTION	A				B				C	D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN
2	WEYERHAEUSER EVERETT MILL 515 EAST MARINE VIEW DRIVE EVERETT, WA 98201	1846733 0.29 MI N							X		•			
3	EVERETT AREA 3 MNT HDQTRS SITE 709 N BROADWAY EVERETT, WA 98201	5749290 0.33 MI NW							X		•			
3	WDOT N BROADWAY EVERETT 709 N BROADWAY EVERETT, WA 98201	462259 0.33 MI NW							X					•
3	WSDOT - EVERETT MAINTENANCE YARD 709 N. BROADWAY EVERETT, WA 98201	6808462 0.34 MI NW									X			
4	BURLINGTON NORTHERN RR EVERETT 3429 15TH ST EVERETT, WA 98201	4864466 0.37 MI S									X			•
4	BNRR/DELTA YARD 3429 15TH ST EVERETT, WA 98201	5404181 0.41 MI SE				X								



X = search criteria; • = tag-along (beyond search criteria).

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Report ID: 437211-111

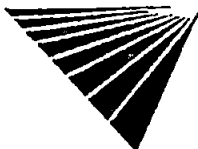
Date of Report: October 23, 1997

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MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID DISTANCE DIRECTION	A				B				C	D			
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
5	CITY OF EVERETT NORTHEAST VIEW PARK E. MARINE VIEW DR. (BETWEEN BUTLER AND EVERETT, WA 98201	4288162 0.38 MI N									X				
6	TIME OIL FOOD MART # 01-168 928 NORTH BROADWAY EVERETT, WA 98201	4267089 0.38 MI W							X		X				
6	TIME STATION 168 928 NORTH BROADWAY EVERETT, WA 98201	1842779 0.38 MI W							X			•			
7	EVERETT SCHOOL DIST BAKER HTS 2301 12TH ST EVERETT, WA	1852678 0.40 MI W							X		X				
8	EVERETT SMELTER/SLAG SITE S.R. 529 E MARINE VIEW DR EVERETT, WA 98201	2884107 0.48 MI N			X										

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	VISTA ID DISTANCE DIRECTION	A				B				C	D			
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
9	THE ALLEY SHOP 1321 BROADWAY EVERETT, WA 98201	1854173 0.56 MI W				X									
10	WEYERHAEUSER EVERET 101 E MARINE VIEW DR EVERETT, WA 98201	467079 0.77 MI N			X		•				•	•			



X = search criteria; • = tag-along (beyond search criteria).

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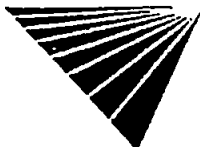
Report ID: 437211-111

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UNMAPPED SITES	A				B				C	D			
	NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	TOXICS	UST	ERNS	LG GEN	SM GEN
VISTA ID													
No Records Found													



X = search criteria; • = tag-along (beyond search criteria).

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SITE ASSESSMENT REPORT

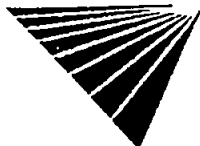
DETAILS

PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

No Records Found

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)

VISTA Address*:	EVERETT SCHOOL HAWTHORNE ELEMENTA 1110 POPLAR EVERETT, WA	VISTA ID#:	3629340	Map ID 1
		Distance/Direction:	0.24 MI / W	
		Plotted as:	Point	
STATE LUST - State Leaking Underground Storage Tank / SRC# 2761		Agency ID:	3803	
Agency Address:		SAME AS ABOVE		
Tank Status:		NOT AVAILABLE		
Discovery Date:		AUGUST 4, 1992		
Media Affected:		SOIL/LAND/SAND		
Substance:		NOT AVAILABLE		
Leak Cause:		UNAVAILABLE		
Leak Source:		NOT AVAILABLE		
Remedial Action:		NOT AVAILABLE		
Remedial Status 1:		CLEANUP IN PROGRESS/REQUIRED		
Remedial Status 2:		NOT AVAILABLE		
Fields Not Reported:		Quantity (Units)		
STATE LUST - State Leaking Underground Storage Tank / SRC# 3913		Agency ID:	200112	
Agency Address:		EVERETT SCHOOL HAWTHORNE ELEM 1110 POPLAR EVERETT, WA		
Tank Status:		NOT AVAILABLE		
Discovery Date:		AUGUST 4, 1992		
Media Affected:		SOIL/LAND/SAND		
Substance:		NOT AVAILABLE		
Leak Cause:		UNAVAILABLE		
Leak Source:		NOT AVAILABLE		
Remedial Action:		NOT AVAILABLE		
Remedial Status 1:		CLEANUP IN PROGRESS/REQUIRED		
Remedial Status 2:		NOT AVAILABLE		
Fields Not Reported:		Quantity (Units)		



* VISTA address includes enhanced city and ZIP.

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Report ID: 437211-111

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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)

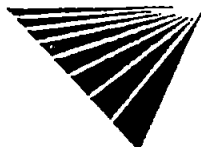
VISTA Address*:	WEYERHAEUSER EVERETT MILL 515 EAST MARINE VIEW DRIVE EVERETT, WA 98201	VISTA ID#:	1846733
		Distance/Direction:	0.29 MI / N
		Plotted as:	Point
STATE LUST - State Leaking Underground Storage Tank / SRC# 2761		Agency ID:	1186

Map ID

2

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Discovery Date:	MARCH 13, 1989
Media Affected:	SOIL/LAND/SAND
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913		Agency ID:	6579
Agency Address:		WEYERHAEUSER COMPANY 515 EAST MARINE VIEW DRIVE EVERETT, WA 98201	
Tank Status:	NOT AVAILABLE		
Discovery Date:	MARCH 13, 1989		
Media Affected:	SOIL/LAND/SAND		
Substance:	NOT AVAILABLE		
Leak Cause:	UNAVAILABLE		
Leak Source:	NOT AVAILABLE		
Remedial Action:	NOT AVAILABLE		
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		



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Report ID: 437211-111

Date of Report: October 23, 1997

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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	EVERETT AREA 3 MNT HDQTRS SITE 709 N BROADWAY EVERETT, WA 98201	VISTA ID#:	5749290
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		Plotted as:	Point

Map ID

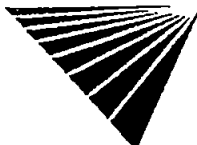
3

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	Agency ID:	12269
--	------------	-------

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Discovery Date:	NOVEMBER 20, 1990
Media Affected:	SOIL/LAND/SAND
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	EPA/Agency ID:	N/A
--	----------------	-----

Agency Address:	EVERETT AREA 3 MNT HDQTRS SITE 709 N BROADWAY EVERETT, WA 98201-1247
Tank Status:	NOT AVAILABLE
Discovery Date:	NOVEMBER 20, 1990
Media Affected:	SOIL/LAND/SAND
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)



* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 437211-111

Date of Report: October 23, 1997

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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	WDOT N BROADWAY EVERETT 709 N BROADWAY EVERETT, WA 98201	VISTA ID#:	462259
		Distance/Direction:	0.33 MI / NW
		Plotted as:	Point

Map ID

3

STATE LUST - State Leaking Underground Storage Tank / SRC# 2761	Agency ID:	2035
--	------------	------

Agency Address:	WDOT EVERETT MAINTENANCE 709 N BROADWAY EVERETT, WA 98201
Tank Status:	NOT AVAILABLE
Discovery Date:	NOVEMBER 20, 1990
Media Affected:	SOIL/LAND/SAND
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

VISTA Address*:	WSDOT - EVERETT MAINTENANCE YARD 709 N. BROADWAY EVERETT, WA 98201	VISTA ID#:	6808462
		Distance/Direction:	0.34 MI / NW
		Plotted as:	Point

Map ID

3

WA Toxics - Washington Toxics / SRC# 3815	EPA/Agency ID:	N/A
--	----------------	-----

Agency Address:	WSDOT - EVERETT MAINTENANCE YARD 709 N. BROADWAY EVERETT 98201, WA 98201
Region:	NOT REPORTED
State Detail Description:	NO
Contact:	NOT REPORTED
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:2/20/91 0:00:00
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM
Description:	ISSUE OF SITE REGISTER:91-24

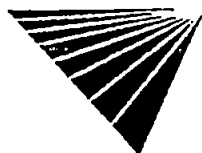
VISTA Address*:	BURLINGTON NORTHERN RR EVERETT 3429 15TH ST EVERETT, WA 98201	VISTA ID#:	4864466
		Distance/Direction:	0.37 MI / S
		Plotted as:	Point

Map ID

4

WA Toxics - Washington Toxics / SRC# 3815	EPA/Agency ID:	N/A
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Agency Address:	BURLINGTON NORTHERN DELTA YARD (TWO REP) 3429 15TH ST. EVERETT 98104, WA 98104
Region:	NOT REPORTED
State Detail Description:	NO
Contact:	NOT REPORTED
Description:	WASTE:PETROLEUM PRODUCT
Description:	DATE ECOLOGY RECEIVED REPORT:5/30/95 0:00:00
Description:	MEDIA:SOIL
Description:	REPORT TYPE:INTERIM



* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 437211-111

Date of Report: October 23, 1997

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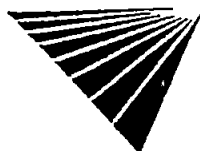
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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

Description:		ISSUE OF SITE REGISTER:94-05
WA Toxics - Washington Toxics / SRC# 3815		EPA/Agency ID: N/A
Agency Address:	BURLINGTON NORTHERN RAILROAD/DELTA YARD 3429 15TH ST. EVERETT 98201, WA 98201 NOT REPORTED	
Region:	NO	
State Detail Description:	NOT REPORTED	
Contact:	WASTE:PETROLEUM PRODUCT	
Description:	DATE ECOLOGY RECEIVED REPORT:9/7/94 0:00:00	
Description:	MEDIA:GROUNDWATER	
Description:	MEDIA:SOIL	
Description:	REPORT TYPE:INTERIM	
Description:	ISSUE OF SITE REGISTER:93-40	

VISTA Address*:	BNRR/DELTA YARD 3429 15TH ST EVERETT, WA 98201	VISTA ID#:	5404181	Map ID 4
		Distance/Direction:	0.41 MI / SE	
		Plotted as:	Point	
		Agency ID:	2841	
SCL - State Equivalent CERCLIS List / SRC# 3816				
Agency Address:	SAME AS ABOVE			
Status:	UNKNOWN			
Facility Type:	NOT AVAILABLE			
Lead Agency:	NOT AVAILABLE			
State Status:	INDEPENDENT REMEDIAL ACTION, INDEPENDENT SITE ASSESSMENT OR INTERIM RA RPT RECEIV			
Pollutant 1:	PETROLEUM			
Pollutant 2:	UNKNOWN			
Pollutant 3:	UNKNOWN			

VISTA Address*:	CITY OF EVERETT NORTHEAST VIEW PARK E. MARINE VIEW DR. (BETWEEN BUTLER AND EVERETT, WA 98201	VISTA ID#:	4288162	Map ID 5
		Distance/Direction:	0.38 MI / N	
		Plotted as:	Point	
		EPA/Agency ID:	N/A	
WA Toxics - Washington Toxics / SRC# 3815				
Agency Address:	CITY OF EVERETT NORTHEAST VIEW PARK E. MARINE VIEW DR. (BETWEEN BUTLER AND EVERETT 98201, WA 98201 NOT REPORTED			
Region:	NO			
State Detail Description:	NOT REPORTED			
Contact:	WASTE:METALS			
Description:	WASTE:PETROLEUM PRODUCT			
Description:	DATE ECOLOGY RECEIVED REPORT:6/11/93 0:00:00			
Description:	MEDIA:SOIL			
Description:	REPORT TYPE:INTERIM			
Description:	ISSUE OF SITE REGISTER:93-05			



SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	TIME OIL FOOD MART # 01-168 928 NORTH BROADWAY EVERETT, WA 98201	VISTA ID#:	4267089
		Distance/Direction:	0.38 MI / W
		Plotted as:	Point

Map ID

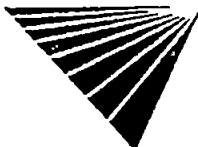
6

STATE LUST - State Leaking Underground Storage Tank / SRC# 2761	Agency ID:	4062
--	------------	------

Agency Address: SAME AS ABOVE
Tank Status: NOT AVAILABLE
Discovery Date: OCTOBER 28, 1992
Media Affected: GROUNDWATER, SOIL
Substance: NOT AVAILABLE
Leak Cause: UNAVAILABLE
Leak Source: NOT AVAILABLE
Remedial Action: NOT AVAILABLE
Remedial Status 1: CLEANUP IN PROGRESS/REQUIRED
Remedial Status 2: NOT AVAILABLE
Fields Not Reported: Quantity (Units)

WA Toxics - Washington Toxics / SRC# 3815	EPA/Agency ID:	N/A
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Agency Address: TIME OIL FOOD MART #01-168
 928 N. BROADWAY
 EVERETT 98201, WA 98201
Region: NOT REPORTED
State Detail Description: NO
Contact: NOT REPORTED
Description: WASTE: PETROLEUM PRODUCT
Description: DATE ECOLOGY RECEIVED REPORT: 10/27/93 0:00:00
Description: MEDIA: GROUNDWATER
Description: MEDIA: SOIL
Description: REPORT TYPE: INTERIM
Description: ISSUE OF SITE REGISTER: 93-18
Description: WASTE: PETROLEUM PRODUCT
Description: DATE ECOLOGY RECEIVED REPORT: 10/24/95 0:00:00
Description: MEDIA: GROUNDWATER
Description: MEDIA: SOIL
Description: REPORT TYPE: INTERIM
Description: ISSUE OF SITE REGISTER: 94-13
Description: WASTE: PETROLEUM PRODUCT
Description: DATE ECOLOGY RECEIVED REPORT: 10/16/96 0:00:00
Description: MEDIA: GROUNDWATER
Description: MEDIA: SOIL
Description: REPORT TYPE: INTERIM
Description: ISSUE OF SITE REGISTER: 94-40



* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 437211-111

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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	TIME STATION 168	VISTA ID#:	1842779
	928 NORTH BROADWAY	Distance/Direction:	0.38 MI / W
	EVERETT, WA 98201	Plotted as:	Point

Map ID

6

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	Agency ID:	4065
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Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Discovery Date:	OCTOBER 28, 1992
Media Affected:	SOIL/LAND/SAND
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913	EPA/Agency ID:	N/A
--	----------------	-----

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Discovery Date:	OCTOBER 28, 1992
Media Affected:	GROUNDWATER
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

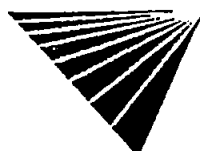
VISTA Address*:	EVERETT SCHOOL DIST BAKER HTS	VISTA ID#:	1852678
	2301 12TH ST	Distance/Direction:	0.40 MI / W
	EVERETT, WA	Plotted as:	Point

Map ID

7

STATE LUST - State Leaking Underground Storage Tank / SRC# 2761	Agency ID:	2398
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Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Discovery Date:	AUGUST 2, 1991
Media Affected:	SOIL/LAND/SAND
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)



* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 437211-111

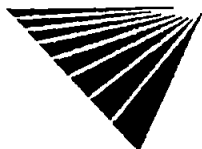
Date of Report: October 23, 1997

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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

STATE LUST - State Leaking Underground Storage Tank / SRC# 3913		Agency ID:	200480
Agency Address:	SAME AS ABOVE		
Tank Status:	NOT AVAILABLE		
Discovery Date:	AUGUST 2, 1991		
Media Affected:	SOIL/LAND/SAND		
Substance:	NOT AVAILABLE		
Leak Cause:	UNAVAILABLE		
Leak Source:	NOT AVAILABLE		
Remedial Action:	NOT AVAILABLE		
Remedial Status 1:	CLEANUP IN PROGRESS/REQUIRED		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		
STATE LUST - State Leaking Underground Storage Tank / SRC# 3913		EPA/Agency ID:	N/A
Agency Address:	EVERETT SCH DIS BAKER HTS 2301 12TH ST EVERETT, WA 98201		
Tank Status:	NOT AVAILABLE		
Discovery Date:	AUGUST 2, 1991		
Media Affected:	SOIL/LAND/SAND		
Substance:	NOT AVAILABLE		
Leak Cause:	UNAVAILABLE		
Leak Source:	NOT AVAILABLE		
Remedial Action:	NOT AVAILABLE		
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		
WA Toxics - Washington Toxics / SRC# 3815		EPA/Agency ID:	N/A
Agency Address:	EVERETT SCHOOL DISTRICT - BAKER HEIGHTS 2301 12TH ST. EVERETT 98201, WA 98201		
Region:	NOT REPORTED		
State Detail Description:	NO		
Contact:	NOT REPORTED		
Description:	WASTE:PETROLEUM PRODUCT		
Description:	DATE ECOLOGY RECEIVED REPORT:9/13/93 0:00:00		
Description:	MEDIA:SOIL		
Description:	REPORT TYPE:INTERIM		
Description:	ISSUE OF SITE REGISTER:93-04		



• VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

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SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	EVERETT SMELTER/SLAG SITE S.R. 529 E MARINE VIEW DR EVERETT, WA 98201	VISTA ID#:	2884107
		Distance/Direction:	0.48 MI / N
		Plotted as:	Point
SPL - State Equivalent Priority List / SRC# 3817		Agency ID:	2744
Agency Address:		SAME AS ABOVE	
Status:		UNKNOWN	
Facility Type:		NOT AVAILABLE	
Lead Agency:		NOT AVAILABLE	
State Status:		REMEDIAL ACTION IN PROGRESS	
Pollutant 1:		EPA PRIORITY POLLUTANTS-METALS CYANIDE	
Pollutant 2:		UNKNOWN	
Pollutant 3:		UNKNOWN	

Map ID

8

SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)

VISTA Address*:	THE ALLEY SHOP 1321 BROADWAY EVERETT, WA 98201	VISTA ID#:	1854173
		Distance/Direction:	0.56 MI / W
		Plotted as:	Point
SCL - State Equivalent CERCLIS List / SRC# 3816		Agency ID:	2730
Agency Address:		SAME AS ABOVE	
Status:		UNKNOWN	
Facility Type:		NOT AVAILABLE	
Lead Agency:		NOT AVAILABLE	
State Status:		AWAITING SITE HAZARD ASSESSMENT (SHA)	
Pollutant 1:		EPA PRIORITY POLLUTANTS-METALS CYANIDE	
Pollutant 2:		UNKNOWN	
Pollutant 3:		UNKNOWN	

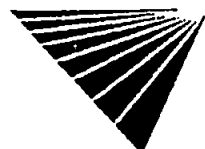
Map ID

9

VISTA Address*:	WEYERHAEUSER EVERET 101 E MARINE VIEW DR EVERETT, WA 98201	VISTA ID#:	467079
		Distance/Direction:	0.77 MI / N
		Plotted as:	Point
SPL - State Equivalent Priority List / SRC# 3817		Agency ID:	41
Agency Address:		SAME AS ABOVE	
Status:		UNKNOWN	
Facility Type:		NOT AVAILABLE	
Lead Agency:		NOT AVAILABLE	
State Status:		INDEPENDENT REMEDIAL ACTION, INDEPENDENT SITE ASSESSMENT OR INTERIM RA RPT RECEIV	
Pollutant 1:		METALS, CYANIDE, PETRO PROD, PHENLC CMPD	
Pollutant 2:		UNKNOWN	
Pollutant 3:		UNKNOWN	

Map ID

10



* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 437211-111

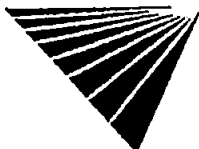
Date of Report: October 23, 1997

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UNMAPPED SITES

No Records Found



SITE ASSESSMENT REPORT

DESCRIPTION OF DATABASES SEARCHED

A) DATABASES SEARCHED TO 1 MILE

NPL
SRC#: 3622

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for NPL was April, 1997.

The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the US Dept of Health and Human Services and the US EPA in order to become an NPL site.

SPL
SRC#: 3817

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Confirmed Contaminated Sites Report was June, 1997.

This database is provided by the Department of Ecology, Toxics Cleanup Program.

SCL
SRC#: 3816

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Suspected Contaminated Sites Report was June, 1997.

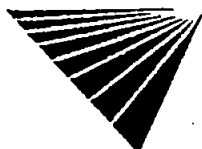
This database is provided by the Department of Ecology, Toxics Cleanup Program.

The Washington Affected Media and Contaminants Report includes sites in the following categories: (1) National Priorities List (NPL) Sites, Federal Lead; (2) National Priorities List (NPL) Sites, State Lead; (3) State Sites, Confirmed Hazardous Substances Sites (sites where the presence of hazardous substances has been confirmed by laboratory or field determinations; (4) Potential Hazardous Substance Sites, these sites have been reported to the Department of Ecology and further investigation including sampling is underway; (5) State Sites Undergoing Long-Term Monitoring; and (6) Sites For Which Cleanup is Complete. This report includes some leaking underground storage tank sites.

CORRACTS
SRC#: 3946

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for RCRA Corrective Action Sites List was August, 1997.

The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.



B) DATABASES SEARCHED TO 1/2 MILE

CERCLIS
SRC#: 3859

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS was July, 1997.

The CERCLIS List contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activities or events at the site, financial funding information for the events, and unrestricted enforcement activities.

NFRAP
SRC#: 3860

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS-NFRAP was July, 1997.

NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

RCRA-TSD
SRC#: 3946

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for RCRIS was August, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

SWLF
SRC#: 2763

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Municipal Sludge Waste Facilities was November, 1993.

This database is provided by the Department of Ecology, Solid Waste Services Program.

SWLF
SRC#: 2764

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Municipal Solid Waste Facilities was December, 1995.

This database is provided by the Department of Ecology, Solid Waste Services Program.

The Washington Solid Waste Inventory does not provide facility locations.

LUST
SRC#: 2761

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Northwest Region Leaking Underground Storage Tank Site List was November, 1995.

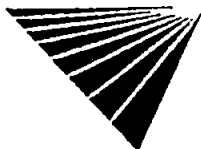
This database is provided by the Department of Ecology, Northwest Regional Office.

LUST
SRC#: 3913

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Leaking Underground Storage Tank List was July, 1997.

This database is provided by the Department of Ecology, Toxics Cleanup Program.

The Washington Department of Ecology Leaking Underground Storage Tank List contains some of the same sites included on the Regional lists. This list is being used because there are some "new" sites and it includes a site identification number. Because two lists are being used, sites may be reporting twice.



**WA Site
Register
SRC#: 3815**

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Toxic Cleanup Program Site Register was May, 1997.

This database is provided by the Department of Ecology, Toxics Cleanup Program.

The Washington Site Register Toxics Cleanup Program report details activities related to the study and cleanup of hazardous waste sites under the Model Toxics Control Act. Note that the State of Washington cautions that information contained under the Site Description is summarized information from an Independent Report and the Department of Ecology is not responsible for the accuracy of these reports. This report includes some leaking underground storage tank sites.

C) DATABASES SEARCHED TO 1/4 MILE

**UST's
SRC#: 3914**

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Underground Storage Tank Database was July, 1997.

This database is provided by the Department of Ecology, Solid Hazardous Waste Program; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

D) DATABASES SEARCHED TO 1/8 MILE

**ERNS
SRC#: 3949**

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for was July, 1997.

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of transportation. A search of the database records for the period October 1986 through March 1996 revealed information regarding reported spills of oil or hazardous substances in the stated area.

**RCRA-LgGen
SRC#: 3946**

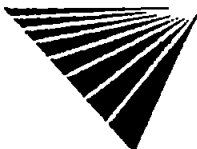
VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS was August, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste):

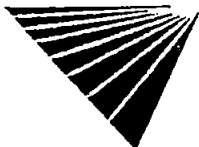
**RCRA-SmGen
SRC#: 3946**

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS was August, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small and Very Small generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.



End of Report



APPENDIX B

***Public Health Advisory
Everett Smelter Study Area***



**SNOHOMISH
HEALTH
DISTRICT**

**Environmental Health Division
Solid Waste and Toxics Section
3020 Rucker Avenue, Suite 102
Everett, WA 98201-3971
(425) 339-5250**

April 30, 1997

Dear Occupant/Homeowner:

Enclosed is a *Public Health Advisory* which the Snohomish Health District is issuing to all persons in the Everett Smelter Site Study area. This Advisory has been issued periodically since 1990, when the problem of elevated concentrations of arsenic, lead, and cadmium were found in the soil. The District obtained your address from a mailing list, which includes addresses of all homes in the Everett Smelter Site Study Area (see map on back), as well as addresses of other interested parties. The mailing list is now maintained by the Public Involvement Committee, which includes representatives from the Washington State Department of Ecology, Snohomish Health District, ASARCO Inc., Everett Housing Authority, City of Everett, the Northeast Everett Community Organization, and the Northwest Everett Neighborhood Organization. The Advisory will be in effect until the study, or cleanup activity, has been completed.

In addition to the Health Advisory, we are pleased to announce that an agreement between the Health District and ASARCO Inc. has been finalized. The Community Protection Measures Agreement will allow the Health District to provide public health services that the community has asked for in the past, but otherwise have not been funded. We are currently responding to complaints regarding the site and seeking resolution of potential exposure concerns. Later this summer, we hope to provide an educational program, a technical library, voluntary urine arsenic and blood lead testing, a soil disposal program and the development of a citizens' committee. More announcements will follow.

Detailed information about the Smelter Site or the Community Protection Measures Agreement can be obtained from the Everett Public Library, or at our office at 3020 Rucker Avenue. For general information concerning the area, please call Susan Lee (Washington State Department of Ecology) at (425) 649-7138, or me at (425) 339-5250.

Sincerely,

Mike Young, R.S.
Community Protection Measures Project Manager
Environmental Health Specialist

MY:sei

Enclosures



SNOHOMISH HEALTH DISTRICT
3020 Rucker Avenue, Suite 102
Everett, WA 98201-3971
425 339-5250

**PUBLIC HEALTH ADVISORY
UPDATE - April 1997**

**EVERETT SMELTER SITE AND SURROUNDING NEIGHBORHOOD
GUIDELINES FOR REDUCING POTENTIAL EXPOSURE**

While the Washington State Department of Ecology and ASARCO Inc. continue to work toward a cleanup solution for soils containing heavy metals in the Everett Smelter Site area, the Snohomish Health District is reissuing a health advisory to all persons who might live or work in the area. Please note that this advisory is not specific to any property, and that levels of metals found in the soil generally decrease with distance away from the original smelter site. The most recent addition to the study area includes property which may have metal concentrations at, or just above, naturally occurring levels found in soil. Most of the highly contaminated soil over the original smelter has been covered, fenced, or removed, and there appears to be no immediate danger to human health. Although it is uncertain if the remaining lower level concentrations of metal contamination (arsenic, lead, cadmium) in the soil pose a significant health concern, it is prudent to follow these precautionary health guidelines outlined below:

1. Children are more likely than adults to be exposed to arsenic, lead, and cadmium in soils and dust. Their exposure should be limited as much as practical.

- Children should not play in dirt. Play areas covered with grass, or some other material, will reduce a child's exposure.
- Encourage your children to wash their hands and faces after playing outdoors.
- Damp mop and dust your house frequently to reduce your child's contact with dust.

2. Avoid eating vegetables and fruit grown within the affected area.

- Lead and cadmium are known to accumulate in leafy vegetables such as lettuce, spinach, carrots, endive, cress and beet greens. Onions, mustard, potatoes, and radishes have a moderate ability to uptake heavy metals from the soil.
- It is not known if these metals accumulate in blackberries or other fruit, therefore they should be avoided until more information is available. Metals were not found above the laboratory detection limits in one set of apples tested by Asarco.
- If vegetables or fruit are consumed from local gardens, wash thoroughly before eating.

3. Use caution while working in the soil.

- Avoid all unnecessary exposure to soil or dust in the affected area. Moisten soil before moving it.

- When disturbing the soil, wear clean, full body protective clothing (coveralls or long sleeve shirt and pants), shoes, and gloves. For maximum protection wear a dust mask or other respiratory protection. Wash work clothes separate from other clothing.
- Avoid eating, drinking, smoking, or chewing any material while in the work area.
- Soil that is to be disturbed should be sprayed with water before and during the project to prevent the generation of dust.

4. Avoid other sources of metal exposure that could compound the metal contamination soil exposure.

- Minimize children's exposure to hobbies that use lead (e.g., hobbies that involve the use of lead soldering or painting).
- Make sure your child eats a well-balanced diet. Children who have acceptable iron and calcium intake, and low fat intake, are less likely to absorb lead from their environment.
- Maintain the painted surfaces in your home (if it was built prior to 1980) to avoid exposure to lead paint chips and dust.
- If your job involves the use of lead or lead compounds, or if you work in a lead industry, shower and change clothes before returning home.

5. Construction activity.

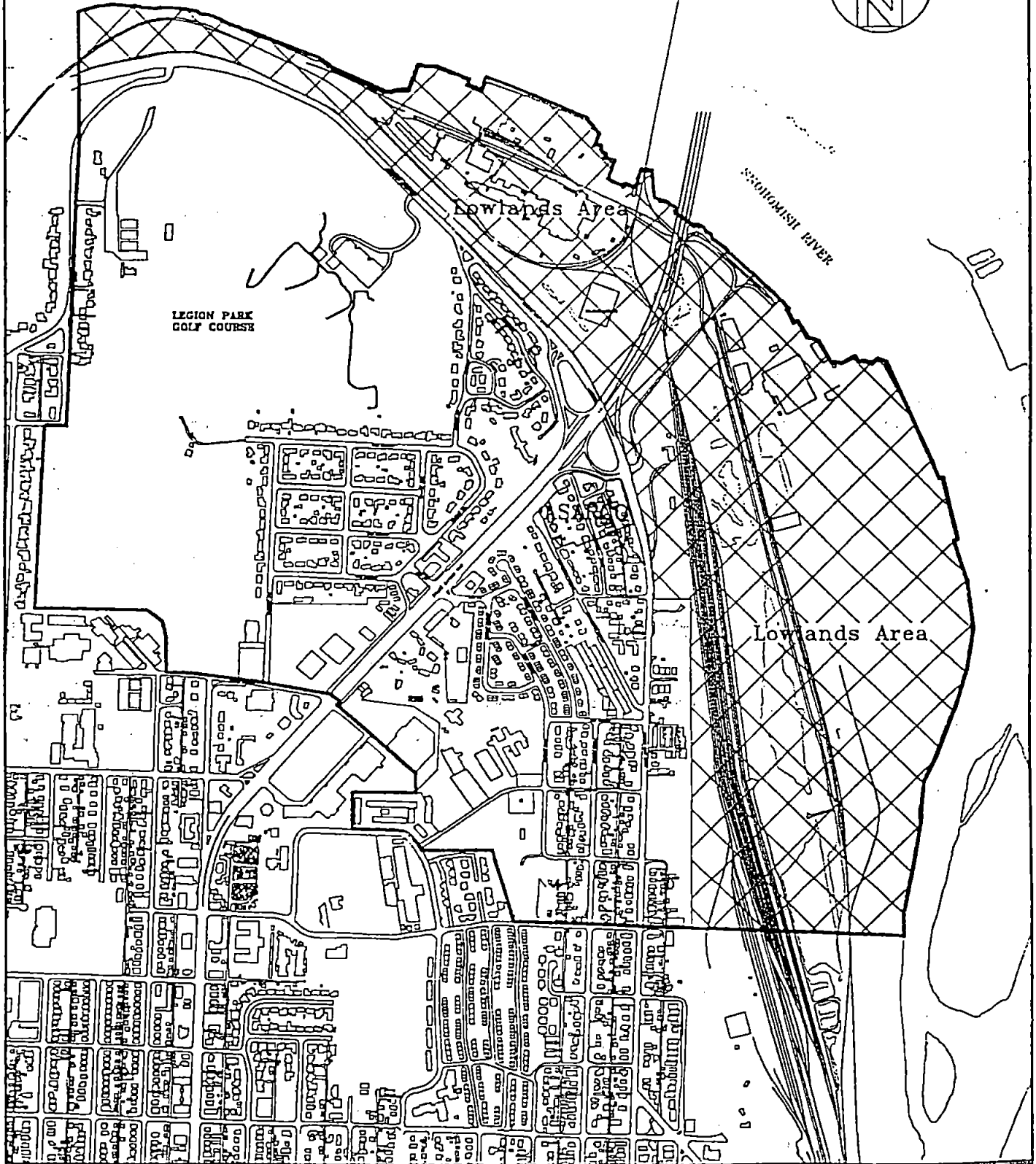
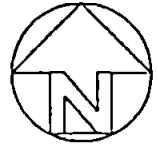
- Employees of companies which are required to work in soil within the study area should refer to WAC 296-62 (the General Occupational Health Standard), or consult the Department of Labor and Industries for assistance on how to reduce work related exposure to contaminated soil.
- Soil removal from any site in the study area must be carried out in consultation with the Snohomish Health District. Soils in the area may have the potential to be designated as Dangerous Waste due to high metals content.

6. Pet precautions.

- Testing of dog and cat hair show that these pets can come in contact with contaminated soil which may then be carried into the home. If possible, keep pets out of areas of exposed soil. Inspect your yard and look for exposed soil your pet may have access to. Fill any holes where dogs may be digging as soon as it is noticed. If possible, restrict pet access from your house. Bathe your pets frequently. Wash your hands after handling your pet, and before preparing or eating food.

If you are new to this community, or you know someone who is, please call Susan Lee at the Department of Ecology (425) 649-7138 for more information about the smelter site. Contact the Health District if you have any health related concerns. If you have any questions concerning this public health advisory, please call Mike Young of the Snohomish Health District at (425) 339-5250.

EXHIBIT A



Legend

- SITE BOUNDARY
- ASARCO OWNED

EVERETT SMELTER SITE
STUDY AREA (as of March 1, 1997)

Everett Smelter Site

WASHINGTON STATE
DEPARTMENT OF
ECOLGY

Update

The Washington Department of Ecology (Ecology) has prepared this fact sheet to update you on the activities at the Everett Smelter Site. The site is located in north-east Everett, Washington. All actions are being conducted according to the terms of the Model Toxics Control Act (MTCA), Chapter 70.105D, of the Revised Code of Washington (RCW).

Responsiveness Summary

The public comment period for the Remedial Investigation/Feasibility Study (RI/FS) Report was concluded on November 30, 1995. Five hundred and thirty-five comments were received. Most of the commentors were citizens in the Everett area. Less than twenty of the commentors identified themselves as representing a business, agency or other party.

Ecology is now writing responses to the comments in a Responsiveness Summary. In the Responsiveness Summary issues will be summarized from the comments. The responses then will be written to address the summarized issues.

Major issues in the comments include:

- regulations
- technical issues
- philosophy/rationale of cleanup
- health issues
- remediation methods
- institutional controls

- economic issues
- schedule.

If you commented to Ecology during the public comment period, you will receive a copy of the completed Responsiveness Summary by mail. The Responsiveness Summary will also be available at the Everett Public Library and Ecology's Northwest Regional Office in Bellevue.

Because of the volume of comments, the actual comment letters and transcripts will not be included in the Responsiveness Summary. The comment letters may be seen, however, at the information repositories listed above.

The Responsiveness Summary is due to be completed this summer.

New phase of work

With the completion of the public comment period for the RI/FS Report for the upland/soils portion of the site at the end of 1995, we have moved into a new phase of work. The previous phase was intended to define the nature and extent of soil contamination in the residential portion of the site. It also was intended to develop the alternatives to clean up the contamination in the residential area. The new phase focuses on choosing the appropriate cleanup alternatives and developing a plan for cleanup. A third phase will be to accomplish the cleanup.

May 1996

Contacts:

Department of Ecology
Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008-5452

Dave Nazy, Site Manager
(206) 649-7258

Susan Lee, Public Involvement
(206) 649-7138

Information Repositories:

Everett Public Library
2702 Hoyt Street
Everett, WA 98201
(206) 259-8000

Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452
(206) 649-7190

For special accommodation
needs or language translation
assistance, call (206) 649-7138 or
(206) 649-4259 (TDD).

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Continued From Page 2

- the relationship between upland area surface and ground water, and lowland area surface and ground water.

The investigation consists of soil borings, trench excavations, and monitoring well installations. The results of this investigation currently available indicate:

- Two separate aquifers in the lowland area contain elevated concentrations of arsenic.
- Upland area soils may be a contributing source of ground water contamination in the lowland area.
- Soils samples collected adjacent to East Marine View Drive, under the south-bound lane of State Route 529, contain elevated concentrations of arsenic, cadmium and lead.

Toxicity leaching study

Under Ecology oversight, Asarco is also conducting a Toxicity Characteristics Leaching Procedure (TCLP) investigation. TCLP is a lab test to measure the amount of contaminant that will leach from a soil sample.

This study will provide data that will be used to better estimate the soil arsenic concentration on the site expected to be designated as dangerous waste.

Interim actions inspections

Asarco is continuing the bi-monthly inspections of the interim actions conducted in 1992. These investigations are intended to identify areas where soil has become exposed. Asarco will repair any problems identified during the inspections.

Disturbing soil in the site area

Maintenance and construction projects that require the movement of soil continue to occur throughout the site area. The projects range from building a new driveway and landscaping

to installing utility poles, road construction, and redeveloping of entire properties. Any of these involve disturbance of soil that may contain elevated concentrations of arsenic.

If you are planning or conducting a project in the site area, you will want to:

- Obtain the available data on arsenic concentrations in the area of your project. The scope of your project and the arsenic concentrations you expect to encounter will help define what precautions you should take.
- Consider the need to collect and analyze soil samples before starting your project. Sampling may be required if you have obtained a building and grading permit from the City of Everett. This is especially important if the project results in excess soil requiring disposal. Depending on the arsenic concentration, the soil you generate could be classified as clean fill, problem waste, or dangerous waste. Handling and disposal of problem and dangerous wastes may result in additional issues and costs.
- Insure that each individual involved with the project has read and understood the Snohomish Health District's Public Health Advisory. The advisory provides general guidelines to follow when working with contaminated soil in the study area.
- Be aware that you are responsible for complying with regulations that are applicable to your project. Ecology cannot act as your consultant or approve your project. Nevertheless, Ecology is available to answer questions, provide information and offer technical assistance. The Snohomish Health District can provide information regarding soil testing and disposal options.

Who to turn to with your questions about the former smelter site

Washington State Department of Ecology

Toxics Cleanup Program

3190 160th Avenue SE

Bellevue, WA 98008-5452

Ecology oversees the investigation of contaminated sites and their cleanup, and is the lead regulatory agency for the Everett Smelter Site. Questions about the process, progress, schedule, public participation, sampling results and who is responsible for what can be direct to Ecology. You may also visit the Ecology office in Bellevue to review the studies, community comments and other public documents about the site.

- ~~Dave Nery~~, Ecology Site Manager (206) 649-7258 DAVE SOUTH fax 425 649-7098
- Susan Lee, Ecology Public Involvement (206) 649-7138

City of Everett Department of Public Works

3200 Cedar Street

Everett, WA 98201-4599

The City is responsible for zoning, building and grading permits, and street improvement projects.

- Dave Davis, City Engineer (206) 259-8913

Snohomish Health District

The Rucker Building

3020 Rucker Avenue, Suite 300

Everett, WA 98201-3971

Want to know what precautions are advised for you or your family when doing yard work or building a foundation? The Snohomish Health District issues advisories and answers specific health-related questions, as well as questions about soil testing and disposal options.

- Mike Young, Environmental Health Specialist (206) 339-5250 Fax 425-339-5254

Washington Department of Labor & Industries

8625 Evergreen Way, Suite 250

Everett, WA 98208

If your question concerns safety of employed workers on the site, such as construction or landscape contractors, you will want to call the Department of Labor & Industries.

- Joe Wolf, Industrial Hygienist (206) 290-1426

Everett Public Library

2702 Hoyt Street

Everett, WA 98201

Some residents like to research things for themselves, such as the results of soil tests in neighborhood soils. To look up the arsenic levels that were found in testing done for the remedial investigation of the Everett Smelter Site, visit the library and ask for the collection of studies and other public documents about the site.

- (206) 259-8000

ASARCO Incorporated

P.O. Box 1677

Tacoma, WA 98401

(Everett Information Center to be opened in Northeast Everett in Summer 1996)

Asarco can answer questions about the 36 properties it owns in the area and what it is doing to meet its legal and community obligations in Everett.

- Tom Aldrich, Site Manager 1-800-750-5436
- Clint Stanovsky, Information Center Coordinator (206) 259-0822

APPENDIX B

PHASE II

SITE ASSESSMENT

Geotech Consultants, Inc.

Phase 2 Environmental Site Assessment

March 20, 1998

Northpoint Apartment Site
City of Everett
SEPA # 98-073

PHASE 2 ENVIRONMENTAL SITE ASSESSMENT
Undeveloped Land
East Marine View Drive
Everett, Washington

GEOTECH CONSULTANTS, INC.

13256 NE 20th Street, Suite 16
Bellevue, WA 98005
(425) 747-5618
FAX (425) 747-8561

March 20, 1998

JN 97382E

Steffen Jacobson
3035 Fairweather Place
Hunts Point, Washington 98004-1002

Subject: **Phase 2 Environmental Site Assessment**
Undeveloped Land
East Marine View Drive
Everett, Washington

Dear Mr. Jacobson:

We are pleased to present this report on the undeveloped property located on the east side of East Marine View Drive in Everett, Washington. The subject property is within the area designated as the Everett Smelter Study Area. Soil within this area has the potential for containing concentrations of arsenic above natural background levels due to past activities at the former ASARCO smelter in Everett. This report describes our investigation of shallow soil conditions on the property and summarizes our methodologies, findings, and conclusions. It was prepared in accordance with the terms of our proposal dated February 12, 1998.

SCOPE OF WORK

The scope of work for this project was prepared after discussions with Mr. David South, the Washington Department of Ecology's Program Manager for the Everett Smelter Study Area, regarding number, location, and depth of samples. Using a hand auger, we made twelve borings on the property to a depth of 24 to 30 inches and obtained soil samples at six-inch intervals. Selected soil samples at each location were analyzed for arsenic.

METHODOLOGY

Soil Sampling Procedures

We used a steel hand auger to obtain soil samples at twelve locations on the property. The auger was washed in a laboratory-grade detergent and rinsed twice with deionized water between sampling locations.

Soil samples at each test interval were transferred from the auger directly to sterilized glass jars with Teflon-sealed lids furnished by the project laboratory. The samples were stored in an iced chest at the site and taken to the laboratory in the chest. Each jar was labeled as to boring number and sample depth. EPA-recommended sample management protocol, including the maintenance of chain-of-custody documentation, was observed at each stage of the project.

Laboratory Analysis

Initially, the upper soil sample at each location was analyzed for total arsenic by EPA Method 6010. At locations where the arsenic concentration was found to be approximately 100 parts per million (ppm), all lower samples were analyzed. At locations where the arsenic concentration was much than 50 ppm, the next two lower samples (to 18 inches) were analyzed.

This analytical approach is intended to provide a basis for comparing the site environment to existing standards offered in the Model Toxics Control Act (MTCA), Chapter 173-340, Washington Administrative Code.

FINDINGS

Surface

The subject property is a 4.22-acre parcel of land located along East Marine View Drive between 10th Street and 11th Street, approximately 1.75 miles northeast of downtown Everett. The Vicinity Map, Plate 1, illustrates the general location of the site. Land use in the surrounding area is characterized by residences to the north, south, and west and railroad tracks to the east. The property is the proposed location for a 240-unit apartment complex. It is currently undeveloped and covered with trees, brambles, grass, and other native vegetation. Historical research indicates that the property was undeveloped prior to 1947.

Subsurface

The test boring locations are illustrated on the Site Exploration Plan, Plate 2. In general, the subsurface soil at the boring locations consists of several inches of organic material underlain by an orange-brown, sandy silt with gravel.

Results of Laboratory Analysis

The results of the laboratory analysis of the soil samples are provided in the following table. Laboratory reports documenting the analysis are attached to this report. Shaded values exceed Method A Cleanup levels.

LABORATORY RESULTS ARSENIC IN SOIL¹

Depth	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
0-6"	100	44	28	ND	33	39	110	ND	26	26	18	98
6-12"	ND ²	ND	ND	27	ND	28	ND	ND	25	51	ND	ND
12-18"	ND	ND	ND	ND	ND	32	ND	ND	ND	75	ND	22
18-24"	ND	NT ³	NT	NT	NT	NT	ND	NT	NT	NT	NT	32
24-30"	NS ⁴	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	ND

Notes:

1. Results are reported in parts per million (ppm).
2. ND denotes not detected above the detection limit (10-16 ppm).
3. NT denotes not tested.
4. NS denotes not sampled.

The state cleanup guideline for arsenic in soil is published in the Model Toxics Control Act, Chapter 173-340 of the Washington Administrative Code (WAC), and have been set at 20.0 ppm for non-industrial areas. By contrast, the natural background level of arsenic in Puget Basin soils is estimated to be 7.3 ppm. Arsenic concentrations above the MTCA Method A cleanup level were found in nine of the twelve samples from the surface to six inches deep, in four of the twelve samples from six to twelve inches deep, and in three of the twelve samples from twelve to eighteen inches deep. Samples from 18 to 24 inches deep were tested at three locations, and the arsenic level was above the cleanup level at only one location. Two samples were tested from a depth of 24 to 30 inches and none showed a concentration above the detection limit of the test (10-16 ppm).

CONCLUSIONS

The results of the laboratory analysis of 41 soil samples collected from twelve locations and from as deep as 30 inches at the subject property suggest that arsenic is present in concentrations well above what is considered a natural background level. In general, arsenic concentrations above the MTCA Method A cleanup level appear to be limited to the upper 24 inches of soil, and decrease with depth. The arsenic concentrations across the property do not appear to be related to any particular surface or subsurface feature.

The Snohomish Health District has issued a Public Health Advisory offering guidelines for reducing potential exposure to elevated concentrations of metals by people living or working in the Everett Smelter Study Area. The Advisory notes that soil removed from the area has the potential to be designated as a Dangerous Waste due to high metals content and that construction activities should be planned to reduce potential exposure of workers to contaminated soil. Leachability studies would be required to determine if the site's soil would be classified as a dangerous waste.

Given the extensive amount of soil apparently affected by arsenic, it may be prudent to contact an environmental attorney regarding the rights of owners of land affected by the Everett Smelter.

LIMITATIONS

This report has been prepared for specific application to this project in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our proposal dated February 12, 1998.

This report is for the exclusive use of Steffen Jacobson, and his representatives, for specific application to this site. No warranty is expressed or implied. If new information is developed in future site work, which may include excavations, borings, or studies, Geotech Consultants, Inc. should be allowed to re-evaluate the conclusions of this report and provide amendments as required.

The following documents are attached to complete this report:

Plate 1	Vicinity Map
Plate 2	Sample Locations
Appendix	Laboratory Results

We appreciate our opportunity to provide environmental consulting services on this project. If you have any questions, or if we can be of further assistance, please do not hesitate to contact us.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

David Bair

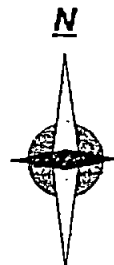
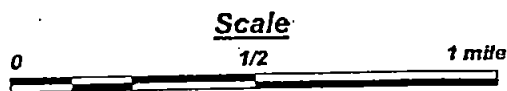
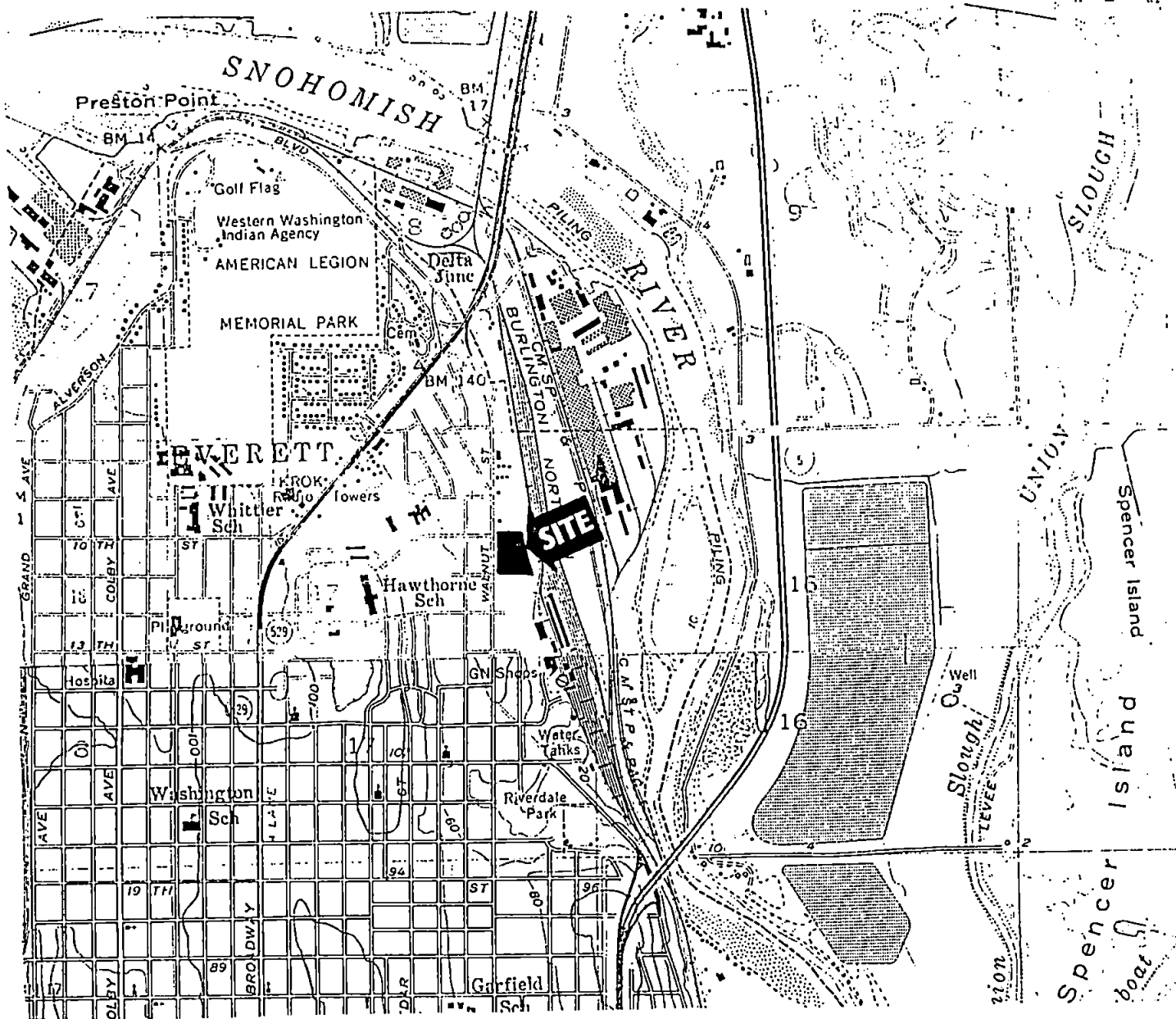
David Bair
Environmental Engineer



EXPIRES 8/17/99

James R. Finley, P.E.
Principal

DLB/JRF:alt



(Source: U.S. Geologic Survey map of Marysville and Everett Quadrangles, 1973)



GEOTECH
CONSULTANTS, INC.

VICINITY MAP

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:
97382E

Date:
March 1998

Plate:
1

East Marine View Drive

steep slope



100
ND
ND
ND
NT

B-1

44
ND
ND
NT
NT

B-2

28
ND
ND
NT
NT

B-3

ND
27
ND
NT
NT

B-4

33
ND
ND
NT
NT

B-5

39
28
32
NT
NT

B-6

110
ND
ND
ND
ND

B-7

ND
ND
ND
NT
NT

B-8

26
25
ND
NT
NT

B-9

26
51
75
NT
NT

B-10

18
ND
ND
NT
NT

B-11

98
ND
22
32
ND

B-12

Legend

Arsenic Concentration
In Soil v. Depth

0" - 6"	100
6" - 12"	65
12" - 18"	25
18" - 24"	10
24" - 30"	ND

Key:

50 = arsenic in parts per million
ND = not detected
NT = not tested



GEOTECH
CONSULTANTS, INC.

