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21 July 2008

Mr. Steve Teel, LHG
Department of Ecology
Toxics Cleanup Program
Southwest Regional Office
P.O. Box 47775
Olympia, Washington 98504

Subject:

Soil and Groundwater Investigation Results - Data Transmittal

October 2007 - April 2008 Investigation

Former Tacoma Metals Facility

K/J 996098.00

Dear Mr. Teel:

Enclosed are the results of the soil and groundwater investigation activities conducted in October 2007 through April 2008 at the former Tacoma Metals, Inc. facility located at 1919 Portland Avenue in Tacoma, Washington, and at properties situated northwest of the Tacoma Metals property. The properties located northwest of Tacoma Metals included the Simpson Tacoma Land Company (Simpson) property and the JJ Port property. The locations of these properties are shown on Figure 1.

This letter provides a summary of data for work performed during the October 2007 to April 2008 investigation. Data from previous site investigations is summarized in Kennedy/Jenks Consultant's Supplemental Data Summary Report, Former Tacoma Metals Property dated May 2007.

Scope of Work

Work performed for this investigation was based on the *Soil and Groundwater Investigation Work Plan* (Work Plan) dated 12 March 2007. The Work Plan was submitted to the Washington State Department of Ecology (Ecology) for review, and was approved by Ecology prior to the start of field work activities. A copy of the Work Plan is provided in Attachment 1 for reference. Work performed for this investigation included the following:

- Advancement of a total of 11 direct-push soil borings (B-37 through B-47) at offsite locations (refer to Figure 1) on 29 to 31 October 2007. Activities included lithologic logging, field screening, and collection of soil and reconnaissance groundwater samples in accordance with the Work Plan.
- Advancement of two additional direct-push soil borings (B-37A and B-39A) at offsite locations (refer to Figure 1) on 25 January 2008. These boring were advanced to evaluate potential monitoring well locations. Activities included lithologic logging, field screening, and

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collection reconnaissance groundwater samples in accordance with the Work Plan (soil samples were not collected).

- Analysis of three soil samples from each soil boring (except borings B-37A and B-39A, for which no soil samples were analyzed, and boring B-43, for which four soil samples were analyzed) for gasoline-, diesel-, and oil-range petroleum hydrocarbons using Northwest Total Petroleum Hydrocarbon (NWTPH) methods and polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8270C in selective ion monitoring (SIM) mode in accordance with the Work Plan.
- Analysis of 13 reconnaissance groundwater samples for gasoline-, diesel-, and oil-range petroleum hydrocarbons using NWTPH methods and PAHs using EPA Method 8270C in SIM mode in accordance with the Work Plan.
- Installation of four groundwater monitoring wells (MW-32, MW-33, MW-34, and MW-35) on the JJ Port property and in the City of Tacoma's 18th Street right-of-way to delineate the lateral extent of impacts to shallow groundwater in this area (refer to Figure 1). The well locations were approved by Mr. Steve Teel, Ecology's assigned case manager for the Tacoma Metals site, during a meeting with Kennedy/Jenks Consultants at Ecology's Southwest Region Office on 13 February 2008.
- Collection and analysis of groundwater samples from 25 monitoring wells, including the four new offsite monitoring wells (MW-32, MW-33, MW-34, and MW-35), nine other offsite monitoring wells [MW-23, MW-24, MW-25, MW-26, MW-27, MW-28(R), MW-29, MW-30, and MW-31] and 12 monitoring wells located in the northwest portion of the Tacoma Metals property (MW-8R, MW-10, MW-11, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, and MW-22). Groundwater samples were submitted for analysis of gasoline-, diesel-, and oil-range hydrocarbons using NWTPH methods, and for total and dissolved PAHs using EPA Method 8270C in SIM mode in accordance with the Work Plan.
- Measurement of groundwater elevations in all onsite and offsite groundwater monitoring wells during high and low tidal conditions on 11 April 2008.
- Monitoring of wells select onsite and all offsite wells for the presence of dense non-aqueous phase liquid (DNAPL).

For additional information regarding sampling activities performed, including assumptions and methodologies, refer to the Work Plan (Attachment 1).

Findings and Results

The results of the investigation are summarized in the attached documents as follows:

• Soil boring and monitoring well construction logs are provided in Attachment 2, and the boring and monitoring well locations are shown on Figure 1.