SAMPLE LOCATION PLAN

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

Job No:
97382E

Date:
March 1998

No Scale

Plate:
2

APPENDIX

Laboratory Results



**OnSite
Environmental Inc.**
Analytical Testing and Mobile Laboratory Services

February 26, 1998

Dave Bair
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Re: Analytical Data for Project 97382E
Laboratory Reference No. 9802-079

Dear Dave:

Enclosed are the analytical results and associated quality control data for samples submitted on February 18, 1998.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

Date of Report: February 26, 1998
 Samples Submitted: February 18, 1998
 Lab Traveler: 02-079
 Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted: 2-25-98
 Date Analyzed: 2-25-98
 Matrix: Soil
 Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-1 S-1	02-079-01	100	13
B-2 S-1	02-079-05	44	13
B-3 S-1	02-079-10	28	12
B-4 S-1	02-079-14	ND	13
B-5 S-1	02-079-19	33	14
B-6 S-1	02-079-23	39	13
B-7 S-1	02-079-27	110	15
B-8 S-1	02-079-32	ND	14
B-9 S-1	02-079-37	26	13
B-10 S-1	02-079-42	26	14
B-11 S-1	02-079-46	18	15
B-12 S-1	02-079-51	98	20

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

**TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL**

Date Extracted: 2-25-98
Date Analyzed: 2-25-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0225S1

Analyte	Method	Result	PQL
Arsenic	6010	ND	10

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

**TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL**

Date Extracted: 2-25-98
Date Analyzed: 2-25-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-07

Analyte	Sample, Result	Duplicate Result	RPD	Flags	PQL
Arsenic	ND	ND	NA		10

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

**TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL**

Date Extracted: 2-25-98
Date Analyzed: 2-25-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-07

Analyte	Spike , Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	78.0	78	75.1	75	3.8	

Date of Report: February 26, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

Date Analyzed: 2-25-98

% MOISTURE

Client ID	Lab ID	% Moisture
B-1 S-1	02-079-01	23
B-2 S-1	02-079-05	24
B-3 S-1	02-079-10	15
B-4 S-1	02-079-14	25
B-5 S-1	02-079-19	29
B-6 S-1	02-079-23	23
B-7 S-1	02-079-27	33
B-8 S-1	02-079-32	26
B-9 S-1	02-079-37	25
B-10 S-1	02-079-42	26
B-11 S-1	02-079-46	35
B-12 S-1	02-079-51	50



DATA QUALIFIERS AND ABBREVIATIONS

- A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.
 - D - Data from 1:_____ dilution.
 - E - Value reported exceeds the quantitation range. Value is an estimate.
 - F - Surrogate recovery data not available due to the high concentration in the sample.
 - G - Insufficient sample quantity for duplicate analysis.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD outside control limits due to sample inhomogeneity. Sample re-extracted and re-analyzed with similar results.
 - L - Quantitated from C7-C34 as diesel fuel #2.
 - M - Predominantly _____ range hydrocarbons present in the sample.
 - N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
 - N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.
 - O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
 - O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.
 - P1 - Hydrocarbons in the diesel range (C12-C24) present in the sample which are elevating the oil result.
 - R - Hydrocarbons outside defined gasoline range present in the sample.
 - S - Surrogate recovery data not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.
 - Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.
- ND - Not Detected
 MRL - Method Reporting Limit
 PQL - Practical Quantitation



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants

Project No.: 97382E

Project Name: Jacobson

Project Manager: Dave Bair

Chain of Custody

Page 1 of 5

Turn Around Requested		Project Chemist: <u>DAB</u>		Laboratory No.												
(Check One)		Requested Analysis														
<input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> (other)		NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic	hold	% Moisture
1	B-1 S-1	2-17	S	1										X		X
2	{ S-2 S-3 S-4	{	{	{	{	{	{	{	{	{	{	{	{	{	{	{
3																
4																
5	B-2 S-1	{	{	{	{	{	{	{	{	{	{	{	{	{	{	{
6																
7																
8																
9																
10	B-3 S-1												X			X
11	I S-2													X		

RELINQUISHED BY <u>Bruin</u>	DATE <u>2-18-98</u>	RECEIVED BY <u>Anders Koch</u>	DATE <u>2/18/98</u>	COMMENTS:
FIRM <u>GCI</u>	TIME <u>900</u>	FIRM <u>On Site Env.</u>	TIME <u>9:00</u>	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	
FIRM	TIME	FIRM	TIME	
REVIEWED BY	DATE REVIEWED			



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company:

Geotech Consultants

Project No.:

97382E

Project Name:

Jacobson

Project Manager:

Dave Bair

Chain of Custody

Page

or

5

Turn Around Requested						Project Chemist: <u>DAB</u>		Laboratory No.												
(Check One)						Requested Analysis														
<input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Standard <input type="checkbox"/> (other)						NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCBs by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic	hold	% Moisture
12	B-3	S-3	2-17	S	1														X	
13	1	S-4																X		
14	B-4	S-1															X			X
15		S-2																X		
16		S-3																X		
17		S-4																X		
18		S-5																X		
19	B-5	S-1															X			X
20		S-2																X		
21		S-3																X		
22		S-4																X		
	<u>in</u>	<u>BBB</u>																X		

RELINQUISHED BY <u>DAB</u>	DATE <u>2-18-98</u>	RECEIVED BY <u>Kristen Koch</u>	DATE <u>2/18/98</u>	COMMENTS:
FIRM <u>GCI</u>	TIME <u>0900</u>	FIRM <u>OnSite Env.</u>	TIME <u>9:00</u>	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	
FIRM	TIME	FIRM	TIME	
REVIEWED BY	DATE REVIEWED			



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants

Project No.: 97382E

Project Name: Jacobson

Project Manager: Dave Bair

Chain of Custody

Page 1 of 5

Turn Around Requested		Project Chemist: <u>DAB</u>		Laboratory No.	
(Check One)		Requested Analysis			
<input type="checkbox"/> Same Day.		NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	
<input type="checkbox"/> 24 Hours		Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	
<input type="checkbox"/> 48 Hours		PAHs by 8270/625	PCBs by 8081/608	Total RCRA Metals (8)	
<input checked="" type="checkbox"/> Standard		TCLP Metals	VPH	EPH	
<input type="checkbox"/> (other) _____		Organic	hold		
					% Moisture

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.
23	B-6 S-1	2-17		S	1
24	S-2				
25	S-3				
26	S-4				
27	B-7 S-1				
28	S-2				
29	S-3				
30	S-4				
31	S-5				
32	B-8 S-1				
33	S-2				
34	S-3				

RELINQUISHED BY <u>DBair</u>	DATE <u>2-18-98</u>	RECEIVED BY <u>Brynn Koch</u>	DATE <u>2/18/98</u>	COMMENTS:
FIRM <u>GCI</u>	TIME <u>0900</u>	FIRM <u>OnSite Env.</u>	TIME <u>9:00</u>	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	
FIRM	TIME	FIRM	TIME	
REVIEWED BY	DATE REVIEWED			



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company:

Geo tech Consultants

Project No.:

97382E

Project Name:

Jacobson

Project Manager:

Dave Bair

Chain of Custody

Page 1 of 5

Turn Around
Requested

(Check One)

☐ Same Day

☐ 24 Hours

☐ 48 Hours

☒ Standard

☐ (other)

Project Chemist:

DAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification		Date Sampled	Time Sampled	Matrix	# of Cont.	NWTF	NWTF	NWTF	Volatiles	Halogen	Semiv	PAHs	PCBs	Total H	TCLP	VPH	EPH	Gr							% Mo			
35	B-8	S-4	2-17		S	1																							
36	1	S-5																											
37	B-9	S-1																				X							
38	1	S-2																											
39	1	S-3																											
40	1	S-4																											
41	1	S-5																											
42	B-10	S-1																		X									
43	1	S-2																											
44	1	S-3																											
45	1	S-4																											
46																													

RELINQUISHED BY

OPCIN

DATE

2-18-98

RECEIVED BY

Kristen Koch
OnSite Env.

DATE

2/18/98

FIRM

GCI

TIME

0900

FIRM

TIME

9:00

RELINQUISHED BY

DATE

RECEIVED BY

DATE

FIRM

TIME

FIRM

TIME

REVIEWED BY

DATE REVIEWED

COMMENTS:



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants

Project No.: 97382E

Project Name: Jackson

Project Manager: Dave Bair

Chain of Custody

Page 5 of 5

Turn Around Requested		Project Chemist: <u>DAB</u>		Laboratory No.	
(Check One)		Requested Analysis			
<input type="checkbox"/> Same Day	<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> (other)	NWTPH-HCID	NWTPH-GxBTEX	NWTPH-Dx	Volatiles by 8240/624/8260
		Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608
		Total RCRA Metals (8)	TCLP Metals	VPH	EPH
		Organic			
		hold			
		% Moisture			

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.
46	B-11 S-1	2-17		S	1
48	S-2				
48	S-3				
48	S-4				
50	S-5				
51	B-12 S-1				
53	S-2				
53	S-3				
54	S-4				
55	not needed				
55	B-10 S-5 KK				

RELINQUISHED BY <u>DAB</u>	DATE <u>2-18-98</u>	RECEIVED BY <u>Brian Kach</u>	DATE <u>2/18/98</u>	COMMENTS: <u>Change per Dave Bair KK.</u>
FIRM <u>GCI</u>	TIME <u>0900</u>	FIRM <u>OnSite Env.</u>	TIME <u>9:00</u>	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	
FIRM	TIME	FIRM	TIME	
REVIEWED BY		DATE REVIEWED		



**OnSite
Environmental Inc.**
Analytical Testing and Mobile Laboratory Services

March 5, 1998

Dave Bair
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Re: Analytical Data for Project 97382E
Laboratory Reference No. 9802-079

Dear Dave:

Enclosed are the analytical results and associated quality control data for samples submitted on February 18, 1998.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted: 3-4-98
Date Analyzed: 3-5-98
Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-1 S-2	02-079-02	ND	13
B-1 S-3	02-079-03	ND	12
B-1 S-4	02-079-04	ND	12
B-2 S-2	02-079-06	ND	13
B-2 S-3	02-079-07	ND	13
B-3 S-2	02-079-11	ND	12
B-3 S-3	02-079-12	ND	12
B-4 S-2	02-079-15	27	14
B-5 S-2	02-079-20	ND	13
B-5 S-3	02-079-21	ND	13
B-6 S-2	02-079-24	28	13
B-6 S-3	02-079-25	32	13

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted: 3-4-98

Date Analyzed: 3-5-98

Matrix: Soil

Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-7 S-2	02-079-28	ND	13
B-7 S-3	02-079-29	ND	13
B-7 S-4	02-079-30	ND	13
B-7 S-5	02-079-31	ND	16
B-8 S-2	02-079-33	ND	12
B-8 S-3	02-079-34	ND	12
B-9 S-2	02-079-38	25	15
B-9 S-3	02-079-39	ND	13
B-10 S-2	02-079-43	51	15
B-10 S-3	02-079-44	75	15
B-11 S-2	02-079-47	ND	14
B-11 S-3	02-079-48	ND	13

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-12 S-2	02-079-52	ND	14
B-12 S-3	02-079-53	22	14
B-12 S-4	02-079-54	32	14

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0304S1

Analyte	Method	Result	PQL
Arsenic	6010	ND	10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0304S2

Analyte	Method	Result	PQL
Arsenic	6010	ND	10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-079-54

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Arsenic	22.6	23.6	4.6		10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

**TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL**

Date Extracted: 03-04-98
Date Analyzed: 03-05-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-6

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Arsenic	14.4	13.4	6.8		10

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

**TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL**

Date Extracted: 03-04-98
Date Analyzed: 03-05-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-079-54

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100'	110	87	111	89	1.8	

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL

Date Extracted: 03-04-98
Date Analyzed: 03-05-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-6

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	96.8	82	103	88	7.0	



**OnSite
Environmental Inc.**
Analytical Testing and Mobile Laboratory Services

March 6, 1998

Dave Bair
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Re: Analytical Data for Project 97382E
Laboratory Reference No. 9803-006

Dear Dave:

Enclosed are the analytical results and associated quality control data for samples submitted on March 3, 1998.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

TOTAL ARSENIC
EPA 6010

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
B-12 S-5	03-006-01	ND	13

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

**TOTAL ARSENIC
EPA 6010
METHOD BLANK QUALITY CONTROL**

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0304S2

Analyte	Method	Result	PQL
Arsenic	6010	ND	10

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

**TOTAL ARSENIC
EPA 6010
DUPLICATE QUALITY CONTROL**

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-06

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Arsenic	14.4	13.4	6.8		10

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

**TOTAL ARSENIC
EPA 6010
MS/MSD QUALITY CONTROL**

Date Extracted: 3-4-98
Date Analyzed: 3-5-98

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 02-098-06

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	93.8	82	103	88	7.0	

Date of Report: March 6, 1998
Samples Submitted: March 3, 1998
Lab Traveler: 03-006
Project: 97382E

Date Analyzed: 3-4-98

% MOISTURE

Client ID	Lab ID	% Moisture
B-12 S-5	03-006-01	25



DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1:____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N1 - Hydrocarbons in the gasoline range (C7-toluene) are present in the sample which are elevating the diesel result.

O1 - Hydrocarbons in the heavy oil range (>C24) are present in the sample which are elevating the diesel result.

P1 - Hydrocarbons in the diesel range (C12-C24) are present in the sample which are elevating the oil result.

Q - The RPD of the results between the two columns is greater than 25.

R - Hydrocarbons outside the defined gasoline range are present in the sample.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

Date of Report: March 5, 1998
Samples Submitted: February 18, 1998
Lab Traveler: 02-079
Project: 97382E

Date Analyzed: 3-4-98

% MOISTURE

Client ID	Lab ID	% Moisture
B-1 S-2	02-079-02	22
B-1 S-3	02-079-03	18
B-1 S-4	02-079-04	16
B-2 S-2	02-079-06	21
B-2 S-3	02-079-07	23
B-3 S-2	02-079-11	17
B-3 S-3	02-079-12	17
B-4 S-2	02-079-15	26
B-5 S-2	02-079-20	25
B-5 S-4	02-079-21	25
B-6 S-2	02-079-24	25
B-6 S-3	02-079-25	25
B-7 S-2	02-079-28	25
B-7 S-3	02-079-29	21
B-7 S-4	02-079-30	23
B-7 S-5	02-079-31	37
B-8 S-2	02-079-33	19
B-8 S-3	02-079-34	19
B-9 S-2	02-079-38	32
B-9 S-3	02-079-39	25
B-10 S-2	02-079-43	33
B-10 S-3	02-079-44	34
B-11 S-2	02-079-47	30
B-11 S-3	02-079-48	34
B-12 S-2	02-079-52	36
B-12 S-3	02-079-53	30
B-12 S-4	02-079-54	30



Company:	Geotech Consultants Inc.
Project No.:	97382E
Project Name:	Steven Jacobson
Project Manager:	Dave Bair

Page 2 of 2

[illegible]



OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1:____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N1 - Hydrocarbons in the gasoline range (C7-toluene) are present in the sample which are elevating the diesel result.

O1 - Hydrocarbons in the heavy oil range (>C24) are present in the sample which are elevating the diesel result.

P1 - Hydrocarbons in the diesel range (C12-C24) are present in the sample which are elevating the oil result.

Q - The RPD of the results between the two columns is greater than 25.

R - Hydrocarbons outside the defined gasoline range are present in the sample.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Object No.: 97382E
Object Name: Jacobson
Object Manager: Dave Bair

Chain of Custody

Page 1 of 5

Turn Around
Requested

(Check One)

☐ Same Day

☐ 24 Hours

☐ 48 Hours

☒ Standard

☐ _____
(other)

Project Chemist:

DAB

Laboratory No. 02-079

Requested Analysis

ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HClD	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic	hold	% Moisture
1	B-1 S-1	2-17		S	1													X		X
2	{ S-2 S-3 S-4	{	{	{	{													⊗	X	
3																		⊗	X	
4																		⊗	X	
5	B-2 S-1																	X		X
6	{ S-2 S-3 S-4	{	{	{	{													⊗	X	
7																		⊗	X	
8																			X	
9	S-5																		X	
10	B-3 S-1																	X		X
11	1 S-2																	⊗	X	

RELINQUISHED BY: <u>D. Bair</u>	DATE: <u>2-18-98</u>	RECEIVED BY: <u>Hester Koch</u>	DATE: <u>2/18/98</u>	COMMENTS: <u>Added 3/2/98 per D.B. For.</u> <u>D.B.</u>
FIRM: <u>GCI</u>	TIME: <u>900</u>	FIRM: <u>On Site Env.</u>	TIME: <u>9:00</u>	
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:	
FIRM:	TIME:	FIRM:	TIME:	
REVIEWED BY:	DATE REVIEWED:			



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company:

Geotech Consultants

Project No.:

97382E

Project Name:

Jacobson

Project Manager:

Dave Barr

Chain of Custody

Page 1 of 5

Turn Around Requested

(Check One)

- ☐ Same Day
☐ 24 Hours
☐ 48 Hours
☐ Standard
☐ (other)

Project Chemist:

DAB

Laboratory No. 02-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-GxBTEX	NWTPH-Dx	Volatiles by 8240/624/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic	hold	% Moisture
12	B-3 S-3	2-17		S	1													X	X	
13	1 S-4																	X		
14	B-4 S-1																	X		X
15	S-2																	X		
16	S-3																	X		
17	S-4																	X		
18	S-5																	X		
19	B-5 S-1																	X		X
20	S-2																	X		
21	S-3																	X		
22	S-4																	X		
	tu 8661																	X		

RELINQUISHED BY

DAB

DATE

2-18-98

RECEIVED BY

Kristen Koch
OnSite Env.

DATE

2/18/98

FIRM

GCI

TIME

0900

FIRM

OnSite Env.

TIME

9:00

RELINQUISHED BY

DATE

RECEIVED BY

DATE

FIRM

TIME

FIRM

TIME

REVIEWED BY

DATE REVIEWED

COMMENTS:

Added 3/2kg per Dave B.



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Geotech Consultants
Project No.: 97382E
Project Name: Jacobson
Project Manager: Dave Bair

Chain of Custody

Page 1 of 5

Turn Around Requested		Project Chemist: <u>DAB</u>		Laboratory No. <u>02-079</u>	
(Check One)		Requested Analysis			
<input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> (other)		NWTPH-HCID	NWTPH-GW/BTEX	NWTPH-DX	Volatiles by 8240/824/8260
					Halogenated Volatiles by 8260
					Semivolatiles by 8270/625
					PAHs by 8270/625
					PCB's by 8081/608
					Total RCRA Metals (9)
					TCLP Metals
					VPH
					EPH
					arsenic
					hold
					% Moisture

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-GW/BTEX	NWTPH-DX	Volatiles by 8240/824/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8081/608	Total RCRA Metals (9)	TCLP Metals	VPH	EPH	arsenic	hold	% Moisture
23	B-6 S-1	2-17		S	1													X		X
24	S-2																	⊗	X	
25	S-3																	⊗	X	
26	S-4																	⊗	X	
27	B-7 S-1																	X		X
28	S-2																	⊗	X	
29	S-3																	⊗	X	
30	S-4																	⊗	X	
31	S-5																	⊗	X	
32	B-8 S-1																	X		X
33	S-2																	⊗	X	
34	S-3																	⊗	X	

RELINQUISHED BY	DATE	RECEIVED BY	DATE	COMMENTS: ⊗ Added 3/2 hrs per Dave Bair
<u>OBair</u>	<u>2-18-98</u>	<u>Kristen Koch</u>	<u>2/18/98</u>	
FIRM	TIME	FIRM	TIME	
<u>GCI</u>	<u>0900</u>	<u>OnSite Env.</u>	<u>9:00</u>	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	
FIRM	TIME	FIRM	TIME	
REVIEWED BY	DATE REVIEWED			



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company:

Geotech Consultants

Project No.:

97382E

Project Name:

Jackson

Project Manager:

Dave Bair

Chain of Custody

Page 1 of 5

Turn Around Requested

(Check One)

☐ Same Day

☐ 24 Hours

☐ 48 Hours

☒ Standard

☐ (other)

Project Chemist:

DAB

Laboratory No. 02-079

Requested Analysis

14924 NE 31st Circle • Redmond, WA 98052 Fax: (425) 885-4603 • Phone: (425) 883-3881						<input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> _____ (other)																																			
Company: Geotech Consultants																																									
Project No.: 97382E																																									
Project Name: Jackson																																									
Project Manager: Dave Bair																																									
Lab ID	Sample Identification		Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/824/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/625	PAHs by 8270/625	PCBs by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic	hold	% Moisture																				
35	B-8	S-4	2-17		S	1																																			
36	1	S-5	}		}	}															X																				
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37	B-9	S-1																																			X		X		
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39	1	S-3																																			⊗	X			
40	1	S-4	}		}	}																																			
41	1	S-5																																					X		
42	B-10	S-1																																					X		X
43	1	S-2	}		}	}																																			
44	1	S-3																																					⊗	X	
45	1	S-4																																					⊗	X	
46																																									

RELINQUISHED BY

OBair

DATE

2-18-98

RECEIVED BY

Knoten Koch
OnSite Env.

DATE

2/18/98

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REVIEWED BY

DATE REVIEWED

COMMENTS:

Added 3/2/98 per D.Bair.



OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052
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Company: Geotech Consultants

Project No.: 97382E

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Project Manager: Dave Bair

Chain of Custody

Page 1 of 5

Turn Around Requested (Check One) <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> (other)	Project Chemist: <u>DAB</u> Laboratory No. <u>02-079</u>
Requested Analysis	

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8240/824/8260	Halogenated Volatiles by 8260	Semivolatiles by 8270/825	PAHs by 8270/825	PCBs by 8081/608	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	arsenic	hold	% Moisture
46	B-11 S-1	2-17		S	1													X		X
48	S-2																	X		
48	S-3																	X		
48	S-4																	X		
50	S-5																	X		
52	B-12 S-1																	X		X
53	S-2																	X		
53	S-3																	X		
54	S-4																	X		
55	not received																	X		
56	B-16 S-5 KK																			

RELINQUISHED BY <u>DBair</u>	DATE <u>2-18-98</u>	RECEIVED BY <u>Dustin Koch</u>	DATE <u>2/18/98</u>	COMMENTS: <u>Change per Dave Bair KK.</u> <u>Added 3/2/98 per D. Bair.</u>
FIRM <u>GCI</u>	TIME <u>0900</u>	FIRM <u>OnSite Env.</u>	TIME <u>9:00</u>	
RELINQUISHED BY	DATE	RECEIVED BY	DATE	
FIRM	TIME	FIRM	TIME	
REVIEWED BY	DATE REVIEWED			

APPENDIX C

GEOTECHNICAL ENGINEERING STUDY

GEOTECH CONSULTANTS, INC.

13256 NE 20th Street, Suite 16
Bellevue, WA 98005
(425) 747-5618
FAX (425) 747-8561

August 17, 1998

JN 98313

Steffen Jacobson
3035 Fairweather Place
Hunts Point, Washington 98004-1002

Subject: **Geotechnical Engineering Study**
Proposed North Point Apartments
East Marine View Drive
Everett, Washington

Dear Mr. Jacobson:

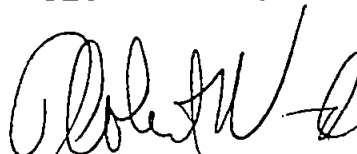
We are pleased to present this geotechnical engineering report for the proposed North Point Apartments to be constructed on East Marine View Drive in Everett, Washington. The scope of our work consisted of exploring site surface and subsurface conditions, and then developing this report to provide recommendations for general earthwork and design criteria for foundations, and retaining walls. You authorized our work by accepting our proposal, P-4616, dated July 14, 1998.

The subsurface conditions of the proposed apartment complex were explored with ten test pits that generally encountered a thin topsoil layer and 3 to 5 feet of loose to medium dense weathered soils overlying dense to very dense glacial till. However, in the western third of the property, 6 to 10 feet of unengineered fill overlies the native soils. Based on the proposed basement levels for the buildings, we anticipate that the fill soils will be removed during site excavation. Conventional footings bearing on the dense, native soils beneath the topsoil and loose weathered soils should be used to support the proposed apartment buildings; the weathered soils and structural fill can be used to support the basement slabs. In general, much of the on-site soils are moisture sensitive and will make wet weather grading and earthwork more difficult.

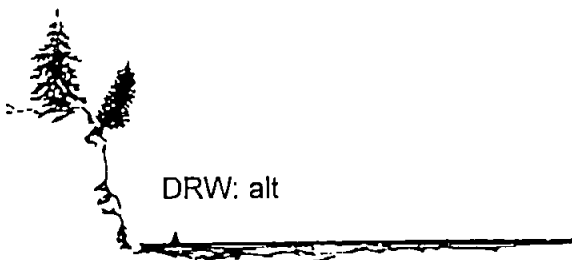
The attached report contains a discussion of the study and our recommendations. Please contact us if there are any questions regarding this report, or if we can be of further assistance during the design and construction phases of this project.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.



Robert Ward, P.E.
Associate



DRW: alt

**GEOTECHNICAL ENGINEERING STUDY
Proposed North Point Apartments
East Marine View Drive
Everett, Washington**

This report presents the findings and recommendations of our geotechnical engineering study for the site of a proposed residential subdivision in Everett, Washington. The Vicinity Map, Plate 1, illustrates the general location of the site.

Development of the property is in the planning stage, and detailed plans were not made available to us. The site plans provided to us prior to our explorations depicted the proposed apartment building locations and floor elevations, along with topographic information. Based on this information, we understand that the project development includes three buildings, all with lower level parking mostly surrounded with surface parking. Two L-shaped buildings will be at the northwestern and southwestern portions of the site, while a T-shaped building will be located near the middle. Finish floor elevations for the buildings will range from 51 feet to 70 feet. Excavation depths of as much as 20 feet in the western portion of the site are anticipated. Several feet of fill will be required in the eastern part of the project to achieve the desired floor grade.

SITE CONDITIONS

Surface

The nearly rectangular site covers approximately 4.5 acres and is currently vacant. It has about 600 feet of frontage along the eastern side of East Marine View Drive and an average depth of about 335 feet. The 11th Street right-of-way, partially improved to provide access to neighboring residences, borders the southern property line.

The property is relatively flat from East Marine View Drive eastward for about 30 to 40 feet then drops moderately to steeply 10 to 15 feet in elevation. A second flat area that has the appearance of a former haul road extends nearly across the property from north to south. Continuing eastward, the ground slopes gently downward to the eastern property line and beyond. Topographic relief across the site from west to east is about 50 feet. The property is well-vegetated with trees and dense undergrowth. Concrete elements which appear to be a foundation for a small building were found near the center of the southern half of the site.

Subsurface

The subsurface conditions were explored by excavating ten test pits at the approximate locations shown on the Site Exploration Plan, Plate 2. The field exploration program was based upon the proposed construction and required design criteria, the site topography and access, the subsurface conditions revealed during excavation, and on the scope of work outlined in our proposal.

The test pits were excavated on July 24, 1998, with a trackhoe. A geotechnical engineer from our staff observed the excavation process, logged the test pits, and obtained representative samples of

the soils encountered. "Grab" samples of selected subsurface soils were collected from the trackhoe bucket. The Test Pit Logs are attached to this report as Plates 3 through 7.

In the westernmost portion of the site, adjacent to East Marine View Drive, the test pits encountered 6 to 10 feet of fill consisting of loose, brown, silty sand with some organics, gravel, and concrete and asphalt debris. Beneath 6 to 12 inches of topsoil, found below the fill or mostly at the ground surface, the native soils consist of 3 to 5 feet of loose to medium-dense, brown, weathered, silty sand with gravel which then became gray and very dense. The silty sands have been glacially consolidated and are referred to as glacial till. In our explorations, the dense to very dense glacial till was encountered to a maximum explored depth of 16.5 feet below existing surface grade.

The final logs represent our interpretations of the field logs and laboratory tests. The stratification lines on the logs represent the approximate boundaries between soil types at the exploration locations. The actual transition between soil types may be gradual, and subsurface conditions can vary between exploration locations. The logs provide specific subsurface information only at the locations tested. The relative densities and moisture descriptions indicated on the test pit logs are interpretive descriptions based on the conditions observed during excavation. The compaction of backfill was not in the scope of our services. Loose soil will therefore be found in the area of the test pits. If this presents a problem, the backfill will need to be removed and replaced with structural fill during construction.

Groundwater

No groundwater seepage was observed in any of the test pits, however, they were left open for only a short time period. It should be noted that groundwater levels vary seasonally with rainfall and other factors. We anticipate that groundwater could be found between the near-surface, weathered soil and the underlying glacial till and in more permeable soil layers or pockets within the till soils, especially during the normally wet winter and spring months.

CONCLUSIONS AND RECOMMENDATIONS

General

Based on the test pits and our observations made during our site visit, it is our opinion that the proposed multi-residential development is feasible on this site from a geotechnical engineering standpoint. The proposed buildings should be supported on conventional foundations bearing on the dense to very dense glacial till soils. Due to the large size of the buildings and the deep cuts proposed on the western ends of the buildings, we recommend that no structural fill be placed under any portion of the buildings due to the potential for differential settlement. Lean-mix concrete could be used beneath footings on the eastern sides of the buildings where the proposed finish floor levels are above the existing ground level.

One of the main geotechnical challenges for this project is the construction of the below-grade parking levels and the proximity of East Marine View Drive to the excavation. Because of the large cuts proposed for the two buildings near the western property line, temporary shoring would be needed unless construction easements can be acquired from the City of Everett. All cuts slopes in

the existing fill and weathered soils should be inclined at 1:1 (Horizontal: Vertical), and 0.75:1 (H:V) in the dense glacial till.

Due to the relatively high bearing capacities recommended in this report, extra care must be utilized to remove loosened or disturbed soils from the footing subgrades prior to concrete placement. The site soils are generally silty and moisture sensitive, therefore, it is important that the bearing surfaces be protected from disturbance, especially during wet weather. Although no structural fill should be placed beneath the proposed foundations, the bearing surface should be protected by a thin layer of lean concrete or a thin layer of washed crushed rock. This reduces the potential for disturbance of footing subgrades during placement of footing drains and reinforcing. The silty native soils will not be usable as structural fill in general during the wet season or when they have high moisture contents. Therefore, it would be advantageous to perform earthwork during the normally dry summer and early fall months when the soils will be drier or can be aerated to lower their moisture content.

Groundwater was not encountered in any of our test pits. However, if significant groundwater is encountered in the excavation, a system of underslab drains may be needed to ensure that seepage does not come through the basement slab. Underslab drainage considerations are covered more fully in the later section **Drainage Considerations**.

Geotech Consultants, Inc. should be allowed to review the final development plans to verify that the recommendations presented in this report are adequately addressed in the design. Such a plan review would be additional work beyond the current scope of work for this study, and it may include revisions to our recommendations to accommodate site, development, and geotechnical constraints that become more evident during the review process.

Conventional Foundations

The proposed structure can be supported on conventional continuous and spread footings bearing on undisturbed, dense to very dense, native soil. We recommend that continuous and individual spread footings have minimum widths of 16 and 24 inches, respectively. They should be bottomed at least 12 inches below the lowest adjacent finish ground surface for frost protection. The local building codes should be reviewed to determine if different footing widths or embedment depths are required. Footing subgrades must be cleaned of loose or disturbed soil prior to pouring concrete. Depending upon site and equipment constraints, this may require removing the disturbed soil by hand.

Because of the relatively high bearing values recommended in this report, lean concrete could be used to fill any areas of overexcavation. The lean-mix concrete should be at a 1-1/2 sack mix. No structural fill should be placed beneath the foundations.

An allowable bearing pressure of 5,000 pounds per square foot (psf) is appropriate for footings supported on competent native soil. A one-third increase in this design bearing pressure may be used when considering short-term wind or seismic loads. For the above design criteria, it is anticipated that the total post-construction settlement of footings founded on competent native soil, will be about one-half inch, with differential settlements on the order of one-quarter inch in a distance of 100 feet along a continuous footing.

Lateral loads due to wind or seismic forces may be resisted by friction between the foundation and the bearing soil, or by passive earth pressure acting on the vertical, embedded portions of the foundation. For the latter condition, the foundation must be either poured directly against relatively level, undisturbed soil, or surrounded by level, structural fill. We recommend using the following design values for the foundation's resistance to lateral loading:

Parameter	Design Value
Coefficient of Friction	0.50
Passive Earth Pressure	300 pcf

Where: (i) pcf is pounds per cubic foot, and (ii) passive earth pressure is computed using the equivalent fluid density.

If the ground in front of a foundation is loose or sloping, the passive earth pressure given above will not be appropriate. We recommend a safety factor of at least 1.5 for the foundation's resistance to lateral loading, when using the above design values.

Seismic Considerations

The site is located within Seismic Zone 3 as illustrated on Figure No. 16-2 of the 1997 Uniform Building Code (UBC). In accordance with Table 16-J of the 1997 UBC, the site soil profile is best represented by Profile Type S_c (Very Dense Soil). The glacial till soils which underlie the site are not susceptible to liquefaction during an earthquake.

Slabs-on-Grade

The building floors may be constructed as slabs-on-grade atop competent native soil or on structural fill. The subgrade soil must be in a firm, non-yielding condition at the time of slab construction or underslab fill placement. Any soft areas encountered should be excavated and replaced with select, imported structural fill.

All slabs-on-grade should be underlain by a capillary break or drainage layer consisting of a minimum 4-inch thickness of coarse, free-draining structural fill with a gradation similar to that discussed later in **Permanent Foundation and Retaining Walls**. In areas where the passage of moisture through the slab is undesirable, a vapor barrier, such as a 6-mil plastic membrane, should be placed beneath the slab. Additionally, sand should be used in the fine-grading process to reduce damage to the vapor barrier, to provide uniform support under the slab, and to reduce shrinkage cracking by improving the concrete curing process.

Permanent Foundation and Retaining Walls

Retaining walls backfilled on only one side should be designed to resist the lateral earth pressures imposed by the soil they retain. The following recommended design parameters are for walls that restrain level backfill:

Parameter	Design Value
Active Earth Pressure *	35.pcf
Passive Earth Pressure	350 pcf
Coefficient of Friction	0.50
Soil Unit Weight	135 pcf

Where: (i) pcf is pounds per cubic foot, and (ii) active and passive earth pressures are computed using the equivalent fluid densities.

* For restrained walls that cannot deflect at least 0.002 times its height, a uniform lateral pressure equal to $25H$ psf should be used as active earth pressure. H is the effective design height of the wall, including surcharges.

The values given above are to be used to design permanent foundation and retaining walls only. The passive pressure given is appropriate for the depth of level structural fill placed in front of a retaining or foundation wall only. We recommend a safety factor of at least 1.5 for overturning and sliding, when using the above recommended values to design the walls.

The design values given above do not include the effects of any hydrostatic pressures behind the walls and assume that no surcharge slopes or loads, such as vehicles, will be placed behind the walls. The surcharge due to traffic loads behind a wall can typically be accounted for by adding a uniform pressure equal to 2 feet multiplied by the above active fluid density.

Heavy construction equipment should not be operated behind retaining and foundation walls within a distance equal to the height of a wall, unless the walls are designed for the additional lateral pressures resulting from the equipment. The wall design criteria assumes that the backfill will be well-compacted in lifts no thicker than 12 inches. The compaction of backfill near the walls should be accomplished with hand-operated equipment to prevent the walls from being overloaded by the higher soil forces that occur during compaction.

Retaining Wall Backfill

Backfill placed behind retaining or foundation walls should be coarse, free-draining, structural fill containing no organics. This backfill should contain no more than 5 percent silt or clay particles and have no gravel greater than 4 inches in diameter. The percentage of particles passing the No. 4 sieve should be between 25 and 70 percent. For increased protection, drainage composites should be placed along cut slope faces, and the walls should be backfilled with pervious soil.

The purpose of these backfill requirements is to ensure that the design criteria for a retaining wall are not exceeded because of a build-up of hydrostatic pressure behind the wall. The top 12 to 18 inches of the backfill should consist of a compacted, relatively impermeable soil or topsoil, or the surface should be paved. The ground surface must also slope away from backfilled walls to reduce the potential for surface water to percolate into the backfill. The sub-section entitled **General Earthwork and Structural Fill** contains recommendations regarding the placement and compaction of structural fill behind retaining and foundation walls.

The above recommendations are not intended to waterproof the below-grade walls. If moist conditions or some seepage through the walls are not acceptable, waterproofing should be provided. This typically includes limiting cold-joints and wall penetrations, and using bentonite panels or membranes on the outside of the walls. Applying a thin coat of asphalt emulsion is not considered waterproofing, but it will only help to prevent moisture, generated from water vapor or capillary action, from seeping through the concrete.

Excavations and Slopes

Excavation slopes should not exceed the limits specified in local, state, and national government safety regulations. Temporary cuts to a depth of about 4 feet may be attempted vertically in unsaturated soil if there are no indications of slope instability. Based upon Washington Administrative Code (WAC) 296, Part N, the dense glacial till soil at the subject site would be classified as Type A. Therefore, temporary cut slopes greater than 4 feet in height cannot be excavated at an inclination steeper than 0.75:1 (Horizontal:Vertical), extending continuously between the top and the bottom of a cut. The weathered and fill soils are Type B, thus, temporary cuts greater than 4 feet in height cannot be excavated at an inclination steeper than 1:1 (H:V), extending continuously between the top and the bottom of a cut. Temporary cut slopes should extend no closer than 5 feet to traveled streets, alleys, or parking areas. Other excavation considerations are discussed in the **General** section.

The above recommended temporary slope inclination is based on what has been successful at other sites with similar soil conditions. Temporary cuts are those that will remain unsupported for a relatively short duration to allow for the construction of foundations, retaining walls, or utilities. Temporary cut slopes should be protected with plastic sheeting during wet weather. The cut slopes should also be backfilled or retained as soon as possible to reduce the potential for instability. Please note that sand can cave suddenly and without warning. Utility contractors should be made especially aware of this potential danger.

All permanent cuts into native soil should be inclined no steeper than 2:1 (H:V). To reduce the potential for shallow sloughing, fill must be compacted to the face of these slopes. This could be accomplished by overbuilding the compacted fill and then trimming it back to its final inclination. Water should not be allowed to flow uncontrolled over the top of any temporary or permanent slope. Also, all permanently exposed slopes should be seeded with an appropriate species of vegetation to reduce erosion and improve the stability of the surficial layer of soil.

Temporary Shoring

This section presents design considerations for cantilevered or tied-back soldier pile walls. We suggest that the contractor work closely with the structural engineer during the shoring design. The design should be submitted to Geotech Consultants, Inc. for review prior to beginning site excavation. We are available and would be pleased to assist in this design effort.

Cantilevered and Tied-Back Soldier Pile Walls

Cantilevered and tied-back soldier pile shoring systems have proven to be an efficient and economical method for providing excavation shoring. Tied-back walls are typically more economical than cantilevered walls where the depth of excavation is greater than 15 feet.

Soldier Pile Installation

Soldier pile walls would be constructed prior to commencing the excavation by setting steel H-beams in a drilled hole and grouting the space between the beam and the soil with concrete for the entire height of the drilled hole. We anticipate that the holes could be drilled without casing, but the contractor should be prepared to case the holes or use the slurry method if caving soil is encountered. Excessive ground loss in the drilled holes must be avoided to reduce the potential for settlement on adjacent properties. If water is present in a hole at the time the soldier pile is poured, concrete must be tremied to the bottom of the hole.

As excavation proceeds downward, the space between the piles should be lagged with treated timber, and any voids behind the timbers should be filled with pea gravel or a sand and fly ash slurry. The prompt and careful installation of lagging is important, particularly in loose or caving soil, to maintain the integrity of the excavation and provide safer working conditions. Additionally, care must be taken by the excavator to remove no more soil between the soldier piles than is necessary to install the lagging. Caving or overexcavation during lagging placement could result in loss of ground on neighboring properties.

1. For the excavation depths anticipated and with pile spacings of about 6 feet, nominal 4-inch lagging can be used.
2. Timber lagging should be designed for an applied lateral pressure of 30 percent of the design wall pressure, if the pile spacing is less than three pile diameters. For larger pile spacings, the lagging should be designed for 50 percent of the design load.

If permanent building walls are to be constructed against the shoring walls, drainage should be provided by attaching a geotextile drainage composite with a solid plastic backing, similar to Miradrain 6000, to the face of the lagging, prior to pouring the foundation wall. These drainage composites should be hydraulically connected to the foundation drainage system through weep holes placed in the foundation walls.

Soldier Pile Wall Design

Temporary cantilevered shoring with a level backslope should be designed for an active soil pressure equal to that pressure exerted by an equivalent fluid with a unit weight of 30 pcf. A surcharge of 15H psf should be added to the active pressure for 1:1 (H:V) slopes above shoring walls, where it is the height of the slope. Traffic surcharges can be accounted for by increasing the effective height of the shoring wall by 2 feet.

Lateral movement of the soldier piles below the excavation level will be resisted by an allowable passive soil pressure equal to that pressure exerted by a fluid with a density of

400 pcf. This soil pressure is valid only for a level excavation in front of the soldier pile; it acts on two times the grouted pile diameter. The minimum embedment below the floor of the excavation for cantilever soldier piles should be equal to the height of the "stick-up." The maximum bending moment in the soldier pile will occur at the point of zero shear, where the active and passive soil forces are equivalent. The depth of embedment below the bottom of the excavation can be calculated by determining the embedment that will satisfy moment equilibrium about the bottom of the pile and then adding 20 percent to that length to satisfy force equilibrium.

The vertical capacity of soldier piles will be developed by a combination of frictional shaft resistance along the embedded length and pile end-bearing.

<i>Parameter</i>	<i>Design Value</i>
Pile Shaft Friction	1,000 psf
Pile End-Bearing	10,000 psf

The above values assume that the excavation is level in front of the soldier pile and that the bottom of the pile is embedded a minimum of 10 feet below the floor of the excavation. The concrete surrounding the embedded portion of the pile must have sufficient bond and strength to transfer the vertical load from the steel section through the concrete into the soil.

Drainage Considerations

If foundation walls are constructed against the shoring walls, a drainage composite should be placed against the lagging prior to pouring the foundation wall. Weep pipes located no more than 6-feet-on-center should be connected to the drainage composite and pour into the foundation walls or the perimeter footing. A footing drain installed along the inside of the perimeter footing will be used to collect and carry the water discharged by the weep pipes to the storm drain system. Footing drains placed inside the building or behind backfilled walls should consist of 4-inch PVC pipe surrounded by at least 6 inches of 1-inch minus, washed rock wrapped in a non-woven, geotextile filter fabric (Mirafi 140N, Supac 4NP, or similar material). At its highest point, a perforated pipe invert should be at least as low as the bottom of the footing, and it should be sloped for drainage. All roof and surface water drains must be kept separate from the foundation drain system. For the best long-term performance, perforated PVC pipe is recommended for all subsurface drains.

If seepage is encountered in an excavation, it should be drained from the site by directing it through drainage ditches, perforated pipe or French drains, or by pumping it from sumps interconnected by shallow connector trenches at the bottom of the excavation.

The excavation and site should be graded so that surface water is directed off the site and away from the tops of slopes. Water should not be allowed to stand in any area where foundations, slabs, or pavements are to be constructed. Final site grading in areas adjacent to the building should slope away at least 2 percent, except where the area is paved.

General Earthwork and Structural Fill

Structural fill is defined as any fill placed under a building, behind permanent retaining or foundation walls, or in other areas where the underlying soil needs to support loads. All structural fill should be placed in horizontal lifts with a moisture content at, or near, the optimum moisture content. The optimum moisture content is that moisture content that results in the greatest compacted dry density. The moisture content of fill is very important and must be closely controlled during the filling and compaction process.

The allowable thickness of the fill lift will depend on the material type selected, the compaction equipment used, and the number of passes made to compact the lift. The loose lift thickness should not exceed 12 inches. We recommend testing the fill as it is placed. If the fill is not compacted to specifications, it can be recompacted before another lift is placed. This eliminates the need to remove the fill to achieve the required compaction. The following table presents recommended relative compactions for structural fill:

Location of Fill Placement	Minimum Relative Compaction
Beneath footings, slabs or walkways	95%
Behind retaining walls	90%
Beneath pavements	95% for upper 12 inches of subgrade; 90% below that level

Where: Minimum Relative Compaction is the ratio, expressed in percentages, of the compacted dry density to the maximum dry density, as determined in accordance with ASTM Test Designation D 1557-78 (Modified Proctor).

Use of On-Site Soil

If grading activities take place during wet weather, or when the silty, on-site soil is wet, site preparation costs may be higher because of delays due to rain and the potential need to import granular fill. The on-site soil is generally silty and therefore moisture-sensitive. Grading operations will be difficult during wet weather, or when the moisture content of this soil exceeds the optimum moisture content.

The moisture content of the silty, on-site soil must be at, or near, the optimum moisture content, as the soil cannot be consistently compacted to the required density when the moisture content is significantly greater than optimum. The moisture content of the on-site soil was generally above the estimated optimum moisture content at the time of our explorations.

Moisture-sensitive soil may also be susceptible to excessive softening and "pumping" from construction equipment, or even foot traffic, when the moisture content is greater than the optimum moisture content. It may be beneficial to protect footing subgrades with a layer of washed crushed rock or a thin layer of lean concrete to limit disturbance from traffic.

Ideally, structural fill that will be placed in wet weather should consist of a coarse, granular soil with a silt or clay content of no more than 5 percent. The percentage of particles passing the No. 200 sieve should be measured from that portion of soil passing the three-quarter-inch sieve.

LIMITATIONS

The analyses, conclusions, and recommendations contained in this report are based on site conditions as they existed at the time of our exploration and assume that the soil encountered in the test pits is representative of subsurface conditions on the site. If the subsurface conditions encountered during construction are significantly different from those observed in our explorations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary. Unanticipated soil conditions are commonly encountered on construction sites and cannot be fully anticipated by merely taking soil samples in test pits. Subsurface conditions can also vary between exploration locations. Such unexpected conditions frequently require making additional expenditures to attain a properly constructed project. It is recommended that the owner consider providing a contingency fund to accommodate such potential extra costs and risks. This is a standard recommendation for all projects.

This report has been prepared for the exclusive use of Steffen Jacobson, and his representatives, for specific application to this project and site. Our recommendations and conclusions are based on observed site materials, and selective laboratory testing and engineering analyses. Our conclusions and recommendations are professional opinions derived in accordance with current standards of practice within the scope of our services and within budget and time constraints. No warranty is expressed or implied. The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in our report for consideration in design. We recommend including this report, in its entirety, in the project contract documents so the contractor may be aware of our findings.

ADDITIONAL SERVICES

In addition to reviewing the final plans, Geotech Consultants, Inc. should be retained to provide geotechnical consultation, testing, and observation services during construction. This is to confirm that subsurface conditions are consistent with those indicated by our exploration, to evaluate whether earthwork and foundation construction activities comply with the intent of contract plans and specifications, and to provide recommendations for design changes in the event subsurface conditions differ from those anticipated prior to the start of construction. However, our work would not include the supervision or direction of the actual work of the contractor and its employees or agents. Also, job and site safety, and dimensional measurements, will be the responsibility of the contractor.

The scope of our work did not include an environmental assessment, but we can provide this service, if requested.

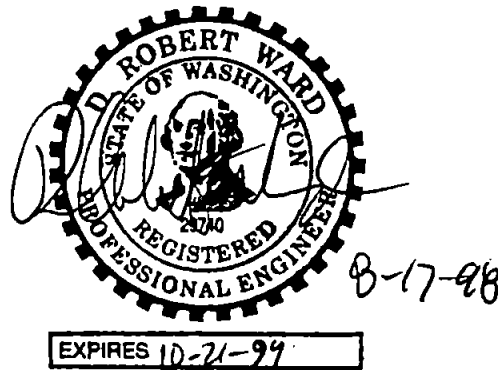
The following plates are attached and complete this report:

Plate 1	Vicinity Map
Plate 2	Site Exploration Plan
Plates 3 - 7	Test Pit Logs
Plate 8	Footing Drain Detail

We appreciate the opportunity to be of service on this project. If you have any questions, or if we may be of further service, please do not hesitate to contact us.

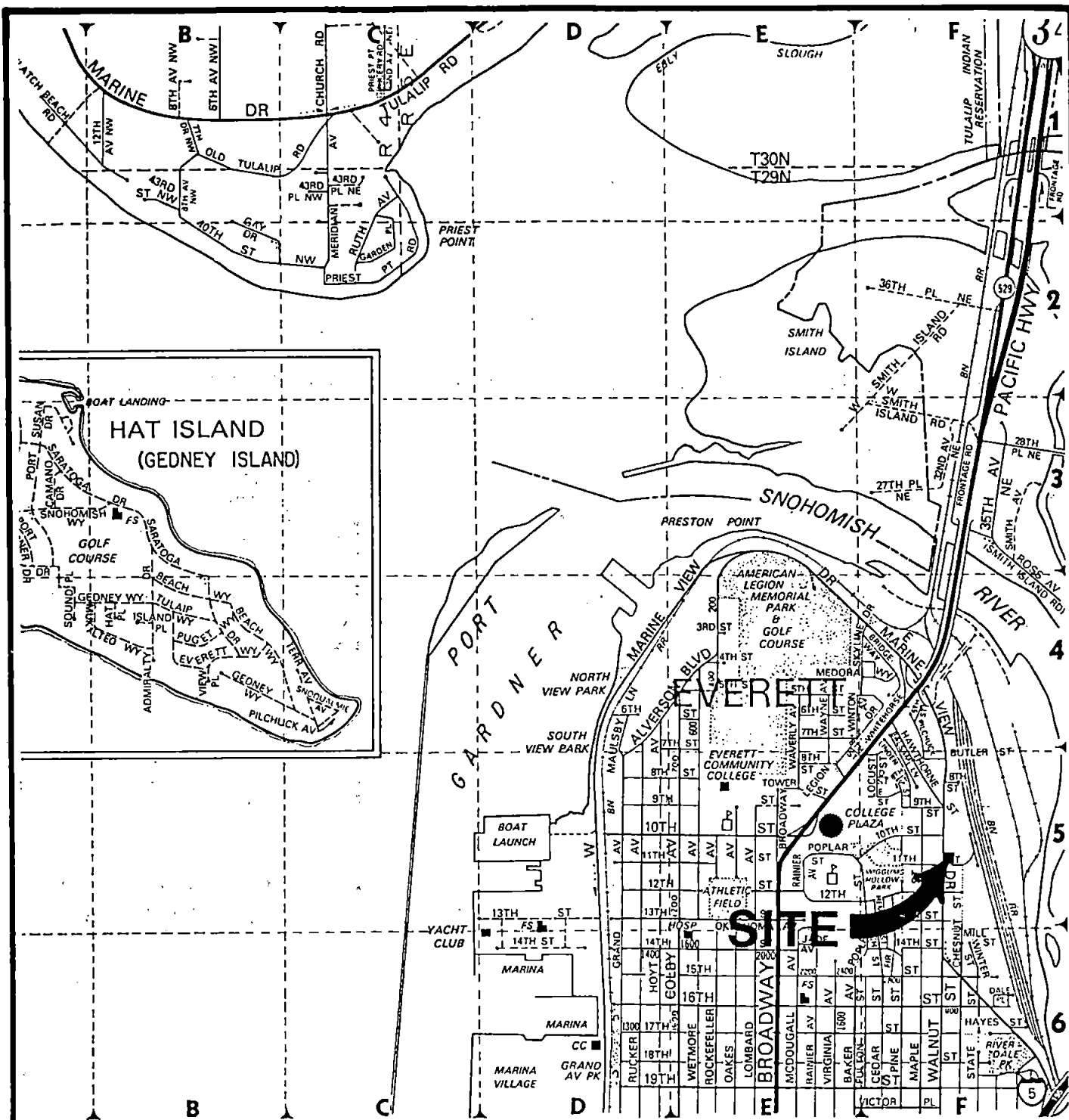
Respectfully submitted,

GEOTECH CONSULTANTS, INC.



D. Robert Ward, P.E.
Associate

DBG/DRW: alt



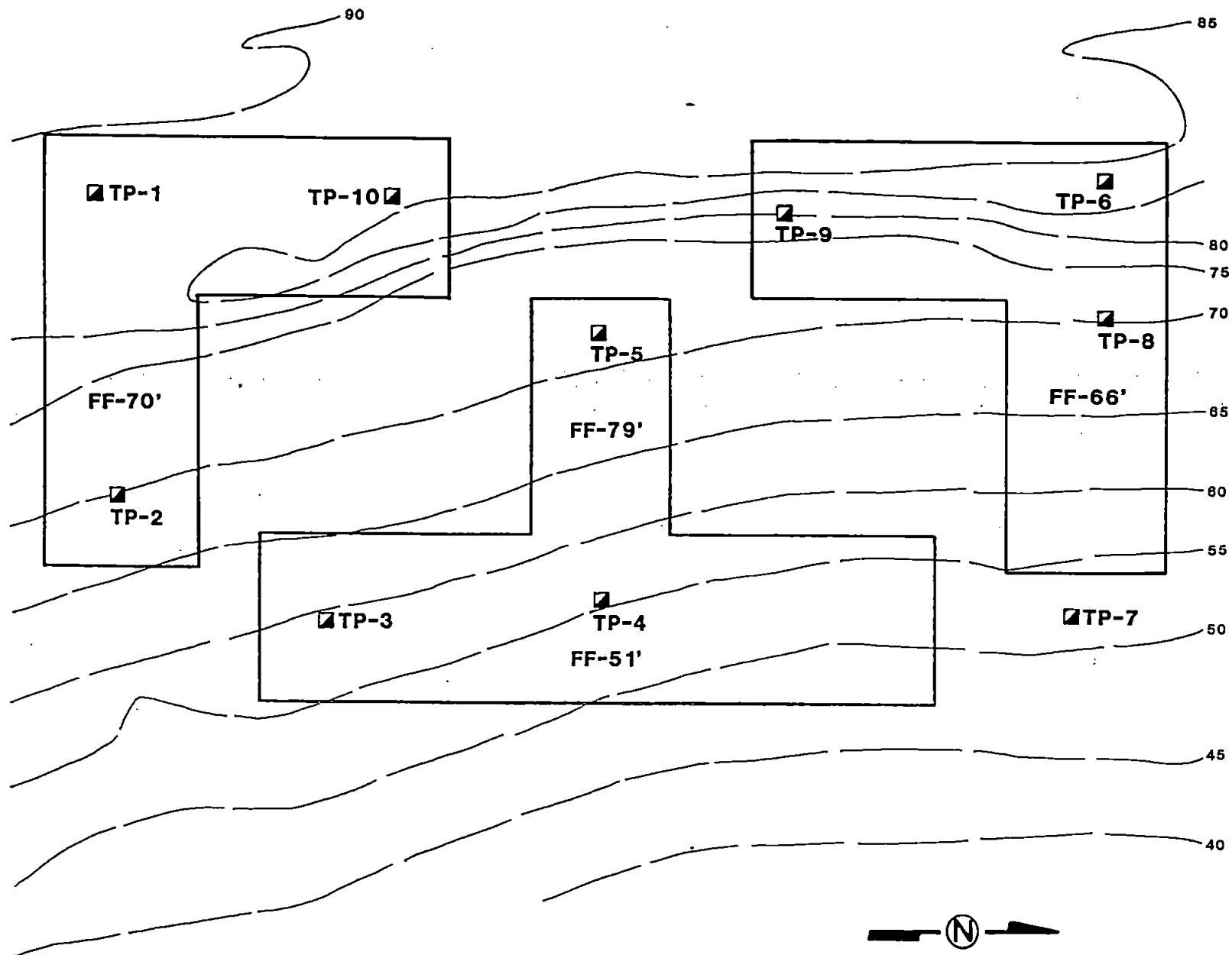
**GEOTECH
CONSULTANTS**

**VICINITY MAP
10XX E. MARINE VIEW DR.
EVERETT, WA**

Job No.:
98313

Date:
AUG 1998

Plate:
1



LEGEND:

■ APPROXIMATE TEST PIT LOCATIONS



SITE PLAN			
10XX E. MARINE VIEW DR. EVERETT, WA			
Job No.: 98313	Date: AUG 1998	Scale:	Plate: 2

TEST PIT 1

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
5			FILL	Tall grass, weeds Brown, silty SAND with some organics and gravel, moist, loose (FILL)
			SM	TOPSOIL
10				Red-brown, silty, fine SAND with some gravel, moist, loose to medium-dense
15			SM	Gray, silty SAND with some gravel, moist, dense to very dense (Glacial Till)

- * Test Pit was terminated at 16.5 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.

TEST PIT 2

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
				TOPSOIL
			SM	Red-brown, silty SAND with some gravel, fine-grained, dry, loose
5				Gray, silty SAND with gravel, moist, very dense (Glacial Till)
10			SM	
15				

- * Test Pit was terminated at 9.5 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.



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TEST PIT LOG

10xx East Marine View Drive
Everett, Washington

Job No: 98313	Date: July 1998	Logged by: DBG	Plate: 3
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TEST PIT 3

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
				TOPSOIL
			SM	Red-brown, silty SAND with some gravel, fine-grained, dry to moist, loose - becomes medium-dense
5				
			SM	Gray, silty SAND with some gravel, moist, very dense (<i>Glacial Till</i>)
10				
15				

- * Test Pit was terminated at 10 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.

TEST PIT 4

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
				TOPSOIL
			SM SP	Red-brown, silty SAND, fine- to medium-grained, dry, loose to medium-dense - becomes less silty
5				
			SM	Gray, silty SAND with some gravel, moist, very dense (<i>Glacial Till</i>)
10				
15				

- * Test Pit was terminated at 9 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.



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TEST PIT LOG

10xx East Marine View Drive
Everett, Washington

Job No: 98313	Date: July 1998	Logged by: DBG	Plate: 4
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TEST PIT 5

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
				TOPSOIL
			SM	Brown, silty SAND, dry, loose
5			SM	Gray, silty SAND with some gravel, moist, very dense (<i>Glacial Till</i>)
10				
15				

- * Test Pit was terminated at 8.5 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.

TEST PIT 6

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
			FILL	Light brown to brown, silty SAND with gravel, moist, loose to medium-dense (<i>FILL</i>) - with some asphalt debris and organics
5				
10			SM	Red-brown, silty SAND with some gravel, moist, medium-dense
15			SM	Gray, silty SAND with some gravel, moist, dense to very dense (<i>Glacial Till</i>)

- * Test Pit was terminated at 15.5 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.



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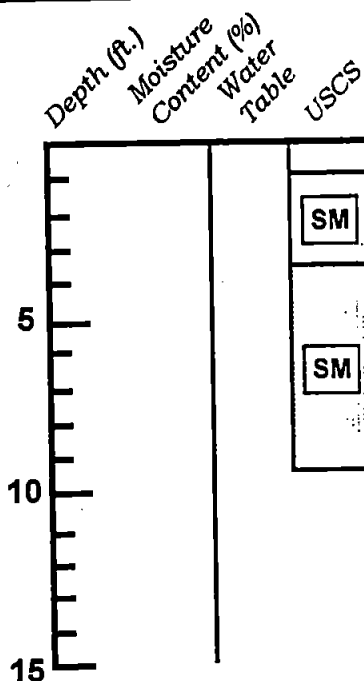
TEST PIT LOG

10xx East Marine View Drive
Everett, Washington

Job No: 98313	Date: July 1998	Logged by: DBG	Plate: 5
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TEST PIT 7

Description

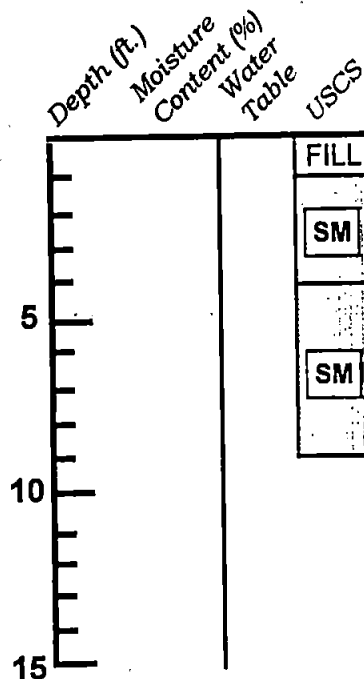


	TOPSOIL/Forest Duff
SM	Red-brown, silty SAND with some gravel, fine-grained, moist, loose to medium-dense
SM	Gray, silty SAND with gravel, moist, very dense (<i>Glacial Till</i>)

- * Test Pit was terminated at 9.5 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.

TEST PIT 8

Description



FILL	TOPSOIL (FILL)
SM	Red-brown, silty SAND with some gravel, fine-grained, dry to moist, loose - becomes medium-dense
SM	Gray, silty SAND with gravel, moist, very dense (<i>Glacial Till</i>)

- * Test Pit was terminated at 9 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.



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TEST PIT LOG

10xx East Marine View Drive
Everett, Washington

Job No: 98313	Date: July 1998	Logged by: DBG	Plate: 6
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TEST PIT 9

Description

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
5			FILL	Brown, silty SAND with some gravel, bricks and organics, moist, loose to medium-dense (FILL) - with occasional concrete debris and asphalt
10			SM	Red-brown, silty SAND with some gravel, fine-grained, moist, medium-dense
15			SM	Gray, silty SAND with gravel, moist, very dense (Glacial Till)

- * Test Pit was terminated at 15 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.

TEST PIT 10

Description

Depth (ft.)	Moisture Content (%)	Water Table	USCS	Description
5			FILL	Dark brown, silty SAND with gravel, organics and concrete/asphalt debris, loose to medium-dense (FILL)
10			SM	Red-brown, silty SAND with some gravel, fine-grained, moist, medium-dense
15			SM	Gray, silty SAND, moist, very dense

- * Test Pit was terminated at 13 feet on July 24, 1998.
- * No groundwater seepage was observed during excavation.
- * No caving was observed during excavation.

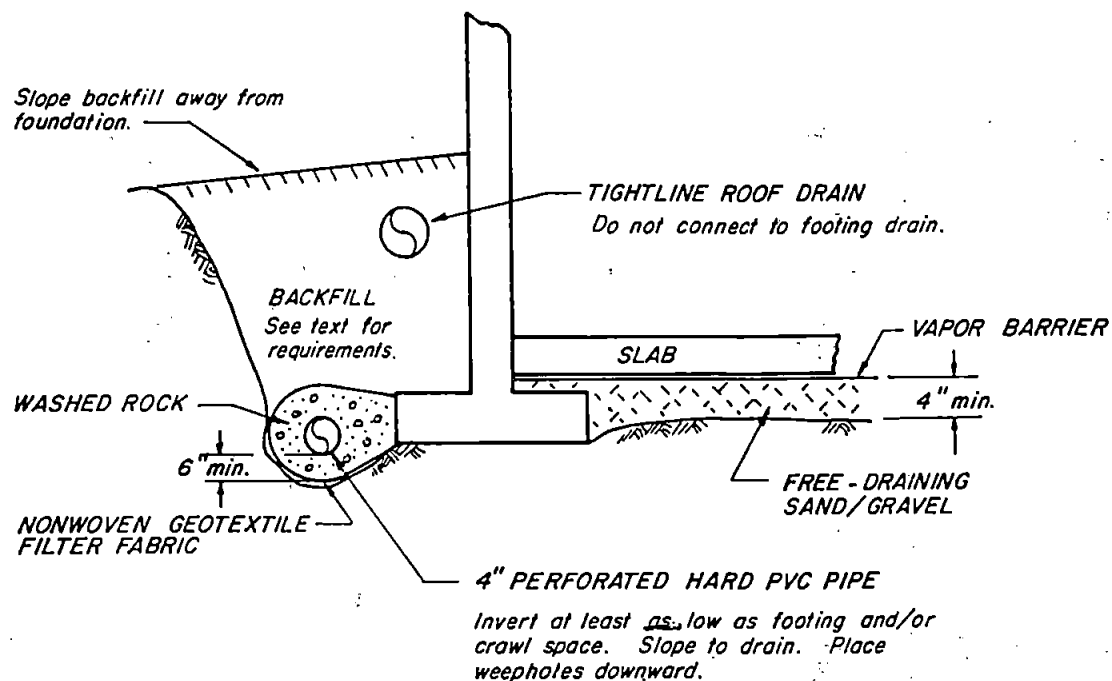


GEOTECH
CONSULTANTS, INC.

TEST PIT LOG

10xx East Marine View Drive
Everett, Washington

Job No: 98313	Date: July 1998	Logged by: DBG	Plate: 7
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**GEOTECH
CONSULTANTS**

FOOTING DRAIN DETAIL

**10XX E. MARINE VIEW DR.
EVERETT, WA**

Job No.:
98313

Date:
AUG 1998

Scale:
N.T.S.

Plate:
8

APPENDIX D

ENVIROCON WORK PLAN

REMEDIAL ACTION WORK PLAN
NORTH POINT APARTMENTS SITE
EVERETT, WASHINGTON
February 12, 2001

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APPENDIX I – TEST PIT LABORATORY ANALYTICAL
APPENDIX II – DUST CONTROL AND SPILL PREVENTION PROTOCOL
APPENDIX III – SUBCONTRACTORS

1.0 INTRODUCTION

Envirocon, Inc. has been contracted to provide environmental remediation services at the future North Point Apartment Site (SEPA # 73-98), 1001 East Marine View Drive in Everett, WA (Figure 1 Site Location Map). The site is currently an undeveloped lot. The scope of work on this project includes excavation and offsite disposal of approximately 17,000 cubic yards arsenic containing soils above the MTCA 20-ppm residential action level, and performance of confirmation sampling to verify that action levels have been met. In August 2000 Envirocon excavated and transported offsite approximately 5,100 cubic yards (8,000 tons) of impacted soils. These soils represented the original removal area footprint as determined by a previous site assessment performed by GeoTech Consultants. During excavation activities Envirocon obtained samples from the slope on the western side of the site. After the removal of site vegetation it became apparent that the material in the slope was visibly different in grade and appearance from the rest of the site and appeared to be fill brought into the site some time in the past. Sample analysis showed arsenic concentrations in the slope were considerably higher than the rest of the site and ranged from 70-500 mg/kg at 6" in depth. Further test pits were performed on the slope to determine the vertical and lateral extent of soils exceeding the cleanup level of 20 mg/kg. The results of the test pitting indicate that the entire slope contains soils with elevated arsenic concentrations. Levels range from 28-2600 mg/kg, with an average value of approximately 300 mg/kg. The depth of the fill appears to range from 6 – 12 feet bgs with most areas reaching a native silt layer at 11 feet bgs.

Envirocon demobilized from the site on 8/30/00 to await the results of test pit sampling and the resolution by its client of issues concerning the responsibility for funding of additional remediation. In mid February 2001 Envirocon will remobilize to the site to remove the impacted slope soils as well as complete the removal of any remaining hot spots in the original excavation footprint. This work plan details the anticipated activities to be performed during Phase II of the site remediation.

2.0 SITE DESCRIPTION

2.1 Location

A. Site Name

Proposed North Point Apartments Site

B. Street Address

The Site is located at 1001 East Marine View Drive Everett, Washington. The site is bordered on the west by Marine view drive, on the south by 11th street, on the North by an apartment complex and on the east by undeveloped property and rail.

C. Phone Number

Offsite phone (360) 267-3342

D. Map of Site Location:

See Figure #1

2.2 TOPOGRAPHY AND GEOLOGY

The NPA site is an undeveloped 4.5 acre lot, rectangular in shape with approximate dimensions of 600 feet north to south and 320 feet east to west. It is fronted on the west side by East Marine View Drive and is flat in an eastward direction for 30 to 40 feet then drops steeply 10-15 feet in elevation. The average depth of the site is 335 above sea level. After dropping the 10-15 feet the site gently slopes downward to the eastern property line. Prior to remediation activities the site was well vegetated with numerous trees and dense underbrush. The vegetation was all removed during Phase I remediation activities and the site is now covered with a thin layer of wood chips for dust control purposes. GeoTech Consultants Inc. performed test pitting at the site in July 1998 to facilitate a geotechnical engineering study on subsurface conditions and the suitability of construction of a multi-residential development. Boring logs from this study indicate that over the majority of the site a 6-12 inch layer of topsoil was underlain by native soils consisting of 3 to 5 feet of loose to medium dense, brown, weathered, silty sand with gravel which then became gray and very dense. The silty sands were referred to as glacier till. The western portion of the site, which is the focus of the phase II remediation activities, consisted of 6-10 feet of fill material, mostly loose silty sand with some concrete and asphalt debris. The fill layer is underlain by glacier till. The site's topsoil layer was removed during Phase I remediation activities.

2.3 GROUNDWATER

Groundwater was not encountered onsite during any test pitting or Phase I excavation activities.

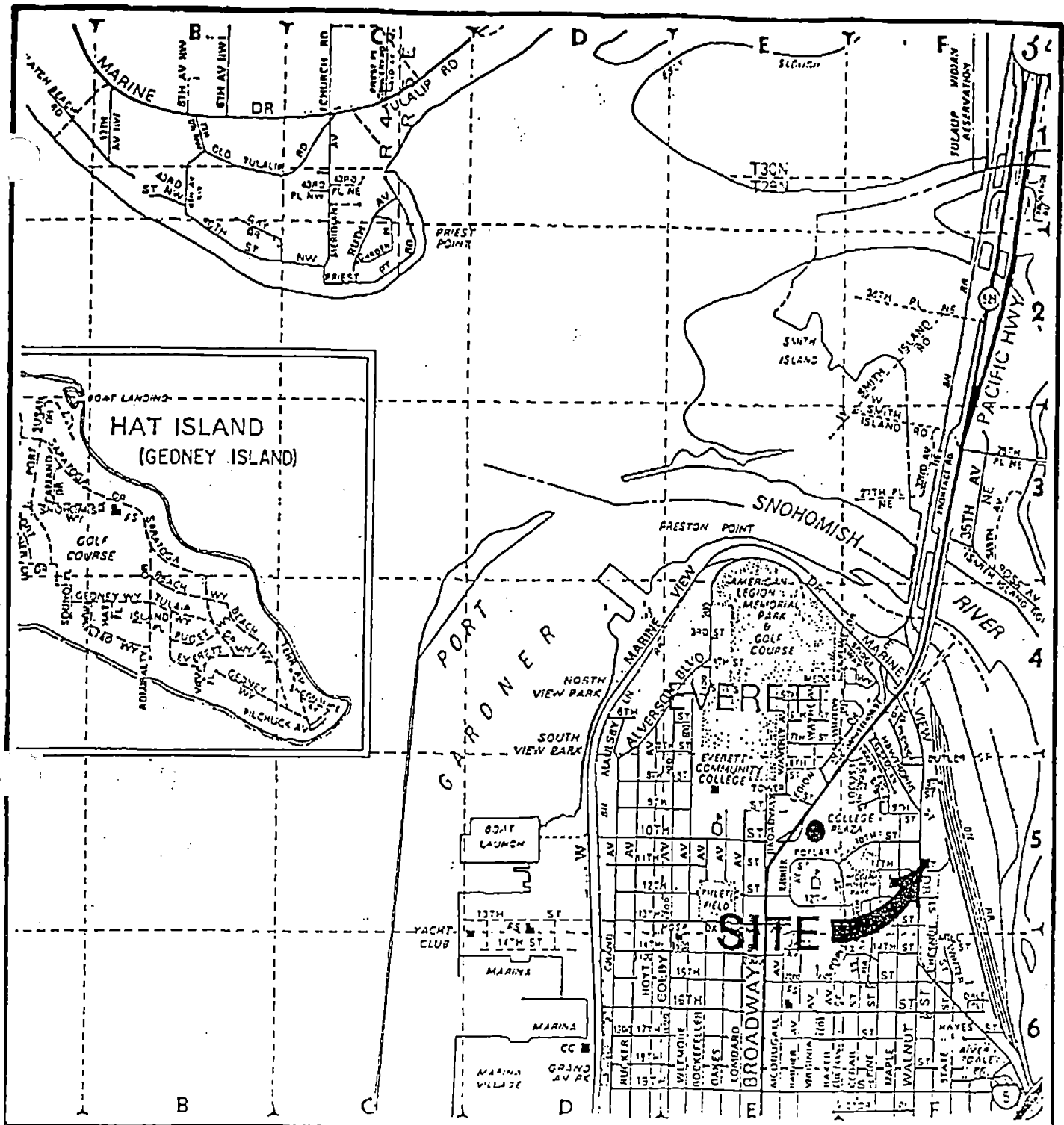
3.0 SOURCE, NATURE AND EXTENT OF CONTAMINATION

The subject property is located within the southeastern portion of the area designated as the Everett Smelter site. A smelter processing lead, gold, silver and arsenic ore operated in the area from 1894 to 1912. In 1990 it was discovered that many of the properties surrounding the smelter were impacted by air emissions from the smelter stacks and had elevated levels of arsenic in site soils. GeoTech Consultants performed a site assessment on the subject property in March 1998 to determine the extent of arsenic contamination from the ASARCO smelter. The assessment consisted of collection 41 soil samples from the site at twelve locations. No samples were taken on the western slope. Sample depth varied from surface to 30" below ground surface (bgs). Samples were analyzed for total arsenic concentration. Based on the sampling results, GeoTech Consultants concluded that throughout the site, arsenic concentrations in shallow surface soils above 24" bgs exceeded MTCA Method A cleanup levels (20 PPM). The volume of arsenic impacted soils was estimated to be 5100 in-place cubic yards. This material was removed during the Phase I remedial action activities. Analytical results for the assessment are summarized in Table I and visually represented in Figure 1A.

During Phase I activities, Envirocon obtained samples from the steeply sloped area on the western side of the site. Sample analysis showed arsenic concentrations in the slope were considerably higher than the rest of the site and ranged from 70-500 mg/kg at 6" in depth. Further test pits were performed on the slope to determine the vertical and lateral extent of soils exceeding the cleanup level of 20 mg/kg. The results of the test pitting indicate that elevated arsenic concentrations are prevalent throughout the western side of the site to an average depth of 9 feet. Levels range from 28-2600 mg/kg, with an average value of approximately 300 mg/kg. The contamination appears to be associated with fill material that comprises this area. The depth of the fill layer appears to range from 6 - 12 feet bgs with most areas reaching a native glacial till at 11 feet bgs. It is estimated that approximately 12,000 in place cubic yards of arsenic impacted soils are contained within the western area of the site. Refer to Table II for a summary of test pit analytical results.

4.0 PREVIOUS CONTAMINANT REMOVAL ACTIVITIES

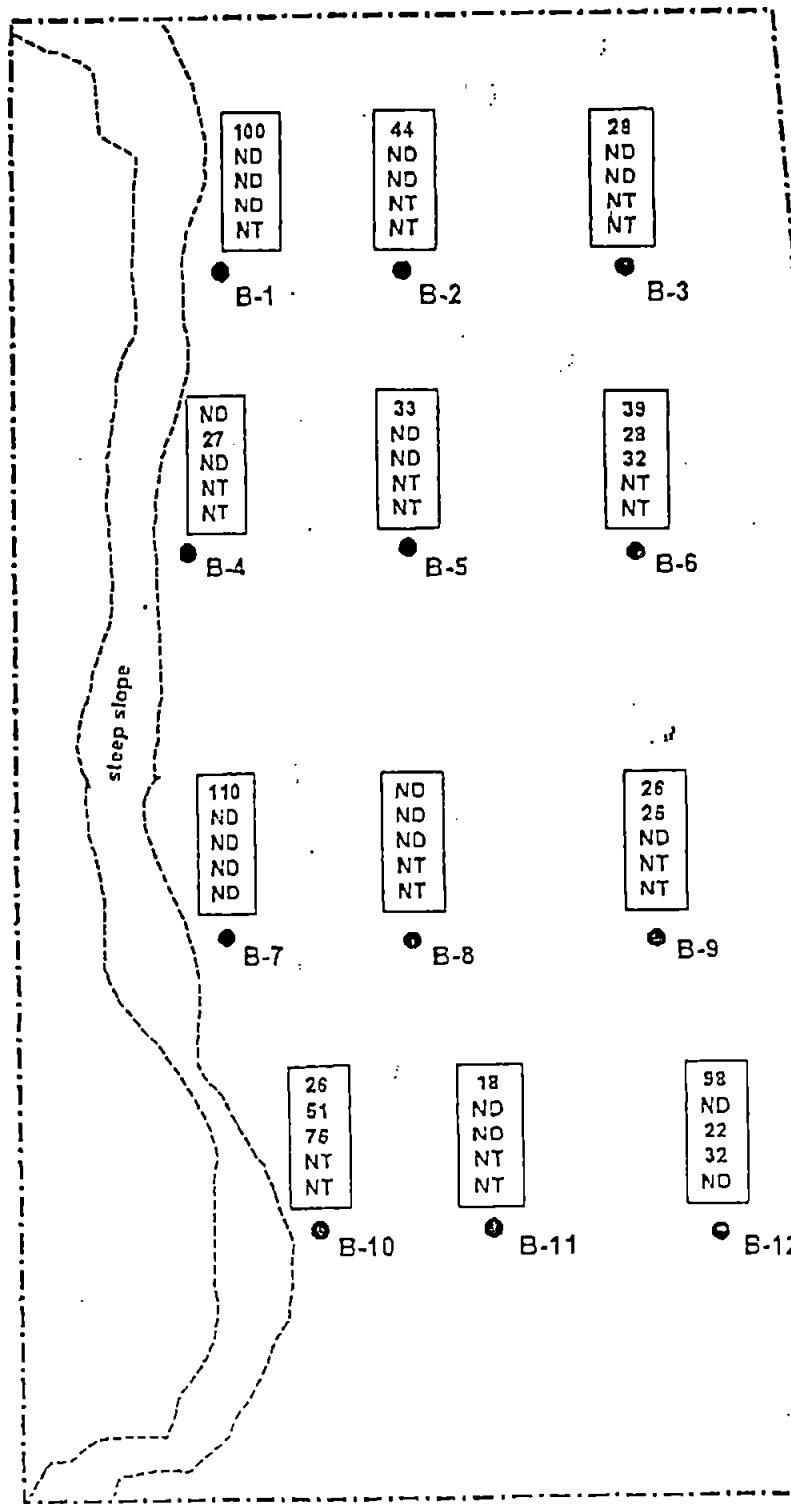
In August 2000 Envirocon excavated and transported offsite approximately 5100 cubic yards of impacted soils from the NPA site. These soils represented the original removal area footprint as determined by a previous site assessment performed by GeoTech Consultants. Confirmation sampling results from Phase I are summarized in Table III. Analytical laboratory results are attached as Appendix I. Refer to Figure 2 for the removal area footprint and the confirmation sample locations.



MAP COURTESY OF
GEOTECH CONSULTANTS

FIGURE 1 VICINITY MAP
10XX E. MARINE VIEW DR.
EVERETT, WA

East Marine View Drive



Legend

Arsenic Concentration
in Soil v. Depth

0" - 6"	100
6" - 12"	65
12" - 18"	25
18" - 24"	10
24" - 30"	ND

Key:

50 = arsenic in parts per million
ND = not detected
NT = not tested

MAP COURTESY OF

GEOTECH CONSULTANTS

SAMPLE LOCATION PLAN

Undeveloped 4.22-Acre Parcel
East Marine View Drive
Everett, Washington

FIGURE 1a

Job No:
97382E

Date:
March 1993

No Scale

Plate:
2

Table I Summary of Laboratory Results Site Assessment Sampling

Depth	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
0-6"	100	44	28	ND	33	39	110	ND	26	26	18	98
6-12"	ND	ND	ND	27	ND	28	ND	ND	25	51	ND	ND
12-18"	ND	ND	ND	ND	ND	32	ND	ND	ND	75	ND	22
18-24"	ND	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	32
24-30"	NS	NT	NT	NT	NT	NT	ND	NT	NT	NT	NT	ND

Notes:

1. Results are reported in parts per million (PPM).
2. ND denotes not detected above detection limit of 10-16 PPM.
3. NT denotes not tested.
4. NS denotes not sampled.

Source: GeoTech Consultants
March 18, 1998 Site Assessment

Table II Summary of Analysis of Soil Samples from Test Pits Top of Western Slope
Arsenic Concentration in PPM

Depth (bgs)	Sample # 14	Sample # 16	Sample # 17	Sample # 18	Sample # 19	Sample # 20	Sample # 21	Sample # 38	Sample # 39
0.5'	959	36.2	336	323	513	2680	493		
2'	196	293	376	304	335	284	727	-	-
4'	65.7	242	106	69.6	41.3	270	854	-	-
6'	65.5	85.2	1400	304	265	844	1050	-	-
8'	51.1	118	87.6	249	7.10	52.8	106	-	-
9'	3.15	87.8	5.18	45.8	3.34	19.3	323	172	2.9
10'	-	28.1	-	4.86	2.24	2.06	4	-	-
12'	6.87	85.1	3.61	6.86	2.15	2.58	297	2.09	45.3
13'	-	3.01	-	-	-	-	3.75	-	6.96
14'	-	-	-	-	-	-	-	-	-
15'	2.89	1.99	2.35	-	-	-	-	-	-

TABLE III

Summary of Confirmation Sampling Results			
Confirmation Sample #	Grid #	Coordinates	Total Arsenic Concentration (mg/kg)
1	G-3	254-594-0.5	7.66
2	G-3	215-559-0.5	55.00
3	G-3	176-526-0.5	6.97
4	G-2	172-598-0.5	230.00
4a	G-2	172-598-0.5 1 foot	8.64
5	G-2	129-559-0.5	27.30
5a	G-2	129-559-0.5 1 foot	3.18
6	G-26	117-31-0.5	52.60
7	G-27	252-21-0.5	9.72
8	G-27	185-78-0.5	2.67
9	G-27	215-43-0.5	8.85
10	G-28	341-81-1	1.45
11	G-28	301-43-0.5	15.70
12	G-28	318-20-0.5	51.40
12a	G-28	318-20-1.5	7.89
13	G-23	231-106-0.5	2.29
14	G-1	24-540-0.5	959.00
15	G-1	67-567-0.5	74.70
16	G-5	35-500-0.5	36.20
17	G-5	30-450-0.5	33.60
18	G-9	28-395-0.5	323.00
19	G-13	25-309-0.5	513.00
20	G-17	20-258-0.5	2680.00
21	G-17	27-206-0.5	493.00
22	G-4	301-574-0.5	6.68
23	G-4	288-528-0.5	5.93
24	G-4	268-559-0.5	9.69
25	G-3	238-537-0.5	6.42
26	G-24	300-114-2	3.59
27	G-24	301-129-2	7.39
28	G-24	323-146-2	1.92
29	G-24	258-215-2	6.40
30	G-20	301-192-1	6.02
31	G-20	312-227-1	14.20
32	G-8	301-473-0.5	55.60
32a	G-8	301-473-1.0	12.30
33	G-8	258-451-0.5	13.30
34	G-8	314-442-0.5	2.91
35	G-7	223-486-0.5	2.66
36	G-7	187-440-0.5	41.90

> 20 ppm

36a	G-7	187-440-1.0	49.50
37	G-7	172-473-0.5	5.27
38	G-21	25-129	Slope Test Pit
39	G-21	60-86	Slope Test Pit
40	G-6	129-423-0.5	5.81
41	G-6	129-516-0.5	16.60
42	G-6	102-445-0.5	11.90
43	G-16	338-270-1	5.49
44	G-16	301-301-0.5	3.40
45	G-16	258-273-0.5	2.58
46	G-12	305-354-1.5	35.40
47	G-12	258-354-1.5	7.47
48	G-12	278-414-1.5	5.72
49	G-23	236-152-0.5	4.56
50	G-19	215-215-0.5	2.38
51	G-10	129-415-0.5	32.30
52	G-18	129-215-0.5	5.99
53	G-18	126-207-0.5	26.90
54	G-18	157-180-0.5	3.76
55	G-14	164-329-0.5	2.51
56	G-14	129-301-0.5	3.96
57	G-14	98-341-0.5	8.24
58	G-11	184-357-0.5	2.51
59	G-11	241-406-0.5	4.26
60	G-11	215-387-0.5	10.60
61	G-15	222-338-0.5	32.00
62	G-15	215-301-0.5	22.00
63	G-15	251-292-0.5	2.55

5.0 PROPOSED PHASE II REMEDIAL ACTION PLAN

This work plan format is intended to follow the anticipated chronological order of scheduled events and activities. Certain tasks may be conducted simultaneously or in different order depending on the conditions encountered as on-site work progresses. This plan is divided into six distinct phases:

- I. Submittals and Permitting
- II. Mobilization
- III. Excavation of Impacted Soils
- IV. Offsite Transport and Disposal
- V. Confirmation Sampling
- VI. Backfill

5.1 SUBMITTALS AND PERMITTING

Permits for excavation, and hydrant use, were obtained during Phase I of the site remediation and are still in place. With the exception of this work plan there are no anticipated submittals.

5.2 MOBILIZATION

Site mobilization shall commence in mid-February 2001. Envirocon anticipates a one or two day mobilization period, including placement of equipment and personnel decontamination stations, and construction of a rock road for truck access.

5.2.1 - Temporary Facilities

A portable toilet with a wash sink is positioned inside the site support zone away from anticipated trailer and vehicle traffic areas and routes. An equipment storage trailer is situated at the site. The trailer shall serve as the Envirocon office onsite and contain PPE, potable drinking water, and miscellaneous tools and equipment.

5.2.2 - Personnel Decontamination

Envirocon will install one mobile personnel decontamination station. The mobile station shall consist of a three-bucket boot wash system, eyewash, and a used Tyvek and glove receptacle. The station shall be situated at the border of the exclusion zone and the contaminant reduction zone adjacent to truck exit/entry points but situated so that they will not be in the path of heavy equipment traffic. Boot covers shall be utilized in areas where a dry decontamination is preferable.

5.2.3 - Equipment Decontamination

Equipment shall be decontaminated through utilization of a combination of a dry decontamination procedure and a mobile decontamination pad designed by Envirocon. A design Envirocon has utilized at several Superfund sites is a prefabricated metal grate and tray. The station will be constructed to have a total liquid containment capacity of 500 gallons. The station draws fresh water from connection to the hydrant system. A pressure washer, or water truck and fire hose are

utilized as the washing mechanism. A sump pump transfers spent decontamination wastewater from the station to the wastewater holding tanks. Wastewater will be recycled whenever possible as excavation and stockpile dust control.

5.2.4 - Installation Temporary Fencing

Envirocon placed temporary fencing around the site perimeter during Phase I activities. The fence consists of six-foot high chain link panels.

5.2.5 - Stockpile Staging Areas

Envirocon anticipates direct loading of the majority of excavated soils into trucks. If it becomes necessary to construct stockpiles they will be placed adjacent to the truck-loading zone.

5.2.6 - Sediment Control

A sediment control system consist of silt fencing placed along the down gradient site perimeter was installed during Phase I remediation activities in August. The silt fence shall be inspected periodically, and damaged sections repaired or replaced.

5.2.7 - Health and Safety

The Envirocon site health and safety plan specifically address issues and hazards, which could be encountered during the project. These include such items as the operation of heavy equipment, heat and/or cold stress, and contact with arsenic contaminated soils. All Envirocon employees are 40 hour OSHA trained and shall have read the site safety plan prior to mobilization on-site. An orientation meeting shall be held at the site the first day of mobilization. The meeting shall be conducted with client representatives present to review any safety concerns at the site. Morning tailgate safety meetings shall be conducted daily thereafter and documented on Envirocon's daily construction logs.

5.3 EXCAVATION OF IMPACTED SOILS

Excavation activities shall begin the third day onsite. Test pitting of the western slope by Envirocon has indicated that the majority of the slope will have to be removed to meet the cleanup goals of 20 mg/kg total arsenic for surface soils and 500 mg/kg for soils four feet and deeper below ground surface. It will be necessary to excavate to depths of 9-12' below ground surface in order to meet the cleanup levels for areas that are situated in the future location of building foundations. A 20' wide strip on the western side of the slope will be excavated to 6' bgs for a landscape strip. A demarcation fabric will be placed at the excavation bottoms in the landscape area to delineate contaminant removal boundaries for future construction personnel. In addition to the slope removal several grid squares in the Phase I removal area will be re-excavated to address hot spots still above the cleanup level 20 mg/kg total Arsenic. A 60,000-LB excavator will perform excavation of contaminated soils. The excavator will direct load soils into truck and trailers for transport offsite. Any overburden soils will be stockpiled immediately adjacent to excavations. Fire hose connected to a hydrant or water truck will provide dust control during excavation activities. Initial excavation is expected to last 35 days. It is expected that an additional day of excavation will be required due to the necessity of re-excavating areas failing to meet site action levels. All excavation shall be performed by equipment operators experienced in removing soil in six inch to one-foot lifts. Depths shall be checked periodically to avoid over excavation.

5.4 OFFSITE TRANSPORT AND DISPOSAL

Transport of contaminated soils to an offsite Subtitle D disposal facility shall begin on the fourth day onsite and continue for thirty-five days. Approximately 500 tons of soil will be transported offsite by 30-ton truck and trailers each day. During loading truck tires shall rest on clean soils, rock or on plastic whenever possible to reduce the necessity for decontamination. The trucks shall be provided by ECTI, a licensed hazardous waste transporter.

All trucks will be tarped, and wheels cleaned (as needed) prior to their leaving the site. ECTI's trucks will have onboard scales to verify their weights do not exceed DOT tolerances. Spill mitigation protocol is provided in Appendix II of this proposal. Envirocon has developed these procedures to minimize the risk of cross tracking contamination offsite and to effectively deal with offsite accidents of trucks on route to the disposal facility.

It is currently intended that contaminated soils shall be disposed of at Waste Management's Columbia Ridge Subtitle D facility in Arlington, Oregon. Soil will be transported from the NPA site to a Waste Management transfer station in Seattle where it will be loaded onto rail cars for transport to Columbia Ridge. Allied's Rabanco Subtitle D facility in Roosevelt Washington will be used as a supplemental disposal site as necessary to avoid schedule delays.

5.5 CONFIRMATION SAMPLING

The site has been broken into 86' X 86' foot grids for sampling purposes. Soil samples shall be taken from excavation bottoms following initial excavation of an area. Three samples shall be taken per grid with the maximum spacing being at 50-foot intervals, and analyzed by a state certified laboratory for total arsenic content. Samples shall have a twenty four-hour analytical turnaround time to allow excavation activities to proceed unimpeded. Areas exceeding the cleanup levels of 20-ppm or 500 PPM arsenic (4' bgs and below) shall be re-excavated in 30' X 30' sections and re-sampled. Approximately 10 % of confirmation samples shall also be analyzed for total lead content.

5.6 BACKFILL

Envirocon will commence backfill activity onsite after confirmation sampling has indicated that soils in the future landscape area meet the MCTA Method A cleanup levels. Approximately 3,000 tons of imported sand will be placed in the area and compacted to required specifications.

APPENDIX I

TEST PIT LABORATORY ANALYTICAL

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
14)24-540 2ft	B0H0383-01	Soil	08/17/00 07:50	08/17/00 16:30
14)24-540 4.0ft	B0H0383-02	Soil	08/17/00 07:53	08/17/00 16:30
14)24-540 6.0ft	B0H0383-03	Soil	08/17/00 07:56	08/17/00 16:30
14)24-540 8.0ft	B0H0383-04	Soil	08/17/00 08:00	08/17/00 16:30
14)24-540 9ft	B0H0383-05	Soil	08/17/00 08:05	08/17/00 16:30
16)35-500 2ft	B0H0383-06	Soil	08/17/00 08:15	08/17/00 16:30
16)35-500 4.0ft	B0H0383-07	Soil	08/17/00 08:18	08/17/00 16:30
16)35-500 6.0ft	B0H0383-08	Soil	08/17/00 08:18	08/17/00 16:30
16)35-500 8.0ft	B0H0383-09	Soil	08/17/00 08:25	08/17/00 16:30
16)35-500 9.0ft	B0H0383-10	Soil	08/17/00 08:28	08/17/00 16:30
17)30-450 2ft	B0H0383-11	Soil	08/17/00 08:39	08/17/00 16:30
17)30-450 4.0ft	B0H0383-12	Soil	08/17/00 08:42	08/17/00 16:30
17)30-450 6.0ft	B0H0383-13	Soil	08/17/00 08:45	08/17/00 16:30
17)30-450 8.0ft	B0H0383-14	Soil	08/17/00 08:49	08/17/00 16:30
17)30-450 9.0ft	B0H0383-15	Soil	08/17/00 08:57	08/17/00 16:30
18)28-395 2ft	B0H0383-16	Soil	08/17/00 09:10	08/17/00 16:30
18)28-395 4.0ft	B0H0383-17	Soil	08/17/00 09:14	08/17/00 16:30
18)28-395 6.0ft	B0H0383-18	Soil	08/17/00 09:14	08/17/00 16:30
18)28-395 8.0ft	B0H0383-19	Soil	08/17/00 09:28	08/17/00 16:30
18)28-395 9.0ft	B0H0383-20	Soil	08/17/00 09:30	08/17/00 16:30
19)25-309 2ft	B0H0383-21	Soil	08/17/00 09:41	08/17/00 16:30
19)25-309 4.0ft	B0H0383-22	Soil	08/17/00 09:43	08/17/00 16:30
19)25-309 6.0ft	B0H0383-23	Soil	08/17/00 09:46	08/17/00 16:30
19)25-309 8.0ft	B0H0383-24	Soil	08/17/00 09:50	08/17/00 16:30
20)20-258 2ft	B0H0383-25	Soil	08/17/00 10:00	08/17/00 16:30
20)20-258 4.0ft	B0H0383-26	Soil	08/17/00 10:03	08/17/00 16:30
20)20-258 6.0ft	B0H0383-27	Soil	08/17/00 10:03	08/17/00 16:30
20)20-258 8.0ft	B0H0383-28	Soil	08/17/00 10:10	08/17/00 16:30
20)20-258 9.4ft	B0H0383-29	Soil	08/17/00 10:13	08/17/00 16:30

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Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/21/00 15:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
21)27-206 2ft	B0H0383-30	Soil	08/17/00 10:29	08/17/00 16:30
21)27-206 4.0ft	B0H0383-31	Soil	08/17/00 10:32	08/17/00 16:30
21)27-206 6.0ft	B0H0383-32	Soil	08/17/00 10:34	08/17/00 16:30
21)27-206 8.0ft	B0H0383-33	Soil	08/17/00 10:37	08/17/00 16:30
21)27-206 9.5ft	B0H0383-34	Soil	08/17/00 10:40	08/17/00 16:30

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
14)24-540 2ft (B0H0383-01) Soil Sampled: 08/17/00 07:50 Received: 08/17/00 16:30									
Arsenic	196	6.21	mg/kg dry	20	0H17051	08/17/00	08/18/00	EPA 6020	
14)24-540 4.0ft (B0H0383-02) Soil Sampled: 08/17/00 07:53 Received: 08/17/00 16:30									
Arsenic	65.7	3.45	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
14)24-540 6.0ft (B0H0383-03) Soil Sampled: 08/17/00 07:56 Received: 08/17/00 16:30									
Arsenic	65.5	0.312	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
14)24-540 8.0ft (B0H0383-04) Soil Sampled: 08/17/00 08:00 Received: 08/17/00 16:30									
Arsenic	51.1	0.340	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
14)24-540 9ft (B0H0383-05) Soil Sampled: 08/17/00 08:05 Received: 08/17/00 16:30									
Arsenic	3.15	0.338	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
16)35-500 2ft (B0H0383-06) Soil Sampled: 08/17/00 08:15 Received: 08/17/00 16:30									
Arsenic	293	3.36	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
16)35-500 4.0ft (B0H0383-07) Soil Sampled: 08/17/00 08:18 Received: 08/17/00 16:30									
Arsenic	242	3.31	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
16)35-500 6.0ft (B0H0383-08) Soil Sampled: 08/17/00 08:18 Received: 08/17/00 16:30									
Arsenic	85.2	0.331	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
16)35-500 8.0ft (B0H0383-09) Soil Sampled: 08/17/00 08:25 Received: 08/17/00 16:30									
Arsenic	118	0.350	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note:
16)35-500 9.0ft (B0H0383-10) Soil Sampled: 08/17/00 08:28 Received: 08/17/00 16:30									
Arsenic	87.8	0.312	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
17)30-450 2ft (B0H0383-11) Soil Sampled: 08/17/00 08:39 Received: 08/17/00 16:30									
Arsenic	376	3.12	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
17)30-450 4.0ft (B0H0383-12) Soil Sampled: 08/17/00 08:42 Received: 08/17/00 16:30									
Arsenic	106	3.27	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
17)30-450 6.0ft (B0H0383-13) Soil Sampled: 08/17/00 08:45 Received: 08/17/00 16:30									
Arsenic	1400	3.47	mg/kg dry	10	0H18043	08/18/00	08/21/00	EPA 6020	
17)30-450 8.0ft (B0H0383-14) Soil Sampled: 08/17/00 08:49 Received: 08/17/00 16:30									
Arsenic	87.6	0.350	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
17)30-450 9.0ft (B0H0383-15) Soil Sampled: 08/17/00 08:57 Received: 08/17/00 16:30									
Arsenic	5.18	0.314	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
8)28-395 2ft (B0H0383-16) Soil Sampled: 08/17/00 09:10 Received: 08/17/00 16:30									
Arsenic	304	3.50	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
8)28-395 4.0ft (B0H0383-17) Soil Sampled: 08/17/00 09:14 Received: 08/17/00 16:30									
Arsenic	69.6	3.38	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
18)28-395 6.0ft (B0H0383-18) Soil Sampled: 08/17/00 09:14 Received: 08/17/00 16:30									
Arsenic	304	1.63	mg/kg dry	5	0H18043	08/18/00	08/21/00	EPA 6020	

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Envirocon
 0400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 08/21/00 15:09

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
18)28-395 8.0ft (B0H0383-19) Soil Sampled: 08/17/00 09:28 Received: 08/17/00 16:30									
Arsenic	249	3.31	mg/kg dry	10	0H18043	08/18/00	08/19/00	EPA 6020	
18)28-395 9.0ft (B0H0383-20) Soil Sampled: 08/17/00 09:30 Received: 08/17/00 16:30									
Arsenic	45.8	0.338	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
19)25-309 2ft (B0H0383-21) Soil Sampled: 08/17/00 09:41 Received: 08/17/00 16:30									
Arsenic	335	3.03	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
19)25-309 4.0ft (B0H0383-22) Soil Sampled: 08/17/00 09:43 Received: 08/17/00 16:30									
Arsenic	413	3.38	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
19)25-309 6.0ft (B0H0383-23) Soil Sampled: 08/17/00 09:46 Received: 08/17/00 16:30									
Arsenic	265	0.654	mg/kg dry	2	0H18043	08/18/00	08/21/00	EPA 6020	
19)25-309 8.0ft (B0H0383-24) Soil Sampled: 08/17/00 09:50 Received: 08/17/00 16:30									
Arsenic	7.10	0.312	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
20)20-258 2ft (B0H0383-25) Soil Sampled: 08/17/00 10:00 Received: 08/17/00 16:30									
Arsenic	284	3.11	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
20)20-258 4.0ft (B0H0383-26) Soil Sampled: 08/17/00 10:03 Received: 08/17/00 16:30									
Arsenic	270	3.25	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
20)20-258 6.0ft (B0H0383-27) Soil Sampled: 08/17/00 10:03 Received: 08/17/00 16:30									
Arsenic	844	3.38	mg/kg dry	10	0H18043	08/18/00	08/21/00	EPA 6020	

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Envirocon
0400 N. Burgard Way
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Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/21/00 15:09

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
20)20-258 8.0ft (B0H0383-28) Soil Sampled: 08/17/00 10:10 Received: 08/17/00 16:30									
Arsenic	52.8	0.325	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
20)20-258 9.4ft (B0H0383-29) Soil Sampled: 08/17/00 10:13 Received: 08/17/00 16:30									
Arsenic	19.3	0.305	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
21)27-206 2ft (B0H0383-30) Soil Sampled: 08/17/00 10:29 Received: 08/17/00 16:30									
Arsenic	727	3.29	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
21)27-206 4.0ft (B0H0383-31) Soil Sampled: 08/17/00 10:32 Received: 08/17/00 16:30									
Arsenic	854	3.07	mg/kg dry	10	0H17051	08/17/00	08/18/00	EPA 6020	
21)27-206 6.0ft (B0H0383-32) Soil Sampled: 08/17/00 10:34 Received: 08/17/00 16:30									
Arsenic	1050	3.18	mg/kg dry	10	0H18043	08/18/00	08/21/00	EPA 6020	
21)27-206 8.0ft (B0H0383-33) Soil Sampled: 08/17/00 10:37 Received: 08/17/00 16:30									
Arsenic	106	0.342	mg/kg dry	1	0H18043	08/18/00	08/19/00	EPA 6020	
21)27-206 9.5ft (B0H0383-34) Soil Sampled: 08/17/00 10:40 Received: 08/17/00 16:30									
Arsenic	323	1.70	mg/kg dry	5	0H18043	08/18/00	08/21/00	EPA 6020	

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
14)24-540 2ft (B0H0383-01) Soil Sampled: 08/17/00 07:50 Received: 08/17/00 16:30									
Dry Weight	93.5	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
14)24-540 4.0ft (B0H0383-02) Soil Sampled: 08/17/00 07:53 Received: 08/17/00 16:30									
Dry Weight	95.0	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
14)24-540 6.0ft (B0H0383-03) Soil Sampled: 08/17/00 07:56 Received: 08/17/00 16:30									
Dry Weight	93.2	1.00	%	1	0H18036	08/18/00	08/21/00	BSOPSPL003R07	
14)24-540 8.0ft (B0H0383-04) Soil Sampled: 08/17/00 08:00 Received: 08/17/00 16:30									
Dry Weight	92.9	1.00	%	1	0H18036	08/18/00	08/21/00	BSOPSPL003R07	
14)24-540 9ft (B0H0383-05) Soil Sampled: 08/17/00 08:05 Received: 08/17/00 16:30									
Dry Weight	94.0	1.00	%	1	0H18036	08/18/00	08/21/00	BSOPSPL003R07	
16)35-500 2ft (B0H0383-06) Soil Sampled: 08/17/00 08:15 Received: 08/17/00 16:30									
Dry Weight	91.5	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
35-500 4.0ft (B0H0383-07) Soil Sampled: 08/17/00 08:18 Received: 08/17/00 16:30									
Dry Weight	89.9	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
35-500 6.0ft (B0H0383-08) Soil Sampled: 08/17/00 08:18 Received: 08/17/00 16:30									
Dry Weight	87.8	1.00	%	1	0H18036	08/18/00	08/21/00	BSOPSPL003R07	
16)35-500 8.0ft (B0H0383-09) Soil Sampled: 08/17/00 08:25 Received: 08/17/00 16:30									
Dry Weight	91.3	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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North Creek Analytical, Inc.
Environmental Laboratory Network

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509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.966.9200 fax 503.966.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9313 fax 541.382.7588

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16)35-500 9.0ft (B0H0383-10) Soil Sampled: 08/17/00 08:28 Received: 08/17/00 16:30									
Dry Weight	90.9	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
17)30-450 2ft (B0H0383-11) Soil Sampled: 08/17/00 08:39 Received: 08/17/00 16:30									
Dry Weight	92.7	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
17)30-450 4.0ft (B0H0383-12) Soil Sampled: 08/17/00 08:42 Received: 08/17/00 16:30									
Dry Weight	88.4	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
17)30-450 6.0ft (B0H0383-13) Soil Sampled: 08/17/00 08:45 Received: 08/17/00 16:30									
Dry Weight	89.6	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
17)30-450 8.0ft (B0H0383-14) Soil Sampled: 08/17/00 08:49 Received: 08/17/00 16:30									
Dry Weight	89.5	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
17)30-450 9.0ft (B0H0383-15) Soil Sampled: 08/17/00 08:57 Received: 08/17/00 16:30									
Dry Weight	88.8	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
17)28-395 2ft (B0H0383-16) Soil Sampled: 08/17/00 09:10 Received: 08/17/00 16:30									
Dry Weight	88.9	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
17)28-395 4.0ft (B0H0383-17) Soil Sampled: 08/17/00 09:14 Received: 08/17/00 16:30									
Dry Weight	86.9	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
18)28-395 6.0ft (B0H0383-18) Soil Sampled: 08/17/00 09:14 Received: 08/17/00 16:30									
Dry Weight	80.6	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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541.383.9310 fax 541.382.7528

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
18)28-395 8.0ft (B0H0383-19) Soil Sampled: 08/17/00 09:28 Received: 08/17/00 16:30									
Dry Weight	65.8	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
18)28-395 9.0ft (B0H0383-20) Soil Sampled: 08/17/00 09:30 Received: 08/17/00 16:30									
Dry Weight	83.2	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
19)25-309 2ft (B0H0383-21) Soil Sampled: 08/17/00 09:41 Received: 08/17/00 16:30									
Dry Weight	87.0	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
19)25-309 4.0ft (B0H0383-22) Soil Sampled: 08/17/00 09:43 Received: 08/17/00 16:30									
Dry Weight	84.6	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
19)25-309 6.0ft (B0H0383-23) Soil Sampled: 08/17/00 09:46 Received: 08/17/00 16:30									
Dry Weight	71.5	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
19)25-309 8.0ft (B0H0383-24) Soil Sampled: 08/17/00 09:50 Received: 08/17/00 16:30									
Dry Weight	81.1	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
20)20-258 2ft (B0H0383-25) Soil Sampled: 08/17/00 10:00 Received: 08/17/00 16:30									
Dry Weight	82.1	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
20)20-258 4.0ft (B0H0383-26) Soil Sampled: 08/17/00 10:03 Received: 08/17/00 16:30									
Dry Weight	73.5	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
20)20-258 6.0ft (B0H0383-27) Soil Sampled: 08/17/00 10:03 Received: 08/17/00 16:30									
Dry Weight	86.4	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Environmental Laboratory Network

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541.383.9310 fax 541.382.7583

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
20)20-258 8.0ft (B0H0383-28) Soil Sampled: 08/17/00 10:10 Received: 08/17/00 16:30									
Dry Weight	78.0	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
20)20-258 9.4ft (B0H0383-29) Soil Sampled: 08/17/00 10:13 Received: 08/17/00 16:30									
Dry Weight	84.8	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
21)27-206 2ft (B0H0383-30) Soil Sampled: 08/17/00 10:29 Received: 08/17/00 16:30									
Dry Weight	84.6	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
21)27-206 4.0ft (B0H0383-31) Soil Sampled: 08/17/00 10:32 Received: 08/17/00 16:30									
Dry Weight	80.1	1.00	%	1	0H17042	08/17/00	08/18/00	BSOPSPL003R07	
21)27-206 6.0ft (B0H0383-32) Soil Sampled: 08/17/00 10:34 Received: 08/17/00 16:30									
Dry Weight	75.8	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
21)27-206 8.0ft (B0H0383-33) Soil Sampled: 08/17/00 10:37 Received: 08/17/00 16:30									
Dry Weight	80.4	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	
21)27-206 9.5ft (B0H0383-34) Soil Sampled: 08/17/00 10:40 Received: 08/17/00 16:30									
Dry Weight	79.8	1.00	%	1	0H18037	08/18/00	08/21/00	BSOPSPL003R07	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Environmental Laboratory Network

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 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541.383.9310 fax 541.382.7583

Envirocon
 0400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 08/21/00 15:09

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H17051: Prepared 08/17/00 Using EPA 3050B										
Blank (0H17051-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (0H17051-BS1)										
Arsenic	25.2	0.500	mg/kg wet	25.0		101	70-130			
Matrix Spike (0H17051-MS1) Source: B0H0383-01										
Arsenic	1090	6.06	mg/kg dry	16.2	196	5520	70-130			Q-15
Matrix Spike Dup (0H17051-MSD1) Source: B0H0383-01										
Arsenic	168	6.67	mg/kg dry	17.8	196	-157	70-130	147	20	Q-15
Batch 0H18043: Prepared 08/18/00 Using EPA 3050B										
Blank (0H18043-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (0H18043-BS1)										
Arsenic	26.6	0.500	mg/kg wet	25.0		106	70-130			
Matrix Spike (0H18043-MS1) Source: B0H0383-03										
Arsenic	83.3	0.329	mg/kg dry	17.6	65.5	101	70-130			
Matrix Spike Dup (0H18043-MSD1) Source: B0H0383-03										
Arsenic	120	0.318	mg/kg dry	17.1	65.5	319	70-130	36.1	20	Q-15

North Creek Analytical - Bothell

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541.333.9310 fax 541.282.7538

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H17042: Prepared 08/17/00 Using Dry Weight										
Blank (0H17042-BLK1)										
Dry Weight	100	1.00	%							
Batch 0H18036: Prepared 08/18/00 Using Dry Weight										
Blank (0H18036-BLK1)										
Dry Weight	100	1.00	%							
Batch 0H18037: Prepared 08/18/00 Using Dry Weight										
Blank (0H18037-BLK1)										
Dry Weight	100	1.00	%							

North Creek Analytical - Bothell

Steve Davis, Project Manager

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North Creek Analytical, Inc.
Environmental Laboratory Network

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/21/00 15:09

Notes and Definitions

Q-15 Analyses are not controlled on matrix spike RPD and/or percent recoveries when the sample concentration is significantly higher than the spike level.