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- Analytical results for soil samples collected from soil borings are provided in Table 1.
 Analytical report and chain-of-custody documents for soil samples are provided in Attachment 3.
- Analytical results for reconnaissance groundwater samples collected from soil borings are
 provided in Table 2. Analytical report and chain-of-custody documents for reconnaissance
 groundwater samples are provided in Attachment 4.
- Analytical results for groundwater samples collected from new and existing monitoring wells are provided in Table 3. Analytical report and chain-of-custody documents for groundwater monitoring well samples are provided in Attachment 5. Groundwater sampling field forms are provided in Attachment 6.
- Concentration contour maps for naphthalene and carcinogenic PAHs (cPAHs) in groundwater samples are shown on Figure 2A (total cPAHs), Figure 2B (dissolved cPAHs) and Figure 3 (naphthalene).
- A contour map showing the approximate topography of the first encountered silt confining layer (structure contour) is provided on Figure 4. Generalized geologic cross sections are provided in Figures 5 and 6.
- A summary of groundwater elevation monitoring results is provided in Table 4. Monitoring
 well construction details are provided in Table 5. Potentiometric surface contour maps for
 low tide (Figure 7) and high tide (Figure 8) conditions are attached.
- The DNAPL monitoring form for 26 June 2008 is provided in Attachment 7.

If you have any questions regarding the information presented herein, please call us at (253) 874-0555.

Very truly yours.

KENNEDY/JENKS CONSULTANTS

Dean Malte, L.G.

Project Geologist

Er Ty C. Schreiner, L.Hg.

Vice President

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Enclosures

cc: Mr. Guy Sternal, Eisenhower & Carlson, PLLC

Mr. Bill Hengemihle, LECG

Tables

TABLE 1

OCTOBER / NOVEMBER 2007 OFF-PROPERTY INVESTIGATION SOIL ANALYTICAL RESULTS - TPH and PAHs Former Tacoma Metals Facility

					Sample D	esignation	(Boring ID	- feet bgs)				MTCA Method C
Analyte	B37 5-6	B37 14-15	B37 21-22	B38 5-6	B38 14.5-15.5	B38 22.5-23.5	B39 5.5-6.5	B39 10-11	B39 21-22	B40 6.5-7.5	B40 14-15	B40 21.5-22.5	Industrial Soil Cleanup Level ^(a)
TPHs (mg/kg) ^(b)										•		·	
Gasoline-range Hydrocarbon	<2 ^(c)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	100/30 ^(d)
Diesel-range Hydrocarbon	<50	<50	<50	<50	<50	<50	120	<50	200	<50	<50	<50	2,000 ^(d)
Oil-range Hydrocarbon	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	2,000 ^(d)
PAHs (mg/kg) ^(e)													
Naphthalene	0.020	<0.01	<0.01	0.015	<0.01	<0.01	1.8	0.24	<0.01	<0.01	<0.01	<0.01	7.00E+04
Acenaphthylene	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	0.12	<0.01	0.11	<0.01	<0.01	<0.01	NA ^(f)
Acenaphthene	<0.01	0.080	0.032	<0.01	0.10	0.41	0.51	1.1	0.41	<0.01	0.011	<0.01	2.10E+05
Fluorene	<0.01	<0.01	<0.01	<0.01	0.089	<0.01	0.39	1.3	0.40	<0.01	<0.01	<0.01	1.40E+05
Phenanthrene	0.011	<0.01	<0.01	0.034	0.13	0.060	1.3	1.90	2.1	0.019	<0.01	<0.01	NA
Anthracene	<0.01	<0.01	<0.01	0.040	0.033	0.015	0.61	0.47	2.6	<0.01	<0.01	<0.01	1.05E+06
Fluoranthene	0.016	<0.01	<0.01	0.21	0.049	0.017	1.2	1.3	18	<0.01	<0.01	<0.01	1.40E+05
Pyrene	0.016	<0.01	<0.01	0.44	0.027	0.028	1.1	0.77	15	<0.01	<0.01	<0.01	1.05E+05
Benzo(g,h,i)perylene	0.013	<0.01	<0.01	0.095	<0.01	<0.01	0.83	<0.01	1.5	<0.01	<0.01	<0.01	NA
cPAHs (mg/kg) ^(g)													
Benzo(a)anthracene	<0.01	<0.01	<0.01	0.18	<0.01	<0.01	0.99	0.019	6.7	<0.01	<0.01	<0.01	NA
Chrysene	0.016	<0.01	<0.01	0.27	<0.01	<0.01	1.7	0.012	9.4	<0.01	<0.01	<0.01	NA
Benzo(a)pyrene	<0.01	<0.01	<0.01	0.24	<0.01	<0.01	1.3	<0.01	4.2	<0.01	<0.01	<0.01	NA
Benzo(b)fluoranthene	0.018	<0.01	<0.01	0.33	<0.01	<0.01	2.0	<0.01	5.0	<0.01	<0.01	<0.01	NA
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	0.13	<0.01	<0.01	0.62	<0.01	1.9	<0.01	<0.01	<0.01	NA
Indeno(1,2,3-cd)pyrene	0.011	<0.01	<0.01	0.12	<0.01	<0.01	1.0	<0.01	1.9	<0.01	<0.01	<0.01	NA
Dibenz(a,h)anthracene	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	0.24	<0.01	0.58	<0.01	<0.01	<0.01	NA
Total cPAHs (mg/kg) ^(h)	0.0031	<0.01	<0.01	0.32	<0.01	<0.01	1.8	0.0020	5.9	<0.01	<0.01	<0.01	18