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

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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CHAIN OF CUSTODY REPORT

Work Order #: **B010383**

CLIENT: *Steffan Jacobson*
REPORT TO: *David Jacobs*
ADDRESS: *Environ
10400 N. Hayward Way
Portland, OR 97203*

PHONE: *503-285-0164*
PROJECT NAME: *Steffan Jacobson*
PROJECT NUMBER: *14313*
SAMPLED BY: *P Turner*

FAX: *503-285-6215*

INVOICE TO:

Same as Report

P.O. NUMBER:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses

10 7 5 4 3 2 1 <1

STD.

Petroleum Hydrocarbon Analyses

5 4 3 2 1 <1

STD.

Please Specify

OTHER *PAHs*

* Turnaround Requests less than standard may incur Rush Charges

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total Arsenic	REQUESTED ANALYSES												MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA W/ ID
1.21) 27-206 4.05f	8-17-00 10:32A	X													S	1	2.94/10	318
2.21) 27-206 6.05f	8-17-00 10:34A	X													S	1	Hold	319
3.21) 27-206 8.05f	8-17-00 10:37A	X													S	1	"	320
4.21) 27-206 9.55f	8-17-00 10:40A	X													S	1	"	321
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
13.																		
14.																		
15.																		

RELINQUISHED BY:

PRINT NAME: *P Turner*

FIRM: *Environ*

DATE: *8-17-00*

TIME:

RECEIVED BY:

PRINT NAME: *Cathy Nichols*

FIRM: *NCA*

DATE: *8/17/00*

TIME: *15:00*

RELINQUISHED BY:

PRINT NAME: *Cathy Nichols*

FIRM: *NCA*

DATE: *8/17/00*

TIME: *16:30*

RECEIVED BY:

PRINT NAME:

FIRM:

DATE:

TIME:

ADDITIONAL REMARKS:

CHAIN OF CUSTODY REPORT

Work Order #: **B0410383**

CLIENT: **Steffan Jackson**
REPORT TO: **David Jacobs**
ADDRESS: **10400 N. Burgard Way
Portland, OR 97203**
PHONE: **503-285-6164** FAX: **503-285-6215**

INVOICE TO: **Sameas Report**
P.O. NUMBER:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses:

☐ 10 ☐ 7 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ <1

STD.

Petroleum Hydrocarbon Analyses

☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ <1

STD.

Please Specify

☒ OTHER **24 hr**

* Turnaround Requests less than standard may incur Rush Charges

PROJECT NAME:		REQUESTED ANALYSES											
PROJECT NUMBER:													
SAMPLED BY:													
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total Arsenic											
1.18) 28-395 EST	8-17-00 9:10A	X											
2.18) 28-395 4.05t	8-17-00 9:14A	X											
3.18) 28-395 6.05t	8-17-00 9:20A	X											
4.18) 28-395 8.05t	8-17-00 9:28A	X											
5.18) 28-395 9.05t	8-17-00 9:30A	X											
6.19) 25-309 EST	8-17-00 9:41A	X											
7.19) 25-309 4.05t	8-17-00 9:43A	X											
8.19) 25-309 6.05t	8-17-00 9:46A	X											
9.19) 25-309 8.05t	8-17-00 9:50A	X											
10.20) 20-258 EST	8-17-00 10:00A	X											
11.20) 20-258 4.05t	8-17-00 10:03A	X											
12.20) 20-258 6.05t	8-17-00 10:06A	X											
13.20) 20-258 8.05t	8-17-00 10:10A	X											
14.20) 20-258 9.45t	8-17-00 10:13A	X											
15.21) 27-206 EST	8-17-00 10:29A	X											

MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA W/ ID
S	1	24hr	16
S	1	"	17
S	1	Held	18
S	1	"	19
S	1	"	20
S	1	24hr	21
S	1	"	22
S	1	Held	23
S	1	"	24
S	1	24hr	25
S	1	"	26
S	1	Held	27
S	1	"	28
S	1	"	29
S	1	24hr	30

RELINQUISHED BY: **Deck Jumper** FIRM: **Envirocon** DATE: **8-17-00** TIME: **16:30**

RELINQUISHED BY: **Cathy Nichols** FIRM: **NCA** DATE: **8/17/00** TIME: **15:00**

RECEIVED BY: **Cathy Nichols** FIRM: **NCA** DATE: **8/17/00** TIME: **15:00**

RECEIVED BY: **Spray Tonty** FIRM: **NCA** DATE: **8/17/00** TIME: **16:30**

ADDITIONAL REMARKS: **w/o**

CHAIN OF CUSTODY REPORT

Work Order #: **B041038-3**

CLIENT: Steffen Jacobson		INVOICE TO:
REPORT TO: David Jacobs		Same as Report
ADDRESS: Environ 10400 N. Broadway Way Portland, OR 97225		
PHONE: 503-285-6164	FAX: 503-285-6215	P.O. NUMBER:

PROJECT NAME: Steffen Jacobson		REQUESTED ANALYSES											
PROJECT NUMBER: 4413													
SAMPLED BY: DeK Turner													
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total Arsenic											
1. 14) 24-540 2.58	8-17-00 7:50 A	X											
2. 14) 24-540 4.04	8-17-00 7:53 A	X											
3. 14) 24-540 6.04	8-17-00 7:56 A	X											
4. 14) 24-540 8.04	8-17-00 8:00 A	X											
5. 14) 24-540 7.58	8-17-00 8:03 A	X											
6. 16) 35-500 2.58	8-17-00 8:15 A	X											
7. 16) 35-500 4.04	8-17-00 8:18 A	X											
8. 16) 35-500 6.04	8-17-00 8:21 A	X											
9. 16) 35-500 8.04	8-17-00 8:25 A	X											
10. 16) 35-500 2.04	8-17-00 8:28	X											
11. 17) 30-450 2.58	8-17-00 8:33 A	X											
12. 17) 30-450 4.04	8-17-00 8:42 A	X											
13. 17) 30-450 6.04	8-17-00 8:45 A	X											
14. 17) 30-450 8.04	8-17-00 8:49	X											
15. 17) 30-450 9.04	8-17-00 8:52	X											

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses

10	7	5	4	3	2	1	<1
----	---	---	---	---	---	---	----

STD. Petroleum Hydrocarbon Analyses

5	4	3	2	1	<1
---	---	---	---	---	----

STD. Please Specify

OTHER **2-4 Hr**

* Turnaround Request less than standard may incur extra charges.

MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA W ID
S	1	2.4 hr	01
S	1	"	02
S	1	H/L	03
S	1	"	04
S	1	"	05
S	1	2.4 hr	06
S	1	"	07
S	1	H/L	08
S	1	"	09
S	1	"	10
S	1	2.4 hr	11
S	1	"	12
S	1	H/L	13
S	1	"	14
S	1	"	15

RELINQUISHED BY:	DATE: 8-17-00	RECEIVED BY: Cathy Nichols	DATE: 8/17/00
PRINT NAME: DeK Turner	TIME:	PRINT NAME: Cathy Nichols	TIME: 15:00
RELINQUISHED BY: Cathy Nichols	DATE: 8/17/00	RECEIVED BY: Drumy Tork	DATE: 8/17/00
PRINT NAME: Cathy Nichols	TIME: 16:30	PRINT NAME: Drumy Tork	TIME: 1630
FIRM: Environ		FIRM: NCA	
FIRM: NCA		FIRM: NCA	
ADDITIONAL RI IS:		W/O	

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
16) 35-500 10.0 ft.	B0H0526-01	Soil	08/22/00 17:38	08/23/00 15:55
16) 35-500 12.0 ft.	B0H0526-02	Soil	08/22/00 17:44	08/23/00 15:55
18) 28-395 10.0 ft.	B0H0526-03	Soil	08/22/00 17:52	08/23/00 15:55
18) 28-395 12.0 ft.	B0H0526-04	Soil	08/22/00 17:58	08/23/00 15:55
21) 27-206 10.0 ft.	B0H0526-05	Soil	08/22/00 17:15	08/23/00 15:55
21) 27-206 12.0 ft.	B0H0526-06	Soil	08/22/00 17:20	08/23/00 15:55
38) 25-129 9.0 ft.	B0H0526-07	Soil	08/22/00 18:10	08/23/00 15:55
38) 25-129 12.0 ft.	B0H0526-08	Soil	08/22/00 18:15	08/23/00 15:55
39) 60-86 9.0 ft.	B0H0526-09 st	Soil	08/22/00 18:25	08/23/00 15:55
39) 60-86 12.0 ft.	B0H0526-10	Soil	08/22/00 18:30	08/23/00 15:55
40) 129-423 0.5 ft.	B0H0526-11	Soil	08/23/00 08:16	08/23/00 15:55
41) 129-516 0.5 ft.	B0H0526-12	Soil	08/23/00 08:20	08/23/00 15:55
7) 102-445 0.5 ft.	B0H0526-13	Soil	08/23/00 08:23	08/23/00 15:55

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 1 of 1

Envirocon
 10400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 08/29/00 14:16

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
16) 35-500 10.0 ft. (B0H0526-01) Soil Sampled: 08/22/00 17:38 Received: 08/23/00 15:55									
Arsenic	28.1	0.318	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
16) 35-500 12.0 ft. (B0H0526-02) Soil Sampled: 08/22/00 17:44 Received: 08/23/00 15:55									
Arsenic	85.1	0.323	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
18) 28-395 10.0 ft. (B0H0526-03) Soil Sampled: 08/22/00 17:52 Received: 08/23/00 15:55									
Arsenic	4.86	0.331	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
18) 28-395 12.0 ft. (B0H0526-04) Soil Sampled: 08/22/00 17:58 Received: 08/23/00 15:55									
Arsenic	6.86	0.309	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
21) 27-206 10.0 ft. (B0H0526-05) Soil Sampled: 08/22/00 17:15 Received: 08/23/00 15:55									
Arsenic	4.00	0.329	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
21) 27-206 12.0 ft. (B0H0526-06) Soil Sampled: 08/22/00 17:20 Received: 08/23/00 15:55									
Arsenic	297	0.671	mg/kg dry	2	0H23064	08/23/00	08/24/00	EPA 6020	
3) 25-129 9.0 ft. (B0H0526-07) Soil Sampled: 08/22/00 18:10 Received: 08/23/00 15:55									
Arsenic	172	1.72	mg/kg dry	5	0H23064	08/23/00	08/24/00	EPA 6020	
38) 25-129 12.0 ft. (B0H0526-08) Soil Sampled: 08/22/00 18:15 Received: 08/23/00 15:55									
Arsenic	2.09	0.336	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
39) 60-86 9.0 ft. (B0H0526-09) Soil Sampled: 08/22/00 18:25 Received: 08/23/00 15:55									
Arsenic	2.90	0.321	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
39) 60-86 12.0 ft. (B0H0526-10) Soil Sampled: 08/22/00 18:30 Received: 08/23/00 15:55									
Arsenic	45.3	0.327	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
40) 129-423 0.5 ft. (B0H0526-11) Soil Sampled: 08/23/00 08:16 Received: 08/23/00 15:55									
Arsenic	5.81	0.357	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
41) 129-516 0.5 ft. (B0H0526-12) Soil Sampled: 08/23/00 08:20 Received: 08/23/00 15:55									
Arsenic	16.6	0.316	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
42) 102-445 0.5 ft. (B0H0526-13) Soil Sampled: 08/23/00 08:23 Received: 08/23/00 15:55									
Arsenic	11.9	0.314	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16) 35-500 10.0 ft. (B0H0526-01) Soil Sampled: 08/22/00 17:38 Received: 08/23/00 15:55									
Dry Weight	88.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
16) 35-500 12.0 ft. (B0H0526-02) Soil Sampled: 08/22/00 17:44 Received: 08/23/00 15:55									
Dry Weight	91.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
18) 28-395 10.0 ft. (B0H0526-03) Soil Sampled: 08/22/00 17:52 Received: 08/23/00 15:55									
Dry Weight	86.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
18) 28-395 12.0 ft. (B0H0526-04) Soil Sampled: 08/22/00 17:58 Received: 08/23/00 15:55									
Dry Weight	88.2	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
21) 27-206 10.0 ft. (B0H0526-05) Soil Sampled: 08/22/00 17:15 Received: 08/23/00 15:55									
Dry Weight	89.6	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
21) 27-206 12.0 ft. (B0H0526-06) Soil Sampled: 08/22/00 17:20 Received: 08/23/00 15:55									
Dry Weight	82.2	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
25-129 9.0 ft. (B0H0526-07) Soil Sampled: 08/22/00 18:10 Received: 08/23/00 15:55									
Dry Weight	86.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
38) 25-129 12.0 ft. (B0H0526-08) Soil Sampled: 08/22/00 18:15 Received: 08/23/00 15:55									
Dry Weight	89.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
39) 60-86 9.0 ft. (B0H0526-09) Soil Sampled: 08/22/00 18:25 Received: 08/23/00 15:55									
Dry Weight	83.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

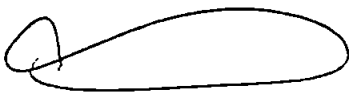
Reported:
08/29/00 14:16

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
39) 60-86 12.0 ft. (B0H0526-10) Soil Sampled: 08/22/00 18:30 Received: 08/23/00 15:55									
Dry Weight	90.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
40) 129-423 0.5 ft. (B0H0526-11) Soil Sampled: 08/23/00 08:16 Received: 08/23/00 15:55									
Dry Weight	93.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
41) 129-516 0.5 ft. (B0H0526-12) Soil Sampled: 08/23/00 08:20 Received: 08/23/00 15:55									
Dry Weight	91.7	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
42) 102-445 0.5 ft. (B0H0526-13) Soil Sampled: 08/23/00 08:23 Received: 08/23/00 15:55									
Dry Weight	94.1	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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nvirocon
 10400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 08/29/00 14:16

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H23064: Prepared 08/23/00 Using EPA 3050B										
Blank (0H23064-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (0H23064-BS1)										
Arsenic	27.3	0.500	mg/kg wet	25.0		109	70-130			
Matrix Spike (0H23064-MS1)										
					Source: B0H0526-01					
Arsenic	41.3	0.333	mg/kg dry	18.8	28.1	70.2	70-130			
Matrix Spike Dup (0H23064-MSD1)										
					Source: B0H0526-01					
Arsenic	48.9	0.342	mg/kg dry	19.4	28.1	107	70-130	16.9	20	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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North Creek Analytical, Inc.
 Environmental Laboratory Network

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/29/00 14:16

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H23044: Prepared 08/23/00 Using Dry Weight									
Blank (0H23044-BLK1)									
Dry Weight	99.8	1.00	%						

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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Envirocon

Project: Steffan Jacobson

10400 N. Burgard Way
Portland OR/USA, 97203

Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

Notes and Definitions

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

North Creek Analytical - Bothell

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North Creek Analytical, Inc.
Environmental Laboratory Network

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CHAIN OF CUSTODY REPORT

Work Order #: **BOH0526**

CLIENT: Steffen Jacobson
REPORT TO: David Jacobs
ADDRESS: 10100 N. Baywood Way
Portland, OR 97203
PHONE: 503 285-6164 FAX: 503-285-6205
PROJECT NAME: Steffen Jacobson
PROJECT NUMBER: 14313
SAMPLED BY: D. Turner

INVOICE TO:
Same as Report
P.O. NUMBER:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses
10 7 5 4 3 2 1 <1

STD. Petroleum Hydrocarbon Analyses
5 4 3 2 1 <1

STD. Please Specify

OTHER 24 hr

*Turnaround Requests less than standard may incur Rush Charges.

REQUESTED ANALYSES											
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	As	Se	Me	Et	Pr	Ph	Ch	St	Th	Al
1. (6) 35-500 10.05	8:22:00 5:30P	X									
2. (6) 35-500 12.04	8:22:00 5:44P	X									
3. (8) 28-395 10.09	8:22:00 5:52P	X									
4. (8) 28-395 12.09	8:22:00 5:53P	X									
5. (21) 27-206 10.05	8:22:00 5:15P	X									
6. (21) 27-206 12.05	8:22:00 5:20P	X									
7. (30) 25-123 2.04	8:22:00 6:10P	X									
8. (30) 25-123 12.05	8:22:00 6:15P	X									
9. (3) 60-86 9.05	8:22:00 6:25P	X									
10. (3) 60-86 12.06	8:22:00 6:30P	X									
11. (10) 129-576 0.55	8:22:00 8:16A	X									
12. (41) 129-576 0.55	8:22:00 8:20A	X									
13. (42) 102-445 0.55	8:22:00 8:23A	X									
14.											
15.											

MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA W ID
S	1	BOH0526-01	
S	1	-02	
S	1	-03	
S	1	-04	
S	1	-05	
S	1	-06	
S	1	-07	
S	1	-08	
S	1	-09	
S	1	-10	
S	1	-11	
S	1	-12	
S	1	-13	

RELINQUISHED BY: Frank Turner FIRM: ENVIROCOM DATE: 8-23-00 TIME: 1555
RECEIVED BY: Pranly Tonty FIRM: NCA DATE: 8/23/00 TIME: 1555
PRINT NAME: PRANLY TONTY FIRM: NCA
ADDITIONAL REMARKS: W/O TEMP: 26.4 PAGE OF



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Envirocon
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Project: Steffan Jacobson
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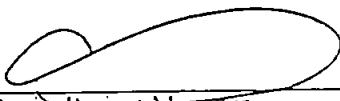
Reported:
08/31/00 15:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
#14-24-540-15	B0H0686-01	Soil	08/30/00 11:30	08/30/00 16:10
#14-24-540-12	B0H0686-02	Soil	08/30/00 11:40	08/30/00 16:10
#16-35-500-13	B0H0686-03	Soil	08/30/00 11:57	08/30/00 16:10
#16-35-500-15	B0H0686-04	Soil	08/30/00 12:00	08/30/00 16:10
#17-30-450-12	B0H0686-05	Soil	08/30/00 12:20	08/30/00 16:10
#17-30-450-15	B0H0686-06	Soil	08/30/00 12:25	08/30/00 16:10
#19-25-309-10	B0H0686-07	Soil	08/30/00 12:35	08/30/00 16:10
#19-25-309-12	B0H0686-08	Soil	08/30/00 12:38	08/30/00 16:10
#19-25-309-14	B0H0686-09	Soil	08/30/00 12:40	08/30/00 16:10
#20-20-258-12	B0H0686-10	Soil	08/30/00 12:55	08/30/00 16:10
#20-20-258-14	B0H0686-11	Soil	08/30/00 13:05	08/30/00 16:10
#21-27-206-13	B0H0686-12	Soil	08/30/00 13:55	08/30/00 16:10
#39-60-86-13	B0H0686-13	Soil	08/30/00 14:15	08/30/00 16:10

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/31/00 15:36

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
#14-24-540-15 (B0H0686-01) Soil Sampled: 08/30/00 11:30 Received: 08/30/00 16:10									
Arsenic	2.89	0.340	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#14-24-540-12 (B0H0686-02) Soil Sampled: 08/30/00 11:40 Received: 08/30/00 16:10									
Arsenic	6.87	0.325	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#16-35-500-13 (B0H0686-03) Soil Sampled: 08/30/00 11:57 Received: 08/30/00 16:10									
Arsenic	3.01	0.327	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#16-35-500-15 (B0H0686-04) Soil Sampled: 08/30/00 12:00 Received: 08/30/00 16:10									
Arsenic	1.99	0.323	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#17-30-450-12 (B0H0686-05) Soil Sampled: 08/30/00 12:20 Received: 08/30/00 16:10									
Arsenic	3.61	0.331	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#17-30-450-15 (B0H0686-06) Soil Sampled: 08/30/00 12:25 Received: 08/30/00 16:10									
Arsenic	2.35	0.331	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#19-25-309-10 (B0H0686-07) Soil Sampled: 08/30/00 12:35 Received: 08/30/00 16:10									
Arsenic	3.34	0.342	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#19-25-309-12 (B0H0686-08) Soil Sampled: 08/30/00 12:38 Received: 08/30/00 16:10									
Arsenic	2.24	0.325	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#19-25-309-14 (B0H0686-09) Soil Sampled: 08/30/00 12:40 Received: 08/30/00 16:10									
Arsenic	2.15	0.333	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Environmental Laboratory Network



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/31/00 15:36

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
#20-20-258-12 (B0H0686-10) Soil Sampled: 08/30/00 12:55 Received: 08/30/00 16:10									
Arsenic	2.06	0.325	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#20-20-258-14 (B0H0686-11) Soil Sampled: 08/30/00 13:05 Received: 08/30/00 16:10									
Arsenic	2.58	0.323	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#21-27-206-13 (B0H0686-12) Soil Sampled: 08/30/00 13:55 Received: 08/30/00 16:10									
Arsenic	2.75	0.329	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	
#39-60-86-13 (B0H0686-13) Soil Sampled: 08/30/00 14:15 Received: 08/30/00 16:10									
Arsenic	6.96	0.333	mg/kg dry	1	0H30041	08/30/00	08/31/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/31/00 15:36

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
#14-24-540-15 (B0H0686-01) Soil Sampled: 08/30/00 11:30 Received: 08/30/00 16:10									
Dry Weight	88.1	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#14-24-540-12 (B0H0686-02) Soil Sampled: 08/30/00 11:40 Received: 08/30/00 16:10									
Dry Weight	90.3	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#16-35-500-13 (B0H0686-03) Soil Sampled: 08/30/00 11:57 Received: 08/30/00 16:10									
Dry Weight	93.0	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#16-35-500-15 (B0H0686-04) Soil Sampled: 08/30/00 12:00 Received: 08/30/00 16:10									
Dry Weight	92.4	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#17-30-450-12 (B0H0686-05) Soil Sampled: 08/30/00 12:20 Received: 08/30/00 16:10									
Dry Weight	88.9	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#17-30-450-15 (B0H0686-06) Soil Sampled: 08/30/00 12:25 Received: 08/30/00 16:10									
Dry Weight	89.4	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#19-25-309-10 (B0H0686-07) Soil Sampled: 08/30/00 12:35 Received: 08/30/00 16:10									
Dry Weight	82.4	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#19-25-309-12 (B0H0686-08) Soil Sampled: 08/30/00 12:38 Received: 08/30/00 16:10									
Dry Weight	89.8	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#19-25-309-14 (B0H0686-09) Soil Sampled: 08/30/00 12:40 Received: 08/30/00 16:10									
Dry Weight	93.4	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/31/00 15:36

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
#20-20-258-12 (B0H0686-10) Soil Sampled: 08/30/00 12:55 Received: 08/30/00 16:10									
Dry Weight	90.2	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#20-20-258-14 (B0H0686-11) Soil Sampled: 08/30/00 13:05 Received: 08/30/00 16:10									
Dry Weight	89.4	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#21-27-206-13 (B0H0686-12) Soil Sampled: 08/30/00 13:55 Received: 08/30/00 16:10									
Dry Weight	88.3	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	
#39-60-86-13 (B0H0686-13) Soil Sampled: 08/30/00 14:15 Received: 08/30/00 16:10									
Dry Weight	90.3	1.00	%	1	0H30033	08/30/00	08/31/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/31/00 15:36

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H30041: Prepared 08/30/00 Using EPA 3050B										
Blank (0H30041-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (0H30041-BS1)										
Arsenic	25.5	0.500	mg/kg wet	25.0		102	70-130			
Matrix Spike (0H30041-MS1) Source: B0H0686-01										
Arsenic	22.0	0.331	mg/kg dry	18.8	2.89	102	70-130			
Matrix Spike Dup (0H30041-MSD1) Source: B0H0686-01										
Arsenic	22.6	0.336	mg/kg dry	19.1	2.89	103	70-130	2.69	20	

North Creek Analytical - Bothell

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Environmental Laboratory Network

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10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/31/00 15:36

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Notes
Batch 0H30033: Prepared 08/30/00 Using Dry Weight										
Blank (0H30033-BLK1)										
Dry Weight	100	1.00	%							

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

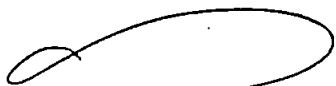
Reported:
08/31/00 15:36

Notes and Definitions

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

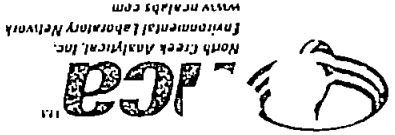
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CHAIN OF CUSTODY REPORT

Work Order #: 60401086

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 (425) 420-0000 (509) 924-1111 (503) 906-9200 (541) 383-9310
 FAX 906-9210 FAX 382-7588

CLIENT: ENVIROCON
 REPORT TO: DAVID JACOBS
 ADDRESS: 10400 N BURGARD WAY
 PHONE: 503-285-6164
 FAX: 503-285-6005
 PROJECT NAME: STEPHEN JACOBSON
 PROJECT NUMBER: 14313
 SAMPLED BY: DBS

INVOICE TO: SAME AS ABOVE
 P.O. NUMBER:

TURNAROUND REQUEST in Business Days*
 Organic & Inorganic Analyses
 STD. 10 7 5 4 3 2 1 <1
 Petroleum Hydrocarbon Analyses
 STD. 5 4 3 2 1 <1
 OTHER: Please Specify

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	TOTAL ANALYSES	MATRIX (W, S, O)	# OF CONT.	COMMENTS	ID
#14 24-540-15	8/30/00 11:30	X	S	1	GRAY SILTY	01
#14 24-540-12	8/30/00 11:46	X			BROWN SANDY	02
#16 -35-500-13	8/30/00 11:57	X			BROWN SANDY	03
#16 -35-500-15	8/30/00 12:00	X			GRAY SILTY	04
#17 -30-450-12	8/30/00 12:20	X			BROWN SANDY	05
#17 -30-450-15	8/30/00 12:25	X			GRAY SILTY	06
#19-25-309-10	8/30/00 12:35	X			BROWN	07
#19-25-309-12	8/30/00 12:38	X			GRAY	08
#19-25-309-14	8/30/00 12:40	X			GRAY	09
#170-20-258-12	8/30/00 12:55	X			GRAY	10
#20-20-258-14	8/30/00 1:05	X			GRAY	11
#21-27-206-13	8/30/00 1:55	X			GRAY	12
#39-60-60-13	8/30/00 2:15	X			GRAY	13

SAMPLES WERE NOT @ 26CLIPON RECEIPT

RECEIVED BY: DAVID JACOBS
 DATE: 8/30/00
 TIME: 3:30
 FIRM: ENVIROCON
 PRINT NAME: DAVID JACOBS
 RECEIVED BY: KATHA KACZOROVA
 DATE: 8/30/00
 TIME: 10:10
 FIRM: NCA
 PRINT NAME: KATHA KACZOROVA
 ADDITIONAL REMARKS:

PROFILE SAMPLING



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Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
10/31/00 14:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
27-206-.5	BOJ0508-01	Soil	10/19/00 14:50	10/20/00 09:52
27-206-1	BOJ0508-02	Soil	10/19/00 14:50	10/20/00 09:52
20-258-.5	BOJ0508-03	Soil	10/19/00 15:00	10/20/00 09:52
20-258-1	BOJ0508-04	Soil	10/19/00 15:00	10/20/00 09:52
25-309-.5	BOJ0508-05	Soil	10/19/00 15:10	10/20/00 09:52
25-309-1	BOJ0508-06	Soil	10/19/00 15:10	10/20/00 09:52
28-395-.5	BOJ0508-07	Soil	10/19/00 15:20	10/20/00 09:52
28-395-1	BOJ0508-08	Soil	10/19/00 15:20	10/20/00 09:52
30-450-.5	BOJ0508-09	Soil	10/19/00 15:30	10/20/00 09:52
30-450-1	BOJ0508-10	Soil	10/19/00 15:30	10/20/00 09:52

North Creek Analytical - Bothell

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Amar Gill, Project Manager

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Environmental Laboratory Network

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Envirocon
 0400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs


Reported:
 10/31/00 14:00

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
27-206-.5 (B0J0508-01) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	57.2	10.0	mg/kg dry	1	0J25027	10/25/00	10/27/00	NWTPH-Dx	
Lube Oil Range Hydrocarbons	132	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	99.2 %	50-150			"	"	"	"	
27-206-1 (B0J0508-02) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	137	50.0	mg/kg dry	5	0J25027	10/25/00	10/26/00	NWTPH-Dx	
Lube Oil Range Hydrocarbons	195	125	"	"	"	"	"	"	
Surrogate: 2-FBP	55.8 %	50-150			"	"	"	"	
20-258-.5 (B0J0508-03) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	116	10.0	mg/kg dry	1	0J25027	10/25/00	10/27/00	NWTPH-Dx	
Lube Oil Range Hydrocarbons	156	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	85.1 %	50-150			"	"	"	"	
20-258-1 (B0J0508-04) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	68.5	50.0	mg/kg dry	5	0J25027	10/25/00	10/26/00	NWTPH-Dx	
Lube Oil Range Hydrocarbons	179	125	"	"	"	"	"	"	
Surrogate: 2-FBP	50.8 %	50-150			"	"	"	"	
25-309-.5 (B0J0508-05) Soil Sampled: 10/19/00 15:10 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	36.1	10.0	mg/kg dry	1	0J25027	10/25/00	10/27/00	NWTPH-Dx	
Lube Oil Range Hydrocarbons	63.2	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	90.1 %	50-150			"	"	"	"	
25-309-1 (B0J0508-06) Soil Sampled: 10/19/00 15:10 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	ND	50.0	mg/kg dry	5	0J25027	10/25/00	10/26/00	NWTPH-Dx	
Lube Oil Range Hydrocarbons	179	125	"	"	"	"	"	"	
Surrogate: 2-FBP	56.7 %	50-150			"	"	"	"	

North Creek Analytical - Bothell

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Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
28-395-.5 (B0J0508-07) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	101	30.0	mg/kg dry	3	0J25027	10/25/00	10/27/00	NWTPH-Dx	D-09
Lube Oil Range Hydrocarbons	323	75.0	"	"	"	"	"	"	
Surrogate: 2-FBP	74.7 %	50-150			"	"	"	"	
28-395-1 (B0J0508-08) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	134	110	mg/kg dry	11	0J25027	10/25/00	10/26/00	NWTPH-Dx	D-09
Lube Oil Range Hydrocarbons	450	275	"	"	"	"	10/27/00	"	
Surrogate: 2-FBP	59.1 %	50-150			"	"	"	"	S-01
30-450-.5 (B0J0508-09) Soil Sampled: 10/19/00 15:30 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	106	10.0	mg/kg dry	1	0J25027	10/25/00	10/27/00	NWTPH-Dx	D-09
Lube Oil Range Hydrocarbons	245	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	86.4 %	50-150			"	"	"	"	
30-450-1 (B0J0508-10) Soil Sampled: 10/19/00 15:30 Received: 10/20/00 09:52									
Diesel Range Hydrocarbons	ND	110	mg/kg dry	11	0J25027	10/25/00	10/26/00	NWTPH-Dx	
Lube Oil Range Hydrocarbons	312	275	"	"	"	"	"	"	
Surrogate: 2-FBP	54.1 %	50-150			"	"	"	"	

North Creek Analytical - Bothell

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Anna Gill, Project Manager

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Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
27-206-.5 (B0J0508-01) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Silver	1.12	0.323	mg/kg dry	1	0J20035	10/20/00	10/23/00	EPA 6020	
Arsenic	299	3.23	"	10	"	"	10/24/00	"	
Barium	232	32.3	"	"	"	"	"	"	
Cadmium	0.718	0.323	"	1	"	"	10/23/00	"	
Chromium	31.0	0.323	"	"	"	"	10/24/00	"	
Mercury	1.93	0.400	"	4	0J20045	10/20/00	10/23/00	EPA 7471A	
Lead	786	3.23	"	10	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.660	0.323	"	1	"	"	10/23/00	"	
27-206-1 (B0J0508-02) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Silver	1.18	0.350	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	293	3.50	"	10	"	"	10/24/00	"	
Barium	339	35.0	"	"	"	"	"	"	
Cadmium	1.07	0.350	"	1	"	"	10/24/00	"	
Chromium	45.2	0.350	"	"	"	"	10/24/00	"	
Mercury	0.356	0.100	"	"	0J20045	10/20/00	10/23/00	EPA 7471A	
Lead	830	3.50	"	10	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.812	0.350	"	1	"	"	10/24/00	"	
20-258-.5 (B0J0508-03) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Silver	1.06	0.347	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	299	3.47	"	10	"	"	10/24/00	"	
Barium	272	34.7	"	"	"	"	"	"	
Cadmium	0.961	0.347	"	1	"	"	10/24/00	"	
Chromium	37.1	0.347	"	"	"	"	10/24/00	"	
Mercury	1.91	0.200	"	2	0J20045	10/20/00	10/23/00	EPA 7471A	
Lead	1030	3.47	"	10	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.808	0.347	"	1	"	"	10/24/00	"	

North Creek Analytical - Bothell

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Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
20-258-1 (B0J0508-04) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Silver	0.850	0.333	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	587	3.33	"	10	"	"	10/24/00	"	
Barium	321	33.3	"	"	"	"	"	"	
Cadmium	1.11	0.333	"	1	"	"	10/24/00	"	
Chromium	52.7	0.333	"	"	"	"	10/24/00	"	
Mercury	2.39	0.400	"	4	0J20045	10/20/00	10/23/00	EPA 7471A	
Lead	476	3.33	"	10	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.864	0.333	"	1	"	"	10/24/00	"	
25-309-5 (B0J0508-05) Soil Sampled: 10/19/00 15:10 Received: 10/20/00 09:52									
Silver	0.474	0.327	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	125	0.327	"	"	"	"	"	"	
Barium	104	3.27	"	"	"	"	"	"	
Cadmium	0.602	0.327	"	"	"	"	"	"	
Chromium	28.4	0.327	"	"	"	"	10/24/00	"	
Mercury	1.96	0.200	"	2	0J20045	10/20/00	10/23/00	EPA 7471A	
Lead	233	1.63	"	5	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.449	0.327	"	1	"	"	10/24/00	"	
25-309-1 (B0J0508-06) Soil Sampled: 10/19/00 15:10 Received: 10/20/00 09:52									
Silver	4.31	0.325	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	288	3.25	"	10	"	"	10/24/00	"	
Barium	540	32.5	"	"	"	"	"	"	
Cadmium	1.77	0.325	"	1	"	"	10/24/00	"	
Chromium	33.1	0.325	"	"	"	"	10/24/00	"	
Mercury	2.33	0.400	"	4	0J20045	10/20/00	10/24/00	EPA 7471A	
Lead	2190	16.2	"	50	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.873	0.325	"	1	"	"	10/24/00	"	

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Environmental Laboratory Network

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
28-395-.5 (B0J0508-07) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Silver	0.884	0.352	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	240	3.52	"	10	"	"	10/24/00	"	
Barium	180	3.52	"	1	"	"	10/24/00	"	
Cadmium	0.795	0.352	"	"	"	"	"	"	
Chromium	27.5	0.352	"	"	"	"	10/24/00	"	
Mercury	5.13	1.00	"	10	0J20045	10/20/00	10/24/00	EPA 7471A	
Lead	450	3.52	"	"	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	1.03	0.352	"	1	"	"	10/24/00	"	
28-395-1 (B0J0508-08) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Silver	1.76	0.329	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	163	0.329	"	"	"	"	"	"	
Barium	271	16.4	"	5	"	"	10/24/00	"	
Cadmium	0.783	0.329	"	1	"	"	10/24/00	"	
Chromium	24.2	0.329	"	"	"	"	10/24/00	"	
Mercury	4.77	1.00	"	10	0J20045	10/20/00	10/24/00	EPA 7471A	
Lead	980	3.29	"	"	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.695	0.329	"	1	"	"	10/24/00	"	
30-450-.5 (B0J0508-09) Soil Sampled: 10/19/00 15:30 Received: 10/20/00 09:52									
Silver	1.96	0.331	mg/kg dry	1	0J20035	10/20/00	10/24/00	EPA 6020	
Arsenic	202	3.31	"	10	"	"	10/24/00	"	
Barium	407	33.1	"	"	"	"	"	"	
Cadmium	0.843	0.331	"	1	"	"	10/24/00	"	
Chromium	30.3	0.331	"	"	"	"	10/24/00	"	
Mercury	10.2	2.00	"	20	0J20045	10/20/00	10/24/00	EPA 7471A	
Lead	1080	3.31	"	10	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	1.01	0.331	"	1	"	"	10/24/00	"	

North Creek Analytical - Bothell

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Envirocon
 0400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs


Reported:
 10/31/00 14:00

Total Metals by EPA 6000/7000 Series Methods
 North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
30-450-1 (B0J0508-10) Soil Sampled: 10/19/00 15:30 Received: 10/20/00 09:52									
Silver	0.894	0.342	mg/kg dry	1	0J20035	10/20/00	10/23/00	EPA 6020	
Arsenic	115	0.342	"	"	"	"	"	"	
Barium	217	34.2	"	10	"	"	10/24/00	"	
Cadmium	0.636	0.342	"	1	"	"	10/23/00	"	
Chromium	30.4	0.342	"	"	"	"	10/24/00	"	
Mercury	1.55	0.200	"	2	0J20045	10/20/00	10/24/00	EPA 7471A	
Lead	575	3.42	"	10	0J20035	10/20/00	10/24/00	EPA 6020	
Selenium	0.842	0.342	"	1	"	"	10/23/00	"	

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
10/31/00 14:00

TCLP Metals by EPA 1311/6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
27-206-.5 (B0J0508-01) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/27/00	EPA 6010B	
Lead	0.517	0.200	"	"	"	"	10/27/00	"	
27-206-1 (B0J0508-02) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/27/00	EPA 6010B	
Lead	0.243	0.200	"	"	"	"	10/27/00	"	
20-258-.5 (B0J0508-03) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/30/00	EPA 6010B	
Lead	0.293	0.200	"	"	"	"	"	"	
20-258-1 (B0J0508-04) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/30/00	EPA 6010B	
Lead	0.219	0.200	"	"	"	"	10/30/00	"	
309-1 (B0J0508-06) Soil Sampled: 10/19/00 15:10 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/30/00	EPA 6010B	
Lead	0.824	0.200	"	"	"	"	"	"	
395-.5 (B0J0508-07) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/30/00	EPA 6010B	
Mercury	ND	0.00100	"	"	0J27016	10/27/00	10/30/00	EPA 7470A	
Lead	0.230	0.200	"	"	0J26033	10/26/00	10/30/00	EPA 6010B	
28-395-1 (B0J0508-08) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/30/00	EPA 6010B	
Mercury	ND	0.00100	"	"	0J27016	10/27/00	10/30/00	EPA 7470A	
Lead	0.289	0.200	"	"	0J26033	10/26/00	10/30/00	EPA 6010B	

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

TCLP Metals by EPA 1311/6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
30-450-.5 (B0J0508-09) Soil Sampled: 10/19/00 15:30 Received: 10/20/00 09:52									
Arsenic	ND	0.500	mg/l	1	0J26033	10/26/00	10/30/00	EPA 6010B	
Mercury	ND	0.00100	"	"	0J27016	10/27/00	10/30/00	EPA 7470A	
Lead	0.801	0.200	"	"	0J26033	10/26/00	10/30/00	EPA 6010B	

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Envirocon
 0400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 10/31/00 14:00

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
27-206-.5 (B0J0508-01) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Dry Weight	82.3	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
27-206-1 (B0J0508-02) Soil Sampled: 10/19/00 14:50 Received: 10/20/00 09:52									
Dry Weight	79.7	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
20-258-.5 (B0J0508-03) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Dry Weight	86.7	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
20-258-1 (B0J0508-04) Soil Sampled: 10/19/00 15:00 Received: 10/20/00 09:52									
Dry Weight	85.6	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
25-309-.5 (B0J0508-05) Soil Sampled: 10/19/00 15:10 Received: 10/20/00 09:52									
Dry Weight	75.3	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
25-309-1 (B0J0508-06) Soil Sampled: 10/19/00 15:10 Received: 10/20/00 09:52									
Dry Weight	86.6	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
395-.5 (B0J0508-07) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Dry Weight	70.6	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
395-1 (B0J0508-08) Soil Sampled: 10/19/00 15:20 Received: 10/20/00 09:52									
Dry Weight	79.8	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	
30-450-.5 (B0J0508-09) Soil Sampled: 10/19/00 15:30 Received: 10/20/00 09:52									
Dry Weight	85.0	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

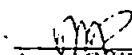
Reported:
10/31/00 14:00

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
30-450-1 (B0J0508-10) Soil Sampled: 10/19/00 15:30 Received: 10/20/00 09:52									
Dry Weight	86.2	1.00	%	1	0J20036	10/20/00	10/21/00	BSOPSPL003R07	

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Environmental Laboratory Network

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Envirocon
 0400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs


Reported:
 10/31/00 14:00

Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0J25027: Prepared 10/25/00 Using EPA 3550B										
Blank (0J25027-BLK1)										
Diesel Range Hydrocarbons	ND	10.0	mg/kg wet							
Lube Oil Range Hydrocarbons	ND	25.0	"							
Surrogate: 2-FBP	10.2		"	10.7		95.3	50-150			
LCS (0J25027-BS1)										
Diesel Range Hydrocarbons	64.1	10.0	mg/kg wet	66.7		96.1	60-140			
Surrogate: 2-FBP	8.61		"	10.7		80.5	50-150			
Duplicate (0J25027-DUP1)										
					Source: B0J0621-05					
Diesel Range Hydrocarbons	9940	410	mg/kg dry		9730			2.14	50	
Lube Oil Range Hydrocarbons	ND	1030	"		ND			11.3	50	
Surrogate: 2-FBP	0		"	11.6			50-150			S-0.
Surrogate: Octacosane	9.62		"	11.6		82.9	50-150			
Duplicate (0J25027-DUP2)										
					Source: B0J0621-06					
Diesel Range Hydrocarbons	8570	410	mg/kg dry		6530			27.0	50	
Lube Oil Range Hydrocarbons	ND	1030	"		ND			8.37	50	
Surrogate: 2-FBP	0		"	14.0			50-150			S-0.
Surrogate: Octacosane	11.4		"	14.0		81.4	50-150			

North Creek Analytical - Bothell

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 Environmental Laboratory Network

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Envirocon
 0400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 10/31/00 14:00

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0J20035: Prepared 10/20/00 Using EPA 3050B

Blank (0J20035-BLK1)

Arsenic	ND	0.500	mg/kg wet							
Barium	ND	5.00	"							
Cadmium	ND	0.500	"							
Chromium	ND	0.500	"							
Lead	ND	0.500	"							
Selenium	ND	0.500	"							
Silver	ND	0.500	"							

LCS (0J20035-BS1)

Arsenic	26.2	0.500	mg/kg wet	25.0		105	70-130			
Barium	25.5	5.00	"	25.0		102	80-120			
Cadmium	25.3	0.500	"	25.0		101	70-130			
Chromium	24.9	0.500	"	25.0		99.6	80-120			
Lead	25.2	0.500	"	25.0		101	80-120			
Selenium	26.1	0.500	"	25.0		104	70-130			
Silver	25.3	0.500	"	25.0		101	40-130			

Matrix Spike (0J20035-MS1)

Source: B0J0508-01

Arsenic	457	3.45	mg/kg dry	21.0	299	752	70-130			Q-15
Barium	379	34.5	"	21.0	232	700	70-130			Q-15
Cadmium	21.3	0.345	"	21.0	0.718	98.0	70-130			
Chromium	66.6	0.345	"	21.0	31.0	170	70-130			Q-14
Lead	980	3.45	"	21.0	786	924	70-130			Q-15
Selenium	21.5	0.345	"	21.0	0.660	99.2	70-130			
Silver	18.7	0.345	"	21.0	1.12	83.7	40-130			


Matrix Spike Dup (0J20035-MSD1)

Source: B0J0508-01

Arsenic	399	3.31	mg/kg dry	20.1	299	498	70-130	13.6	20	Q-15
Barium	583	33.1	"	20.1	232	1750	70-130	42.4	20	Q-15
Cadmium	19.8	0.331	"	20.1	0.718	94.9	70-130	7.30	20	
Chromium	73.4	0.331	"	20.1	31.0	211	70-130	9.71	20	Q-14
Lead	2510	6.62	"	20.1	786	8583	70-130	87.7	20	Q-15
Selenium	19.3	0.331	"	20.1	0.660	92.7	70-130	10.8	20	
Silver	18.8	0.331	"	20.1	1.12	88.0	40-130	0.533	50	

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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.


 Ann Gill, Project Manager

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Page 13 of 17



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8223
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0J20045: Prepared 10/20/00 Using EPA 7471A									
Blank (0J20045-BLK1)									
Mercury	ND	0.100	mg/kg wet						
LCS (0J20045-BS1)									
Mercury	0.524	0.100	mg/kg wet	0.500		105 80-120			
Matrix Spike (0J20045-MS1) Source: B0J0508-01									
Mercury	2.37	0.400	mg/kg dry	0.603	1.93	73.0 80-120			C
Matrix Spike Dup (0J20045-MSD1) Source: B0J0508-01									
Mercury	2.28	0.400	mg/kg dry	0.598	1.93	58.5 80-120	3.87	20	C

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Amanda Gill, Project Manager

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Page 14 c



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541.383.9310 fax 541.382.7588

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

TCLP Metals by EPA 1311/6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Notes
Batch 0J26033: Prepared 10/26/00 Using EPA 3010A									
Blank (0J26033-BLK1)									
Arsenic	ND	0.500	mg/l						
Lead	ND	0.200	"						
LCS (0J26033-BS1)									
Arsenic	10.5	0.500	mg/l	10.0		105 80-120			
Lead	11.1	0.200	"	10.0		111 80-120			
Matrix Spike (0J26033-MS1) Source: B0J0225-01									
Arsenic	10.6	0.500	mg/l	10.0	ND	106 80-120			
Lead	12.4	0.200	"	10.0	1.50	109 80-120			
Matrix Spike Dup (0J26033-MSD1) Source: B0J0225-01									
Arsenic	10.7	0.500	mg/l	10.0	ND	107 80-120	0.939	20	
ad	12.4	0.200	"	10.0	1.50	109 80-120	0	20	
Batch 0J27016: Prepared 10/27/00 Using EPA 7470A TCLP									
Blank (0J27016-BLK1)									
Mercury	ND	0.00100	mg/l						
LCS (0J27016-BS1)									
Mercury	0.00522	0.00100	mg/l	0.00500		104 70-130			
Matrix Spike (0J27016-MS1) Source: B0J0508-09									
Mercury	0.00527	0.00100	mg/l	0.00500	ND	105 75-125			
Matrix Spike Dup (0J27016-MSD1) Source: B0J0508-09									
Mercury	0.00529	0.00100	mg/l	0.00500	ND	106 75-125	0.379	20	

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Amar Gill, Project Manager

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
10/31/00 14:00

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0J20036: Prepared 10/20/00 Using Dry Weight									
Blank (0J20036-BLK1)									
Dry Weight	100	1.00	%						

North Creek Analytical - Bothell

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custody document. This analytical report must be reproduced in its entirety.


Anna Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 16 of 1

Envirocon

0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson

Project Number: 14313

Project Manager: Dave Jacobs

Reported:

10/31/00 14:00

Notes and Definitions

- D-09 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
- Q-14 Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample matrix.
- Q-15 Analyses are not controlled on matrix spike RPD and/or percent recoveries when the sample concentration is significantly higher than the spike level.
- S-05 Due to interference from coeluting organic compounds with the primary surrogate, results of the secondary surrogate have been used to control the analysis.
- 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

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Amar Gill, Project Manager



20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

(541) 383-9310 FAX 382-7588

Work Order #: B0J0508

CLIENT: STEFFEN JACOBSON			INVOICE TO:																TURNAROUND REQUEST in Business Days*							
REPORT TO: ENVIRONCON																			Organic & Inorganic Analyses							
ADDRESS: 10400 NORTH BURGHWAY PORTLAND OR 97203																			10	7	5	4	3	2	1	<1
PHONE:			P.O. NUMBER:																STD.							
PROJECT NAME: JACOBSON			REQUESTED ANALYSES																Petroleum Hydrocarbon Analyses							
PROJECT NUMBER: 14313																			5	4	3	2	1	<1		
SAMPLED BY: Steve Shepherd																			STD.							
																			OTHER Please Specify							
																			*Turnaround Requests less than standard may incur Rush Charges.							
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME	GC/MS	IC/MS	TCIP for Lead-Acid													MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA ID					
1.	14313	10-14-00 14:50	X	X	(X)														x	2 day on RCP AB						
2.	14313	10-14-00 14:50	X	X	(X)															GC/MS						
3.	14313	10-14-00 15:00	X	X	(X)														x	5 day on NW-D						
4.	14313	10-14-00 15:00	X	X	(X)																					
5.	14313	10-14-00 15:10	X	X	(X)																					
6.	14313	10-14-00 15:10	X	X	(X)																					
7.	14313	10-14-00 15:20	X	X	(X)																					
8.	14313	10-14-00 15:20	X	X	(X)																					
9.	14313	10-14-00 15:30	X	X	(X)																					
10.	14313	10-14-00 15:30	X	X	(X)																					
11.																										
12.																										
13.																										
14.																										
15.																										

RELINQUISHED BY: PRINT NAME: Steve Shepherd FIRM: ENVIRONCON		DATE: 10-15-00 TIME: 16:00	RECEIVED BY: [Signature] PRINT NAME: Steve Davis FIRM: NCA-B		DATE: 10/17 TIME: 16:00
RELINQUISHED BY: PRINT NAME: FIRM:		DATE: TIME:	RECEIVED BY: [Signature] PRINT NAME: KATIA KARPOVSKO FIRM: NCA-B		DATE: 10/19/00 TIME: 18:00
ADDITIONAL REMARKS: (x) Hold TCIP for Total Results					

TEMP: 70 °F

CHAIN OF CUSTODY REPORT

Work Order #: **BOJ0508**

CLIENT: **STEFFEN JACOBSON**
REPORT TO: **ENVIRON**
ADDRESS: **10400 NORTH BURGHWAY**
PORTLAND OR 97203
PHONE: FAX:

INVOICE TO:

P.O. NUMBER:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses
10 7 5 4 3 ☒ 2 1 <1

STD. Petroleum Hydrocarbon Analyses
☒ 4 3 2 1 <1
STD. Please Specify

OTHER

*Turnaround Requests less than standard may incur Rush Charges.

PROJECT NAME: **JACOBSON**

PROJECT NUMBER: **14313**

SAMPLED BY: **Steve Shepherd**

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	GC/MS	IC/MS	TCIP for Lead-Arsenic													MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA W ID
1. 14313	10-19-00 14:50	X	X	(X)													BOJ0508-01	+	2 day on RCP-AB	
2. 14313	10-19-00 14:50	X	X	(X)													-02		GC/MS	
3. 14313	10-19-00 15:00	X	X	(X)													-03	+	5 day on NW-D	
4. 14313	10-19-00 15:00	X	X	(X)													-04			
5. 14313	10-19-00 15:10	X	X	(X)													-05			
6. 14313	10-19-00 15:10	X	X	(X)													-06			
7. 14313	10-19-00 15:20	X	X	(X)													-07			
8. 14313	10-19-00 15:20	X	X	(X)													-08			
9. 14313	10-19-00 15:30	X	X	(X)													-09			
10. 14313	10-19-00 15:30	X	X	(X)													-10			
11.																				
12.																				
13.																				
14.																				
15.																				

RELINQUISHED BY: **Steve Shepherd** FIRM: **ENVIRON** DATE: **10-19-00** TIME: **16:00**
RECEIVED BY: **Steve Dant** FIRM: **NCA-B** DATE: **10/19/02** TIME: **16:00**
RELINQUISHED BY: DATE: TIME: RECEIVED BY: **Karla Kacopoulos** FIRM: **NCA-B** DATE: **10/19/02** TIME: **18:02**
PRINT NAME: FIRM: DATE: TIME: PRINT NAME: FIRM: DATE: TIME:
ADDITIONAL REMARKS: **GC/MS TCIP for Total Results** TEMP: **20**



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(425) 420-9200 FAX 420-9210
(509) 924- 924-9290
(503) 906-9200 FAX 906-9210
(541) 383-9310 FAX 382-7588

CHAIN OF CUSTODY REPORT

Work Order #:

CLIENT: STEFFEN JACOBSON		INVOICE TO:		TURNAROUND REQUEST in Business Days* <div>Organic & Inorganic Analyses</div> <table><tr><td>10</td><td>7</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td><1</td></tr></table> <div>STD.</div> <table><tr><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td><1</td></tr></table> <div>STD.</div> <div>Petroleum Hydrocarbon Analyses</div> <div>OTHER</div> <div>Please Specify</div> <div>*Turnaround Requests less than standard may incur Rush Charges.</div>				10	7	5	4	3	2	1	<1	5	4	3	2	1	<1
10	7	5	4					3	2	1	<1										
5	4	3	2					1	<1												
REPORT TO: ENVIRONCON		P.O. NUMBER:																			
ADDRESS: 10400 NORTH BURGARD WAY PORTLAND OR 97203																					
PHONE:		FAX:																			
PROJECT NAME: JACOBSON		REQUESTED ANALYSES																			
PROJECT NUMBER: 14313																					
SAMPLED BY: Steve Shepherd																					
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		MATRIX (W, S, O) # OF CONT. COMMENTS NCA WO ID																	
1. 14313		10-19-00 14:50		X X X																	
2. 14313		10-19-00 14:50		X X X																	
3. 14313		10-19-00 15:00		X X X																	
4. 14313		10-19-00 15:00		X X X																	
5. 14313		10-19-00 15:10		X X X																	
6. 14313		10-19-00 15:10		X X X																	
7. 14313		10-19-00 15:20		X X X																	
8. 14313		10-19-00 15:20		X X X																	
9. 14313		10-19-00 15:30		X X X																	
10. 14313		10-19-00 15:30		X X X																	
11.																					
12.																					
13.																					
14.																					
15.																					
RELINQUISHED BY:		DATE: 10-19-00		RECEIVED BY:		DATE: 10/17															
PRINT NAME: Steve Shepherd		TIME: 16:00		PRINT NAME: Steve Shepherd		TIME: 16:00															
FIRM: ENVIRONCON				FIRM: NCA																	
RELINQUISHED BY:		DATE:		RECEIVED BY:		DATE:															
PRINT NAME:		TIME:		PRINT NAME:		TIME:															
FIRM:				FIRM:																	
ADDITIONAL REMARKS:				TEMP:																	

APPENDIX II

DUST CONTROL AND SPILL PREVENTION PROTOCOL

|

APPENDIX II DUST CONTROL AND SPILL PREVENTION PROTOCOL

1.0 - Dust Suppression & Emission Control Measures

Dust suppression will be provided throughout the duration of the project in order that the ambient air control standards set for the site are achieved. Areas of concern will include, but not be limited to:

- a. Soil excavation
- b. Soil transfer on-site
- c. Soil stockpiles
- d. Soil transfer offsite

Suppression of particulate matter will be accomplished at the above areas by the use of water sprays and mists, and dust suppression solutions such as magnesium chloride to ensure the ambient air control standards are not exceeded. The misters and sprinklers shall be installed on soil stockpiles, as needed, to retard the generation of dust. Water hoses on vehicles used for dust suppression on travel routes will be equipped with fogger applicators to maximize suppression and minimize water. Vehicles traveling in the Exclusion Zone (EZ), or the Contamination Reduction Zone (CZ), will be required to travel at a speed of ten (10) miles per hour or below.

1.1 - Soil Excavation

Excavation areas shall be pre-wetted as necessary to minimize dust generation. Excavation equipment shall move at speeds consistent with maintaining dust control levels. Excavators shall minimize bucket height over trucks when loading to avoid the unnecessary suspension of soil particulates in the air. Loading shall be done in a slow and controlled manner.

1.2 - Soil Transfer On-site

Soils will be transported from the excavation area to staging areas by dump trucks and front-end loader. The trucks and loaders will keep speeds low to minimize dust generation. Soil stockpiles shall be kept covered except for that portion scheduled to be processed during the day. Water and/or a dust suppression agent, such as magnesium chloride, shall be applied to transfer routes where deemed applicable.

1.3 - Soil Stockpiles

Soil stockpiles will be covered whenever they are not being worked and moisture added as necessary to minimize dust generation.

Traffic routes shall be inspected on a daily basis to monitor soil tracks on asphalt or concrete surfaces. Cleaning of traffic routes shall consist of either washing with a water truck with subsequent collection of sediments, or with the use of a street sweeper that incorporates water jets as part of the sweeping process.

2.0 - Spill Prevention and Mitigation Procedures

The possibility of spillage of contaminated materials exists during loading of transport vehicles and the subsequent transfer of soils to the off-site disposal facility. Equipment operators shall take care in loading trucks to ensure that spillage is minimized and overloading does not occur. Excavator operators shall avoid over loading their bucket and shall place soil in the beds of trucks from a minimal height to avoid spillage. Each truck shall tarp after loading and its tailgate shall be inspected to verify locks are in adequate working condition.

Truck routes on-site shall be inspected periodically during the day to verify that the cleanliness of asphalt and concrete roadways is maintained.

In the event of spillage of material on either on-site or off-site roadways, transporters shall notify Envirocon's Project Manager via a 24-hour response system. The Project Manager shall then dispatch a response vehicle and other additional equipment, i.e., water truck, street sweeper, loader, backhoe, etc., as required. A verbal report of the incident shall be made to the client representative immediately. A written report of the incident will be sent within 24 hours of the incident.

APPENDIX III

SUBCONTRACTORS

APPENDIX III SUBCONTRACTORS

<u>Subcontractor</u>	<u>Task</u>
1. ECTI	Off Site Transport
2. Waste Management Columbia Ridge Subtitle D Facility Arlington, Oregon	Waste Disposal
3. Allied Rabanco Subtitle D Facility Roosevelt, Washington	Waste Disposal

EX. CONC WALK

CONC

ASPHALT

(230.0?)

CENTERLINE 20' SEWER EASEMENT

N00°23'20"E

10TH STREET

EX. SDMH
RIM=85.60
IE EX. 6" CONC(W)=82.60
IE EX. 6" CONC(SW)=82.60
IE EX. 6" CONC(S)=82.60
IE EX. 6" CONC(SE)=82.60
IE EX. 6" CONC(N)=82.60
IE EX. 6" CONC(E)=82.10

EX. CURB INLET
RIM=85.84
IE EX. 6" CONC(N)=85.04

EX. CURB INLET
RIM=85.20
IE EX. 6" CONC(N)=84.40
IE EX. 6" CONC(S)=84.40
TO BE REMOVED

DRIVE

CONC

479.96'

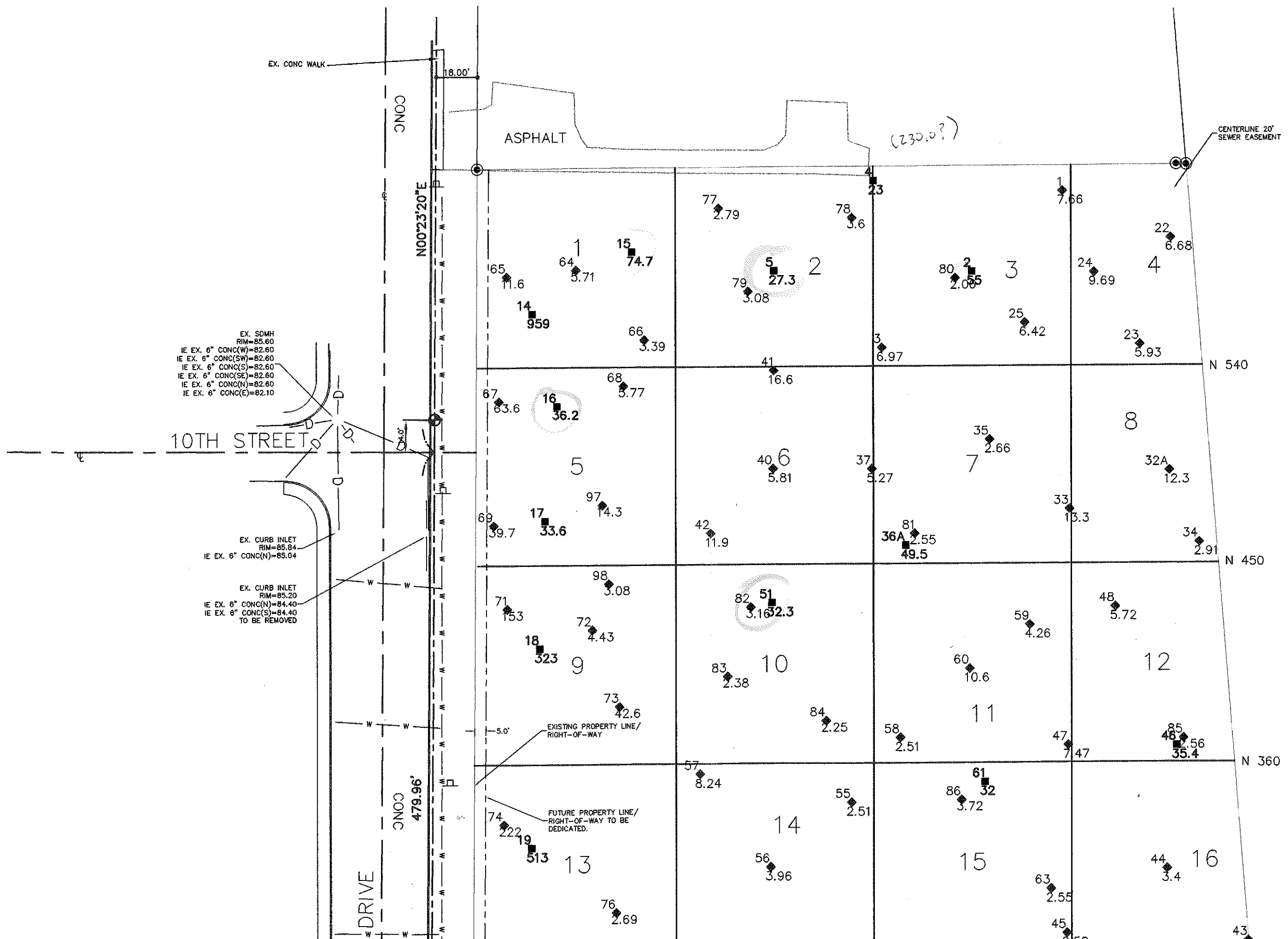
EXISTING PROPERTY LINE/
RIGHT-OF-WAY

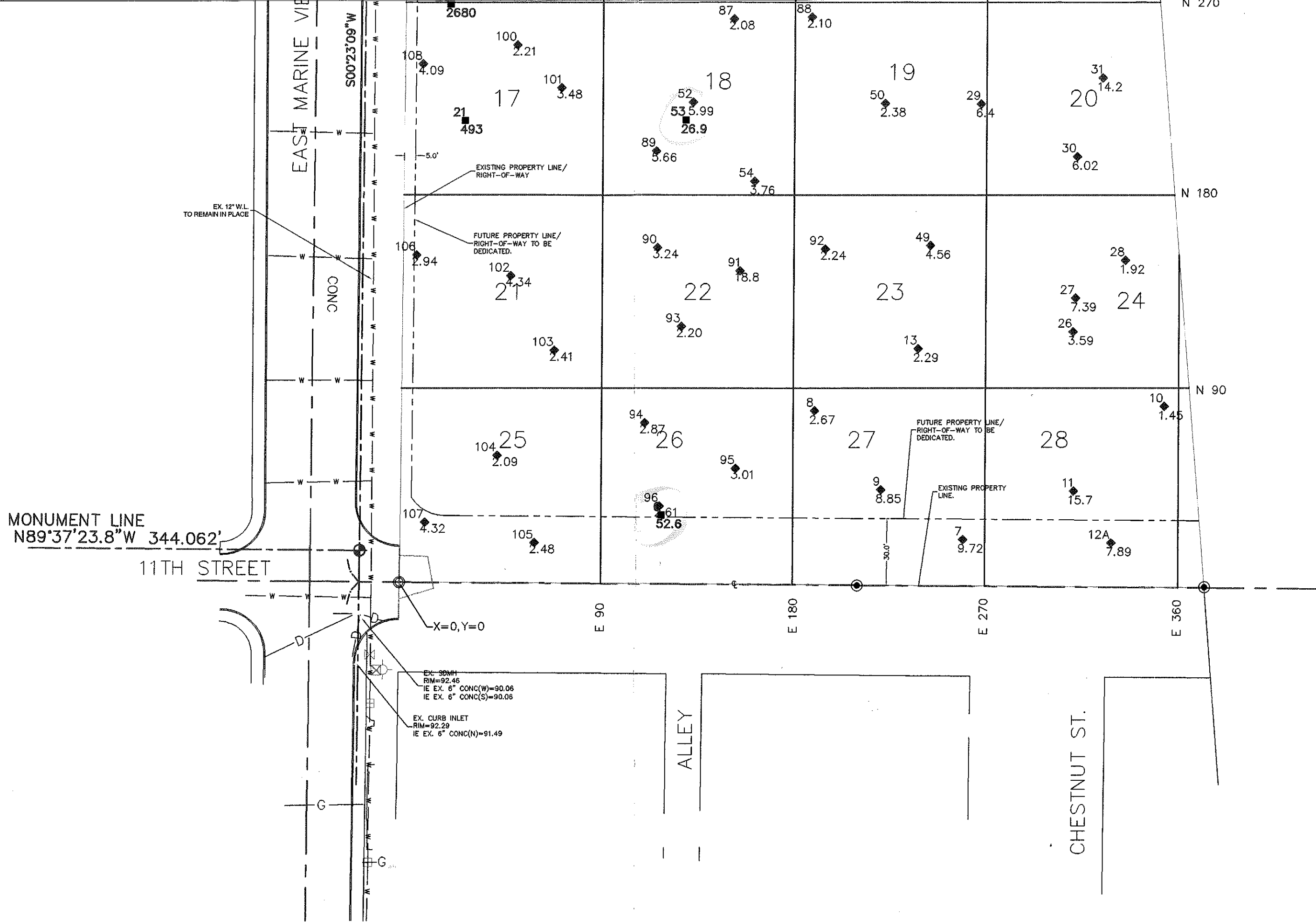
FUTURE PROPERTY LINE/
RIGHT-OF-WAY TO BE
DEDICATED

N 540

N 450

N 360







NORTH

1 ——— Top number is the sample number
7.66 ——— The bottom number represents the
concentration of arsenic in ppm

1
7.66 Confirmation samples with results
under 20 ppm total arsenic

33
55.2 Confirmation samples with results
20 ppm or higher total arsenic



Scale: 1" = 40'

LOCATION				North Point Apartment Site 1001 East Marine View Drive Everett, Washington			
PREPARED FOR:				PREPARED BY:			
Stephen Jacobson				ENVIROCON 500 TAYLOR STREET MISSOULA, MONTANA 59807			
TITLE				SCALE 1" = 40'		REVISION	
				DRAWING No.			
				14313—CONFIRMATION			
Figure 2 Footprint of Phase 1 Excavation and Confirmation Sampling Locations				DRAWN BY:	CHECKED BY:	DATE:	
				JNS	DJ	04/06/01	

TAX LOT 1-012

18.00'

N00°23'20"E

14.00'

479.96'

EX. SSMH
RM=38.1
IE EX. 24
IE EX. 24
IE 16" IN

CENTERLINE 20'
SEWER EASEMENT

18.00'

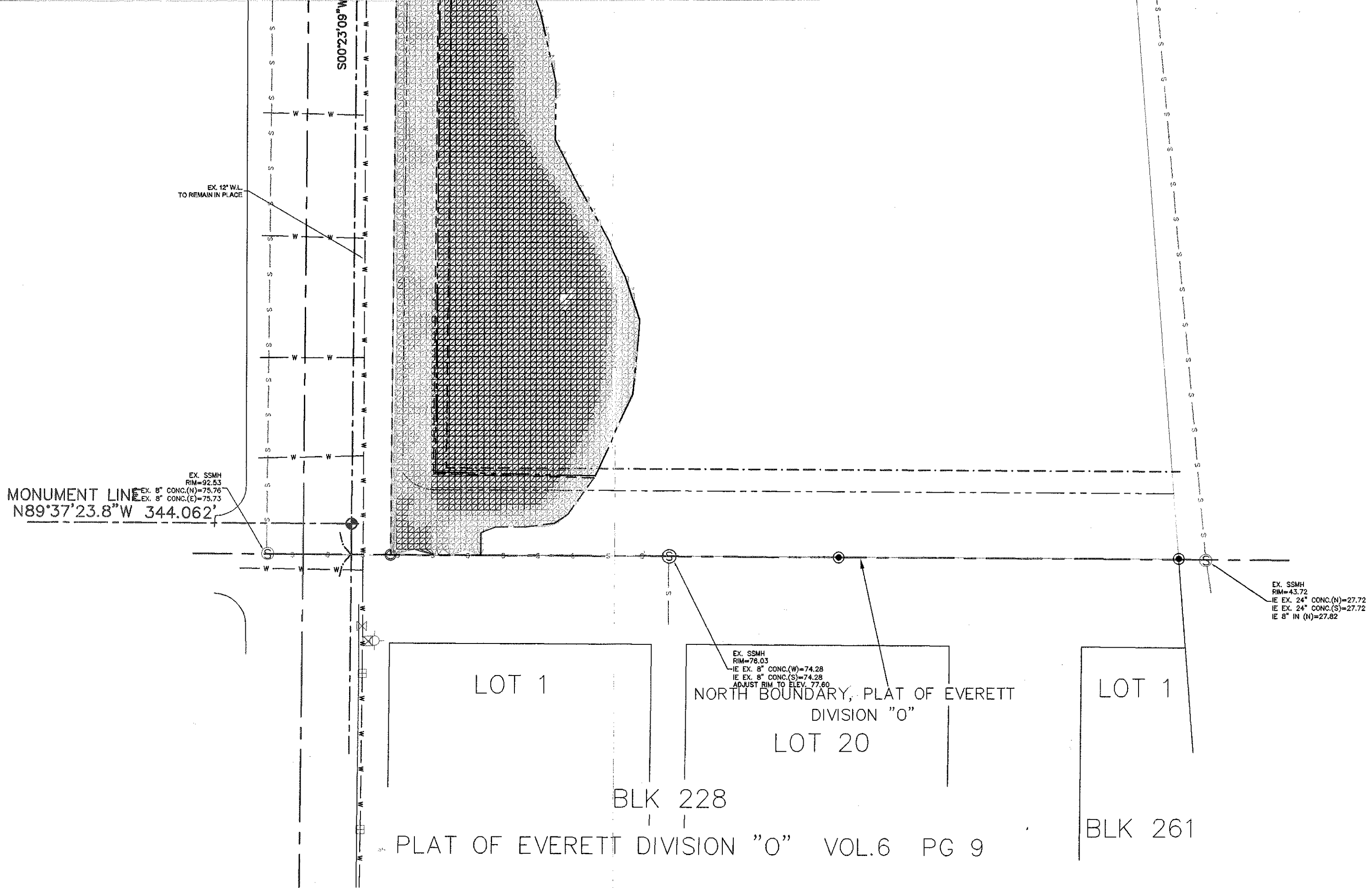
14

14.0.

500

S

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 104



MONUMENT LINE
N89°37'23.8"W 344.062'

EX. 12" W.L.
TO REMAIN IN PLACE

EX. SSMH
RIM=92.53
IE EX. 8" CONC.(N)=75.76
IE EX. 8" CONC.(E)=75.73

LOT 1

EX. SSMH
RIM=78.03
IE EX. 8" CONC.(W)=74.28
IE EX. 8" CONC.(S)=74.28
ADJUST RIM TO ELEV. 77.60
NORTH BOUNDARY, PLAT OF EVERETT
DIVISION "O"
LOT 20

BLK 228

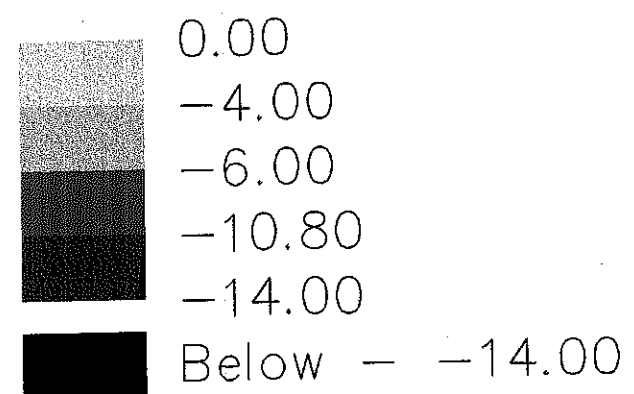
PLAT OF EVERETT DIVISION "O" VOL.6 PG 9

LOT 1

BLK 261

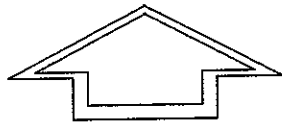
EX. SSMH
RIM=43.72
IE EX. 24" CONC.(N)=27.72
IE EX. 24" CONC.(S)=27.72
IE 8" IN (N)=27.82

EXCAVATION IN FEET



----- LANDSCAPE EXCAVATION BOUNDARY

----- EXCAVATION AT BUILDING FOUNDATION



NORTH



Scale: 1" = 40'

LOCATION	North Point Apartment Site 1001 East Marine View Drive Everett, Washington		
PREPARED FOR:	Stephen Jacobson		PREPARED BY: ENVIROCON 500 TAYLOR STREET MISSOULA, MONTANA 59807
TITLE	Figure 3 Excavation Profile Western Slope		SCALE 1" = 40'
			DRAWING No. 14313--Excav.Profile
			DRAWN BY: JNS CHECKED BY: DJ DATE: 01-02-01
			REVISION <div>1</div>

APPENDIX E

LABORATORY ANALYTICAL REPORTS



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8223
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 10:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
6-G26 117E-31N 0.5	B0H0225-01	Soil	07/26/00 01:00	08/10/00 16:15
7-G27 252E-21N 0.5	B0H0225-02	Soil	08/10/00 02:00	08/10/00 16:15
8-G27 185E-78N 0.5	B0H0225-03	Soil	08/10/00 02:15	08/10/00 16:15
9-G27 215E-43N 0.5	B0H0225-04	Soil	08/10/00 02:20	08/10/00 16:15

North Creek Analytical - Bothell

Steve Davis, Project Manager

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503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 09:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1-G3-285-594-0.5	B0H0191-01	Soil	08/09/00 12:15	08/09/00 17:00
2-G3-215-559-0.5	B0H0191-02	Soil	08/09/00 12:16	08/09/00 17:00
3-G3-90-526-0.5	B0H0191-03	Soil	08/09/00 12:17	08/09/00 17:00
4-G2-172-598-0.5	B0H0191-04	Soil	08/09/00 12:18	08/09/00 17:00
5-G2-129-559-0.5	B0H0191-05	Soil	08/09/00 12:20	08/09/00 17:00

North Creek Analytical - Bothell

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 09:07

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-G3-285-594-0.5 (B0H0191-01) Soil Sampled: 08/09/00 12:15 Received: 08/09/00 17:00									
Arsenic	7.66	0.340	mg/kg dry	1	0H10005	08/10/00	08/11/00	EPA 6020	
2-G3-215-559-0.5 (B0H0191-02) Soil Sampled: 08/09/00 12:16 Received: 08/09/00 17:00									
Arsenic	55.0	0.312	mg/kg dry	1	0H10005	08/10/00	08/11/00	EPA 6020	
3-G3-90-526-0.5 (B0H0191-03) Soil Sampled: 08/09/00 12:17 Received: 08/09/00 17:00									
Arsenic	6.97	0.342	mg/kg dry	1	0H10005	08/10/00	08/11/00	EPA 6020	
4-G2-172-598-0.5 (B0H0191-04) Soil Sampled: 08/09/00 12:18 Received: 08/09/00 17:00									
Arsenic	230	1.71	mg/kg dry	5	0H10005	08/10/00	08/11/00	EPA 6020	
5-G2-129-559-0.5 (B0H0191-05) Soil Sampled: 08/09/00 12:20 Received: 08/09/00 17:00									
Arsenic	27.3	0.321	mg/kg dry	1	0H10005	08/10/00	08/11/00	EPA 6020	

North Creek Analytical - Bothell

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Environmental Laboratory Network

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 09:07

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-G3-285-594-0.5 (B0H0191-01) Soil Sampled: 08/09/00 12:15 Received: 08/09/00 17:00									
Dry Weight	89.1	1.00	%	1	0H10036	08/10/00	08/11/00	BSOPSPL003R07	
2-G3-215-559-0.5 (B0H0191-02) Soil Sampled: 08/09/00 12:16 Received: 08/09/00 17:00									
Dry Weight	87.0	1.00	%	1	0H10036	08/10/00	08/11/00	BSOPSPL003R07	
3-G3-90-526-0.5 (B0H0191-03) Soil Sampled: 08/09/00 12:17 Received: 08/09/00 17:00									
Dry Weight	93.3	1.00	%	1	0H10036	08/10/00	08/11/00	BSOPSPL003R07	
4-G2-172-598-0.5 (B0H0191-04) Soil Sampled: 08/09/00 12:18 Received: 08/09/00 17:00									
Dry Weight	94.1	1.00	%	1	0H10037	08/10/00	08/11/00	BSOPSPL003R07	
5-G2-129-559-0.5 (B0H0191-05) Soil Sampled: 08/09/00 12:20 Received: 08/09/00 17:00									
Dry Weight	91.0	1.00	%	1	0H10037	08/10/00	08/11/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 09:07

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H10005: Prepared 08/10/00 Using EPA 3050B										
Blank (0H10005-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (0H10005-BS1)										
Arsenic	25.7	0.500	mg/kg wet	25.0		103	70-130			
Matrix Spike (0H10005-MS1) Source: B0H0191-03										
Arsenic	24.1	0.340	mg/kg dry	18.2	6.97	94.1	70-130			
Matrix Spike Dup (0H10005-MSD1) Source: B0H0191-03										
Arsenic	25.6	0.345	mg/kg dry	18.5	6.97	101	70-130	6.04	20	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 09:07

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

Batch 0H10036: Prepared 08/10/00 Using Dry Weight

Blank (0H10036-BLK1)

Dry Weight	100	1.00	%
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Blank (0H10036-BLK2)

Dry Weight	100	1.00	%
------------	-----	------	---

Batch 0H10037: Prepared 08/10/00 Using Dry Weight

Blank (0H10037-BLK1)

Dry Weight	100	1.00	%
------------	-----	------	---

Blank (0H10037-BLK2)

Dry Weight	100	1.00	%
------------	-----	------	---

North Creek Analytical - Bothell

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541.383.9310 fax 541.382.7588


Envirocon	Project: Steffan Jacobson	Reported:
10400 N. Burgard Way	Project Number: 14313	08/15/00 09:07
Portland OR/USA, 97203	Project Manager: Dave Jacobs	

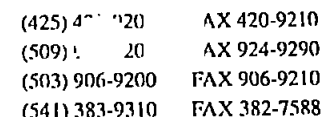
Notes and Definitions

- 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

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Steve Davis, Project Manager



Work Order #: B0H019

CLIENT: STEFFEN JACOBSEN		INVOICE TO: SAME AS REPORT		TURNAROUND REQUEST in Business Days*							
REPORT TO: DAVID JACOBS				Organic & Inorganic Analyses							
ADDRESS: ENVIROCON 18400 N BURGARD WAY PORTLAND, OR 97263				10 7 5 4 X 2 1 <1							
PHONE: 503-285-6164 FAX: 503-285-1205		P.O. NUMBER:		STD. Petroleum Hydrocarbon Analyses							
PROJECT NAME: STEFFEN JACOBSEN				5 4 X 2 1 <1							
PROJECT NUMBER: 14313		REQUESTED ANALYSES		STD. Please Specify							
SAMPLED BY: David Jacobsen				OTHER							
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		MATRIX (W, S, O)		# OF CONT.		COMMENTS		NCA V ID	
1. 1-G3-285-544-0.5		8/9/00 12:15		X						S 1 BOH0191-0	
2. 2-G3-215-554-0.5		8/9/00 12:16		X						S 1 0	
3. 3-603-90-526-0.5		8/9/00 12:17		X						S 1 0	
4. 4-G2-172-548-0.5		8/9/00 12:18		X						S 1 0	
5. 5-G2-129-554-0.5		8/9/00 12:20		X						S 1 0	
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
RELINQUISHED BY: DAVID JACOBS		DATE: 8/9/00		RECEIVED BY: Colette Weaver		FIRM: NCA-Bothell		DATE: 8/9/00			
PRINT NAME: Colette Weaver		TIME: 1700		PRINT NAME: Colette Weaver		FIRM: NCA		TIME: 1700			
ADDITIONAL REMARKS:											



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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 15:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
4A-G2 172E-598N 0.5	B0H0288-01	Soil	08/14/00 13:30	08/14/00 15:35
5A-G2 129E-559N 0.5	B0H0288-02	Soil	08/14/00 13:35	08/14/00 15:35

North Creek Analytical - Bothell

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Steve Davis, Project Manager



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/15/00 15:41

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
4A-G2 172E-598N 0.5 (B0H0288-01) Soil Sampled: 08/14/00 13:30 Received: 08/14/00 15:35										
Arsenic	8.64	0.342		mg/kg dry	1	0H14052	08/14/00	08/15/00	EPA 6020	
5A-G2 129E-559N 0.5 (B0H0288-02) Soil Sampled: 08/14/00 13:35 Received: 08/14/00 15:35										
Arsenic	3.18	0.312		mg/kg dry	1	0H14052	08/14/00	08/15/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 15:41

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
4A-G2 172E-598N 0.5 (B0H0288-01) Soil Sampled: 08/14/00 13:30 Received: 08/14/00 15:35									
Dry Weight	92.4	1.00	%	1	0H14043	08/14/00	08/15/00	BSOPSPL003R07	
5A-G2 129E-559N 0.5 (B0H0288-02) Soil Sampled: 08/14/00 13:35 Received: 08/14/00 15:35									
Dry Weight	92.7	1.00	%	1	0H14043	08/14/00	08/15/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Environmental Laboratory Network



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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 15:41

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H14052: Prepared 08/14/00 Using EPA 3050B										
Blank (0H14052-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (0H14052-BS1)										
Arsenic	25.9	0.500	mg/kg wet	25.0		104	70-130			
Matrix Spike (0H14052-MS1) Source: B0H0288-01										
Arsenic	25.3	0.352	mg/kg dry	19.0	8.64	87.7	70-130			
Matrix Spike Dup (0H14052-MSD1) Source: B0H0288-01										
Arsenic	24.6	0.333	mg/kg dry	18.0	8.64	88.7	70-130	2.81	20	

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/15/00 15:41

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H14043: Prepared 08/14/00 Using Dry Weight									
Blank (0H14043-BLK1)									
Dry Weight	100	1.00	%						

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/15/00 15:41

Notes and Definitions

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

North Creek Analytical - Bothell

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Page 6 of 6

CHAIN OF CUSTODY REPORT

Work Order #: **BO H0288**

CLIENT: **Steffan Jacobson**

REPORT TO: **David Jacobs**

ADDRESS: **Envirocom
10400 N. Burgard
Portland, OR 97203**

PHONE: **503-285-6164**

FAX: **503-285-6215**

PROJECT NAME: **Steffan Jacobson**

PROJECT NUMBER: **14313**

SAMPLED BY: **D. Turner**

INVOICE TO:

P.O. NUMBER:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses
10 7 5 4 3 2 1 <1

STD.

Petroleum Hydrocarbon Analyses

5 4 3 2 1 <1

STD.

OTHER Please Specify
24 Hr

*Turnaround Requests less than standard may incur Rush Charges.

PROJECT NUMBER: 14313			REQUESTED ANALYSES												STD. <div>OTHER 24 Hr</div> Please Specify				
SAMPLED BY: D. Turner															*Turnaround Requests less than standard may incur Rush Charges.				
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME	Total	Arsenic												MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
1. 4A-G2172E-598		0.5 7:30 8-14-00	X													S	1		-01
2. 5A-G2123E-559		0.5 7:35 8-14-00	X													S	1		-02
3.																			
4.																			
5.																			
6.																			
7.																			
8.																			
9.																			
10.																			
11.																			
12.																			
13.																			
14.																			
15.																			

RELINQUISHED BY: 8-14-00

RELINQUISHED BY:

PRINT NAME: **Dark Turner**

FIRM:

DATE: **8-14-00**

TIME: **15:00**

RECEIVED BY: **Cathy Nichols**

PRINT NAME: **Cathy Nichols**

FIRM: **NCA**

DATE: **8/14/00**

TIME: **15:00**

RELINQUISHED BY: **Cathy Nichols**

PRINT NAME: **C. Nichols**

FIRM: **NCA**

DATE: **8/14/00**

TIME: **15:35**

RECEIVED BY: **Prany Tony**

PRINT NAME: **PRANY TONY**

FIRM: **NCA**

DATE: **8/14/00**

TIME: **1535**

ADDITIONAL REMARKS:



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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 10:57

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
6-G26 117E-31N 0.5 (B0H0225-01) Soil Sampled: 07/26/00 01:00 Received: 08/10/00 16:15									
Arsenic	52.6	0.379	mg/kg dry	1	0H10045	08/10/00	08/11/00	EPA 6020	
7-G27 252E-21N 0.5 (B0H0225-02) Soil Sampled: 08/10/00 02:00 Received: 08/10/00 16:15									
Arsenic	9.72	0.370	mg/kg dry	1	0H10045	08/10/00	08/11/00	EPA 6020	
8-G27 185E-78N 0.5 (B0H0225-03) Soil Sampled: 08/10/00 02:15 Received: 08/10/00 16:15									
Arsenic	2.67	0.350	mg/kg dry	1	0H10045	08/10/00	08/11/00	EPA 6020	
9-G27 215E-43N 0.5 (B0H0225-04) Soil Sampled: 08/10/00 02:20 Received: 08/10/00 16:15									
Arsenic	8.85	0.370	mg/kg dry	1	0H10045	08/10/00	08/11/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/15/00 10:57

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
6-G26 117E-31N 0.5 (B0H0225-01) Soil Sampled: 07/26/00 01:00 Received: 08/10/00 16:15									
Dry Weight	85.1	1.00	%	1	0H10038	08/10/00	08/11/00	BSOPSPL003R07	
7-G27 252E-21N 0.5 (B0H0225-02) Soil Sampled: 08/10/00 02:00 Received: 08/10/00 16:15									
Dry Weight	91.2	1.00	%	1	0H10038	08/10/00	08/11/00	BSOPSPL003R07	
8-G27 185E-78N 0.5 (B0H0225-03) Soil Sampled: 08/10/00 02:15 Received: 08/10/00 16:15									
Dry Weight	91.6	1.00	%	1	0H10038	08/10/00	08/11/00	BSOPSPL003R07	
9-G27 215E-43N 0.5 (B0H0225-04) Soil Sampled: 08/10/00 02:20 Received: 08/10/00 16:15									
Dry Weight	94.3	1.00	%	1	0H10038	08/10/00	08/11/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 10:57

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H10045: Prepared 08/10/00 Using EPA 3050B									
Blank (0H10045-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (0H10045-BS1)									
Arsenic	25.7	0.500	mg/kg wet	25.0		103	70-130		
Matrix Spike (0H10045-MS1) Source: B0H0225-01									
Arsenic	69.3	0.370	mg/kg dry	21.8	52.6	76.6	70-130		
Matrix Spike Dup (0H10045-MSD1) Source: B0H0225-01									
Arsenic	65.8	0.370	mg/kg dry	21.8	52.6	60.6	70-130	5.18	20 Q-01

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 10:57

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

Batch 0H10038: Prepared 08/10/00 Using Dry Weight

Blank (0H10038-BLK1)

Dry Weight	100	1.00	%
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North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/15/00 10:57

Notes and Definitions

- Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
- 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

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Work Order #: B040225

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(541) 383-9310 FAX 382-7588

[illegible]



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 09:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
10 G28-341E-81N 0.5	B0H0260-01	Soil	08/11/00 13:20	08/11/00 16:00
11 G28-301E-43N 0.5	B0H0260-02	Soil	08/11/00 13:24	08/11/00 16:00
12 G28-318E-20N 0.5	B0H0260-03	Soil	08/11/00 13:30	08/11/00 16:00
13 G23-231E-106N 0.5	B0H0260-04	Soil	08/11/00 13:35	08/11/00 16:00
14 G1-24E-540N 0.5	B0H0260-05	Soil	08/11/00 14:25	08/11/00 16:00
15 G1-67E-567N 0.5	B0H0260-06	Soil	08/11/00 14:20	08/11/00 16:00

Creek Analytical - Bothell

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 09:45

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
10 G28-341E-81N 0.5 (B0H0260-01) Soil Sampled: 08/11/00 13:20 Received: 08/11/00 16:00									
Arsenic	1.45	0.355	mg/kg dry	1	0H11044	08/11/00	08/13/00	EPA 6020	
11 G28-301E-43N 0.5 (B0H0260-02) Soil Sampled: 08/11/00 13:24 Received: 08/11/00 16:00									
Arsenic	15.7	3.60	mg/kg dry	10	0H11044	08/11/00	08/13/00	EPA 6020	
12 G28-318E-20N 0.5 (B0H0260-03) Soil Sampled: 08/11/00 13:30 Received: 08/11/00 16:00									
Arsenic	51.4	3.31	mg/kg dry	10	0H11044	08/11/00	08/13/00	EPA 6020	
13 G23-231E-106N 0.5 (B0H0260-04) Soil Sampled: 08/11/00 13:35 Received: 08/11/00 16:00									
Arsenic	2.29	0.327	mg/kg dry	1	0H11044	08/11/00	08/13/00	EPA 6020	
14 G1-24E-540N 0.5 (B0H0260-05) Soil Sampled: 08/11/00 14:25 Received: 08/11/00 16:00									
Arsenic	959	6.58	mg/kg dry	20	0H11044	08/11/00	08/13/00	EPA 6020	
15 G1-67E-567N 0.5 (B0H0260-06) Soil Sampled: 08/11/00 14:20 Received: 08/11/00 16:00									
Arsenic	74.7	0.338	mg/kg dry	1	0H11044	08/11/00	08/13/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 09:45

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
10 G28-341E-81N 0.5 (B0H0260-01) Soil Sampled: 08/11/00 13:20 Received: 08/11/00 16:00									
Dry Weight	86.7	1.00	%	1	0H11039	08/11/00	08/14/00	BSOPSPL003R07	
11 G28-301E-43N 0.5 (B0H0260-02) Soil Sampled: 08/11/00 13:24 Received: 08/11/00 16:00									
Dry Weight	88.3	1.00	%	1	0H11039	08/11/00	08/14/00	BSOPSPL003R07	
12 G28-318E-20N 0.5 (B0H0260-03) Soil Sampled: 08/11/00 13:30 Received: 08/11/00 16:00									
Dry Weight	78.5	1.00	%	1	0H11039	08/11/00	08/14/00	BSOPSPL003R07	
13 G23-231E-106N 0.5 (B0H0260-04) Soil Sampled: 08/11/00 13:35 Received: 08/11/00 16:00									
Dry Weight	86.1	1.00	%	1	0H11039	08/11/00	08/14/00	BSOPSPL003R07	
14 G1-24E-540N 0.5 (B0H0260-05) Soil Sampled: 08/11/00 14:25 Received: 08/11/00 16:00									
Dry Weight	95.9	1.00	%	1	0H11039	08/11/00	08/14/00	BSOPSPL003R07	
15 G1-67E-567N 0.5 (B0H0260-06) Soil Sampled: 08/11/00 14:20 Received: 08/11/00 16:00									
Dry Weight	94.4	1.00	%	1	0H11039	08/11/00	08/14/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 09:45

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch 0H11044: Prepared 08/11/00 Using EPA 3050B								
Blank (0H11044-BLK1)								
Arsenic	ND	0.500	mg/kg wet					
LCS (0H11044-BS1)								
Arsenic	25.9	0.500	mg/kg wet	25.0		104 70-130		
Matrix Spike (0H11044-MS1)								
Source: B0H0073-03								
Arsenic	19.2	0.373	mg/kg dry	19.4	2.53	85.9 70-130		
Matrix Spike Dup (0H11044-MSD1)								
Source: B0H0073-03								
Arsenic	17.8	0.355	mg/kg dry	18.5	2.53	82.5 70-130	7.57	20

North Creek Analytical - Bothell

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Envirocon
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Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 09:45

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H11039: Prepared 08/11/00 Using Dry Weight									
Blank (0H11039-BLK1)									
Dry Weight	100	1.00	%						

North Creek Analytical - Bothell

Steve Davis, Project 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.



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503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon

10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson

Project Number: 14313

Project Manager: Dave Jacobs

Reported:

08/16/00 09:45

Notes and Definitions

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

Creek Analytical - Bothell

Steve Davis, Project 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 REPORT

Work Order #: **BDH0260**

CLIENT: **Steffen Jacobsen**

REPORT TO: **David Jacobs**

ADDRESS: **Envirocon
18400 N. Burgard
Portland, OR 97223**

PHONE: **503-285-6164**

FAX: **503-285-6215**

PROJECT NAME: **Steffen Jacobsen**

PROJECT NUMBER: **14313**

SAMPLED BY: **D. Turner**

INVOICE TO:

Same as Report

P.O. NUMBER:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses

10 7 5 4 3 2 1 <1

STD.

Petroleum Hydrocarbon Analyses

5 4 3 2 1 <1

STD.

Please Specify

OTHER

*Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		REQUESTED ANALYSES																MATRIX (W, S, O)		# OF CONT.	COMMENTS	NCA WO ID
1. 10 G28-34E-81N		8-11-00	1:20P	X																	S	1	BDH0260 -01	
2. 11G 28-30E-43N		8-11-00	1:24P	X																	S	1	-02	
3. 12 G28 38E-20N		8-11-00	1:30P	X																	S	1	-03	
4. 13 G23 23E-106N		8-11-00	1:35P	X																	S	1	-04	
5. 14 G1 24E-540N		8-11-00	2:25P	X																	S	1	-05	
6. 15 G1 67E-567N		8-11-00	2:20P	X																	S	1	-06	
7.																								
8.																								
9.																								
10.																								
11.																								
12.																								
13.																								
14.																								
15.																								

RELINQUISHED BY:

PRINT NAME: **Derk Turner**

FIRM: **Envirocon**

DATE: **8-11-00**

TIME:

RECEIVED BY:

Cloette Weaver

PRINT NAME:

Cloette Weaver

FIRM: **NCA-Bothell**

DATE: **8-11-00**

TIME: **1530**

RELINQUISHED BY:

PRINT NAME: **Ellen Tennis**

FIRM:

DATE:

TIME:

RECEIVED BY:

Ellen Tennis

PRINT NAME:

Ellen Tennis

FIRM: **NCA**

DATE: **8-11-00**

TIME: **1600**

ADDITIONAL REMARKS:

Cloette Weaver

Cloette Weaver

NCA-Bothell

8-11-00

1600

TEMP:

19.5°

PAGE OF



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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 16:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
16)G5-35-500 0.5	B0H0327-01	Soil	08/15/00 09:10	08/15/00 14:40
17)G5-30-450 0.5	B0H0327-02	Soil	08/15/00 09:13	08/15/00 14:40
18)G9-28-395 0.5	B0H0327-03	Soil	08/15/00 09:18	08/15/00 14:40
19)G13-25-309 0.5	B0H0327-04	Soil	08/15/00 09:22	08/15/00 14:40
20)G17-20-258 0.5	B0H0327-05	Soil	08/15/00 09:25	08/15/00 14:40
21)G17-27-206 0.5	B0H0327-06	Soil	08/15/00 09:29	08/15/00 14:40

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 16:05

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16)G5-35-500 0.5 (B0H0327-01) Soil Sampled: 08/15/00 09:10 Received: 08/15/00 14:40									
Arsenic	36.2	0.333	mg/kg dry	1	0H15042	08/15/00	08/16/00	EPA 6020	
17)G5-30-450 0.5 (B0H0327-02) Soil Sampled: 08/15/00 09:13 Received: 08/15/00 14:40									
Arsenic	336	1.64	mg/kg dry	5	0H15042	08/15/00	08/16/00	EPA 6020	
18)G9-28-395 0.5 (B0H0327-03) Soil Sampled: 08/15/00 09:18 Received: 08/15/00 14:40									
Arsenic	323	1.56	mg/kg dry	5	0H15042	08/15/00	08/16/00	EPA 6020	
19)G13-25-309 0.5 (B0H0327-04) Soil Sampled: 08/15/00 09:22 Received: 08/15/00 14:40									
Arsenic	513	3.21	mg/kg dry	10	0H15042	08/15/00	08/16/00	EPA 6020	
20)G17-20-258 0.5 (B0H0327-05) Soil Sampled: 08/15/00 09:25 Received: 08/15/00 14:40									
Arsenic	2680	16.4	mg/kg dry	50	0H15042	08/15/00	08/16/00	EPA 6020	
21)G17-27-206 0.5 (B0H0327-06) Soil Sampled: 08/15/00 09:29 Received: 08/15/00 14:40									
Arsenic	493	3.42	mg/kg dry	10	0H15042	08/15/00	08/16/00	EPA 6020	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Environmental Laboratory Network



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/16/00 16:05

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16)G5-35-500 0.5 (B0H0327-01) Soil Sampled: 08/15/00 09:10 Received: 08/15/00 14:40									
Dry Weight	96.7	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
17)G5-30-450 0.5 (B0H0327-02) Soil Sampled: 08/15/00 09:13 Received: 08/15/00 14:40									
Dry Weight	90.0	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
18)G9-28-395 0.5 (B0H0327-03) Soil Sampled: 08/15/00 09:18 Received: 08/15/00 14:40									
Dry Weight	96.2	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
19)G13-25-309 0.5 (B0H0327-04) Soil Sampled: 08/15/00 09:22 Received: 08/15/00 14:40									
Dry Weight	92.0	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
20)G17-20-258 0.5 (B0H0327-05) Soil Sampled: 08/15/00 09:25 Received: 08/15/00 14:40									
Dry Weight	97.2	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
21)G17-27-206 0.5 (B0H0327-06) Soil Sampled: 08/15/00 09:29 Received: 08/15/00 14:40									
Dry Weight	95.5	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 3 of 6



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 16:05

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H15042: Prepared 08/15/00 Using EPA 3050B									
Blank (0H15042-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (0H15042-BS1)									
Arsenic	26.4	0.500	mg/kg wet	25.0		106 70-130			
Matrix Spike (0H15042-MS1)					Source: B0H0327-01				
Arsenic	47.5	0.327	mg/kg dry	16.9	36.2	66.9 70-130			Q-01
Matrix Spike Dup (0H15042-MSD1)					Source: B0H0327-01				
Arsenic	55.4	0.333	mg/kg dry	17.2	36.2	112 70-130	15.4	20	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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North Creek Analytical, Inc.
Environmental Laboratory Network

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541.383.9310 fax 541.382.7588

Envirocon .0400 N. Burgard Way Portland OR/USA, 97203	Project: Steffan Jacobson Project Number: 14313 Project Manager: Dave Jacobs	Reported: 08/16/00 16:05
---	--	-----------------------------

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H15027: Prepared 08/15/00 Using Dry Weight										
Blank (0H15027-BLK1)										
Dry Weight	100	1.00	%							

North Creek Analytical - Bothell

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Steve Davis, Project Manager



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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/16/00 16:05

Notes and Definitions

Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.