TABLE 1

OCTOBER / NOVEMBER 2007 OFF-PROPERTY INVESTIGATION SOIL ANALYTICAL RESULTS - TPH and PAHs Former Tacoma Metals Facility

				Sampl	e Designation	on (Boring ID	- feet bgs)				MTCA Method C
Analyte	B41 7-8	B41 11-12	B41 24.5-25.5	B42 5-6	B42 22-23	B42 24.5-25.5	B43 6-7	B43 14.5-15.5	B43 28.5-29.5	B43 34.5-35.5	Industrial Soil Cleanup Level ^(a)
TPHs (mg/kg) ^(b)			·								
Gasoline-range Hydrocarbon	<2 ^(c)	<2	<2	<2	<2	<2	<2	<2	<2	<2	100/30 ^(d)
Diesel-range Hydrocarbon	<50	<50	<50	<50	<50	<50	130	<50	<50	69	2,000 ^(d)
Oil-range Hydrocarbon	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	2,000 ^(d)
PAHs (mg/kg) ^(e)											
Naphthalene	<0.01	<0.01	<0.01	0.028	<0.01	<0.01	0.028	0.26	0.91	0.43	7.00E+04
Acenaphthylene	<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA ^(f)
Acenaphthene	<0.01	<0.01	<0.01	<0.01	1.3	<0.01	0.015	0.033	1.4	1.0	2.10E+05
Fluorene	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	0.012	0.98	0.63	1.40E+05
Phenanthrene	<0.01	<0.01	<0.01	0.052	0.015	<0.01	0.11	0.012	1.5	0.33	NA
Anthracene	<0.01	<0.01	<0.01	0.032	<0.01	<0.01	0.014	<0.01	0.11	0.078	1.05E+06
Fluoranthene	<0.01	<0.01	<0.01	0.067	<0.01	<0.01	0.026	<0.01	0.14	0.12	1.40E+05
Pyrene	<0.01	<0.01	<0.01	0.089	<0.01	<0.01	0.027	<0.01	0.062	0.053	1.05E+05
Benzo(g,h,i)perylene	<0.01	<0.01	<0.01	0.14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
cPAHs (mg/kg) ^(g)											
Benzo(a)anthracene	<0.01	<0.01	<0.01	0.11	<0.01	<0.01	0.024	<0.01	<0.01	<0.01	NA
Chrysene	<0.01	<0.01	<0.01	0.23	<0.01	<0.01	0.036	<0.01	<0.01	<0.01	NA
Benzo(a)pyrene	<0.01	<0.01	<0.01	0.25	<0.01	<0.01	0.010	<0.01	<0.01	<0.01	NA
Benzo(b)fluoranthene	<0.01	<0.01	<0.01	0.36	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	NA
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Indeno(1,2,3-cd)pyrene	<0.01	<0.01	<0.01	0.17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Dibenz(a,h)anthracene	<0.01	<0.01	<0.01	0.040	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Total cPAHs (mg/kg) ^(h)	<0.01	<0.01	<0.01	0.33	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	18

TABLE 1

OCTOBER / NOVEMBER 2007 OFF-PROPERTY INVESTIGATION SOIL ANALYTICAL RESULTS - TPH and PAHs Former Tacoma Metals Facility