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

North Creek Analytical, Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 6 of 6

CHAIN OF CUSTODY REPORT

Work Order #: **B0410327**

CLIENT: Steffan Jacobson		INVOICE TO: Same as Report		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> 10754321<1 </div> STD. Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> 54321<1 </div> STD. OTHER Please Specify 24 Hr																																																																																																																																																																																																															
REPORT TO: David Jacobs		P.O. NUMBER:																																																																																																																																																																																																																	
ADDRESS: 10400 N. Burgard Way Portland, OR 97203																																																																																																																																																																																																																			
PHONE: 503-285-6164		FAX: 503-285-6215		*Turnaround Requests less than standard may incur Rush Charges.																																																																																																																																																																																																															
PROJECT NAME: Steffan Jacobson		PROJECT NUMBER: 14313		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="12">REQUESTED ANALYSES</th> </tr> <tr> <th>CLIENT SAMPLE IDENTIFICATION</th> <th>SAMPLING DATE/TIME</th> <th>Total</th> <th>Arsenic</th> <th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th> </tr> </thead> <tbody> <tr><td>1.16) G5-35-500 0.5</td><td>8-15-00 9:10A</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2.17) G5-30-450 0.5</td><td>8-15-00 9:13A</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3.18) G9-28-395 0.5</td><td>8-15-00 9:18A</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4.19) G13-25-309 0.5</td><td>8-15-00 9:22A</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5.20) G17-20-258 0.5</td><td>8-15-00 9:25A</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6.21) G17-27-206 0.5</td><td>8-15-00 9:29</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>7.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>9.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>11.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>12.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>13.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>14.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>15.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>				REQUESTED ANALYSES												CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total	Arsenic									1.16) G5-35-500 0.5	8-15-00 9:10A	X										2.17) G5-30-450 0.5	8-15-00 9:13A	X										3.18) G9-28-395 0.5	8-15-00 9:18A	X										4.19) G13-25-309 0.5	8-15-00 9:22A	X										5.20) G17-20-258 0.5	8-15-00 9:25A	X										6.21) G17-27-206 0.5	8-15-00 9:29	X										7.												8.												9.												10.												11.												12.												13.												14.												15.											
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SAMPLED BY: D. Turner																																																																																																																																																																																																																			

MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
S	1		01
S	1		02
S	1		03
S	1		04
S	1		05
S	1		06

RELINQUISHED BY: Derek Turner	DATE: 8-15-00	RECEIVED BY: Cathy Nichols	DATE: 8/15/00
PRINT NAME:	FIRM:	PRINT NAME:	FIRM: NCA
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
PRINT NAME:	FIRM:	PRINT NAME:	FIRM:
ADDITIONAL REMARKS:			

COC REV 3/99

W/O 18.0

PAGE 01



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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/23/00 12:38

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
16)G5-35-500 0.5	B0H0327-01	Soil	08/15/00 09:10	08/15/00 14:40
17)G5-30-450 0.5	B0H0327-02	Soil	08/15/00 09:13	08/15/00 14:40
18)G9-28-395 0.5	B0H0327-03	Soil	08/15/00 09:18	08/15/00 14:40
19)G13-25-309 0.5	B0H0327-04	Soil	08/15/00 09:22	08/15/00 14:40
20)G17-20-258 0.5	B0H0327-05	Soil	08/15/00 09:25	08/15/00 14:40
21)G17-27-206 0.5	B0H0327-06	Soil	08/15/00 09:29	08/15/00 14:40

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 1 of 8



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541.383.9310 fax 541.382.7588

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/23/00 12:38

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16)G5-35-500 0.5 (B0H0327-01) Soil Sampled: 08/15/00 09:10 Received: 08/15/00 14:40									
Arsenic	36.2	0.333	mg/kg dry	1	0H15042	08/15/00	08/16/00	EPA 6020	
17)G5-30-450 0.5 (B0H0327-02) Soil Sampled: 08/15/00 09:13 Received: 08/15/00 14:40									
Arsenic	336	1.64	mg/kg dry	5	0H15042	08/15/00	08/16/00	EPA 6020	
18)G9-28-395 0.5 (B0H0327-03) Soil Sampled: 08/15/00 09:18 Received: 08/15/00 14:40									
Arsenic	323	1.56	mg/kg dry	5	0H15042	08/15/00	08/16/00	EPA 6020	
19)G13-25-309 0.5 (B0H0327-04) Soil Sampled: 08/15/00 09:22 Received: 08/15/00 14:40									
Arsenic	513	3.21	mg/kg dry	10	0H15042	08/15/00	08/16/00	EPA 6020	
20)G17-20-258 0.5 (B0H0327-05) Soil Sampled: 08/15/00 09:25 Received: 08/15/00 14:40									
Arsenic	2680	16.4	mg/kg dry	50	0H15042	08/15/00	08/16/00	EPA 6020	
21)G17-27-206 0.5 (B0H0327-06) Soil Sampled: 08/15/00 09:29 Received: 08/15/00 14:40									
Arsenic	493	3.42	mg/kg dry	10	0H15042	08/15/00	08/16/00	EPA 6020	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/23/00 12:38

TCLP Metals by EPA 1311/6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
17)G5-30-450 0.5 (B0H0327-02) Soil Sampled: 08/15/00 09:13 Received: 08/15/00 14:40									
Arsenic	ND	0.500	mg/l	1	0H22014	08/22/00	08/23/00	EPA 6010B	
19)G13-25-309 0.5 (B0H0327-04) Soil Sampled: 08/15/00 09:22 Received: 08/15/00 14:40									
Arsenic	ND	0.500	mg/l	1	0H22014	08/22/00	08/23/00	EPA 6010B	
20)G17-20-258 0.5 (B0H0327-05) Soil Sampled: 08/15/00 09:25 Received: 08/15/00 14:40									
Arsenic	ND	0.500	mg/l	1	0H22014	08/22/00	08/23/00	EPA 6010B	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/23/00 12:38

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16)G5-35-500 0.5 (B0H0327-01) Soil Sampled: 08/15/00 09:10 Received: 08/15/00 14:40									
Dry Weight	96.7	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
17)G5-30-450 0.5 (B0H0327-02) Soil Sampled: 08/15/00 09:13 Received: 08/15/00 14:40									
Dry Weight	90.0	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
18)G9-28-395 0.5 (B0H0327-03) Soil Sampled: 08/15/00 09:18 Received: 08/15/00 14:40									
Dry Weight	96.2	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
19)G13-25-309 0.5 (B0H0327-04) Soil Sampled: 08/15/00 09:22 Received: 08/15/00 14:40									
Dry Weight	92.0	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
20)G17-20-258 0.5 (B0H0327-05) Soil Sampled: 08/15/00 09:25 Received: 08/15/00 14:40									
Dry Weight	97.2	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	
21)G17-27-206 0.5 (B0H0327-06) Soil Sampled: 08/15/00 09:29 Received: 08/15/00 14:40									
Dry Weight	95.5	1.00	%	1	0H15027	08/15/00	08/16/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

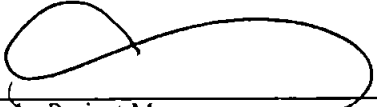
Reported:
08/23/00 12:38

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H15042: Prepared 08/15/00 Using EPA 3050B									
Blank (0H15042-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (0H15042-BS1)									
Arsenic	26.4	0.500	mg/kg wet	25.0		106 70-130			
Matrix Spike (0H15042-MS1)					Source: B0H0327-01				
Arsenic	47.5	0.327	mg/kg dry	16.9	36.2	66.9 70-130			Q-01
Matrix Spike Dup (0H15042-MSD1)					Source: B0H0327-01				
Arsenic	55.4	0.333	mg/kg dry	17.2	36.2	112 70-130	15.4	20	

North Creek Analytical - Bothell

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Environmental Laboratory Network

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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/23/00 12:38

TCLP Metals by EPA 1311/6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H22014: Prepared 08/22/00 Using EPA 3010A									
Blank (0H22014-BLK1)									
Arsenic	ND	0.500	mg/l						
LCS (0H22014-BS1)									
Arsenic	10.2	0.500	mg/l	10.0		102	80-120		
Matrix Spike (0H22014-MS1)									
					Source: B0H0175-10				
Arsenic	10.1	0.500	mg/l	10.0	ND	101	80-120		
Matrix Spike Dup (0H22014-MSD1)									
					Source: B0H0175-10				
Arsenic	10.1	0.500	mg/l	10.0	ND	101	80-120	0	20

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Steve Davis, Project Manager

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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/23/00 12:38

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch 0H15027: Prepared 08/15/00 Using Dry Weight								
Blank (0H15027-BLK1)								
Dry Weight	100	1.00	%					

North Creek Analytical - Bothell

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North Creek Analytical, Inc.
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541.383.9310 fax 541.382.7588

Envirocon	Project: Steffan Jacobson	Reported:
.0400 N. Burgard Way	Project Number: 14313	08/23/00 12:38
Portland OR/USA, 97203	Project Manager: Dave Jacobs	

Notes and Definitions

- Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
- 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

North Creek Analytical - Bothell

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Steve Davis, Project Manager

CHAIN OF CUSTODY REPORT

Work Order #:

BO410327

CLIENT: <u>Steffan Jacobson</u>		INVOICE TO: <u>Same as Report</u>		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div>10 7 5 4 3 2 1 <1</div> <div>STD.</div> <div>5 4 3 2 1 <1</div> </div> Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div>5 4 3 2 1 <1</div> <div>STD.</div> <div>OTHER <u>24 Hr</u></div> </div> Please Specify *Turnaround Requests less than standard may incur Rush Charges.																	
REPORT TO: <u>David Jacobs</u>																					
ADDRESS: <u>10400 N. Burgard Way</u> <u>Portland, OR 97209</u>																					
PHONE: <u>503-285-6164</u> FAX: <u>503-285-6215</u>		P.O. NUMBER:																			
PROJECT NAME: <u>Steffan Jacobson</u>		REQUESTED ANALYSES																			
PROJECT NUMBER: <u>14313</u>																					
SAMPLED BY: <u>D. Turner</u>																					
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total	Arsenic															MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
1.16) G5-35-500 0.5	8-15-00 9:10A	X																S	1		01
2.17) G5-30-450 0.5	8-15-00 9:13A	X																S	1		02
3.18) G9-28-395 0.5	8-15-00 9:18A	X																S	1		03
4.19) G13-25-309 0.5	8-15-00 9:22A	X																S	1		04
5.20) G17-20-258 0.5	8-15-00 9:25A	X																S	1		05
6.21) G17-27-206 0.5	8-15-00 9:29	X																S	1		06
7.																					
8.																					
9.																					
10.																					
11.																					
12.																					
13.																					
14.																					
15.																					

RELINQUISHED BY: <u>Derek Turner</u>	FIRM:	DATE: <u>8/15/00</u>	TIME:	RECEIVED BY: <u>Cathy Nichols</u>	FIRM: <u>NCI</u>	DATE: <u>8/15/00</u>	TIME: <u>1:40</u>
RELINQUISHED BY:	FIRM:	DATE:	TIME:	RECEIVED BY:	FIRM:	DATE:	TIME:
PRINT NAME:	FIRM:	DATE:	TIME:	PRINT NAME:	FIRM:	DATE:	TIME:

ADDITIONAL REMARKS: W/D 18.0

FORM 100-100
PAGE: 01



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/17/00 15:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
12A)318-20-1.5 G28	B0H0342-01	Soil	08/16/00 13:00	08/16/00 15:25
22)301-574-0.5 GA	B0H0342-02	Soil	08/16/00 13:30	08/16/00 15:25

North Creek Analytical - Bothell

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North Creek Analytical, Inc.
Environmental Laboratory Network

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/17/00 15:55

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
12A)318-20-1.5 G28 (B0H0342-01) Soil Sampled: 08/16/00 13:00 Received: 08/16/00 15:25									
Arsenic	7.89	0.342	mg/kg dry	1	0H16039	08/16/00	08/17/00	EPA 6020	
22)301-574-0.5 GA (B0H0342-02) Soil Sampled: 08/16/00 13:30 Received: 08/16/00 15:25									
Arsenic	6.68	0.352	mg/kg dry	1	0H16039	08/16/00	08/17/00	EPA 6020	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/17/00 15:55

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
12A)318-20-1.5 G28 (B0H0342-01) Soil Sampled: 08/16/00 13:00 Received: 08/16/00 15:25									
Dry Weight	93.0	1.00	%	1	0H16044	08/16/00	08/17/00	BSOPSPL003R07	
22)301-574-0.5 GA (B0H0342-02) Soil Sampled: 08/16/00 13:30 Received: 08/16/00 15:25									
Dry Weight	89.8	1.00	%	1	0H16044	08/16/00	08/17/00	BSOPSPL003R07	

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/17/00 15:55

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H16039: Prepared 08/16/00 Using EPA 3050B									
Blank (0H16039-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (0H16039-BS1)									
Arsenic	23.5	0.500	mg/kg wet	25.0		94.0 70-130			
Matrix Spike (0H16039-MS1)									
					Source: B0H0342-01				
Arsenic	23.6	0.355	mg/kg dry	19.1	7.89	82.3 70-130			
Matrix Spike Dup (0H16039-MSD1)									
					Source: B0H0342-01				
Arsenic	21.4	0.336	mg/kg dry	18.0	7.89	75.1 70-130	9.78	20	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/17/00 15:55

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H16044: Prepared 08/16/00 Using Dry Weight										
Blank (0H16044-BLK1)										
Dry Weight	99.8	1.00	%							

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/17/00 15:55

Notes and Definitions

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

North Creek Analytical - Bothell

Steve Davis, Project 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 REPORT

Work Order #: **B0110342**

CLIENT: **Steffan Jacobson**

REPORT TO: **David Jacobs**

ADDRESS: **Envirocon
10400 N Borgard Way
Portland, OR 97203**

PHONE: **503-285-6164**

FAX: **503-285-6215**

PROJECT NAME: **Steffan Jacobson**

PROJECT NUMBER: **14313**

SAMPLED BY: **D. Turner**

INVOICE TO:

Same as Report

P.O. NUMBER:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses

10 **7** **5** **4** **3** **2** **1** **<1**

STD.

Petroleum Hydrocarbon Analyses

5 **4** **3** **2** **1** **<1**

STD.

Please Specify

OTHER

* Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		REQUESTED ANALYSES												MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA W ID
1. 12N 318-20-1.5 G29		8-16-00 1:00 P														S	1		01
2. 22) 301-574-0.5 GA		8-16-00 1:30 P														S	1		02
3.																			
4.																			
5.																			
6.																			
7.																			
8.																			
9.																			
10.																			
11.																			
12.																			
13.																			
14.																			
15.																			

RELINQUISHED BY: **Derek Turner**

PRINT NAME:

FIRM:

DATE: **8-16-00**

TIME:

RECEIVED BY: **Cathy Nichols**

PRINT NAME:

FIRM: **NCA**

DATE: **8/16/00**

TIME: **14:30**

RELINQUISHED BY: **Cathy Nichols**

PRINT NAME:

FIRM: **NCA**

DATE: **8/16/00**

TIME: **15:25**

RECEIVED BY: **Danny Tonty**

PRINT NAME:

FIRM: **NCA**

DATE: **8/16/00**

TIME: **15:25**

ADDITIONAL REMARKS:



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541.383.9310 fax 541.382.7588

Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: not provided
Project Manager: Dave Jacobs

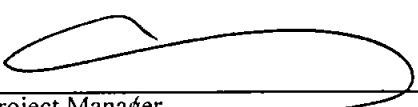
Reported:
08/22/00 15:59

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
23)288-528 0.5ft	B0H0449-01	Soil	08/21/00 11:15	08/21/00 15:30
24)268-559 0.5ft	B0H0449-02	Soil	08/21/00 11:22	08/21/00 15:30
25)238-537 0.5ft	B0H0449-03	Soil	08/21/00 11:18	08/21/00 15:30
26)300-114 1.0ft	B0H0449-04	Soil	08/21/00 11:50	08/21/00 15:30
27)301-129 1.0ft	B0H0449-05	Soil	08/21/00 11:54	08/21/00 15:30
28)323-146 1.0ft	B0H0449-06	Soil	08/21/00 11:58	08/21/00 15:30

North Creek Analytical - Bothell

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: not provided
Project Manager: Dave Jacobs

Reported:
08/22/00 15:59

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
23)288-528 0.5ft (B0H0449-01) Soil Sampled: 08/21/00 11:15 Received: 08/21/00 15:30									
Arsenic	5.93	0.338	mg/kg dry	1	0H21038	08/21/00	08/22/00	EPA 6020	
24)268-559 0.5ft (B0H0449-02) Soil Sampled: 08/21/00 11:22 Received: 08/21/00 15:30									
Arsenic	9.69	0.338	mg/kg dry	1	0H21038	08/21/00	08/22/00	EPA 6020	
25)238-537 0.5ft (B0H0449-03) Soil Sampled: 08/21/00 11:18 Received: 08/21/00 15:30									
Arsenic	6.42	0.338	mg/kg dry	1	0H21038	08/21/00	08/22/00	EPA 6020	
26)300-114 1.0ft (B0H0449-04) Soil Sampled: 08/21/00 11:50 Received: 08/21/00 15:30									
Arsenic	3.59	0.338	mg/kg dry	1	0H21038	08/21/00	08/22/00	EPA 6020	
27)301-129 1.0ft (B0H0449-05) Soil Sampled: 08/21/00 11:54 Received: 08/21/00 15:30									
Arsenic	7.39	0.338	mg/kg dry	1	0H21038	08/21/00	08/22/00	EPA 6020	
28)323-146 1.0ft (B0H0449-06) Soil Sampled: 08/21/00 11:58 Received: 08/21/00 15:30									
Arsenic	1.92	0.347	mg/kg dry	1	0H21038	08/21/00	08/22/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: not provided
Project Manager: Dave Jacobs

Reported:
08/22/00 15:59

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
23)288-528 0.5ft (B0H0449-01) Soil Sampled: 08/21/00 11:15 Received: 08/21/00 15:30									
Dry Weight	84.8	1.00	%	1	0H21036	08/21/00	08/22/00	BSOPSPL003R07	
24)268-559 0.5ft (B0H0449-02) Soil Sampled: 08/21/00 11:22 Received: 08/21/00 15:30									
Dry Weight	85.5	1.00	%	1	0H21036	08/21/00	08/22/00	BSOPSPL003R07	
25)238-537 0.5ft (B0H0449-03) Soil Sampled: 08/21/00 11:18 Received: 08/21/00 15:30									
Dry Weight	82.7	1.00	%	1	0H21036	08/21/00	08/22/00	BSOPSPL003R07	
26)300-114 1.0ft (B0H0449-04) Soil Sampled: 08/21/00 11:50 Received: 08/21/00 15:30									
Dry Weight	87.1	1.00	%	1	0H21036	08/21/00	08/22/00	BSOPSPL003R07	
27)301-129 1.0ft (B0H0449-05) Soil Sampled: 08/21/00 11:54 Received: 08/21/00 15:30									
Dry Weight	85.9	1.00	%	1	0H21036	08/21/00	08/22/00	BSOPSPL003R07	
28)323-146 1.0ft (B0H0449-06) Soil Sampled: 08/21/00 11:58 Received: 08/21/00 15:30									
y Weight	89.0	1.00	%	1	0H21036	08/21/00	08/22/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: not provided
Project Manager: Dave Jacobs

Reported:
08/22/00 15:59

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0H21038: Prepared 08/21/00 Using EPA 3050B									
Blank (0H21038-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (0H21038-BS1)									
Arsenic	26.3	0.500	mg/kg wet	25.0		105 70-130			
Matrix Spike (0H21038-MS1) Source: B0H0449-06									
Arsenic	17.8	0.333	mg/kg dry	18.7	1.92	84.9 70-130			
Matrix Spike Dup (0H21038-MSD1) Source: B0H0449-06									
Arsenic	18.5	0.347	mg/kg dry	19.5	1.92	85.0 70-130	3.86	20	

North Creek Analytical - Bothell

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Envirocon	Project: Steffan Jacobson	Reported:
0400 N. Burgard Way	Project Number: not provided	08/22/00 15:59
Portland OR/USA, 97203	Project Manager: Dave Jacobs	

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 0H21036: Prepared 08/21/00 Using Dry Weight

Blank (0H21036-BLK1)

Dry Weight	100	1.00	%							
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North Creek Analytical - Bothell

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Envirocon	Project: Steffan Jacobson	Reported:
0400 N. Burgard Way	Project Number: not provided	08/22/00 15:59
Portland OR/USA, 97203	Project Manager: Dave Jacobs	

Notes and Definitions

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

North Creek Analytical - Bothell

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(541) 383-9310 FAX 382-7528

Work Order #: 3040449

CLIENT: <u>Steffen Jacobson</u>		INVOICE TO: <u>Same as Report</u>		TURNAROUND REQUEST in Business Days*							
REPORT TO: <u>David Jacobs</u>				Organic & Inorganic Analyses							
ADDRESS: <u>Envirocon</u> <u>10400 N. Burgard Way</u> <u>Portland, OR. 97203</u>				10 7 5 4 3 2 1 <1							
PHONE: <u>503-285-6164</u>		FAX: <u>503-285-6205</u>		STD. Petroleum Hydrocarbon Analyses							
P.O. NUMBER:				5 4 3 2 1 <1							
PROJECT NAME:		REQUESTED ANALYSES		STD. Please Specify							
PROJECT NUMBER:				OTHER <u>24 hr</u>							
SAMPLED BY:				*Turnaround Requests less than standard may incur Rush Charges.							
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		MATRIX (W, S, O)		# OF CONT.		COMMENTS		NCA WO ID	
1. 23) 288-528 0.5H		8-21-00 11:15A		S		1		BoH0449		01	
2. 24) 268-539 0.5H		8-21-00 11:22A		S		1				02	
3. 25) 238-537 0.5H		8-21-00 11:18A		S		1				03	
4. 26) 300-114 1.0H		8-21-00 11:50A		S		1				04	
5. 27) 301-129 1.0H		8-21-00 11:54		S		1				05	
6. 28) 323-146 1.0H		8-21-00 11:58		S		1				06	
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
RELINQUISHED BY: <u>Derk Turner</u>		DATE: <u>8-21-00</u>		RECEIVED BY: <u>Cathy Nichols</u>		FIRM: <u>NCA</u>		DATE: <u>8/21/00</u>			
PRINT NAME:		TIME:		PRINT NAME: <u>C. Nichols</u>		FIRM: <u>NCA</u>		TIME: <u>14:00</u>			
RELINQUISHED BY: <u>Cathy Nichols</u>		DATE: <u>8/21/00</u>		RECEIVED BY: <u>Karla Kaczorowski</u>		FIRM: <u>NCA</u>		DATE: <u>8/21/00</u>			
PRINT NAME:		TIME: <u>15:30</u>		PRINT NAME:		FIRM: <u>NCA</u>		TIME: <u>15:30</u>			
ADDITIONAL REMARKS:											
COPY 100											



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Envirocon

3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson

Project Number: 14313
Project Manager: Dave Jacobs

Reported:

08/23/00 15:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
29)258-215 1.0ft	B0H0489-01	Soil	08/22/00 08:07	08/22/00 15:40
30)301-192 1.0ft	B0H0489-02	Soil	08/22/00 08:14	08/22/00 15:40
31)312-227 1.0ft	B0H0489-03	Soil	08/22/00 08:19	08/22/00 15:40
32)301-473 0.5t	B0H0489-04	Soil	08/22/00 08:40	08/22/00 15:40
33)258-451 0.5t	B0H0489-05	Soil	08/22/00 08:45	08/22/00 15:40
34)314-442 0.5t	B0H0489-06	Soil	08/22/00 08:48	08/22/00 15:40
35)223-486 0.5t	B0H0489-07	Soil	08/22/00 11:15	08/22/00 15:40
36)187-440 0.5t	B0H0489-08	Soil	08/22/00 11:19	08/22/00 15:40
37)172-473 0.5t	B0H0489-09	Soil	08/22/00 11:23	08/22/00 15:40

North Creek Analytical - Bothell

Steve Davis, Project Manager

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Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/23/00 15:50

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
29)258-215 1.0ft (B0H0489-01) Soil Sampled: 08/22/00 08:07 Received: 08/22/00 15:40									
Arsenic	6.40	0.355	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
30)301-192 1.0ft (B0H0489-02) Soil Sampled: 08/22/00 08:14 Received: 08/22/00 15:40									
Arsenic	6.02	0.338	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
31)312-227 1.0ft (B0H0489-03) Soil Sampled: 08/22/00 08:19 Received: 08/22/00 15:40									
Arsenic	14.2	0.340	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
32)301-473 0.5t (B0H0489-04) Soil Sampled: 08/22/00 08:40 Received: 08/22/00 15:40									
Arsenic	55.6	0.347	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
33)258-451 0.5t (B0H0489-05) Soil Sampled: 08/22/00 08:45 Received: 08/22/00 15:40									
Arsenic	13.3	0.357	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
34)314-442 0.5t (B0H0489-06) Soil Sampled: 08/22/00 08:48 Received: 08/22/00 15:40									
Arsenic	2.91	0.329	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
35)23-486 0.5t (B0H0489-07) Soil Sampled: 08/22/00 11:15 Received: 08/22/00 15:40									
Arsenic	2.66	0.357	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
36)187-440 0.5t (B0H0489-08) Soil Sampled: 08/22/00 11:19 Received: 08/22/00 15:40									
Arsenic	41.9	0.357	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	
37)172-473 0.5t (B0H0489-09) Soil Sampled: 08/22/00 11:23 Received: 08/22/00 15:40									
Arsenic	5.27	0.355	mg/kg dry	1	0H22035	08/22/00	08/23/00	EPA 6020	

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/23/00 15:50

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
29)258-215 1.0ft (B0H0489-01) Soil Sampled: 08/22/00 08:07 Received: 08/22/00 15:40									
Dry Weight	83.5	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
30)301-192 1.0ft (B0H0489-02) Soil Sampled: 08/22/00 08:14 Received: 08/22/00 15:40									
Dry Weight	85.9	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
31)312-227 1.0ft (B0H0489-03) Soil Sampled: 08/22/00 08:19 Received: 08/22/00 15:40									
Dry Weight	86.9	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
32)301-473 0.5t (B0H0489-04) Soil Sampled: 08/22/00 08:40 Received: 08/22/00 15:40									
Dry Weight	80.1	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
33)258-451 0.5t (B0H0489-05) Soil Sampled: 08/22/00 08:45 Received: 08/22/00 15:40									
Dry Weight	85.2	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
34)314-442 0.5t (B0H0489-06) Soil Sampled: 08/22/00 08:48 Received: 08/22/00 15:40									
Dry Weight	93.7	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
223-486 0.5t (B0H0489-07) Soil Sampled: 08/22/00 11:15 Received: 08/22/00 15:40									
Dry Weight	90.8	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
187-440 0.5t (B0H0489-08) Soil Sampled: 08/22/00 11:19 Received: 08/22/00 15:40									
Dry Weight	84.7	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	
37)172-473 0.5t (B0H0489-09) Soil Sampled: 08/22/00 11:23 Received: 08/22/00 15:40									
Dry Weight	92.2	1.00	%	1	0H22026	08/22/00	08/23/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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541.383.9310 fax 541.382.7588

Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/23/00 15:50

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch 0H22035: Prepared 08/22/00 Using EPA 3050B								
Blank (0H22035-BLK1)								
Arsenic	ND	0.500	mg/kg wet					
LCS (0H22035-BS1)								
Arsenic	24.5	0.500	mg/kg wet	25.0		98.0 70-130		
Matrix Spike (0H22035-MS1) Source: B0H0489-01								
Arsenic	22.5	0.357	mg/kg dry	21.4	6.40	75.2 70-130		
Matrix Spike Dup (0H22035-MSD1) Source: B0H0489-01								
Arsenic	22.4	0.340	mg/kg dry	20.4	6.40	78.4 70-130	0.445	20

North Creek Analytical - Bothell

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541.383.9310 fax 541.382.7588

Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/23/00 15:50

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H22026: Prepared 08/22/00 Using Dry Weight										
Blank (0H22026-BLK1)										
Dry Weight	100	1.00	%							

North Creek Analytical - Bothell

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Envirocon

Project: Steffan Jacobson

3400 N. Burgard Way

Project Number: 14313

Portland OR/USA, 97203

Project Manager: Dave Jacobs

Reported:

08/23/00 15:50

Notes and Definitions

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

North Creek Analytical - Bothell

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CHAIN OF CUSTODY REPORT

Work Order #: **Bot10489**

CLIENT: <u>Steffen Jacobson</u> REPORT TO: <u>David Jacobs</u> ADDRESS: <u>Enviromon</u> <u>10400 N. Burgard Way</u> <u>Portland, OR 97203</u> PHONE: <u>503-285-6164</u> FAX: <u>503-285-6205</u>		INVOICE TO: <u>Same as Report</u> P.O. NUMBER:		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">10</div> <div style="border: 1px solid black; padding: 2px;">7</div> <div style="border: 1px solid black; padding: 2px;">5</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;"><1</div> </div> STD. Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">5</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;"><1</div> </div> STD. OTHER Please Specify <u>EA-Hr</u>																			
PROJECT NAME: <u>Steffen Jacobson</u> PROJECT NUMBER: <u>14313</u> SAMPLED BY: <u>D Turner</u>		REQUESTED ANALYSES																					
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	<u>Total</u>	<u>Arsenic</u>																	MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
129) 259-215 1.0H	8-22-00 8:07A	X																		S	1		-01
230) 301-192 1.0H	8-22-00 8:14A	X																		S	1		-02
331) 312-227 1.0H	8-22-00 8:19A	X																		S	1		-03
432) 301-423 0.5H	8-22-00 8:40A	X																		S	1		-04
533) 258-451 0.5H	8-22-00 8:45A	X																		S	1		-05
634) 314-442 0.5H	8-22-00 8:48A	X																		S	1		-06
735) 223-486 0.5H	8-22-00 10:15A	X																		S	1		-07
836) 187-440 0.5H	8-22-00 11:19A	X																		S	1		-08
937) 172-423 0.5H	8-22-00 11:23A	X																		S	1		-09
10.																							
11.																							
12.																							
13.																							
14.																							
15.																							

RELINQUISHED BY: <u>Derk Turner</u> PRINT NAME: _____ FIRM: <u>Enviromon</u>	DATE: <u>8-22-00</u> TIME: _____	RECEIVED BY: <u>Ellen Tennis</u> PRINT NAME: <u>Ellen Tennis</u> FIRM: <u>NCA</u>	DATE: <u>8-22-00</u> TIME: <u>1430</u>
RELINQUISHED BY: <u>Ellen Tennis</u> PRINT NAME: <u>Ellen Tennis</u> FIRM: <u>NCA</u>	DATE: <u>8-22-00</u> TIME: <u>1510</u>	RECEIVED BY: <u>Prancy Tenty</u> PRINT NAME: <u>PRANCY TENTY</u> FIRM: <u>NCA</u>	DATE: <u>8/23/00</u> TIME: <u>1520</u>

ADDITIONAL REM
 COC REV 3/99

u/10 TEM
 5.6 PAGE OF



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
16) 35-500 10.0 ft.	B0H0526-01	Soil	08/22/00 17:38	08/23/00 15:55
16) 35-500 12.0 ft.	B0H0526-02	Soil	08/22/00 17:44	08/23/00 15:55
18) 28-395 10.0 ft.	B0H0526-03	Soil	08/22/00 17:52	08/23/00 15:55
18) 28-395 12.0 ft.	B0H0526-04	Soil	08/22/00 17:58	08/23/00 15:55
21) 27-206 10.0 ft.	B0H0526-05	Soil	08/22/00 17:15	08/23/00 15:55
21) 27-206 12.0 ft.	B0H0526-06	Soil	08/22/00 17:20	08/23/00 15:55
38) 25-129 9.0 ft.	B0H0526-07	Soil	08/22/00 18:10	08/23/00 15:55
38) 25-129 12.0 ft.	B0H0526-08	Soil	08/22/00 18:15	08/23/00 15:55
39) 60-86 9.0 ft.	B0H0526-09	Soil	08/22/00 18:25	08/23/00 15:55
39) 60-86 12.0 ft.	B0H0526-10	Soil	08/22/00 18:30	08/23/00 15:55
40) 129-423 0.5 ft.	B0H0526-11	Soil	08/23/00 08:16	08/23/00 15:55
41) 129-516 0.5 ft.	B0H0526-12	Soil	08/23/00 08:20	08/23/00 15:55
102-445 0.5 ft.	B0H0526-13	Soil	08/23/00 08:23	08/23/00 15:55

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16) 35-500 10.0 ft. (B0H0526-01) Soil Sampled: 08/22/00 17:38 Received: 08/23/00 15:55									
Arsenic	28.1	0.318	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
16) 35-500 12.0 ft. (B0H0526-02) Soil Sampled: 08/22/00 17:44 Received: 08/23/00 15:55									
Arsenic	85.1	0.323	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
18) 28-395 10.0 ft. (B0H0526-03) Soil Sampled: 08/22/00 17:52 Received: 08/23/00 15:55									
Arsenic	4.86	0.331	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
18) 28-395 12.0 ft. (B0H0526-04) Soil Sampled: 08/22/00 17:58 Received: 08/23/00 15:55									
Arsenic	6.86	0.309	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
21) 27-206 10.0 ft. (B0H0526-05) Soil Sampled: 08/22/00 17:15 Received: 08/23/00 15:55									
Arsenic	4.00	0.329	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
21) 27-206 12.0 ft. (B0H0526-06) Soil Sampled: 08/22/00 17:20 Received: 08/23/00 15:55									
Arsenic	297	0.671	mg/kg dry	2	0H23064	08/23/00	08/24/00	EPA 6020	
25) 25-129 9.0 ft. (B0H0526-07) Soil Sampled: 08/22/00 18:10 Received: 08/23/00 15:55									
Arsenic	172	1.72	mg/kg dry	5	0H23064	08/23/00	08/24/00	EPA 6020	
38) 25-129 12.0 ft. (B0H0526-08) Soil Sampled: 08/22/00 18:15 Received: 08/23/00 15:55									
Arsenic	2.09	0.336	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
39) 60-86 9.0 ft. (B0H0526-09) Soil Sampled: 08/22/00 18:25 Received: 08/23/00 15:55									
Arsenic	2.90	0.321	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/29/00 14:16

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
39) 60-86 12.0 ft. (B0H0526-10) Soil Sampled: 08/22/00 18:30 Received: 08/23/00 15:55									
Arsenic	45.3	0.327	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
40) 129-423 0.5 ft. (B0H0526-11) Soil Sampled: 08/23/00 08:16 Received: 08/23/00 15:55									
Arsenic	5.81	0.357	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
41) 129-516 0.5 ft. (B0H0526-12) Soil Sampled: 08/23/00 08:20 Received: 08/23/00 15:55									
Arsenic	16.6	0.316	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	
42) 102-445 0.5 ft. (B0H0526-13) Soil Sampled: 08/23/00 08:23 Received: 08/23/00 15:55									
Arsenic	11.9	0.314	mg/kg dry	1	0H23064	08/23/00	08/24/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
16) 35-500 10.0 ft. (B0H0526-01) Soil	Sampled: 08/22/00 17:38 Received: 08/23/00 15:55								
Dry Weight	88.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
16) 35-500 12.0 ft. (B0H0526-02) Soil	Sampled: 08/22/00 17:44 Received: 08/23/00 15:55								
Dry Weight	91.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
18) 28-395 10.0 ft. (B0H0526-03) Soil	Sampled: 08/22/00 17:52 Received: 08/23/00 15:55								
Dry Weight	86.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
18) 28-395 12.0 ft. (B0H0526-04) Soil	Sampled: 08/22/00 17:58 Received: 08/23/00 15:55								
Dry Weight	88.2	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
21) 27-206 10.0 ft. (B0H0526-05) Soil	Sampled: 08/22/00 17:15 Received: 08/23/00 15:55								
Dry Weight	89.6	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
21) 27-206 12.0 ft. (B0H0526-06) Soil	Sampled: 08/22/00 17:20 Received: 08/23/00 15:55								
Dry Weight	82.2	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
25-129 9.0 ft. (B0H0526-07) Soil	Sampled: 08/22/00 18:10 Received: 08/23/00 15:55								
Dry Weight	86.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
38) 25-129 12.0 ft. (B0H0526-08) Soil	Sampled: 08/22/00 18:15 Received: 08/23/00 15:55								
Dry Weight	89.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
39) 60-86 9.0 ft. (B0H0526-09) Soil	Sampled: 08/22/00 18:25 Received: 08/23/00 15:55								
Dry Weight	83.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson

Project Number: 14313
Project Manager: Dave Jacobs

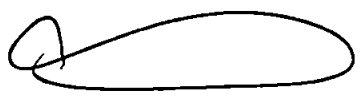
Reported:
08/29/00 14:16

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
39) 60-86 12.0 ft. (B0H0526-10) Soil Sampled: 08/22/00 18:30 Received: 08/23/00 15:55									
Dry Weight	90.5	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
40) 129-423 0.5 ft. (B0H0526-11) Soil Sampled: 08/23/00 08:16 Received: 08/23/00 15:55									
Dry Weight	93.4	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
41) 129-516 0.5 ft. (B0H0526-12) Soil Sampled: 08/23/00 08:20 Received: 08/23/00 15:55									
Dry Weight	91.7	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	
42) 102-445 0.5 ft. (B0H0526-13) Soil Sampled: 08/23/00 08:23 Received: 08/23/00 15:55									
Dry Weight	94.1	1.00	%	1	0H23044	08/23/00	08/24/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch 0H23064: Prepared 08/23/00 Using EPA 3050B								
Blank (0H23064-BLK1)								
Arsenic	ND	0.500	mg/kg wet					
LCS (0H23064-BS1)								
Arsenic	27.3	0.500	mg/kg wet	25.0		109 70-130		
Matrix Spike (0H23064-MS1)								
Source: B0H0526-01								
Arsenic	41.3	0.333	mg/kg dry	18.8	28.1	70.2 70-130		
Matrix Spike Dup (0H23064-MSD1)								
Source: B0H0526-01								
Arsenic	48.9	0.342	mg/kg dry	19.4	28.1	107 70-130	16.9	20

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541.383.9310 fax 541.382.7588


Envirocon	Project: Steffan Jacobson	Reported:
10400 N. Burgard Way	Project Number: 14313	08/29/00 14:16
Portland OR/USA, 97203	Project Manager: Dave Jacobs	

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H23044: Prepared 08/23/00 Using Dry Weight										
Blank (0H23044-BLK1)										
Dry Weight	99.8	1.00	%							

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/29/00 14:16

Notes and Definitions

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

North Creek Analytical - Bothell

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North Creek Analytical, Inc.
Environmental Laboratory Network

Page 8 of 8

CHAIN OF CUSTODY REPORT

Work Order #: **BOH0526**

CLIENT: <u>Steffen Jacobson</u>		INVOICE TO: <u>Same as Report</u>		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div>10 7 5 4 3 2 1 <1</div> <div>STD.</div> <div>5 4 3 2 1 <1</div> </div> Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div>5 4 3 2 1 <1</div> <div>STD.</div> <div>OTHER <u>24 hr</u></div> </div> Please Specify *Turnaround Requests less than standard may incur Rush Charges.																																	
REPORT TO: <u>David Jacobs</u>		P.O. NUMBER:																																			
ADDRESS: <u>Environ</u> <u>10400 N. Burgard Way</u> <u>Portland, OR 97203</u>																																					
PHONE: <u>503 285-6164</u>		FAX: <u>503-285-6205</u>																																			
PROJECT NAME: <u>Steffen Jacobson</u>		REQUESTED ANALYSES																																			
PROJECT NUMBER: <u>14313</u>		<table border="1" style="width:100%; height: 100px;"> <tr><td>Total</td><td>As</td><td>Se</td><td>Co</td><td>Cr</td><td>Cu</td><td>Fe</td><td>Mn</td><td>Ni</td><td>Pb</td><td>Sb</td><td>Sn</td><td>Th</td><td>U</td><td>V</td><td>Zn</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>				Total	As	Se	Co	Cr	Cu	Fe	Mn	Ni	Pb	Sb	Sn	Th	U	V	Zn																
Total	As					Se	Co	Cr	Cu	Fe	Mn	Ni	Pb	Sb	Sn	Th	U	V	Zn																		
SAMPLED BY: <u>D. Turner</u>																																					
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total	As	Se	Co	Cr	Cu	Fe	Mn	Ni	Pb	Sb	Sn	Th	U	V	Zn	MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID																
1.16) 35-500 10.05H	8:22:00 5:38P	X																S	1	BOH0526-01																	
2.16) 35-500 12.05H	8:22:00 5:44P	X																S	1	-02																	
3.18) 28-395 10.05H	8:22:00 5:52P	X																S	1	-03																	
4.18) 28-395 12.05H	8:22:00 5:58P	X																S	1	-04																	
5.21) 27-206 10.05H	8:22:00 5:15P	X																S	1	-05																	
6.21) 27-206 12.05H	8:22:00 5:20P	X																S	1	-06																	
7.30) 25-129 9.05H	8:22:00 6:10P	X																S	1	-07																	
8.30) 25-129 12.05H	8:22:00 6:15P	X																S	1	-08																	
9.33) 60-86 9.05H	8:22:00 6:25P	X																S	1	-09																	
10.39) 60-86 12.05H	8:22:00 6:30P	X																S	1	-10																	
11.40) 129-423 0.55H	8:23:00 8:16A	X																S	1	-11																	
12.40) 129-516 0.55H	8:25:00 8:10A	X																S	1	-12																	
13.40) 102-445 0.55H	8:23:00 8:23A	X																S	1	-13																	
14.																																					
15.																																					
RELINQUISHED BY: <u>Perk Turner</u>		FIRM: <u>Environ</u>		DATE: <u>8-23-00</u>		RECEIVED BY: <u>Prany Tonty</u>		FIRM: <u>NCA</u>		DATE: <u>8/23/00</u>		TIME: <u>1555</u>		RECEIVED BY: <u>Ellen Jan</u>		FIRM: <u>NCA</u>		DATE: <u>8-23-00</u>		TIME: <u>1555</u>																	
PRINT NAME: <u>PRANY TONTY</u>		FIRM: <u>NCA</u>		DATE: <u>8/23/00</u>		TIME: <u>1555</u>		DATE: <u>8/23/00</u>		TIME: <u>1555</u>		DATE: <u>8-23-00</u>		TIME: <u>1555</u>		DATE: <u>8-23-00</u>		TIME: <u>1555</u>																			
ADDITIONAL REMARKS:		SAMPLES WERE NOT @ FIRM: <u>NCA</u> 2-6C UPON RECEIPT <u>UJ/O</u>																																			
TEMP: <u>26.4</u>		PAGE <u>4</u> OF <u>4</u>																																			



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541.383.9310 fax 541.382.7588

Avirocon
25400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/25/00 13:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
32A)301-473 1.0ft	B0H0557-01	Soil	08/24/00 07:55	08/24/00 15:35
36A)187-440 1.0ft	B0H0557-02	Soil	08/24/00 08:00	08/24/00 15:35
43-338-270 1.0ft	B0H0557-03	Soil	08/24/00 07:19	08/24/00 15:35
44-301-301 0.5ft	B0H0557-04	Soil	08/24/00 07:16	08/24/00 15:35
45-258-273 0.5ft	B0H0557-05	Soil	08/24/00 07:15	08/24/00 15:35
46-305-354 1.0ft	B0H0557-06	Soil	08/24/00 07:31	08/24/00 15:35
47-258-354 0.5ft	B0H0557-07	Soil	08/24/00 07:29	08/24/00 15:35
48-278-414 0.5ft	B0H0557-08	Soil	08/24/00 07:34	08/24/00 15:35
49-236-152 0.5ft	B0H0557-09	Soil	08/24/00 12:06	08/24/00 15:35
50-215-215 0.5ft	B0H0557-10	Soil	08/24/00 12:10	08/24/00 15:35
51-129-415 0.5ft	B0H0557-11	Soil	08/24/00 14:15	08/24/00 15:35

North Creek Analytical - Bothell

Steve Davis, Project Manager

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/25/00 13:47

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
32A)301-473 1.0ft (B0H0557-01) Soil Sampled: 08/24/00 07:55 Received: 08/24/00 15:35									
Arsenic	12.3	0.323	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
36A)187-440 1.0ft (B0H0557-02) Soil Sampled: 08/24/00 08:00 Received: 08/24/00 15:35									
Arsenic	49.5	0.323	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
43-338-270 1.0ft (B0H0557-03) Soil Sampled: 08/24/00 07:19 Received: 08/24/00 15:35									
Arsenic	5.49	0.314	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
44-301-301 0.5ft (B0H0557-04) Soil Sampled: 08/24/00 07:16 Received: 08/24/00 15:35									
Arsenic	3.40	0.323	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
45-258-273 0.5ft (B0H0557-05) Soil Sampled: 08/24/00 07:15 Received: 08/24/00 15:35									
Arsenic	2.58	0.325	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
46-305-354 1.0ft (B0H0557-06) Soil Sampled: 08/24/00 07:31 Received: 08/24/00 15:35									
senic	35.4	0.314	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
47-258-354 0.5ft (B0H0557-07) Soil Sampled: 08/24/00 07:29 Received: 08/24/00 15:35									
senic	7.47	0.331	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
48-278-414 0.5ft (B0H0557-08) Soil Sampled: 08/24/00 07:34 Received: 08/24/00 15:35									
Arsenic	5.72	0.327	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
49-236-152 0.5ft (B0H0557-09) Soil Sampled: 08/24/00 12:06 Received: 08/24/00 15:35									
Arsenic	4.56	0.325	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	

North Creek Analytical - Bothell

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Environmental Laboratory Network



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/25/00 13:47

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
50-215-215 0.5ft (B0H0557-10) Soil Sampled: 08/24/00 12:10 Received: 08/24/00 15:35									
Arsenic	2.38	0.314	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	
51-129-415 0.5ft (B0H0557-11) Soil Sampled: 08/24/00 14:15 Received: 08/24/00 15:35									
Arsenic	32.3	0.325	mg/kg dry	1	0H24035	08/24/00	08/25/00	EPA 6020	

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541.383.9310 fax 541.382.7588

Envirocon
3400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/25/00 13:47

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
32A)301-473 1.0ft (B0H0557-01) Soil Sampled: 08/24/00 07:55 Received: 08/24/00 15:35									
Dry Weight	90.6	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
36A)187-440 1.0ft (B0H0557-02) Soil Sampled: 08/24/00 08:00 Received: 08/24/00 15:35									
Dry Weight	88.3	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
43-338-270 1.0ft (B0H0557-03) Soil Sampled: 08/24/00 07:19 Received: 08/24/00 15:35									
Dry Weight	91.9	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
44-301-301 0.5ft (B0H0557-04) Soil Sampled: 08/24/00 07:16 Received: 08/24/00 15:35									
Dry Weight	95.8	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
45-258-273 0.5ft (B0H0557-05) Soil Sampled: 08/24/00 07:15 Received: 08/24/00 15:35									
Dry Weight	95.4	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
46-305-354 1.0ft (B0H0557-06) Soil Sampled: 08/24/00 07:31 Received: 08/24/00 15:35									
Dry Weight	88.8	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
47-258-354 0.5ft (B0H0557-07) Soil Sampled: 08/24/00 07:29 Received: 08/24/00 15:35									
Dry Weight	89.0	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
48-278-414 0.5ft (B0H0557-08) Soil Sampled: 08/24/00 07:34 Received: 08/24/00 15:35									
Dry Weight	87.9	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
49-236-152 0.5ft (B0H0557-09) Soil Sampled: 08/24/00 12:06 Received: 08/24/00 15:35									
Dry Weight	73.4	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
1400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
08/25/00 13:47

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
50-215-215 0.5ft (B0H0557-10) Soil Sampled: 08/24/00 12:10 Received: 08/24/00 15:35									
Dry Weight	92.4	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	
51-129-415 0.5ft (B0H0557-11) Soil Sampled: 08/24/00 14:15 Received: 08/24/00 15:35									
Dry Weight	90.0	1.00	%	1	0H24032	08/24/00	08/25/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Dave Davis, Project Manager

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541.383.9310 fax 541.382.7588

Envirocon	Project: Steffan Jacobson	Reported:
10400 N. Burgard Way	Project Number: 14313	08/25/00 13:47
Portland OR/USA, 97203	Project Manager: Dave Jacobs	

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	Limit	RPD	Limit	Notes
Batch 0H24035: Prepared 08/24/00 Using EPA 3050B										
Blank (0H24035-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (0H24035-BS1)										
Arsenic	24.3	0.500	mg/kg wet	25.0		97.2	70-130			
Matrix Spike (0H24035-MS1) Source: B0H0557-01										
Arsenic	29.0	0.321	mg/kg dry	17.7	12.3	94.4	70-130			
Matrix Spike Dup (0H24035-MSD1) Source: B0H0557-01										
Arsenic	28.3	0.312	mg/kg dry	17.3	12.3	92.5	70-130	2.44	20	

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
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Envirocon	Project: Steffan Jacobson	Reported:
10400 N. Burgard Way	Project Number: 14313	08/25/00 13:47
Portland OR/USA, 97203	Project Manager: Dave Jacobs	

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 0H24032: Prepared 08/24/00 Using Dry Weight

Blank (0H24032-BLK1)

Dry Weight	100	1.00	%
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North Creek Analytical - Bothell

Steve Davis, Project Manager

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Environmental Laboratory Network

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541.383.9310 fax 541.382.7588

Envirocon
400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
08/25/00 13:47

Notes and Definitions

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

North Creek Analytical - Bothell

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North Creek Analytical, Inc.
Environmental Laboratory Network

Page 8 of 8

CHAIN OF CUSTODY REPORT

Work Order #: **BOH0557**

CLIENT: Steffen Jacobson REPORT TO: David Jacobs ADDRESS: 1840 N. Burgard Way Portland, OR 97203		INVOICE TO: Same as Report		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div> <div>10</div> <div>7</div> <div>5</div> <div>4</div> <div>3</div> <div>2</div> <div>1</div> <div><1</div> </div> <div> <div>5</div> <div>4</div> <div>3</div> <div>2</div> <div>1</div> <div><1</div> </div> </div> STD. Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div> <div>5</div> <div>4</div> <div>3</div> <div>2</div> <div>1</div> <div><1</div> </div> <div> <div>OTHER</div> <div>Please Specify 24hr</div> </div> </div> STD.	
PHONE: 503-285-6164 FAX: 503-285-6205		P.O. NUMBER:			
PROJECT NAME: Steffen Jacobson PROJECT NUMBER: 14313 SAMPLED BY: D Turner		REQUESTED ANALYSES			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total	Arsenic	As	Pb
132A) 301-473 1.5L	8-24-00 7:55 A	X			
236A) 187-440 1.05L	8-24-00 8:00 A	X			
343- 338-22 1.05L	8-24-00 7:19 A	X			
444- 301-301 0.55L	8-24-00 7:16 A	X			
545- 258-273 0.55L	8-24-00 7:15	X			
646- 305-354 1.05L	8-24-00 7:31 A	X			
747- 258-354 0.55L	8-24-00 7:29 A	X			
848- 278-414 0.55L	8-24-00 7:34 A	X			
949- 236-152 0.55L	8-24-00 12:06 P	X			
1050- 215-215 0.55L	8-24-00 12:10 P	X			
1151-129-45 0.55L	8-24-00 2:15 P	X			
12.					
13.					
14.					
15.					

RELINQUISHED BY:
 PRINT NAME: **Clark Turner** FIRM: **Envirocon**

DATE: **8-24-00** TIME: **14:20**

RECEIVED BY: **Bill K** FIRM: **NCA**

DATE: **8/24/00** TIME: **15:35**

RELINQUISHED BY:
 PRINT NAME: **Bill K** FIRM: **NCA**

DATE: **8-24-00** TIME: **15:35**

RECEIVED BY: **Karla Karczewski** FIRM: **NCA**

DATE: **8/24/00** TIME: **15:20**

ADDITIONAL REMARKS:

W/O. TEMP: **22.4**

COC REV 3/99

PAGE 1 OF 1



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541.383.9310 fax 541.382.7588

Envirocon
1400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
09/06/00 11:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G18 #52 129-215-0.5	B0H0701-01	Soil	08/30/00 03:47	08/31/00 10:37
G18 #53 126-207-0.5	B0H0701-02	Soil	08/30/00 03:45	08/31/00 10:37
G18 #54 157-180-0.5	B0H0701-03	Soil	08/30/00 03:45	08/31/00 10:37
G14 #55 164-329-0.5	B0H0701-04	Soil	08/30/00 04:08	08/31/00 10:37
G14 #56 129-301-0.5	B0H0701-05	Soil	08/30/00 04:10	08/31/00 10:37
G14 #57 98-341-0.5	B0H0701-06	Soil	08/30/00 04:11	08/31/00 10:37
G11 #58 184-357-0.5	B0H0701-07	Soil	08/30/00 04:34	08/31/00 10:37
G11 #59 241-406-0.5	B0H0701-08	Soil	08/30/00 04:35	08/31/00 10:37
G11 #60 215-387-0.5	B0H0701-09	Soil	08/30/00 04:36	08/31/00 10:37
G15 #61 222-338-0.5	B0H0701-10	Soil	08/30/00 04:40	08/31/00 10:37
G15 #62 215-301-0.5	B0H0701-11	Soil	08/30/00 04:45	08/31/00 10:37
G15 #63 251-292-0.5	B0H0701-12	Soil	08/30/00 04:46	08/31/00 10:37

North Creek Analytical - Bothell

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Steve Davis, Project Manager

North Creek Analytical, Inc.
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Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
09/06/00 11:46

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
G18 #52 129-215-0.5 (B0H0701-01) Soil Sampled: 08/30/00 03:47 Received: 08/31/00 10:37									
Arsenic	5.99	0.318	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G18 #53 126-207-0.5 (B0H0701-02) Soil Sampled: 08/30/00 03:45 Received: 08/31/00 10:37									
Arsenic	26.9	0.281	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G18 #54 157-180-0.5 (B0H0701-03) Soil Sampled: 08/30/00 03:45 Received: 08/31/00 10:37									
Arsenic	3.76	0.284	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G14 #55 164-329-0.5 (B0H0701-04) Soil Sampled: 08/30/00 04:08 Received: 08/31/00 10:37									
Arsenic	2.51	0.269	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G14 #56 129-301-0.5 (B0H0701-05) Soil Sampled: 08/30/00 04:10 Received: 08/31/00 10:37									
Arsenic	3.96	0.276	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G14 #57 98-341-0.5 (B0H0701-06) Soil Sampled: 08/30/00 04:11 Received: 08/31/00 10:37									
Arsenic	8.24	0.267	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
11 #58 184-357-0.5 (B0H0701-07) Soil Sampled: 08/30/00 04:34 Received: 08/31/00 10:37									
Arsenic	2.51	0.292	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
1 #59 241-406-0.5 (B0H0701-08) Soil Sampled: 08/30/00 04:35 Received: 08/31/00 10:37									
Arsenic	4.26	0.282	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G11 #60 215-387-0.5 (B0H0701-09) Soil Sampled: 08/30/00 04:36 Received: 08/31/00 10:37									
Arsenic	10.6	0.284	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
09/06/00 11:46

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
G15 #61 222-338-0.5 (B0H0701-10) Soil Sampled: 08/30/00 04:40 Received: 08/31/00 10:37									
Arsenic	32.0	0.281	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G15 #62 215-301-0.5 (B0H0701-11) Soil Sampled: 08/30/00 04:45 Received: 08/31/00 10:37									
Arsenic	22.0	0.273	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	
G15 #63 251-292-0.5 (B0H0701-12) Soil Sampled: 08/30/00 04:46 Received: 08/31/00 10:37									
Arsenic	2.55	0.278	mg/kg dry	1	0101020	09/01/00	09/05/00	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
09/06/00 11:46

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
G18 #52 129-215-0.5 (B0H0701-01) Soil Sampled: 08/30/00 03:47 Received: 08/31/00 10:37									
Dry Weight	83.9	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G18 #53 126-207-0.5 (B0H0701-02) Soil Sampled: 08/30/00 03:45 Received: 08/31/00 10:37									
Dry Weight	83.2	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G18 #54 157-180-0.5 (B0H0701-03) Soil Sampled: 08/30/00 03:45 Received: 08/31/00 10:37									
Dry Weight	81.7	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G14 #55 164-329-0.5 (B0H0701-04) Soil Sampled: 08/30/00 04:08 Received: 08/31/00 10:37									
Dry Weight	90.2	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G14 #56 129-301-0.5 (B0H0701-05) Soil Sampled: 08/30/00 04:10 Received: 08/31/00 10:37									
Dry Weight	86.7	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G14 #57 98-341-0.5 (B0H0701-06) Soil Sampled: 08/30/00 04:11 Received: 08/31/00 10:37									
Dry Weight	91.3	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G11 #58 184-357-0.5 (B0H0701-07) Soil Sampled: 08/30/00 04:34 Received: 08/31/00 10:37									
Dry Weight	92.4	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G11 #59 241-406-0.5 (B0H0701-08) Soil Sampled: 08/30/00 04:35 Received: 08/31/00 10:37									
Dry Weight	87.2	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G11 #60 215-387-0.5 (B0H0701-09) Soil Sampled: 08/30/00 04:36 Received: 08/31/00 10:37									
Dry Weight	85.6	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
09/06/00 11:46

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
G15 #61 222-338-0.5 (B0H0701-10) Soil Sampled: 08/30/00 04:40 Received: 08/31/00 10:37									
Dry Weight	79.3	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G15 #62 215-301-0.5 (B0H0701-11) Soil Sampled: 08/30/00 04:45 Received: 08/31/00 10:37									
Dry Weight	92.0	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	
G15 #63 251-292-0.5 (B0H0701-12) Soil Sampled: 08/30/00 04:46 Received: 08/31/00 10:37									
Dry Weight	92.8	1.00	%	1	0H31039	08/31/00	09/01/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
09/06/00 11:46

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0I01020: Prepared 09/01/00 Using EPA 3050B									
Blank (0I01020-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (0I01020-BS1)									
Arsenic	25.3	0.500	mg/kg wet	25.0		101 70-130			
Matrix Spike (0I01020-MS1) Source: B0H0701-01									
Arsenic	22.5	0.318	mg/kg dry	19.0	5.99	86.9 70-130			
Matrix Spike Dup (0I01020-MSD1) Source: B0H0701-01									
Arsenic	24.1	0.318	mg/kg dry	19.0	5.99	95.3 70-130	6.87	20	

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Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
09/06/00 11:46

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
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Batch 0H31039: Prepared 08/31/00 Using Dry Weight

Blank (0H31039-BLK1)

Dry Weight	100	1.00	%
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North Creek Analytical - Bothell

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Page 7 of 8



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Envirocon
.0400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
09/06/00 11:46

Notes and Definitions

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

North Creek Analytical - Bothell

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Steve Davis, Project Manager

CHAIN OF CUSTODY REPORT

Work Order #: **B040701**

CLIENT: ENVIRCON		INVOICE TO:		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 10754321<1 </div> STD. Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 54321<1 </div> STD. OTHER Please Specify _____ <small>*Turnaround Requests less than standard may incur Rush Charges.</small>																																																						
REPORT TO: DAVID JACOBS		SAFEC P.O. NUMBER:																																																								
ADDRESS: 10460 N BEAVER WAY PORTLAND OR 97203																																																										
PHONE: 503-285-6164 FAX: 503-285-6205		PROJECT NAME: STEFFEN JACOBSON		REQUESTED ANALYSES																																																						
PROJECT NUMBER: 14313		SAMPLED BY: DBS-HH		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>MATRIX (W, S, O)</th> <th># OF CONT.</th> <th>COMMENTS</th> <th>NCA WO ID</th> </tr> </thead> <tbody> <tr><td rowspan="12" style="text-align: center; vertical-align: middle;">S</td> <td>1</td> <td>B040701-</td> <td>01</td> </tr> <tr><td></td><td></td><td>02</td></tr> <tr><td></td><td></td><td>03</td></tr> <tr><td></td><td></td><td>04</td></tr> <tr><td></td><td></td><td>05</td></tr> <tr><td></td><td></td><td>06</td></tr> <tr><td></td><td></td><td>07</td></tr> <tr><td></td><td></td><td>08</td></tr> <tr><td></td><td></td><td>09</td></tr> <tr><td></td><td></td><td>10</td></tr> <tr><td></td><td></td><td>11</td></tr> <tr><td></td><td></td><td>12</td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </tbody> </table>		MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID	S	1	B040701-	01			02			03			04			05			06			07			08			09			10			11			12												
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RELINQUISHED BY:	DATE: 8-31-00	RECEIVED BY: Colette Weaver	DATE: 8/31/00
PRINT NAME: Colette Weaver	FIRM: ENVIRCON	PRINT NAME: Colette Weaver	FIRM: NCA Bothell
RELINQUISHED BY: Colette Weaver	DATE: 8/31/00	RECEIVED BY: Karla Kaczorowski	DATE: 8/31/00
PRINT NAME: Colette Weaver	FIRM: NCA Bothell	PRINT NAME: Karla Kaczorowski	FIRM: NCA
ADDITIONAL REMARKS:		P/O 18.6 ° PAGE OF	



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2 March, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 02/26/01 15:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Amar Gill
Project Manager



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
03/02/01 13:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Grid #1 SE corner	B1B0494-01	Soil	02/23/01 11:00	02/26/01 15:55
Grid #1 center	B1B0494-02	Soil	02/23/01 11:06	02/26/01 15:55
Grid #1 N.W corner	B1B0494-03	Soil	02/23/01 11:08	02/26/01 15:55

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Amar Gill, Project Manager

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/02/01 13:47

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Grid #1 SE corner (B1B0494-01) Soil Sampled: 02/23/01 11:00 Received: 02/26/01 15:55									
Arsenic	3.39	0.362	mg/kg dry	1	1B27028	02/27/01	03/01/01	EPA 6020	
Grid #1 center (B1B0494-02) Soil Sampled: 02/23/01 11:06 Received: 02/26/01 15:55									
Arsenic	5.71	0.347	mg/kg dry	1	1B27028	02/27/01	03/01/01	EPA 6020	
Grid #1 N.W corner (B1B0494-03) Soil Sampled: 02/23/01 11:08 Received: 02/26/01 15:55									
Arsenic	11.6	0.350	mg/kg dry	1	1B27028	02/27/01	03/01/01	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/02/01 13:47

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Grid #1 SE corner (B1B0494-01) Soil Sampled: 02/23/01 11:00 Received: 02/26/01 15:55									
Dry Weight	79.9	1.00	%	1	1C01013	03/01/01	03/02/01	BSOPSPL003R07	
Grid #1 center (B1B0494-02) Soil Sampled: 02/23/01 11:06 Received: 02/26/01 15:55									
Dry Weight	87.5	1.00	%	1	1C01013	03/01/01	03/02/01	BSOPSPL003R07	
Grid #1 N.W corner (B1B0494-03) Soil Sampled: 02/23/01 11:08 Received: 02/26/01 15:55									
Dry Weight	84.3	1.00	%	1	1C01013	03/01/01	03/02/01	BSOPSPL003R07	

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/02/01 13:47

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

Batch 1B27028: Prepared 02/27/01 Using EPA 3050B

Blank (1B27028-BLK1)

Arsenic	ND	0.500	mg/kg wet						
---------	----	-------	-----------	--	--	--	--	--	--

LCS (1B27028-BS1)

Arsenic	24.9	0.500	mg/kg wet	25.0		99.6	70-130		
---------	------	-------	-----------	------	--	------	--------	--	--

Matrix Spike (1B27028-MS1)

Source: B1B0491-01

Arsenic	16.6	0.327	mg/kg wet	16.3	1.86	90.4	70-130		
---------	------	-------	-----------	------	------	------	--------	--	--

Matrix Spike Dup (1B27028-MSD1)

Source: B1B0491-01

Arsenic	17.1	0.338	mg/kg wet	16.9	1.86	90.2	70-130	2.97	20
---------	------	-------	-----------	------	------	------	--------	------	----

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Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/02/01 13:47

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	--------------	----------------	-----	--------------	-------

Batch 1C01013: Prepared 03/01/01 Using Dry Weight

Blank (1C01013-BLK1)

Dry Weight	100	1.00	%							
------------	-----	------	---	--	--	--	--	--	--	--

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/02/01 13:47

Notes and Definitions

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

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CHAIN OF CUSTODY REPORT

Work Order #:

B1B0494

CLIENT: Envirocon		INVOICE TO:		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div>10 7 5 4 3 2 1 <1</div> <div>STD.</div> </div> Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div>5 4 3 2 1 <1</div> <div>STD.</div> </div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">OTHER</div> Please Specify _____ <small>*Turnaround Requests less than standard may incur Rush Charges.</small>	
REPORT TO: David Jacobs		P.O. NUMBER: 14313			
ADDRESS: 10400 N. Burgard Way					
PHONE: 503-285-6164 FAX: 503-285-6205		REQUESTED ANALYSES			
PROJECT NAME: Steven Jacobson					
PROJECT NUMBER: 14313					
SAMPLED BY: Philip L Johnson					
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total	Arsenic		
1. Grid #1 SE corner	2/23 11:00 AM				
2. Grid #1 Center	2/23 11:06 AM				
3. Grid #1 NW corner	2/23 11:09 AM				
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

RELINQUISHED BY: MARCEI ARGENTHE	DATE: 2-26-01	RECEIVED BY: PRANY TONTZ	DATE: 2/26/01	
PRINT NAME: MARCEI ARGENTHE FIRM: NCA	TIME: 2:50 PM	PRINT NAME: PRANY TONTZ FIRM: NCA	TIME: 1:55	
RELINQUISHED BY: PRANY TONTZ	DATE: 2/26/01	RECEIVED BY: Karla Kaczmarek	DATE: 2/26/01	
PRINT NAME: PRANY TONTZ FIRM: NCA	TIME: 1:55	PRINT NAME: Karla Kaczmarek FIRM: NCA	TIME: 1:55	
ADDITIONAL REMARKS: TEMP 48				



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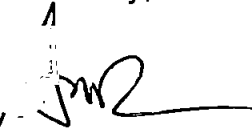
14 March, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 03/08/01 16:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,


Amar Gill
Project Manager



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
67,10-502-6	B1C0181-01	Soil	03/08/01 08:15	03/08/01 16:05
68,64-509-9	B1C0181-02	Soil	03/08/01 08:22	03/08/01 16:05
69,8-448-6	B1C0181-03	Soil	03/08/01 08:30	03/08/01 16:05
70,45-466-8	B1C0181-04	Soil	03/08/01 08:35	03/08/01 16:05
71,14-412-4	B1C0181-05	Soil	03/08/01 08:41	03/08/01 16:05
72,51-403-9	B1C0181-06	Soil	03/08/01 08:55	03/08/01 16:05
73,63-370-9	B1C0181-07	Soil	03/08/01 09:04	03/08/01 16:05
74,13-319-4	B1C0181-08	Soil	03/08/01 09:10	03/08/01 16:05
75,39-289-6	B1C0181-09	Soil	03/08/01 09:30	03/08/01 16:05
76,62-281-6	B1C0181-10	Soil	03/08/01 09:35	03/08/01 16:05
77,105-586-1.5	B1C0181-11	Soil	03/08/01 09:42	03/08/01 16:05
78,163-582-1.5	B1C0181-12	Soil	03/08/01 09:50	03/08/01 16:05
79,118-550-1.5	B1C0181-13	Soil	03/08/01 09:56	03/08/01 16:05
80,208-556-1	B1C0181-14	Soil	03/08/01 10:02	03/08/01 16:05
81,191-445-1.5	B1C0181-15	Soil	03/08/01 10:15	03/08/01 16:05
82,120-413-1.5	B1C0181-16	Soil	03/08/01 10:18	03/08/01 16:05
83,110-383-1	B1C0181-17	Soil	03/08/01 10:24	03/08/01 16:05
84,153-364-1	B1C0181-18	Soil	03/08/01 10:30	03/08/01 16:05
85,308-357-2	B1C0181-19	Soil	03/08/01 10:35	03/08/01 16:05
86,212-330-1	B1C0181-20	Soil	03/08/01 10:38	03/08/01 16:05
87,147-252-0.5	B1C0181-21	Soil	03/08/01 10:45	03/08/01 16:05
88,182-253-0.5	B1C0181-22	Soil	03/08/01 10:51	03/08/01 16:05
89,113-193-1	B1C0181-23	Soil	03/08/01 11:01	03/08/01 16:05
90,114-150-1	B1C0181-24	Soil	03/08/01 11:06	03/08/01 16:05
91,151-140-1	B1C0181-25	Soil	03/08/01 11:10	03/08/01 16:05
92,189-150-0.5	B1C0181-26	Soil	03/08/01 11:15	03/08/01 16:05
93,125-115-1	B1C0181-27	Soil	03/08/01 11:22	03/08/01 16:05
94,109-72-1	B1C0181-28	Soil	03/08/01 11:26	03/08/01 16:05
95,150-52-1	B1C0181-29	Soil	03/08/01 11:31	03/08/01 16:05

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
03/14/01 16:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
96,116-35-1	B1C0181-30	Soil	03/08/01 11:40	03/08/01 16:05

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
67,10-502-6 (B1C0181-01) Soil Sampled: 03/08/01 08:15 Received: 03/08/01 16:05									
Arsenic	63.6	0.347	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
68,64-509-9 (B1C0181-02) Soil Sampled: 03/08/01 08:22 Received: 03/08/01 16:05									
Arsenic	5.77	0.347	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
69,8-448-6 (B1C0181-03) Soil Sampled: 03/08/01 08:30 Received: 03/08/01 16:05									
Arsenic	39.7	0.323	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
70,45-466-8 (B1C0181-04) Soil Sampled: 03/08/01 08:35 Received: 03/08/01 16:05									
Arsenic	82.5	0.357	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
71,14-412-4 (B1C0181-05) Soil Sampled: 03/08/01 08:41 Received: 03/08/01 16:05									
Arsenic	153	0.357	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
72,51-403-9 (B1C0181-06) Soil Sampled: 03/08/01 08:55 Received: 03/08/01 16:05									
Arsenic	4.43	0.362	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
73,53-370-9 (B1C0181-07) Soil Sampled: 03/08/01 09:04 Received: 03/08/01 16:05									
Arsenic	42.6	0.331	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
74,13-319-4 (B1C0181-08) Soil Sampled: 03/08/01 09:10 Received: 03/08/01 16:05									
Arsenic	222	0.654	mg/kg dry	2	1C08040	03/08/01	03/09/01	EPA 6020	
75,39-289-6 (B1C0181-09) Soil Sampled: 03/08/01 09:30 Received: 03/08/01 16:05									
Arsenic	61.6	0.352	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
76,62-281-6 (B1C0181-10) Soil Sampled: 03/08/01 09:35 Received: 03/08/01 16:05									
Arsenic	2.69	0.376	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
77,105-586-1.5 (B1C0181-11) Soil Sampled: 03/08/01 09:42 Received: 03/08/01 16:05									
Arsenic	2.79	0.350	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
78,163-582-1.5 (B1C0181-12) Soil Sampled: 03/08/01 09:50 Received: 03/08/01 16:05									
Arsenic	3.60	0.307	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
79,118-550-1.5 (B1C0181-13) Soil Sampled: 03/08/01 09:56 Received: 03/08/01 16:05									
Arsenic	3.08	0.368	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
80,208-556-1 (B1C0181-14) Soil Sampled: 03/08/01 10:02 Received: 03/08/01 16:05									
Arsenic	2.06	0.360	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
81,191-445-1.5 (B1C0181-15) Soil Sampled: 03/08/01 10:15 Received: 03/08/01 16:05									
Arsenic	2.55	0.350	mg/kg dry	1	1C08040	03/08/01	03/09/01	EPA 6020	
82,120-413-1.5 (B1C0181-16) Soil Sampled: 03/08/01 10:18 Received: 03/08/01 16:05									
Arsenic	3.16	0.347	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
83,110-383-1 (B1C0181-17) Soil Sampled: 03/08/01 10:24 Received: 03/08/01 16:05									
Arsenic	2.38	0.357	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
84,153-364-1 (B1C0181-18) Soil Sampled: 03/08/01 10:30 Received: 03/08/01 16:05									
Arsenic	2.25	0.345	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
85,308-357-2 (B1C0181-19) Soil Sampled: 03/08/01 10:35 Received: 03/08/01 16:05									
Arsenic	2.56	0.355	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
86,212-330-1 (B1C0181-20) Soil Sampled: 03/08/01 10:38 Received: 03/08/01 16:05									
Arsenic	3.72	0.340	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
Lead	3.32	0.340	"	"	"	"	"	"	
87,147-252-0.5 (B1C0181-21) Soil Sampled: 03/08/01 10:45 Received: 03/08/01 16:05									
Arsenic	2.08	0.327	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
88,182-253-0.5 (B1C0181-22) Soil Sampled: 03/08/01 10:51 Received: 03/08/01 16:05									
Arsenic	2.10	0.345	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
89,113-193-1 (B1C0181-23) Soil Sampled: 03/08/01 11:01 Received: 03/08/01 16:05									
Arsenic	5.66	0.350	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
Lead	2.81	0.350	"	"	"	"	"	"	
90,114-150-1 (B1C0181-24) Soil Sampled: 03/08/01 11:06 Received: 03/08/01 16:05									
Arsenic	3.24	0.350	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
91,151-140-1 (B1C0181-25) Soil Sampled: 03/08/01 11:10 Received: 03/08/01 16:05									
Arsenic	18.8	0.299	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	
Lead	22.4	0.299	"	"	"	"	"	"	
92,189-150-0.5 (B1C0181-26) Soil Sampled: 03/08/01 11:15 Received: 03/08/01 16:05									
Arsenic	2.24	0.331	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
93,125-115-1 (B1C0181-27) Soil Sampled: 03/08/01 11:22 Received: 03/08/01 16:05										
Arsenic	2.20	0.338	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020		
94,109-72-1 (B1C0181-28) Soil Sampled: 03/08/01 11:26 Received: 03/08/01 16:05										
Arsenic	2.87	0.336	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020		
95,150-52-1 (B1C0181-29) Soil Sampled: 03/08/01 11:31 Received: 03/08/01 16:05										
Arsenic	3.01	0.352	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020		
96,116-35-1 (B1C0181-30) Soil Sampled: 03/08/01 11:40 Received: 03/08/01 16:05										
Arsenic	2.61	0.360	mg/kg dry	1	1C08041	03/08/01	03/09/01	EPA 6020		

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
67,10-502-6 (B1C0181-01) Soil Sampled: 03/08/01 08:15 Received: 03/08/01 16:05									
Dry Weight	80.9	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
68,64-509-9 (B1C0181-02) Soil Sampled: 03/08/01 08:22 Received: 03/08/01 16:05									
Dry Weight	91.9	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
69,8-448-6 (B1C0181-03) Soil Sampled: 03/08/01 08:30 Received: 03/08/01 16:05									
Dry Weight	85.2	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
70,45-466-8 (B1C0181-04) Soil Sampled: 03/08/01 08:35 Received: 03/08/01 16:05									
Dry Weight	92.8	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
71,14-412-4 (B1C0181-05) Soil Sampled: 03/08/01 08:41 Received: 03/08/01 16:05									
Dry Weight	81.9	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
72,51-403-9 (B1C0181-06) Soil Sampled: 03/08/01 08:55 Received: 03/08/01 16:05									
Dry Weight	84.9	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
73,370-9 (B1C0181-07) Soil Sampled: 03/08/01 09:04 Received: 03/08/01 16:05									
Dry Weight	85.9	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
74,13-319-4 (B1C0181-08) Soil Sampled: 03/08/01 09:10 Received: 03/08/01 16:05									
Dry Weight	82.2	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
75,39-289-6 (B1C0181-09) Soil Sampled: 03/08/01 09:30 Received: 03/08/01 16:05									
Dry Weight	79.1	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
03/14/01 16:50

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
76,62-281-6 (B1C0181-10) Soil Sampled: 03/08/01 09:35 Received: 03/08/01 16:05									
Dry Weight	72.6	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
77,105-586-1.5 (B1C0181-11) Soil Sampled: 03/08/01 09:42 Received: 03/08/01 16:05									
Dry Weight	80.4	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
78,163-582-1.5 (B1C0181-12) Soil Sampled: 03/08/01 09:50 Received: 03/08/01 16:05									
Dry Weight	80.3	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
79,118-550-1.5 (B1C0181-13) Soil Sampled: 03/08/01 09:56 Received: 03/08/01 16:05									
Dry Weight	85.1	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
80,208-556-1 (B1C0181-14) Soil Sampled: 03/08/01 10:02 Received: 03/08/01 16:05									
Dry Weight	79.1	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
81,191-445-1.5 (B1C0181-15) Soil Sampled: 03/08/01 10:15 Received: 03/08/01 16:05									
Dry Weight	86.8	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
82,120-413-1.5 (B1C0181-16) Soil Sampled: 03/08/01 10:18 Received: 03/08/01 16:05									
Dry Weight	82.1	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
83,110-383-1 (B1C0181-17) Soil Sampled: 03/08/01 10:24 Received: 03/08/01 16:05									
Dry Weight	80.0	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	
84,153-364-1 (B1C0181-18) Soil Sampled: 03/08/01 10:30 Received: 03/08/01 16:05									
Dry Weight	80.6	1.00	%	1	1C08035	03/08/01	03/09/01	BSOPSPL003R07	

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
85,308-357-2 (B1C0181-19) Soil Sampled: 03/08/01 10:35 Received: 03/08/01 16:05									
Dry Weight	84.2	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
86,212-330-1 (B1C0181-20) Soil Sampled: 03/08/01 10:38 Received: 03/08/01 16:05									
Dry Weight	82.3	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
87,147-252-0.5 (B1C0181-21) Soil Sampled: 03/08/01 10:45 Received: 03/08/01 16:05									
Dry Weight	78.3	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
88,182-253-0.5 (B1C0181-22) Soil Sampled: 03/08/01 10:51 Received: 03/08/01 16:05									
Dry Weight	77.7	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
89,113-193-1 (B1C0181-23) Soil Sampled: 03/08/01 11:01 Received: 03/08/01 16:05									
Dry Weight	79.6	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
90,114-150-1 (B1C0181-24) Soil Sampled: 03/08/01 11:06 Received: 03/08/01 16:05									
Dry Weight	75.2	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
91,151-140-1 (B1C0181-25) Soil Sampled: 03/08/01 11:10 Received: 03/08/01 16:05									
Dry Weight	67.0	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
92,189-150-0.5 (B1C0181-26) Soil Sampled: 03/08/01 11:15 Received: 03/08/01 16:05									
Dry Weight	73.4	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
93,125-115-1 (B1C0181-27) Soil Sampled: 03/08/01 11:22 Received: 03/08/01 16:05									
Dry Weight	75.1	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
94,109-72-1 (B1C0181-28) Soil Sampled: 03/08/01 11:26 Received: 03/08/01 16:05									
Dry Weight	80.7	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
95,150-52-1 (B1C0181-29) Soil Sampled: 03/08/01 11:31 Received: 03/08/01 16:05									
Dry Weight	81.1	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	
96,116-35-1 (B1C0181-30) Soil Sampled: 03/08/01 11:40 Received: 03/08/01 16:05									
Dry Weight	78.5	1.00	%	1	1C08036	03/08/01	03/09/01	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1C08040: Prepared 03/08/01 Using EPA 3050B

Blank (1C08040-BLK1)

Arsenic	ND	0.500	mg/kg wet
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LCS (1C08040-BS1)

Arsenic	25.8	0.500	mg/kg wet	25.0	103	70-130
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Matrix Spike (1C08040-MS1)

Source: B1C0181-01

Arsenic	82.1	0.357	mg/kg dry	22.1	63.6	83.7	70-130
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Matrix Spike Dup (1C08040-MSD1)

Source: B1C0181-01

Arsenic	72.2	0.352	mg/kg dry	21.8	63.6	39.4	70-130	12.8	20	Q-01
---------	------	-------	-----------	------	------	------	--------	------	----	------

Batch 1C08041: Prepared 03/08/01 Using EPA 3050B

Blank (1C08041-BLK1)

Arsenic	ND	0.500	mg/kg wet
---------	----	-------	-----------

Lead	ND	0.500	"
------	----	-------	---

LCS (1C08041-BS1)

Arsenic	25.9	0.500	mg/kg wet	25.0	104	70-130
---------	------	-------	-----------	------	-----	--------

Lead	25.8	0.500	"	25.0	103	80-120
------	------	-------	---	------	-----	--------

Matrix Spike (1C08041-MS1)

Source: B1C0181-16

Arsenic	22.6	0.352	mg/kg dry	21.4	3.16	90.8	70-130
---------	------	-------	-----------	------	------	------	--------

Lead	23.4	0.352	"	21.4	2.84	96.1	70-130
------	------	-------	---	------	------	------	--------

Matrix Spike Dup (1C08041-MSD1)

Source: B1C0181-16

Arsenic	22.9	0.352	mg/kg dry	21.4	3.16	92.2	70-130	1.32	20
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Lead	24.5	0.352	"	21.4	2.84	101	70-130	4.59	20
------	------	-------	---	------	------	-----	--------	------	----

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/14/01 16:50

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1C08035: Prepared 03/08/01 Using Dry Weight										
Blank (1C08035-BLK1)										
Dry Weight	100	1.00	%							
Batch 1C08036: Prepared 03/08/01 Using Dry Weight										
Blank (1C08036-BLK1)										
Dry Weight	99.8	1.00	%							

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
03/14/01 16:50

Notes and Definitions

- Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
- 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

North Creek Analytical - Bothell

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CHAIN OF CUSTODY REPORT

Work Order #: **B1C0181**

CLIENT: <u>Environ</u> REPORT TO: <u>David Jacobs</u> ADDRESS: <u>10400 N. Burgard Way</u> <u>Portland OR 97203</u> PHONE: <u>503 285-6164</u> FAX: <u>503 285-6205</u>		INVOICE TO: <u>Same</u> P.O. NUMBER: <u>14313</u>		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 </div> <div> STD. </div> </div> Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 </div> <div> STD. </div> </div> OTHER <input checked="" type="checkbox"/> Please Specify <u>24hr</u> <small>*Turnaround Requests less than standard may incur Rush Charges.</small>															
PROJECT NAME: <u>Stefan Jacobson</u> PROJECT NUMBER: <u>14313</u> SAMPLED BY: <u>P. Johnson</u>		REQUESTED ANALYSES																	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	<u>Total</u>	<u>Arsenic</u>	<u>24 hr.</u>										MATRIX (W. S. O)	# OF CONT.	COMMENTS	NCA WO ID		
1. <u>67, 10-502-6</u>	<u>3-8-01 8:15 Am</u>	<div style="font-size: 2em;">}</div>															<u>B1C0181-01</u>	<u>01</u>	
2. <u>68, 64-509-9</u>	<u>3-8-01 8:22 Am</u>																	<u>02</u>	
3. <u>69, 8-448-6</u>	<u>3-8-01 8:30 Am</u>																	<u>03</u>	
4. <u>70, 45-466-8</u>	<u>3-8-01 8:35 Am</u>																	<u>04</u>	
5. <u>71, 14-412-4</u>	<u>3-8-01 8:41 Am</u>																	<u>05</u>	
6. <u>72, 51-403-9</u>	<u>3-8-01 8:55 Am</u>																	<u>06</u>	
7. <u>73, 63-370-9</u>	<u>3-8-01 9:04 Am</u>																	<u>07</u>	
8. <u>74, 13-319-4</u>	<u>3-8-01 9:10 Am</u>																	<u>08</u>	
9. <u>75, 34-289-6</u>	<u>3-8-01 9:30 Am</u>																	<u>09</u>	
10. <u>76, 62-281-6</u>	<u>3-8-01 9:35 Am</u>																	<u>10</u>	
11. <u>77, 105-586-1.5</u>	<u>3-8-01 9:42 Am</u>																	<u>11</u>	
12. <u>78, 163-582-1.5</u>	<u>3-8-01 9:50 Am</u>																	<u>12</u>	
13. <u>79, 118-560-1.5</u>	<u>3-8-01 9:56 Am</u>																	<u>13</u>	
14. <u>80, 208-556-1</u>	<u>3-8-01 10:02 Am</u>																	<u>14</u>	
15. <u>81, 191-445-1.5</u>	<u>3-8-01 10:15 Am</u>																	<u>15</u>	
RELINQUISHED BY: <u>Philip L Johnson</u> PRINT NAME: <u>Philip L Johnson</u> FIRM: <u>Environ</u>		DATE: <u>3-8-01</u> TIME: <u>16:05</u>		RECEIVED BY: <u>SK</u> PRINT NAME: <u>SK</u> FIRM: <u>NCA</u>		DATE: <u>3/8/01</u> TIME: <u>13:40</u>													
RELINQUISHED BY: <u>SK</u> PRINT NAME: <u>SK</u> FIRM: <u>NCA</u>		DATE: <u>3/8/01</u> TIME: <u>16:05</u>		RECEIVED BY: <u>Karl Kacoon</u> PRINT NAME: <u>Karl Kacoon</u> FIRM: <u>NCA</u>		DATE: <u>3/14/01</u> TIME: <u>16:05</u>													
ADDITIONAL COMMENTS:																		TE	PAGE OF

CHAIN OF CUSTODY REPORT

Work Order #:

BICO181

CLIENT: <u>Envirocon</u> REPORT TO: <u>David Jacobs</u> ADDRESS: <u>10400 N. Burgard Way</u> <u>Portland OR 97203 (503)</u> PHONE: <u>503 285-6164</u> FAX: <u>285-6205</u>		INVOICE TO: <u>Same</u> P.O. NUMBER: <u>14313</u>		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div>10 7 5 4 3 2 1 <1</div> <div>STD.</div> </div> Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div>5 4 3 2 1 <1</div> <div>STD.</div> </div> Please Specify <div style="border: 1px solid black; padding: 2px; display: inline-block;">OTHER</div> <u>24hr</u>	
PROJECT NAME: <u>Stephen Jacobson</u> PROJECT NUMBER: <u>14313</u> SAMPLED BY: <u>D. Johnson</u>		REQUESTED ANALYSES			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	<u>Total</u> <u>Aspirate</u> <u>24 hr</u>			
1. <u>82, 120-413-1.5</u>	<u>3-8-01 10:18</u>	<div style="font-size: 2em;">{</div>			
2. <u>83, 110-383-1</u>	<u>" 10:24</u>				
3. <u>84, 153-364-1</u>	<u>" 10:30</u>				
4. <u>85, 308-357-2</u>	<u>" 10:35</u>				
5. <u>86, 212-330-1</u>	<u>" 10:38</u>				
6. <u>87, 147-252-0.5</u>	<u>" 10:45</u>				
7. <u>88, 182-253-0.5</u>	<u>" 10:51</u>				
8. <u>89, 113-193-1</u>	<u>" 11:01</u>				
9. <u>90, 114-150-1</u>	<u>" 11:06</u>				
10. <u>91, 151-140-1</u>	<u>" 11:10</u>				
11. <u>92, 189-150-0.5</u>	<u>" 11:15</u>				
12. <u>93, 125-115-1</u>	<u>" 11:22</u>				
13. <u>94, 109-72-1</u>	<u>" 11:26</u>				
14. <u>95, 150-52-1</u>	<u>" 11:31</u>				
15. <u>96, 116-35-1</u>	<u>" 11:40</u>				
RELINQUISHED BY: <u>Philip Johnson</u>	DATE: <u>3/8/01</u>	RECEIVED BY: <u>Simon</u>	FIRM: <u>NCA</u>	DATE: <u>3/8/01</u>	
PRINT NAME: <u>Philip Johnson</u>	TIME: <u>8/8/01</u>	PRINT NAME: <u>Karla Kaczorowski</u>	FIRM: <u>NCA</u>	TIME: <u>16:05</u>	
RELINQUISHED BY: <u>Simon</u>	DATE: <u>3/8/01</u>	RECEIVED BY: <u>Karla Kaczorowski</u>	FIRM: <u>NCA</u>	DATE: <u>3/8/01</u>	
PRINT NAME: <u>Simon</u>	TIME: <u>16:05</u>	PRINT NAME: <u>Karla Kaczorowski</u>	FIRM: <u>NCA</u>	TIME: <u>16:05</u>	
ADDITIONAL COMMENTS:				TEL: <u>15</u>	PAGE OF



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541.383.9310 fax 541.382.7588

22 March, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 03/14/01 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/22/01 16:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
97,55-457-9	B1C0300-01	Soil	03/14/01 10:50	03/14/01 16:00
98,58-423-10	B1C0300-02	Soil	03/14/01 10:54	03/14/01 16:00
99,8-231-6	B1C0300-03	Soil	03/14/01 10:59	03/14/01 16:00
100,50-240-10	B1C0300-04	Soil	03/14/01 11:10	03/14/01 16:00
101,70-221-10	B1C0300-05	Soil	03/14/01 11:14	03/14/01 16:00
102,48-137-10	B1C0300-06	Soil	03/14/01 11:20	03/14/01 16:00
103,68-104-10	B1C0300-07	Soil	03/14/01 11:25	03/14/01 16:00
104,43-57-10	B1C0300-08	Soil	03/14/01 11:32	03/14/01 16:00
105,60-18-10	B1C0300-09	Soil	03/14/01 11:40	03/14/01 16:00
106,6-146-6	B1C0300-10	Soil	03/14/01 11:46	03/14/01 16:00
107,11-27-6	B1C0300-11	Soil	03/14/01 11:52	03/14/01 16:00

Creek Analytical - Bothell

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.

Amar Gill, Project Manager



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/22/01 16:16

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
97,55-457-9 (B1C0300-01) Soil Sampled: 03/14/01 10:50 Received: 03/14/01 16:00									
Arsenic	14.3	0.355	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
98,58-423-10 (B1C0300-02) Soil Sampled: 03/14/01 10:54 Received: 03/14/01 16:00									
Arsenic	3.08	0.333	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
Lead	3.86	0.333	"	"	"	"	"	"	
99,8-231-6 (B1C0300-03) Soil Sampled: 03/14/01 10:59 Received: 03/14/01 16:00									
Arsenic	711	3.62	mg/kg dry	5	1C14032	03/14/01	03/15/01	EPA 6020	
100,50-240-10 (B1C0300-04) Soil Sampled: 03/14/01 11:10 Received: 03/14/01 16:00									
Arsenic	2.21	0.355	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
101,70-221-10 (B1C0300-05) Soil Sampled: 03/14/01 11:14 Received: 03/14/01 16:00									
Arsenic	3.48	0.325	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
102,48-137-10 (B1C0300-06) Soil Sampled: 03/14/01 11:20 Received: 03/14/01 16:00									
Arsenic	4.34	0.347	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
103,68-104-10 (B1C0300-07) Soil Sampled: 03/14/01 11:25 Received: 03/14/01 16:00									
Arsenic	2.41	0.347	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
Lead	1.82	0.347	"	"	"	"	"	"	
104,43-57-10 (B1C0300-08) Soil Sampled: 03/14/01 11:32 Received: 03/14/01 16:00									
Arsenic	2.09	0.333	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
03/22/01 16:16

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
105,60-18-10 (B1C0300-09) Soil Sampled: 03/14/01 11:40 Received: 03/14/01 16:00									
Arsenic	2.48	0.342	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
106,6-146-6 (B1C0300-10) Soil Sampled: 03/14/01 11:46 Received: 03/14/01 16:00									
Arsenic	2.94	0.376	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
107,11-27-6 (B1C0300-11) Soil Sampled: 03/14/01 11:52 Received: 03/14/01 16:00									
Arsenic	4.32	0.336	mg/kg dry	1	1C14032	03/14/01	03/15/01	EPA 6020	
Lead	8.58	0.336	"	"	"	"	"	"	

h Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/22/01 16:16

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
97,55-457-9 (B1C0300-01) Soil Sampled: 03/14/01 10:50 Received: 03/14/01 16:00									
Dry Weight	87.0	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
98,58-423-10 (B1C0300-02) Soil Sampled: 03/14/01 10:54 Received: 03/14/01 16:00									
Dry Weight	89.0	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
99,8-231-6 (B1C0300-03) Soil Sampled: 03/14/01 10:59 Received: 03/14/01 16:00									
Dry Weight	47.9	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
100,50-240-10 (B1C0300-04) Soil Sampled: 03/14/01 11:10 Received: 03/14/01 16:00									
Dry Weight	85.5	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
101,70-221-10 (B1C0300-05) Soil Sampled: 03/14/01 11:14 Received: 03/14/01 16:00									
Dry Weight	81.5	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
102,48-137-10 (B1C0300-06) Soil Sampled: 03/14/01 11:20 Received: 03/14/01 16:00									
Dry Weight	86.9	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
103,68-104-10 (B1C0300-07) Soil Sampled: 03/14/01 11:25 Received: 03/14/01 16:00									
Dry Weight	86.6	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
104,43-57-10 (B1C0300-08) Soil Sampled: 03/14/01 11:32 Received: 03/14/01 16:00									
Dry Weight	88.4	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
105,60-18-10 (B1C0300-09) Soil Sampled: 03/14/01 11:40 Received: 03/14/01 16:00									
Dry Weight	82.7	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	

North Creek Analytical - Bothell

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/22/01 16:16

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
106,6-146-6 (B1C0300-10) Soil Sampled: 03/14/01 11:46 Received: 03/14/01 16:00									
Dry Weight	88.0	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	
107,11-27-6 (B1C0300-11) Soil Sampled: 03/14/01 11:52 Received: 03/14/01 16:00									
Dry Weight	81.7	1.00	%	1	1C14033	03/14/01	03/15/01	BSOPSPL003R07	

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Amir Gill, Project Manager

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Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/22/01 16:16

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 1C14032: Prepared 03/14/01 Using EPA 3050B

Blank (1C14032-BLK1)

Arsenic	ND	0.500	mg/kg wet						
Lead	ND	0.500	"						

LCS (1C14032-BS1)

Arsenic	24.5	0.500	mg/kg wet	25.0		98.0	70-130		
Lead	24.4	0.500	"	25.0		97.6	80-120		

Matrix Spike (1C14032-MS1)

Source: B1C0300-01

Arsenic	31.0	0.327	mg/kg dry	18.8	14.3	88.8	70-130		
Lead	33.9	0.327	"	18.8	17.1	89.4	70-130		

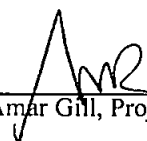
Matrix Spike Dup (1C14032-MSD1)

Source: B1C0300-01

Arsenic	33.4	0.362	mg/kg dry	20.8	14.3	91.8	70-130	7.45	20
Lead	35.9	0.362	"	20.8	17.1	90.4	70-130	5.73	20

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
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Envirocon
10400 N. Burgard Way,
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

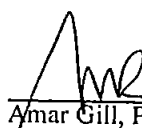
Reported:
03/22/01 16:16

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch 1C14033: Prepared 03/14/01 Using Dry Weight								
Blank (1C14033-BLK1)								
Dry Weight	100	1.00	%					

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/22/01 16:16

Notes and Definitions

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

North Creek Analytical - Bothell

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20 March, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 03/19/01 15:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Omar Gill
Project Manager



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

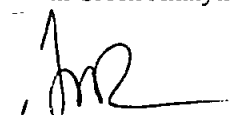
Reported:
03/20/01 16:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
998-231-6	B1C0410-01	Soil	03/19/01 12:00	03/19/01 15:40

North Creek Analytical - Bothell

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.


Amar Gill, Project Manager

North Creek Analytical, Inc.
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509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/20/01 16:29

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
998-231-6 (B1C0410-01) Soil Sampled: 03/19/01 12:00 Received: 03/19/01 15:40									
Arsenic	4.09	0.329	mg/kg dry	1	1C19038	03/19/01	03/20/01	EPA 6020	

th Creek Analytical - Bothell

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.

Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 2 of 6



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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/20/01 16:29

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
998-231-6 (B1C0410-01) Soil Sampled: 03/19/01 12:00 Received: 03/19/01 15:40									
Dry Weight	77.4	1.00	%	1	1C19041	03/19/01	03/20/01	BSOPSPL003R07	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/20/01 16:29

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1C19038: Prepared 03/19/01 Using EPA 3050B										
Blank (1C19038-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (1C19038-BS1)										
Arsenic	25.5	0.500	mg/kg wet	25.0		102	70-130			
Matrix Spike (1C19038-MS1)										
					Source: B1C0408-01					
Arsenic	20.9	0.355	mg/kg wet	17.7	3.75	96.9	70-130			
Matrix Spike Dup (1C19038-MSD1)										
					Source: B1C0408-01					
Arsenic	21.6	0.350	mg/kg wet	17.5	3.75	102	70-130	3.29	20	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/20/01 16:29

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	--------------	----------------	-----	--------------	-------

Batch 1C19041: Prepared 03/19/01 Using Dry Weight

Blank (1C19041-BLK1)

Dry Weight	100	1.00	%
------------	-----	------	---

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 5 of 6



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509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
03/20/01 16:29

Notes and Definitions

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

North Creek Analytical - Bothell

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.


Amar Gill, Project Manager

CHAIN OF CUSTODY REPORT

Work Order #: **BIC0410**

CLIENT: FAIRFORD REPORT TO: DAVID JACOB ADDRESS: 18400 N. BROADWAY WAY PORTLAND, OR 97203 PHONE: 503 285 6164 FAX:		INVOICE TO: FAIRFORD P.O. NUMBER: 14313		TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 </div> <div> STD. </div> <div> <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 </div> <div> STD. </div> </div> Petroleum Hydrocarbon Analyses Please Specify <input checked="" type="checkbox"/> OTHER 24 HR	
PROJECT NAME: STEPHAN JACOBSON PROJECT NUMBER: 14313 SAMPLED BY: MICHAEL CAIRN		REQUESTED ANALYSES			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	ABENIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. 998-231-6	3-19				
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

RELINQUISHED BY: [Signature] PRINT NAME: Michael Cairn FIRM: FAIRFORD	DATE: 3/19/01 TIME:	RECEIVED BY: [Signature] PRINT NAME: Bill FIRM: NCA	DATE: 3-19 TIME: 14
RELINQUISHED BY: [Signature] PRINT NAME: Bill FIRM: NCA	DATE: 3-19-01 TIME: 15:40	RECEIVED BY: [Signature] PRINT NAME: Karla Kaczorowski FIRM: NCA	DATE: TIME: 15

ADDITIONAL REMARKS:

COC REV



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
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Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

13 April, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 04/12/01 11:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
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Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/13/01 15:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
#109,50-305-9	B1D0261-01	Soil	04/12/01 11:04	04/12/01 11:40

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 1 of 6



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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/13/01 15:10

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
#109,50-305-9 (B1D0261-01) Soil Sampled: 04/12/01 11:04 Received: 04/12/01 11:40									
Arsenic	44.6	0.394	mg/kg dry	1	1D12023	04/12/01	04/13/01	EPA 6020	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/13/01 15:10

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
#109,50-305-9 (B1D0261-01) Soil Sampled: 04/12/01 11:04 Received: 04/12/01 11:40									
Dry Weight	78.6	1.00	%	1	1D12029	04/12/01	04/13/01	BSOPSPL003R07	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 3 of 6



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509.924.9200 fax 509.924.9290
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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs


Reported:
04/13/01 15:10

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 1D12023: Prepared 04/12/01 Using EPA 3050B									
Blank (1D12023-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (1D12023-BS1)									
Arsenic	25.0	0.500	mg/kg wet	25.0		100 70-130			
Matrix Spike (1D12023-MS1)					Source: B1D0261-01				
Arsenic	86.4	0.391	mg/kg dry	24.8	44.6	169 70-130			Q-14
Matrix Spike Dup (1D12023-MSD1)					Source: B1D0261-01				
Arsenic	104	0.397	mg/kg dry	25.2	44.6	236 70-130	18.5	20	Q-14

North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/13/01 15:10

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

Batch 1D12029: Prepared 04/12/01 Using Dry Weight

Blank (1D12029-BLK1)

Dry Weight	100	1.00	%						
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North Creek Analytical - Bothell

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Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/13/01 15:10

Notes and Definitions

Q-14 Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample matrix.

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

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 6 of 6

CHAIN OF CUSTODY REPORT

Work Order #: **BID0261**

CLIENT: ENVIROCON		INVOICE TO:		TURNAROUND REQUEST in Business Days*	
REPORT TO: DAVID JACOBS		SAME			
ADDRESS: ENVIROCON				P.O. NUMBER:	
PHONE: 503-285-6164 FAX: 503-285-6205				STD. Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">5</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">X</div> <div style="border: 1px solid black; padding: 2px;"><1</div> </div>	
PROJECT NAME: STEFFEN JACOBSON		REQUESTED ANALYSES		STD. OTHER Please Specify _____ <small>*Turnaround Requests less than standard may incur Rush Charges.</small>	
PROJECT NUMBER: 14313					
SAMPLED BY:					
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	TOTAL HS			
1. #109, 50-305-9	4/13/01 11:04A	X			
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
RELINQUISHED BY: MARK VILLENEUVE		DATE: 4/13/01		RECEIVED BY: S. V. K. K. K.	
PRINT NAME: MARK VILLENEUVE		FIRM: ENVIROCON		FIRM: NCA	
RELINQUISHED BY:		DATE:		DATE:	
PRINT NAME:		FIRM:		FIRM:	
ADDITIONAL REMARKS:				TEMP: 101.9	

SAMPLES WERE NOT @
2-6C UPON RECEIPT

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 04/17/01 10:58. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
#110,50-305-11	B1D0400-01	Soil	04/17/01 09:25	04/17/01 10:58

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:07

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
#110,50-305-11 (B1D0400-01) Soil Sampled: 04/17/01 09:25 Received: 04/17/01 10:58									
Arsenic	5.77	0.350	mg/kg dry	1	1D17030	04/17/01	04/18/01	EPA 6020	

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:07

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
#110.50-305-11 (B1D0400-01) Soil Sampled: 04/17/01 09:25 Received: 04/17/01 10:58									
Dry Weight	80.7	1.00	%	1	1D17025	04/17/01	04/18/01	BSOPSP003R07	

Envirocon 10400 N. Burgard Way Portland OR/USA, 97203	Project: Steffan Jacobson Project Number: 14313 Project Manager: Dave Jacobs	Reported: 04/18/01 12:07
---	--	-----------------------------

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 1D17030: Prepared 04/17/01 Using EPA 3050B									
Blank (1D17030-BLK1)									
Arsenic	ND	0.500	mg/kg wet						
LCS (1D17030-BS1)									
Arsenic	19.6	0.500	mg/kg wet	25.0		78.4 70-130			
Matrix Spike (1D17030-MS1)					Source: B1D0400-01				
Arsenic	21.3	0.352	mg/kg dry	21.8	5.77	71.2 70-130			
Matrix Spike Dup (1D17030-MSD1)					Source: B1D0400-01				
Arsenic	18.8	0.338	mg/kg dry	20.9	5.77	62.3 70-130	12.5	20	Q-01

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:07

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 1D17025: Prepared 04/17/01 Using Dry Weight

Blank (1D17025-BLK1)

Dry Weight	100	1.00	%							
------------	-----	------	---	--	--	--	--	--	--	--

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:07

Notes and Definitions

Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.

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

18 April, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 04/17/01 14:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
111,42-269-8	B1D0411-01	Soil	04/17/01 12:25	04/17/01 14:25
112,41-297-10	B1D0411-02	Soil	04/17/01 12:30	04/17/01 14:25
113,41-325-8	B1D0411-03	Soil	04/17/01 12:35	04/17/01 14:25

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:16

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
111,42-269-8 (B1D0411-01) Soil Sampled: 04/17/01 12:25 Received: 04/17/01 14:25									
Arsenic	94.8	0.342	mg/kg dry	1	1D17030	04/17/01	04/18/01	EPA 6020	
112,41-297-10 (B1D0411-02) Soil Sampled: 04/17/01 12:30 Received: 04/17/01 14:25									
Arsenic	81.7	0.289	mg/kg dry	1	1D17030	04/17/01	04/18/01	EPA 6020	
113,41-325-8 (B1D0411-03) Soil Sampled: 04/17/01 12:35 Received: 04/17/01 14:25									
Arsenic	82.5	0.294	mg/kg dry	1	1D17030	04/17/01	04/18/01	EPA 6020	

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Page 2 of 6

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:16

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
111,42-269-8 (B1D0411-01) Soil Sampled: 04/17/01 12:25 Received: 04/17/01 14:25									
Dry Weight	83.1	1.00	%	1	1D17025	04/17/01	04/18/01	BSOPSPL003R07	
112,41-297-10 (B1D0411-02) Soil Sampled: 04/17/01 12:30 Received: 04/17/01 14:25									
Dry Weight	83.0	1.00	%	1	1D17025	04/17/01	04/18/01	BSOPSPL003R07	
113,41-325-8 (B1D0411-03) Soil Sampled: 04/17/01 12:35 Received: 04/17/01 14:25									
Dry Weight	85.6	1.00	%	1	1D17025	04/17/01	04/18/01	BSOPSPL003R07	

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported: 04/18/01 12:16

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1D17030: Prepared 04/17/01 Using EPA 3050B										
Blank (1D17030-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (1D17030-BS1)										
Arsenic	19.6	0.500	mg/kg wet	25.0		78.4	70-130			
Matrix Spike (1D17030-MS1)										
					Source: B1D0400-01					
Arsenic	21.3	0.352	mg/kg dry	21.8	5.77	71.2	70-130			
Matrix Spike Dup (1D17030-MSD1)										
					Source: B1D0400-01					
Arsenic	18.8	0.338	mg/kg dry	20.9	5.77	62.3	70-130	12.5	20	Q-01

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Page 4 of 6

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:16

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1D17025: Prepared 04/17/01 Using Dry Weight										
Blank (1D17025-BLK1)										
Dry Weight	100	1.00	%							

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/18/01 12:16

Notes and Definitions

Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.

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

CHAIN OF CUSTODY REPORT

Work Order #: **B1D0411**

CLIENT: **ENVIROCON**

INVOICE TO:

REPORT TO: **DANE JACOBS**

SAME

ADDRESS: **10400 N. BURGARD WAY
PORTLAND, OR 97203**

PHONE: **503-225-6164**

FAX: **503-225-6265**

P.O. NUMBER:

PROJECT NAME: **STEPPEN JACOBS**

PROJECT NUMBER: **14313**

SAMPLED BY:

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses
10 7 5 4 3 2 1 <1

STD. Petroleum Hydrocarbon Analyses
5 4 3 2 ☒ <1

STD. **OTHER** Please Specify

*Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	TOTAL ARSENIC											*Turnaround Requests less than standard may incur Rush Charges.			
			MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID										
1. 111, 42-269-8	4/17/01/12:25	X											S	1	Rush	-01
2. 112, 41-297-10	4/17/01/12:30	X											S	1	Rush	-02
3. 113, 41-325-8	4/17/01/12:35	X											S	1	Rush	-03
4.																
5.																
6.																
7.																
8.																
9.																
10.																
11.																
12.																
13.																
14.																
15.																
RELINQUISHED BY: <i>[Signature]</i>																

RELINQUISHED BY: **Mark Villeneuve**
PRINT NAME: **MARK VILLENEUVE** FIRM: **ENVIROCON**

DATE: **4/17/01**
TIME: **2:25PM**

RECEIVED BY: **S. JAKANAVICH**
PRINT NAME: **S. JAKANAVICH** FIRM: **NCA**

DATE: **4/17/01**
TIME: **14:25**

RELINQUISHED BY:
PRINT NAME: FIRM:

DATE:
TIME:

RECEIVED BY:
PRINT NAME: FIRM:

DATE:
TIME:

ADDITIONAL REMARKS:

20 April, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 04/19/01 11:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/20/01 14:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
114,45-340 - 4 10	B1D0466-01	Soil	04/19/01 09:15	04/19/01 11:00
115,45-310 - 4 12	B1D0466-02	Soil	04/19/01 09:20	04/19/01 11:00
116,45-257 - 8 10	B1D0466-03	Soil	04/19/01 09:30	04/19/01 11:00

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/20/01 14:39

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
114,45-340⁻¹⁰ (B1D0466-01) Soil Sampled: 04/19/01 09:15 Received: 04/19/01 11:00									
Arsenic	3.20	0.400	mg/kg dry	1	1D19024	04/19/01	04/20/01	EPA 6020	
115,45-310⁻¹² (B1D0466-02) Soil Sampled: 04/19/01 09:20 Received: 04/19/01 11:00									
Arsenic	4.77	0.417	mg/kg dry	1	1D19024	04/19/01	04/20/01	EPA 6020	
116,45-257⁻¹⁰ (B1D0466-03) Soil Sampled: 04/19/01 09:30 Received: 04/19/01 11:00									
Arsenic	5.41	0.325	mg/kg dry	1	1D19024	04/19/01	04/20/01	EPA 6020	

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Page 2 of 6

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/20/01 14:39

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
114.45-340⁻¹⁰ (B1D0466-01) Soil Sampled: 04/19/01 09:15 Received: 04/19/01 11:00									
Dry Weight	84.6	1.00	%	1	1D19028	04/19/01	04/20/01	BSOPSPL003R07	
115.45-310⁻¹² (B1D0466-02) Soil Sampled: 04/19/01 09:20 Received: 04/19/01 11:00									
Dry Weight	82.1	1.00	%	1	1D19028	04/19/01	04/20/01	BSOPSPL003R07	
116.45-257⁻¹⁰ (B1D0466-03) Soil Sampled: 04/19/01 09:30 Received: 04/19/01 11:00									
Dry Weight	86.7	1.00	%	1	1D19028	04/19/01	04/20/01	BSOPSPL003R07	

North Creek Analytical - Bothell

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.