				9	Sample Des	ignation (Bo	ring ID - fe	et bgs)					MTCA Method C
Analyte	B44 2-3	B44 14-15	B44 31.5-32.5	B45 6.5-7.5	B45 11-12	B45 21-22	B46 6-7	B46 13-14	B46 21-22	B47 6-7	B47 13-14	B47 30.5-31.5	Industrial Soil Cleanup Level ^(a)
TPHs (mg/kg) ^(b)													
Gasoline-range Hydrocarbon	<2 ^(c)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	100/30 ^(d)
Diesel-range Hydrocarbon	<50	<50	<50	<50	<50	<50	<50	100	<50	78	<50	<50	2,000 ^(d)
Oil-range Hydrocarbon	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	2,000 ^(d)
PAHs (mg/kg) ^(e)													
Naphthalene	0.045	<0.01	0.052	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	0.038	<0.01	<0.01	7.00E+04
Acenaphthylene	0.076	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.046	<0.01	<0.01	NA ^(f)
Acenaphthene	<0.01	<0.01	0.55	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.10E+05
Fluorene	0.010	<0.01	0.23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.016	<0.01	<0.01	1.40E+05
Phenanthrene	0.077	0.010	0.081	<0.01	<0.01	<0.01	0.015	0.085	<0.01	0.15	0.020	<0.01	NA
Anthracene	0.083	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.080	<0.01	<0.01	1.05E+06
Fluoranthene	0.23	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	0.049	<0.01	0.27	0.023	<0.01	1.40E+05
Pyrene	0.40	0.023	<0.01	<0.01	<0.01	<0.01	<0.01	0.045	<0.01	0.47	0.022	<0.01	1.05E+05
Benzo(g,h,i)perylene	0.43	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.34	<0.01	<0.01	NA
cPAHs (mg/kg) ^(g)													
Benzo(a)anthracene	0.36	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	0.37	0.011	<0.01	NA
Chrysene	0.67	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	0.024	<0.01	0.73	0.013	<0.01	NA
Benzo(a)pyrene	0.73	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	0.62	<0.01	<0.01	NA
Benzo(b)fluoranthene	0.96	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	0.019	<0.01	0.81	0.011	<0.01	NA
Benzo(k)fluoranthene	0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.22	<0.01	<0.01	NA
Indeno(1,2,3-cd)pyrene	0.49	0.010	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	0.36	<0.01	<0.01	NA
Dibenz(a,h)anthracene	0.14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.095	<0.01	<0.01	NA
Total cPAHs (mg/kg) ^(h)	0.97	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	0.81	0.0023	<0.01	18

Notes:

- (a) Model Toxics Control Act (MTCA) Method C industrial soil cleanup levels based on CLARC v3.1, dated November 2001 (Ecology 2001b).
- (b) Samples were analyzed for diesel- and oil-range hydrocarbons by Ecology Method NWTPH-Dx with silica gel cleanup, and gasoline-range hydrocarbons by Ecology Method NWTPH-G.
- (c) "<" denotes analyte was not detected at the indicated laboratory reporting limit.
- (d) Total petroleum hydrocarbon (TPH) screening levels based on MTCA Method A industrial soil cleanup levels (Ecology 2001a). For gasoline mixtures without benzene and total ethylbenzene, toluene and xylenes less than 1% of the gasoline mixture the cleanup level is 100 mg/kg. For all other gasoline mixtures, the cleanup level is 30 mg/kg.
- (e) Samples were analyzed for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C using selected ion monitoring (SIM) mode (where appropriate).
- (f) "NA" denotes cleanup level is either not available or not appropriate.
- (g) Samples were analyzed for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270C using SIM mode (where appropriate).
- (h) Total cPAHs are based on benzo(a)pyrene equivalent values. Individual detected cPAH concentrations were multiplied by benzo(a)pyrene toxicity equivalency factors (TEFs) prior to summation (per WAC 173-340-708). Non-detected cPAH analytes were not included in the summation. TEFs are tabulated on Table1A.

Analytes detected in samples at concentrations exceeding one or more cleanup levels or comparison levels are shown in bold and italics.

mg/kg = milligrams per kilogram

bgs = below ground surface

TAB	LE 1A
Summai	y of TEFs
Analyte	TEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(a)pyrene	1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	0.1

TABLE 2

OCTOBER 2007 OFF-PROPERTY INVESTIGATION RECONNAISSANCE GROUNDWATER ANALYTICAL RESULTS - TPH and PAHs Former Tacoma Metals Facility