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/20/01 14:39

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1D19024: Prepared 04/19/01 Using EPA 3050B										
Blank (1D19024-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (1D19024-BS1)										
Arsenic	25.6	0.500	mg/kg wet	25.0		102	70-130			
Matrix Spike (1D19024-MS1) Source: B1D0466-01										
Arsenic	26.7	0.394	mg/kg dry	23.3	3.20	101	70-130			
Matrix Spike Dup (1D19024-MSD1) Source: B1D0466-01										
Arsenic	25.8	0.394	mg/kg dry	23.3	3.20	97.0	70-130	3.43	20	

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/20/01 14:39

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1D19028: Prepared 04/19/01 Using Dry Weight										
Blank (1D19028-BLK1)										
Dry Weight	100	1.00	%							

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/20/01 14:39

Notes and Definitions

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



icaTM
North Creek Analytical, Inc.
Environmental Laboratory Network
www.ncalabs.com

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20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

(425) 420-9200 FAX 420-9210
(509) 924-9200 924-9290
(503) 906-9200 906-9210
(541) 383-9310 FAX 382-7588

CHAIN OF CUSTODY REPORT

Work Order #:

B100406

CLIENT: <u>ENVIROCON</u>		INVOICE TO:										TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div> <div style="border: 1px solid black; padding: 2px;">10</div> <div style="border: 1px solid black; padding: 2px;">7</div> <div style="border: 1px solid black; padding: 2px;">5</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;"><1</div> </div> <div>STD.</div> </div> <div style="display: flex; justify-content: space-around;"> <div> <div style="border: 1px solid black; padding: 2px;">5</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;"><1</div> </div> <div>STD.</div> </div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">OTHER <u>Rush</u></div> <div style="font-size: small;">Please Specify</div>					
REPORT TO: <u>DAVE JACOBS</u>		SAME															
ADDRESS: <u>10400 N. BURGARD WAY</u> <u>PORTLAND, OR 97203</u>		P.O. NUMBER:															
PHONE: <u>503-285-6164</u>		FAX: <u>503-285-6285</u>															
PROJECT NAME: <u>STEFEN JACOBSEN</u>		REQUESTED ANALYSES															
PROJECT NUMBER: <u>14313</u>																	
SAMPLED BY: <u>MARK VILLENEUVE</u>																	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	TOTAL ARSENIC												MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
1. <u>114, 45-340</u>	<u>4-19-01 / 9:15AM</u>	<u>X</u>												<u>S</u>	<u>1</u>	<u>Rush</u>	<u>-01</u>
2. <u>115, 45-310</u>	<u>4-19-01 / 9:20AM</u>	<u>X</u>												<u>S</u>	<u>1</u>	<u>Rush</u>	<u>-02</u>
3. <u>116, 45-257</u>	<u>4-19-01 / 9:30AM</u>	<u>X</u>												<u>S</u>	<u>1</u>	<u>Rush</u>	<u>03</u>
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	
11.																	
12.																	
13.																	
14.																	
15.																	

SAMPLES WERE NOT @
2-6C UPON RECEIPT

RELINQUISHED BY: <u>MARK VILLENEUVE</u>	DATE: <u>4/19/01</u>	RECEIVED BY: <u>DRANNY TONTZ</u>	DATE: <u>4/19/01</u>
PRINT NAME: <u>DRANNY TONTZ</u>	TIME: <u>10:30AM</u>	PRINT NAME: <u>DRANNY TONTZ</u>	TIME: <u>10:30</u>
RELINQUISHED BY: <u>DRANNY TONTZ</u>	DATE: <u>4/19/01</u>	RECEIVED BY: <u>KARLA KACIMOVICH</u>	DATE: <u>4/19/01</u>
PRINT NAME: <u>DRANNY TONTZ</u>	TIME: <u>11:00</u>	PRINT NAME: <u>KARLA KACIMOVICH</u>	TIME: <u>11:00</u>

ADDITIONAL REMARKS:

10 | TEMP: 22.2 | PAGE OF



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97006-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

24 April, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 04/20/01 17:56. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite 8, Spokane, WA 99206-4776
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503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

Reported:
04/24/01 09:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
117,63-370 - 10	BID0514-01	Soil	04/20/01 17:25	04/20/01 17:56

North Creek Analytical - Bothell

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.


Amar Gill, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 1 of 6



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 Spokane East 11115 Montgomery, Suite B, Spokane, WA 99208-4776
 509.924.9200 fax 509.924.9290
 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
 503.906.9200 fax 503.906.9210
 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541.383.9310 fax 541.382.7588

Envirocon
 10400 N. Burgard Way
 Portland OR/USA. 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 04/24/01 09:00

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
117,633 ¹⁰ 70 (B1D0514-01) Soil Sampled: 04/20/01 17:25 Received: 04/20/01 17:56									
Arsenic	35.9	0.331	mg/kg dry	1	1D23013	04/23/01	04/23/01	EPA 6020	

North Creek Analytical - Bothell

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.


 Amar Gill, Project Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network

Page 2 of 6



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 509.924.9200 fax 509.924.9290
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 503.906.9200 fax 503.906.9210
 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541.383.9310 fax 541.382.7588

Envirocon
 10400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 04/24/01 09:00

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
117,633 ⁻¹⁰ 70 (B1D0514-01) Soil Sampled: 04/20/01 17:25 Received: 04/20/01 17:56									
Dry Weight	80.3	1.00	%	1	1D20046	04/20/01	04/23/01	BSOPSPL003R07	

North Creek Analytical - Bothell

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.


 Amar Gill, Project Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network

Page 3 of 6



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 503.906.9200 fax 503.906.9210
 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541.383.9310 fax 541.382.7568

Envirocon
 10400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

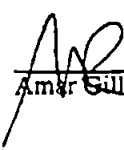
Reported:
 04/24/01 09:00

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1D23013: Prepared 04/23/01 Using EPA 3050B										
Blank (1D23013-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (1D23013-BS1)										
Arsenic	23.6	0.500	mg/kg wet	25.0		94.4	70-130			
Matrix Spike (1D23013-MS1)										
Source: B1D0514-01										
Arsenic	55.3	0.331	mg/kg dry	20.6	35.9	84.5	70-130			
Matrix Spike Dup (1D23013-MSD1)										
Source: B1D0514-01										
Arsenic	68.0	0.331	mg/kg dry	20.6	35.9	156	70-130	24.2	20	Q-01, Q-07

North Creek Analytical - Bothell

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.


 Amar Gull, Project Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network

Page 4 of 6



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 Portland 9405 SW Nimbus Avenue, Besverson, OR 97008-7132
 503.906.9200 fax 503.906.9210
 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541.383.9310 fax 541.382.7528

Envirocon
 10400 N. Burgard Way
 Portland OR/USA, 97203

Project: Steffan Jacobson
 Project Number: 14313
 Project Manager: Dave Jacobs

Reported:
 04/24/01 09:00

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1D20046: Prepared 04/20/01 Using Dry Weight										
Blank (1D20046-BLK1)										
Dry Weight	100	1.00	%							

h Creek Analytical - Bothell

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.


 Amar Gill, Project Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network

Page 5 of 6



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509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.392.7598

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: 14313
Project Manager: Dave Jacobs

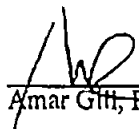
Reported:
04/24/01 09:00

Notes and Definitions

- Q-01 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
- Q-07 The RPD value for this QC sample is above the established control limit. Review of associated QC indicates the high RPD does not represent an out-of-control condition for the batch.
- 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

North Creek Analytical - Bothell

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.


Amar Giff, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 6 of 6

TOTAL P.08



icaTM
North Creek Analytical, Inc.
Environmental Laboratory Network
www.ncalabs.com

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132
20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

(425) 420-9200 FAX 420-9210
(509) 924-9200 FAX 924-9290
(503) 906-9200 FAX 906-9210
(541) 383-9310 FAX 382-7588

CHAIN OF CUSTODY REPORT

Work Order #: **B1D0514**

CLIENT: ENVIROCON				INVOICE TO:				TURNAROUND REQUEST in Business Days* Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <div>10 7 5 4 3 2 1 <1</div> <div>STD.</div> <div>5 4 3 2 1 <1</div> </div> Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <div>5 4 3 2 1 <1</div> <div>STD.</div> <div>OTHER <u>Pest</u></div> </div> Please Specify *Turnaround Requests less than standard may incur Rush Charges.							
REPORT TO: DAVE JACOBS				SAME											
ADDRESS: 10400 N. BURGARD WAY PORTLAND, OR 97203															
PHONE: 503-285-6164 FAX: 503-285-6205				P.O. NUMBER:											
PROJECT NAME: STEVEN JACKSON				REQUESTED ANALYSES											
PROJECT NUMBER: 14313															
SAMPLED BY: MARK Villeneuve															
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		TOTAL ARSENIC								MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
1. 117, 603-170		4/24/01 / 5:25PM												S	1
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															
13.															
14.															
15.															
RELINQUISHED BY: <u>[Signature]</u> ENVIROCON				DATE: 4/24/01		RECEIVED BY: <u>[Signature]</u>				FIRM: NCA		DATE: 4-20-01			
PRINT NAME: MARK F. Villeneuve				TIME: 5:56 PM		PRINT NAME: D. YAKAMARCH						TIME: 17:50			
RELINQUISHED BY:				DATE:		RECEIVED BY:				FIRM:		DATE:			
PRINT NAME:				TIME:		PRINT NAME:				FIRM:		TIME:			
ADDITIONAL REMARKS:															

TEMP: **22.7**

26 April, 2001

Dave Jacobs
Envirocon
10400 N. Burgard Way
Portland, OR/USA 97203

RE: Steffan Jacobson

Enclosed are the results of analyses for samples received by the laboratory on 04/25/01 10:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: Not Provided
Project Manager: Dave Jacobs

Reported:
04/26/01 15:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
117,63-370-11	B1D0611-01	Soil	04/25/01 09:25	04/25/01 10:05

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Page 1 of 6

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: Not Provided
Project Manager: Dave Jacobs

Reported:
04/26/01 15:09

Total Metals by EPA 6000/7000 Series Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
117.63-370-11 (B1D0611-01) Soil Sampled: 04/25/01 09:25 Received: 04/25/01 10:05									
Arsenic	2.36	0.329	mg/kg dry	1	1D25028	04/25/01	04/26/01	EPA 6020	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: Not Provided
Project Manager: Dave Jacobs

Reported:
04/26/01 15:09

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
117.63-370-11 (B1D0611-01) Soil Sampled: 04/25/01 09:25 Received: 04/25/01 10:05									
Dry Weight	85.4	1.00	%	1	1D25014	04/25/01	04/26/01	BSOPSPL003R07	

North Creek Analytical - Bothell

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Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: Not Provided
Project Manager: Dave Jacobs

Reported:
04/26/01 15:09

Total Metals by EPA 6000/7000 Series Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1D25028: Prepared 04/25/01 Using EPA 3050B										
Blank (1D25028-BLK1)										
Arsenic	ND	0.500	mg/kg wet							
LCS (1D25028-BS1)										
Arsenic	23.7	0.500	mg/kg wet	25.0		94.8	70-130			
Matrix Spike (1D25028-MS1)										
					Source: B1D0611-01					
Arsenic	19.0	0.329	mg/kg dry	19.2	2.36	86.7	70-130			
Matrix Spike Dup (1D25028-MSD1)										
					Source: B1D0611-01					
Arsenic	20.6	0.329	mg/kg dry	19.2	2.36	95.0	70-130	8.08	20	

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: Not Provided
Project Manager: Dave Jacobs

Reported:
04/26/01 15:09

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 1D25014: Prepared 04/25/01 Using Dry Weight

Blank (1D25014-BLK1)

Dry Weight	99.8	1.00	%							
------------	------	------	---	--	--	--	--	--	--	--

North Creek Analytical - Bothell

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.

Amar Gill, Project Manager

Page 5 of 6

Envirocon
10400 N. Burgard Way
Portland OR/USA, 97203

Project: Steffan Jacobson
Project Number: Not Provided
Project Manager: Dave Jacobs

Reported:
04/26/01 15:09

Notes and Definitions

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



382-7588

Work Order #: B10061

CLIENT: ENVIROCON			INVOICE TO:			TURNAROUND REQUEST in Business Days*											
REPORT TO: DAVE JACOBS			SAME			Organic & Inorganic Analyses											
ADDRESS: PORTLAND, OREGON						10	7	5	4	3	2	1	<1				
PHONE: 503-285-6164 FAX:			P.O. NUMBER:			STD. Petroleum Hydrocarbon Analyses											
PROJECT NAME: STEPHEN JACKSON			REQUESTED ANALYSES			5				4	3	2	X	<1			
PROJECT NUMBER:						STD. Please Specify											
SAMPLED BY: MARK VILLENEUVE			TOTAL ARSENIC			OTHER				RUSH							
CLIENT SAMPLE IDENTIFICATION						S			# OF CONT.			2			COMMENTS		
1. 117, 63-370-11			4-25-01 / 9:25AM									RUSH			BID0611 -01		
2.															01		
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	
11.																	
12.																	
13.																	
14.																	
15.																	
RELINQUISHED BY: [Signature]			DATE: 4/25/01			RECEIVED BY: [Signature]			DATE: 4/25/01								
PRINT NAME: MARK VILLENEUVE			FIRM: ENVIROCON			PRINT NAME: PRANY TONTZ			FIRM: NCA								
RELINQUISHED BY: [Signature]			DATE: 4/25/01			RECEIVED BY: [Signature]			DATE: 4/25/01								
PRINT NAME: PRANY TONTZ			FIRM: NCA			PRINT NAME: Holly Weaver			FIRM: NCA								
ADDITIONAL REMARKS:																	
COC REV 3/99																	

APPENDIX F

WASTE MANAGEMENT

LANDFILL DISPOSAL SUMMARY

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

STEFFEN JACOBSON/ENVIROCON					as of 8/11/2000
Profile# 550338					Type BR
#	Date	Transporter	Truck#	Ticket#	Net Tons
1	8/7/00	self	506	8019	33.91
2	8/7/00	self	15	8020	33.86
3	8/7/00	self	69	8021	31.30
4	8/8/00	self	69	8026	34.18
5	8/8/00	self	15	8032	34.03
6	8/8/00	self	506	8038	33.24
7	8/8/00	self	7	8041	30.50
8	8/8/00	self	69	8045	33.91
9	8/8/00	self	506	8052	34.19
10	8/8/00	self	7	8054	31.52
11	8/8/00	self	69	8056	33.97
12	8/8/00	self	506	8064	33.60
13	8/8/00	self	7	8069	34.30
14	8/8/00	self	69	8071	33.22
15	8/9/00	self	506	8072	32.87
16	8/9/00	self	69	8073	34.56
17	8/9/00	self	7	8077	31.79
18	8/9/00	self	506	8079	32.70
19	8/9/00	self	69	8080	33.84
20	8/9/00	self	7	8082	34.91
21	8/9/00	self	69	8083	35.28
22	8/9/00	self	15	8085	34.47
23	8/9/00	self	7	8087	32.73
24	8/9/00	self	69	8088	35.12
25	8/10/00	self	69	8089	34.30
26	8/10/00	self	7	8090	35.31
27	8/10/00	self	15	8091	32.74
28	8/10/00	self	7	8095	34.28
29	8/10/00	self	15	8101	34.59
30	8/10/00	self	7	8102	34.83
31	8/10/00	self	15	8107	33.61
32	8/11/00	self	12	8109	28.53
33	8/11/00	self	69	8110	34.00
34	8/11/00	self	15	8112	35.49
35	8/11/00	self	12	8113	33.02
36	8/11/00	self	69	8115	34.33
37	8/11/00	self	7	8117	33.81
38	8/11/00	self	1	8118	34.26
39	8/11/00	self	15	8120	27.05
Page Total					1304.15
Grand Total					1547.24

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

40	8/11/00	self	12	8121	34.65
41	8/11/00	self	69	8122	34.41
42	8/11/00	self	506	8127	34.71
43	8/11/00	self	69	8128	32.94
44	8/11/00	self	506	8129	33.37
45	8/11/00	self	7	8130	34.71
46	8/11/00	self	15	8131	38.30
	AVERAGE TONNAGE				33.64
	TOTAL				1547.24

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

Envirocon				as of 8/28/2000	
Profile# 550338				Type	BR
#	Date	Transporter	Truck#	Ticket#	Net Tons
1	8/14/00	ECTI	15	8134	33.61
2	8/14/00	ECTI	506	8136	33.07
3	8/14/00	ECTI	7	8137	29.35
4	8/14/00	ECTI	12	8138	31.99
5	8/14/00	ECTI	608	8141	30.87
6	8/14/00	ECTI	15	8143	33.82
7	8/14/00	ECTI	506	8147	34.95
8	8/14/00	ECTI	7	8148	32.53
9	8/14/00	ECTI	15	8154	33.83
10	8/14/00	ECTI	608	8155	31.68
11	8/14/00	ECTI	506	8157	34.16
12	8/14/00	ECTI	7	8159	36.36
13	8/14/00	ECTI	15	8163	33.81
14	8/15/00	ECTI	15	8165	36.28
15	8/15/00	ECTI	608	8167	32.08
16	8/15/00	ECTI	7	8169	34.45
17	8/15/00	ECTI	506	8171	32.90
18	8/15/00	ECTI	7	8178	34.40
19	8/15/00	ECTI	15	8181	33.60
20	8/15/00	ECTI	7	8188	31.53
21	8/15/00	ECTI	15	8192	33.89
22	8/15/00	ECTI	7	8197	36.86
23	8/15/00	ECTI	15	8198	38.88
24	8/16/00	ECTI	4	8200	29.16
25	8/16/00	ECTI	7	8202	35.02
26	8/16/00	ECTI	15	8205	35.88
27	8/16/00	ECTI	5	8208	34.57
28	8/16/00	ECTI	4	8211	22.89
29	8/16/00	ECTI	6	8213	26.18
30	8/16/00	ECTI	15	8214	34.65
31	8/16/00	ECTI	2	8216	36.43
32	8/16/00	ECTI	1	8217	34.30
33	8/16/00	ECTI	5	8218	39.55
34	8/16/00	ECTI	4	8221	32.37
35	8/16/00	ECTI	15	8222	34.55
36	8/16/00	ECTI	7	8226	36.01
37	8/16/00	ECTI	2	8228	35.19
38	8/16/00	ECTI	1	8229	35.03
39	8/16/00	ECTI	5	8231	31.21
PAGE TOTAL					1307.89
GRAND TOTAL					5872.88

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

#	Date	Transporter	Truck#	Ticket#	Net Tons
40	8/16/00	ECTI	15	8235	34.99
41	8/17/00	ECTI	4	8238	24.18
42	8/17/00	ECTI	2	8239	35.24
43	8/17/00	ECTI	7	8241	31.74
44	8/17/00	ECTI	15	8242	34.33
45	8/17/00	ECTI	5	8243	27.80
46	8/17/00	ECTI	69	8244	35.95
47	8/17/00	ECTI	2	8246	35.80
48	8/17/00	ECTI	4	8247	24.81
49	8/17/00	ECTI	7	8248	35.35
50	8/17/00	ECTI	15	8249	33.55
51	8/17/00	ECTI	5	8250	37.08
52	8/17/00	ECTI	69	8251	33.41
53	8/17/00	ECTI	2	8252	34.49
54	8/17/00	ECTI	7	8253	34.74
55	8/17/00	ECTI	15	8255	34.93
56	8/17/00	ECTI	4	8258	25.52
57	8/17/00	ECTI	5	8260	34.72
58	8/17/00	ECTI	69	8261	33.63
59	8/17/00	ECTI	2	8262	34.53
60	8/17/00	ECTI	15	8263	35.35
61	8/18/00	ECTI	7	8264	28.28
62	8/21/00	ECTI	15	8289	33.73
63	8/21/00	ECTI	12	8290	32.55
64	8/21/00	ECTI	7	8291	36.20
65	8/21/00	ECTI	506	8292	33.23
66	8/21/00	ECTI	608	8293	31.31
67	8/21/00	ECTI	5	8294	34.43
68	8/21/00	ECTI	69	8296	32.07
69	8/21/00	ECTI	4	8297	27.54
70	8/21/00	ECTI	15	8299	33.88
71	8/21/00	ECTI	12	8300	37.09
72	8/21/00	ECTI	7	8301	29.98
73	8/21/00	ECTI	506	8302	33.71
74	8/21/00	ECTI	608	8303	28.84
75	8/21/00	ECTI	5	8304	30.31
76	8/21/00	ECTI	69	8306	32.77
77	8/21/00	ECTI	4	8307	24.86
78	8/21/00	ECTI	15	8309	35.49
79	8/21/00	ECTI	1	8311	34.11
80	8/21/00	ECTI	12	8312	34.99
PAGE TOTAL					1337.51
GRAND TOTAL					5872.88

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

#	Date	Transporter	Truck#	Ticket#	Net Tons
81	8/21/00	ECTI	7	8313	37.74
82	8/21/00	ECTI	506	8314	33.51
83	8/21/00	ECTI	608	8316	28.60
84	8/21/00	ECTI	5	8317	34.03
85	8/21/00	ECTI	69	8318	34.38
86	8/22/00	ECTI	15	8319	38.54
87	8/22/00	ECTI	506	8320	33.75
88	8/22/00	ECTI	1	8321	34.81
89	8/22/00	ECTI	69	8322	32.46
90	8/22/00	ECTI	7	8323	35.24
91	8/22/00	ECTI	12	8325	34.89
92	8/22/00	ECTI	608	8326	23.99
93	8/22/00	ECTI	15	8327	33.22
94	8/22/00	ECTI	1	8329	33.73
95	8/22/00	ECTI	56	8330	31.33
96	8/22/00	ECTI	69	8331	30.57
97	8/22/00	ECTI	7	8332	33.22
98	8/22/00	ECTI	12	8333	35.08
99	8/22/00	ECTI	608	8334	32.03
100	8/22/00	ECTI	15	8335	35.21
101	8/22/00	ECTI	69	8336	31.68
102	8/22/00	ECTI	506	8337	32.71
103	8/22/00	ECTI	1	8338	38.22
104	8/22/00	ECTI	7	8339	33.40
105	8/22/00	ECTI	608	8341	31.75
106	8/22/00	ECTI	12	8342	34.88
107	8/22/00	ECTI	15	8344	35.78
108	8/22/00	ECTI	506	8345	32.78
109	8/22/00	ECTI	1	8346	32.42
110	8/22/00	ECTI	69	8347	32.96
111	8/22/00	ECTI	7	8349	33.91
112	8/23/00	ECTI	15	8353	34.50
113	8/23/00	ECTI	12	8354	34.61
114	8/23/00	ECTI	506	8357	32.92
115	8/23/00	ECTI	1	8358	37.63
116	8/23/00	ECTI	7	8359	30.17
117	8/23/00	ECTI	8	8361	33.49
118	8/23/00	ECTI	921	8362	31.72
119	8/23/00	ECTI	15	8363	37.13
120	8/23/00	ECTI	1	8364	36.90
121	8/23/00	ECTI	7	8366	39.23
PAGE TOTAL					1385.12
GRAND TOTAL					5872.88

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

#	Date	Transporter	Truck#	Ticket#	Net Tons
122	8/23/00	ECTI	8	8368	32.76
123	8/23/00	ECTI	921	8369	30.77
124	8/23/00	ECTI	15	8370	35.42
125	8/23/00	ECTI	1	8371	35.98
126	8/23/00	ECTI	7	8372	35.22
127	8/23/00	ECTI	8	8373	31.97
128	8/23/00	ECTI	921	8374	29.52
129	8/23/00	ECTI	15	8375	34.45
130	8/23/00	ECTI	1	8376	32.47
131	8/23/00	ECTI	7	8377	36.85
132	8/24/00	ECTI	8	8378	32.69
133	8/24/00	ECTI	921	8379	29.40
134	8/24/00	ECTI	506	8381	34.36
135	8/24/00	ECTI	1	8383	29.39
136	8/24/00	ECTI	12	8384	27.11
137	8/24/00	ECTI	608	8385	24.89
138	8/24/00	ECTI	69	8386	31.07
139	8/24/00	ECTI	8	8390	24.52
140	8/24/00	ECTI	921	8391	27.11
141	8/24/00	ECTI	506	8393	31.13
142	8/24/00	ECTI	1	8395	35.25
143	8/24/00	ECTI	12	8397	36.06
144	8/24/00	ECTI	608	8398	28.38
145	8/24/00	ECTI	69	8399	35.83
146	8/24/00	ECTI	8	8400	29.02
147	8/24/00	ECTI	506	8401	33.66
148	8/24/00	ECTI	1	8402	34.53
149	8/24/00	ECTI	921	8403	29.66
150	8/24/00	ECTI	12	8404	33.83
151	8/24/00	ECTI	608	8405	30.52
152	8/24/00	ECTI	69	8406	33.13
153	8/24/00	ECTI	8	8407	33.50
154	8/24/00	ECTI	506	8408	32.84
155	8/25/00	ECTI	921	8412	30.42
156	8/25/00	ECTI	8	8413	33.50
157	8/25/00	ECTI	1	8414	40.80
158	8/25/00	ECTI	12	8419	37.35
159	8/25/00	ECTI	921	8420	30.74
160	8/25/00	ECTI	15	8421	33.71
161	8/25/00	ECTI	8	8422	32.87
162	8/25/00	ECTI	1	8423	34.14
PAGE TOTAL					1326.82
GRAND TOTAL					5872.88

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

#	Date	Transporter	Truck#	Ticket#	Net Tons
163	8/25/00	ECTI	69	8424	34.34
164	8/25/00	ECTI	506	8425	29.00
165	8/25/00	ECTI	12	8426	35.42
166	8/25/00	ECTI	7	8427	31.61
167	8/25/00	ECTI	921	8428	30.52
168	8/25/00	ECTI	8	8429	31.70
169	8/25/00	ECTI	15	8430	37.24
170	8/28/00	ECTI	1	8431	36.32
171	8/28/00	ECTI	7	8432	35.61
172	8/28/00	ECTI	1	8433	37.92
173	8/28/00	ECTI	7	8434	34.53
174	8/28/00	ECTI	15	8435	35.37
175	8/28/00	ECTI	1	8437	35.19
176	8/28/00	ECTI	7	8438	34.49
177	8/28/00	ECTI	15	8440	36.28
	PAGE TOTAL				515.54
	AVERAGE TONNAGE				33.18
	TOTAL				5872.88

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

	Enviocon				as of 9/6/2000
	Profile# 550338				Type BR
<u>#</u>	<u>Date</u>	<u>Transporter</u>	<u>Truck#</u>	<u>Ticket#</u>	<u>Net Tons</u>
1	8/29/00	ECTI	15	8443	34.30
2	8/29/00	ECTI	7	8444	34.65
3	8/29/00	ECTI	1	8445	34.95
4	8/29/00	ECTI	15	8446	34.73
5	8/29/00	ECTI	7	8447	35.03
6	8/29/00	ECTI	1	8448	35.33
7	8/29/00	ECTI	15	8451	36.11
8	8/29/00	ECTI	7	8452	34.65
9	8/29/00	ECTI	1	8454	34.13
10	8/29/00	ECTI	15	8455	35.83
11	8/29/00	ECTI	7	8456	34.95
12	8/29/00	ECTI	1	8457	35.74
13	8/30/00	ECTI	15	8459	35.14
14	8/30/00	ECTI	1	8460	35.06
15	8/30/00	ECTI	7	8461	34.50
16	8/30/00	ECTI	7	8462	33.49
17	8/30/00	ECTI	7	8463	34.40
18	8/30/00	ECTI	7	8467	36.45
	AVERAGE TONNAGE				34.97
	TOTAL				629.44

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

ENVIROCON (STEFFEN JACOBSON)				AS OF 2/23/01	
	Profile#	550338		TYPE BR	
#	Date	Truck#	Ticket#	Net Tons	
1	2/19/2001	15	667	34.24	
2	2/19/2001	7	670	29.19	
3	2/19/2001	506	672	32.18	
4	2/19/2001	12	674	33.73	
5	2/19/2001	2	676	40.35	
6	2/19/2001	608	680	32.20	
7	2/19/2001	15	682	34.98	
8	2/19/2001	7	683	30.93	
9	2/19/2001	506	684	33.85	
10	2/19/2001	16	687	34.26	
11	2/19/2001	8	689	34.02	
12	2/19/2001	12	692	33.29	
13	2/19/2001	1	693	35.01	
14	2/19/2001	608	694	35.21	
15	2/19/2001	2	695	34.67	
16	2/19/2001	15	698	34.09	
17	2/19/2001	7	699	29.58	
18	2/19/2001	16	701	33.76	
19	2/19/2001	8	702	34.44	
20	2/19/2001	12	704	33.83	
21	2/20/2001	608	709	37.94	
22	2/20/2001	16	710	35.17	
23	2/20/2001	8	711	34.07	
24	2/20/2001	2	712	39.14	
25	2/20/2001	7	713	33.46	
26	2/20/2001	12	715	32.69	
27	2/20/2001	1	717	32.85	
28	2/20/2001	506	719	32.75	
29	2/20/2001	608	720	33.62	
30	2/20/2001	16	721	35.94	
31	2/20/2001	69	722	34.78	
32	2/20/2001	8	723	33.85	
33	2/20/2001	2	725	36.02	
34	2/20/2001	7	732	31.23	
35	2/20/2001	12	733	32.97	
36	2/20/2001	1	734	28.66	
37	2/20/2001	506	735	34.35	
38	2/20/2001	608	738	34.65	
39	2/20/2001	16	739	34.12	
40	2/20/2001	8	743	33.34	
41	2/20/2001	69	745	28.80	

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

42	2/20/2001	2	748	37.00	
43	2/20/2001	7	752	34.36	
44	2/20/2001	12	764	33.98	
45	2/20/2001	1	765	33.54	
46	2/20/2001	506	766	32.63	
47	2/20/2001	16	768	34.19	
48	2/20/2001	608	769	33.77	
49	2/20/2001	8	770	32.41	
50	2/20/2001	69	773	31.90	
51	2/20/2001	2	774	36.34	
52	2/20/2001	7	776	33.30	
53	2/20/2001	12	777	32.01	
54	2/20/2001	1	779	30.76	
55	2/21/2001	16	780	34.54	
56	2/21/2001	8	781	33.46	
57	2/21/2001	12	787	35.10	
58	2/21/2001	7	791	33.61	
59	2/21/2001	2	792	30.55	38.55
60	2/21/2001	1	793	36.95	
61	2/21/2001	608	795	34.50	
62	2/21/2001	69	797	33.58	
63	2/21/2001	506	803	36.48	
64	2/21/2001	16	804	35.50	
65	2/21/2001	8	806	34.78	
66	2/21/2001	12	815	38.46	
67	2/21/2001	7	816	32.63	
68	2/21/2001	12	821	35.21	
69	2/21/2001	15	827	34.25	
70	2/21/2001	8	829	32.82	
71	2/21/2001	16	831	34.76	
72	2/21/2001	1	832	39.80	
73	2/21/2001	69	834	29.78	
74	2/21/2001	608	835	31.31	
75	2/21/2001	506	836	33.12	
76	2/21/2001	608	845	32.32	
77	2/21/2001	69	846	32.67	
78	2/21/2001	506	847	34.18	
79	2/21/2001	2	849	33.64	
80	2/21/2001	1	850	35.57	
81	2/21/2001	2	200	40.96	
82	2/21/2001	7	201	33.32	
83	2/21/2001	506	202	33.77	
84	2/22/2001	608	857	33.26	
85	2/22/2001	16	858	36.00	

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

86	2/22/2001	8	859	32.55
87	2/22/2001	12	860	33.94
88	2/22/2001	15	861	33.82
89	2/22/2001	506	865	34.35
90	2/22/2001	1	866	35.39
91	2/22/2001	7	867	34.31
92	2/22/2001	2	869	37.40
93	2/22/2001	8	877	32.31
94	2/22/2001	12	882	33.24
95	2/22/2001	15	884	34.21
96	2/22/2001	506	888	31.15
97	2/22/2001	1	889	28.99
98	2/22/2001	7	892	27.24
99	2/22/2001	2	894	35.19
100	2/22/2001	8	895	32.25
101	2/22/2001	12	897	33.93
102	2/22/2001	15	899	33.11
103	2/22/2001	506	900	31.22
104	2/22/2001	1	902	31.28
105	2/22/2001	7	904	32.86
106	2/22/2001	2	906	32.30
107	2/22/2001	8	909	33.69
108	2/22/2001	1	916	32.93
109	2/22/2001	7	917	31.64
110	2/22/2001	2	920	33.83
111	2/23/2001	506	921	32.25
112	2/23/2001	8	922	33.70
113	2/23/2001	15	923	33.44
114	2/23/2001	12	924	33.65
115	2/23/2001	608	926	32.38
116	2/23/2001	2	927	35.60
117	2/23/2001	1	930	33.64
118	2/23/2001	7	931	32.07
119	2/23/2001	506	934	32.40
120	2/23/2001	8	937	33.60
121	2/23/2001	15	938	36.25
122	2/23/2001	12	939	35.61
123	2/23/2001	608	945	32.46
124	2/23/2001	2	947	34.86
125	2/23/2001	1	948	32.82
126	2/23/2001	7	949	33.39
127	2/23/2001	506	950	32.26
128	2/23/2001	8	951	33.21
129	2/23/2001	15	953	32.92

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

130	2/23/2001	12	954	34.11	
131	2/23/2001	608	958	32.04	
132	2/23/2001	2	961	33.54	
133	2/23/2001	1	962	33.45	
134	2/23/2001	7	963	34.20	
135	2/23/2001	506	964	34.72	
136	2/23/2001	15	966	33.91	
137	2/23/2001	12	967	32.96	
138	2/23/2001	2	970	38.12	
139	2/23/2001	1	971	32.22	
	TOTAL			4686.19	

4694.15

SUMMARY OF CONTAMINATED SOIL FROM ARRF

ENVIROCON (STEFFEN JACOBSON)				AS OF 3/2/01
Profile#		550338	TYPE BR	
#	Date	Truck#	Ticket#	Net Tons
1	2/26/2001	15	979	33.47
2	2/26/2001	2	981	34.44
3	2/26/2001	1	982	33.19
4	2/26/2001	506	984	34.30
5	2/26/2001	12	985	32.07
6	2/26/2001	7	986	33.20
7	2/26/2001	8	988	32.90
8	2/26/2001	15	991	32.10
9	2/26/2001	2	996	34.72
10	2/26/2001	1	998	32.18
11	2/26/2001	506	999	31.17
12	2/26/2001	12	1000	37.52
13	2/26/2001	8	1001	33.19
14	2/26/2001	15	1004	34.42
15	2/26/2001	2	1007	33.68
16	2/26/2001	1	1008	34.73
17	2/26/2001	506	1009	33.94
18	2/26/2001	7	1010	32.15
19	2/26/2001	12	1011	34.63
20	2/26/2001	8	1013	33.95
21	2/26/2001	15	1015	33.47
22	2/26/2001	2	1017	35.38
23	2/26/2001	1	1018	33.34
24	2/26/2001	506	1019	33.55
25	2/26/2001	7	1020	33.86
26	2/27/2001	8	1021	33.91
27	2/27/2001	15	1022	32.39
28	2/27/2001	12	1023	34.71
29	2/27/2001	506	1026	32.04
30	2/27/2001	7	1027	32.80
31	2/27/2001	1	1028	33.23
32	2/27/2001	2	1029	32.38
33	2/27/2001	608	1030	33.91
34	2/27/2001	8	1031	34.05
35	2/27/2001	15	1032	33.24
36	2/27/2001	506	1033	33.46
37	2/27/2001	7	1035	33.39
38	2/27/2001	1	1036	33.19
39	2/27/2001	2	1037	35.61
40	2/27/2001	608	1038	30.92
41	2/27/2001	8	1039	32.94

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

42	2/27/2001	15	1040	33.46
43	2/27/2001	506	1041	33.55
44	2/27/2001	12	1042	33.99
45	2/27/2001	7	1043	33.53
46	2/27/2001	1	1044	32.10
47	2/27/2001	2	1045	35.73
48	2/27/2001	608	1046	31.69
49	2/27/2001	8	1047	33.78
50	2/27/2001	15	1048	34.89
51	2/27/2001	506	1049	33.79
52	2/27/2001	7	1050	31.65
53	2/27/2001	1	1051	34.86
54	2/27/2001	2	1052	32.88
55	2/28/2001	608	1053	33.91
56	2/28/2001	12	1054	32.20
57	2/28/2001	8	1055	33.06
58	2/28/2001	7	1056	31.61
59	2/28/2001	1	1057	34.11
60	2/28/2001	506	1058	33.24
61	2/28/2001	16	1059	33.46
62	2/28/2001	608	1060	33.22
63	2/28/2001	8	1061	33.23
64	2/28/2001	7	1062	33.35
65	2/28/2001	1	1063	34.20
66	2/28/2001	2	1064	33.74
67	2/28/2001	506	1065	33.25
68	2/28/2001	16	1066	34.64
69	2/28/2001	608	1067	30.91
70	2/28/2001	8	1070	32.73
71	2/28/2001	7	1072	33.28
72	2/28/2001	1	1074	32.57
73	2/28/2001	69	1075	34.53
74	3/1/2001	506	1078	32.17
75	3/1/2001	16	1079	34.47
76	3/1/2001	8	1080	32.88
77	3/1/2001	2	1081	35.50
78	3/1/2001	7	1082	32.75
79	3/1/2001	15	1084	33.24
80	3/1/2001	1	1085	34.55
81	3/1/2001	608	1086	32.31
82	3/1/2001	16	1088	35.53
83	3/1/2001	8	1090	33.37
84	3/1/2001	2	1091	34.58
85	3/1/2001	7	1093	30.94

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

86	3/1/2001	1	1094	34.89
87	3/1/2001	69	1097	34.44
88	3/1/2001	69	1099	34.23
89	3/2/2001	16	1101	35.16
90	3/2/2001	8	1102	33.09
91	3/2/2001	2	1103	34.49
92	3/2/2001	1	1104	35.46
93	3/2/2001	506	1105	33.43
94	3/2/2001	15	1106	33.96
95	3/2/2001	7	1107	30.40
96	3/2/2001	608	1108	32.87
97	3/2/2001	12	1109	33.95
98	3/2/2001	69	1110	32.62
99	3/2/2001	16	1112	34.25
100	3/2/2001	8	1113	34.36
101	3/2/2001	2	1115	35.18
102	3/2/2001	1	1116	33.98
103	3/2/2001	506	1117	34.34
104	3/2/2001	15	1118	33.59
105	3/2/2001	7	1120	34.91
106	3/2/2001	608	1121	32.52
107	3/2/2001	12	1122	33.95
108	3/2/2001	69	1123	32.49
109	3/2/2001	16	1124	34.11
110	3/2/2001	8	1125	32.23
111	3/2/2001	2	1126	36.05
112	3/2/2001	1	1127	33.32
113	3/2/2001	506	1128	34.65
114	3/2/2001	15	1129	35.62
115	3/2/2001	608	1130	32.62
116	3/2/2001	7	1131	32.65
117	3/2/2001	12	1132	34.44
118	3/2/2001	69	1133	34.07
119	3/2/2001	2	1134	32.77
120	3/2/2001	1	1135	32.41
TOTAL				4026.65

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SUMMARY OF CONTAMINATED SOIL
FROM ARRF

STEFFEN JACOBSON (ENVIROCON)				AS OF 3/9/01	
	Profile#	550338		TYPE BR	
#	Date	Truck#	Ticket#	Net Tons	
1	3/5/2001	69	1138	32.73	
2	3/5/2001	7	1140	33.32	
3	3/5/2001	1	1144	32.74	
4	3/5/2001	608	1145	31.62	
5	3/5/2001	2	1146	34.65	
6	3/5/2001	16	1147	34.97	
7	3/5/2001	8	1148	33.51	
8	3/5/2001	69	1152	32.90	
9	3/5/2001	7	1153	34.99	
10	3/5/2001	1	1154	32.96	
11	3/5/2001	608	1157	31.91	
12	3/5/2001	2	1158	35.50	
13	3/5/2001	16	1161	33.97	
14	3/5/2001	8	1163	31.98	
15	3/5/2001	69	1164	34.35	
16	3/5/2001	7	1165	35.93	
17	3/5/2001	1	1168	34.18	
18	3/5/2001	608	1170	32.29	
19	3/5/2001	2	1171	33.14	
20	3/5/2001	16	1172	34.58	
21	3/5/2001	8	1173	31.98	
22	3/5/2001	69	1176	35.48	
23	3/5/2001	7	1178	33.76	
24	3/5/2001	1	1179	32.73	
25	3/6/2001	608	1183	33.53	
26	3/6/2001	2	1184	34.24	
27	3/6/2001	16	1185	35.04	
28	3/6/2001	8	1186	33.54	
29	3/6/2001	7	1187	33.93	
30	3/6/2001	69	1188	34.26	
31	3/6/2001	1	1189	33.08	
32	3/6/2001	608	1191	31.87	
33	3/6/2001	2	1193	35.51	
34	3/6/2001	16	1194	33.40	
35	3/6/2001	8	1195	33.90	
36	3/6/2001	69	1201	32.07	
37	3/6/2001	7	1202	33.97	
38	3/6/2001	1	1203	32.28	
39	3/6/2001	608	1204	30.44	
40	3/6/2001	2	1205	33.61	
41	3/6/2001	16	1206	34.65	

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

42	3/6/2001	8	1207	33.05
43	3/6/2001	69	1210	34.05
44	3/6/2001	7	1212	33.84
45	3/6/2001	1	1215	32.23
46	3/6/2001	608	1216	32.13
47	3/6/2001	2	1217	34.08
48	3/6/2001	16	1219	34.76
49	3/6/2001	8	1220	32.93
50	3/6/2001	69	1221	32.99
51	3/7/2001	1	1222	32.13
52	3/7/2001	608	1223	32.66
53	3/7/2001	16	1227	35.31
54	3/7/2001	8	1228	36.00
55	3/7/2001	7	1231	33.83
56	3/7/2001	2	1233	33.33
57	3/7/2001	69	1234	34.15
58	3/7/2001	608	1236	32.41
59	3/7/2001	16	1237	34.70
60	3/7/2001	8	1238	34.21
61	3/7/2001	1	1239	32.33
62	3/7/2001	12	1245	34.42
63	3/7/2001	7	1247	33.49
64	3/7/2001	2	1250	33.94
65	3/7/2001	69	1251	34.22
66	3/7/2001	608	1252	32.47
67	3/7/2001	16	1253	34.98
68	3/7/2001	8	1254	32.86
69	3/7/2001	506	1255	34.23
70	3/7/2001	1	1256	32.45
71	3/8/2001	7	1259	33.38
72	3/8/2001	16	1260	35.09
73	3/8/2001	8	1261	34.75
74	3/8/2001	15	1263	34.48
75	3/8/2001	506	1264	32.84
76	3/8/2001	16	1265	35.12
77	3/8/2001	1	1266	33.91
78	3/8/2001	8	1267	33.59
79	3/8/2001	7	1268	32.83
80	3/8/2001	15	1272	32.96
81	3/8/2001	16	1273	34.79
82	3/8/2001	1	1274	33.18
83	3/8/2001	8	1275	34.57
84	3/8/2001	506	1276	33.21
85	3/8/2001	15	1278	32.55

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

86	3/8/2001	8	1279	33.34	
87	3/8/2001	506	1280	32.59	
88	3/9/2001	8	1281	34.86	
89	3/9/2001	15	1282	32.39	
90	3/9/2001	506	1284	34.05	
91	3/9/2001	7	1286	34.20	
92	3/9/2001	8	1287	34.82	
93	3/9/2001	15	1289	32.49	
94	3/9/2001	506	1294	33.50	
95	3/9/2001	7	1295	32.97	
96	3/9/2001	8	1296	33.67	
97	3/9/2001	15	1298	32.90	
98	3/9/2001	506	1309	33.88	
99	3/9/2001	7	1312	32.74	
100	3/9/2001	15	1314	32.78	
101	3/9/2001	506	1321	33.56	
	TOTAL			3391.66	

3/19 ATTN: Jeff Johnson

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

STEFFEN JACOBSON				AS OF 3/16/01
	Profile#	550338		TYPE BR
#	Date	Truck#	Ticket#	Net Tons
1	3/12/2001	15	1327	32.66
2	3/12/2001	8	1329	32.91
3	3/12/2001	12	1330	29.87
4	3/12/2001	7	1332	32.09
5	3/12/2001	506	1333	33.31
6	3/12/2001	608	1335	31.78
7	3/12/2001	1	1337	32.17
8	3/12/2001	15	1347	32.28
9	3/12/2001	8	1348	34.23
10	3/12/2001	12	1349	34.87
11	3/12/2001	7	1350	33.61
12	3/12/2001	506	1352	33.36
13	3/12/2001	608	1353	32.24
14	3/12/2001	1	1354	31.38
15	3/12/2001	15	1356	33.02
16	3/12/2001	8	1359	33.09
17	3/12/2001	12	1360	33.70
18	3/12/2001	7	1361	31.63
19	3/12/2001	506	1362	32.86
20	3/12/2001	608	1364	30.60
21	3/12/2001	1	1366	31.64
22	3/12/2001	15	1369	32.29
23	3/13/2001	506	1372	33.30
24	3/13/2001	608	1373	32.20
25	3/13/2001	8	1374	34.22
26	3/13/2001	111	1375	32.70
27	3/13/2001	12	1376	35.52
28	3/13/2001	15	1377	32.09
29	3/13/2001	7	1378	34.31
30	3/13/2001	506	1381	32.49
31	3/13/2001	608	1383	31.54
32	3/13/2001	8	1384	32.99
33	3/13/2001	111	1385	33.35
34	3/13/2001	15	1387	32.65
35	3/13/2001	506	1388	33.89
36	3/13/2001	8	1390	33.24
37	3/13/2001	608	1391	32.42
38	3/13/2001	111	1392	32.28
39	3/13/2001	15	1393	31.21
40	3/13/2001	506	1395	32.99
41	3/13/2001	8	1397	33.26

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

42	3/13/2001	608	1398	30.56
43	3/13/2001	111	1399	33.86
44	3/13/2001	15	1400	32.84
45	3/14/2001	506	1401	33.64
46	3/14/2001	608	1402	32.32
47	3/14/2001	8	1403	33.40
48	3/14/2001	12	1404	35.34
49	3/14/2001	7	1405	35.59
50	3/14/2001	15	1406	32.74
51	3/14/2001	111	1407	32.67
52	3/14/2001	2	1410	35.00
53	3/14/2001	506	1412	33.10
54	3/14/2001	608	1413	32.36
55	3/14/2001	8	1414	33.04
56	3/14/2001	15	1416	32.38
57	3/14/2001	111	1417	33.22
58	3/14/2001	2	1418	34.37
59	3/14/2001	506	1419	32.93
60	3/14/2001	608	1420	32.31
61	3/14/2001	8	1421	34.13
62	3/14/2001	15	1422	31.47
63	3/14/2001	111	1423	32.02
64	3/14/2001	2	1424	33.27
65	3/14/2001	506	1425	32.61
66	3/14/2001	608	1426	32.59
67	3/14/2001	8	1427	32.86
68	3/14/2001	15	1428	32.70
69	3/14/2001	111	1429	30.63
70	3/14/2001	2	1431	34.27
71	3/15/2001	506	1432	32.95
72	3/15/2001	111	1433	32.66
73	3/15/2001	608	1434	32.40
74	3/15/2001	8	1435	33.59
75	3/15/2001	2	1437	34.19
76	3/15/2001	506	1439	33.24
77	3/15/2001	111	1441	32.66
78	3/15/2001	608	1442	33.72
79	3/15/2001	8	1443	33.97
80	3/15/2001	2	1446	34.53
81	3/15/2001	506	1447	33.31
82	3/15/2001	111	1450	32.27
83	3/15/2001	8	1451	33.26
84	3/15/2001	608	1452	31.10
85	3/15/2001	2	1456	35.24

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

86	3/16/2001	506	1462	33.05	
87	3/16/2001	111	1463	33.18	
88	3/16/2001	608	1464	32.97	
89	3/16/2001	8	1465	33.10	
90	3/16/2001	2	1466	37.22	
91	3/16/2001	69	1469	34.78	
92	3/16/2001	8	1470	34.61	
	TOTAL			3038.46	

3/26 ATTN: Jeff Johnson Revised as of 3/26/01

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

STEFFEN JACOBSON				AS OF 3/23/01
	Profile#	550338		TYPE BR
#	Date	Truck#	Ticket#	Net Tons
1	3/19/2001	111	1479	33.04
2	3/19/2001	2	1480	33.98
3	3/19/2001	608	1481	32.35
4	3/19/2001	506	1482	32.90
5	3/19/2001	111	1484	32.53
6	3/19/2001	2	1486	32.32
7	3/19/2001	608	1487	31.47
8	3/19/2001	506	1488	33.22
9	3/19/2001	111	1491	31.95
10	3/19/2001	2	1492	33.59
11	3/19/2001	608	1493	32.16
12	3/19/2001	506	1495	34.78
13	3/19/2001	111	1496	32.55
14	3/19/2001	2	1498	34.41
15	3/20/2001	608	1499	32.36
16	3/20/2001	2	1500	35.89
17	3/20/2001	111	150	32.53
18	3/20/2001	7	1502	33.74
19	3/20/2001	34	1503	29.44
20	3/20/2001	608	1504	32.42
21	3/20/2001	27	1505	26.11
22	3/20/2001	2	1506	34.30
23	3/20/2001	111	1507	34.03
24	3/20/2001	7	1509	33.40
25	3/20/2001	34	1510	32.09
26	3/20/2001	608	1511	32.16
27	3/20/2001	27	1512	29.86
28	3/20/2001	2	1513	34.23
29	3/20/2001	111	1515	32.77
30	3/20/2001	7	1516	33.32
31	3/20/2001	608	1517	31.76
32	3/20/2001	2	1518	35.53
33	3/20/2001	111	1519	33.60
34	3/20/2001	27	1520	30.15
35	3/21/2001	608	1522	32.82
36	3/21/2001	7	1523	35.27
37	3/21/2001	34	1525	29.30
38	3/21/2001	111	1526	32.56
39	3/21/2001	69	1527	34.57
40	3/21/2001	608	1530	32.73
41	3/21/2001	7	1531	32.23

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

42	3/21/2001	34	1535	28.64	
43	3/21/2001	111	1538	33.66	
44	3/21/2001	608	1541	32.55	
45	3/21/2001	34	1544	32.07	
46	3/21/2001	111	1547	33.00	
47	3/21/2001	608	1550	32.77	
48	3/21/2001	34	1553	33.95	
49	3/21/2001	69	1557	33.86	
50	3/21/2001	111	1558	33.84	
51	3/22/2001	506	1561	32.92	
52	3/22/2001	7	1562	33.68	
53	3/22/2001	111	1563	33.79	
54	3/22/2001	608	1564	32.98	
55	3/22/2001	69	1568	33.93	
56	3/22/2001	506	1571	35.36	
56	3/22/2001	608	1574	32.28	
57	3/22/2001	69	1576	38.49	
	TOTAL			1908.19	

4-23-01 ATTN: Jeff Johnson

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

ENVIROCON (STEFFEN JACOBSON)				AS OF 4/20/01
	Profile#	550338		TYPE BR
#	Date	Truck#	Ticket#	Net Tons
1	4/17/2001	608	1737	30.74
2	4/17/2001	TN2	1740	35.53
3	4/18/2001	608	1743	33.33
4	4/20/2001	66	1766	35.79
5	4/20/2001	111	1770	33.14
7	4/20/2001	27	1774	30.47
8	4/20/2001	34	1777	31.61
9	4/20/2001	39	1781	26.86
10	4/20/2001	66	1786	30.99
11	4/20/2001	111	1788	32.33
12	4/20/2001	27	1794	31.29
13	4/20/2001	34	1795	32.32
14	4/20/2001	39	1797	30.16
15	4/20/2001	P42	1800	31.97
16	4/20/2001	66	1806	34.75
17	4/20/2001	111	1807	32.97
TOTAL				514.25

4-30 ATTN: Jeff

SUMMARY OF CONTAMINATED SOIL
FROM ARRF

ENVIROCON (STEFFEN JACOBSON)				AS OF 4/27/1	
	Profile#	550338		TYPE BR	
<u>#</u>	<u>Date</u>	<u>Truck#</u>	<u>Ticket#</u>	<u>Net Tons</u>	
1	4/25/2001	506	1904	15.19	
	TOTAL			15.19	

APPENDIX G

PHOTO LOG



Western Property Boundary Prior To Remediation



PHASE I
Northern Property Boundary Prior To Excavation



Construction Entrance For Phase I Excavation



Silt Fence Installation – Eastern Property Boundary



Temporary Fence Installation



Tree And Brush Clearing



Tree And Brush Clearing



Tree And Brush Clearing



Tree And Brush Clearing



Tree And Brush Clearing



Tree And Brush Clearing



Western Boundary Of Site After Clearing
Of Trees And Brush



Excavation Of Northwest Corner Of Site
Phase I



Excavation Of Northwest Corner Of Site
Phase I



Excavation Of Northwest Corner Of Site
Phase I



Northwest Corner Of Site
Phase I Excavation



Southwest Corner Of Site During
Phase I Excavation



Center Of Site Looking Towards Southwest Corner
Of Phase I Excavation



Center Of Site Looking East
During Phase I Excavation



Looking East From Northwest Corner
During Phase I Excavation



Construction Entrance
Phase II Excavation



Looking North During Phase II Excavation



Site During Phase II Excavation



Site During Phase II Excavation



Site During Phase II Excavation



Site During Phase II Excavation



Site During Phase II Excavation



Site During Phase II Excavation



Placement Of Fill Sand And Fabric
In Landscape Strip – Phase II



Placement Of Fill Sand And Fabric
In Landscape Strip – Phase II



Southwest Corner Of Site Looking North
During Placement Of Erosion Control Material
At Conclusion – Phase II



Northwest Corner Looking South



Center Of Site Looking Northwest