					Red	connaissance G	roundwater San	nple Designation	1					Drawaged Classics
	B37	B37A	B38	B39	B39A	B40	B41	B42	B43	B44	B45	B46	B47	Proposed Cleanup Level ^(a)
Analyte	RGW	RGW	RGW	RGW	RGW	RGW	RGW	RGW	RGW	RGW	RGW	RGW	RGW	Level
TPHs (μg/l) ^(b)														
Gasoline-range hydrocarbons	<100 ^(c)	<100	<100	<100	<100	<100	<100	120	<100	130	<100	<100	<100	NA ^(d)
Diesel-range hydrocarbons	64	<50	290	100	<50	<50	<50	95	<50	120	<50	<50	<50	NA
Oil-range hydrocarbons	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	NA
PAHs (μg/l) ^(e)														
Naphthalene	<0.1	<0.1	0.17	4.2	<0.1	0.36	<0.1	<0.1	0.96	2.0	<0.1	<0.1	<0.1	4,940 ^(f)
Acenaphthylene	<0.1	<0.1	0.36	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Acenaphthene	3.7	2.6	59	5.5	0.91	0.34	<0.1	5.0	8.2	13	<0.1	<0.1	<0.1	643 ^(f)
Fluorene	<0.1	<0.1	2.7	3.1	<0.1	0.24	<0.1	0.71	0.94	2.3	<0.1	<0.1	<0.1	3,460 ^(f)
Phenanthrene	<0.1	<0.1	11	8.9	0.10	0.54	<0.1	0.58	0.26	0.50	<0.1	<0.1	<0.1	NA
Anthracene	<0.1	<0.1	1.6	1.6	<0.1	<0.1	<0.1	0.11	<0.1	<0.1	<0.1	<0.1	<0.1	25,900 ^(f)
Fluoranthene	<0.1	<0.1	2.4	2.8	<0.1	0.13	<0.1	0.21	<0.1	<0.1	<0.1	<0.1	<0.1	90.2 ^(f)
Pyrene	<0.1	<0.1	1.7	1.9	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<0.1	<0.1	2,590 ^(f)
Benzo(g,h,i)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
cPAHs (μg/l) ^(g)														
Benzo(a)anthracene	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Chrysene	<0.1	<0.1	<0.1	0.28	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Dibenz(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Total cPAHs (μg/l) ^(h)	<0.1	<0.1	<0.1	0.023	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.24 ⁽ⁱ⁾

Notes:

- (a) Proposed site cleanup levels based on Kennedy/Jenks Consultants' 2007 Cleanup Level Evaluation report submitted to Ecology under separate cover.
- (b) Samples were analyzed for total petroleum hydrocarbons (TPHs) by Ecology Methods NWTPH-G and NWTPH-Dx with silica gel cleanup.
- (c) "<" Denotes analyte was not detected at the indicated laboratory reporting limit.
- (d) "NA" denotes cleanup level is either not available or not appropriate.
- (e) Samples were analyzed for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C using selected ion monitoring (SIM) mode (where appropriate).
- (f) Cleanup level based on the Model Toxics Control Act (MTCA) (WAC 173-340) Method B surface water cleanup level based on Ecology's online CLARC database.
- (g) Samples were analyzed for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270C using SIM mode (where appropriate).
- (h) Total cPAHs are based on benzo(a)pyrene equivalent values. Individual detected cPAH concentrations were multiplied by benzo(a)pyrene toxicity equivalency factors (TEFs) prior to summation (per WAC 173-340-708).

 Non-detected cPAH analytes were not included in the summation. TEFs are tabulated on Table 1A.
- i) Modified cleanup level for total cPAHs based on the Ambient Water Quality Criteria (AWQC) for consumption of organisms only (EPA 2004) pursuant to Section 304(a)(1) of the Clean Water Act discussed in Kennedy/Jenks Consultants' 2007 Cleanup Level Evaluation report.

Analytes detected in samples at concentrations exceeding the proposed cleanup level values are shown in bold and italics.

mg/l = milligrams per liter

μg/I = micrograms per liter

TABLE 3 MARCH 2008

GROUNDWATER MONITORING WELL ANALYTICAL RESULTS - TPH and PAHs Former Tacoma Metals Facility

								Gr	oundwater Sam	ple Designatio	n								Proposed Cleanup
	MW-8((R) ^(a)	MW-	·10	MW	-11	MW-	-14	MW	-15	M	W-16	MW	<i>I</i> -17	MW	-18	MW-1	9	Level ^(b)
Analyte	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	Level
TPHs (mg/l) ^(c)																			
Gasoline-range hydrocarbons	17.0	^(d)	0.490		0.270		<0.100 ^(e)		<0.100		<0.100		<0.100		6.50		<0.100		NA ^(f)
Diesel-range hydrocarbons	9.90 ^(g)		4.30 ^(g)		1.10 ^(g)		0.071 ^(g)		<0.050		<0.050		<0.050		9.50 ^(g)		<0.050		NA
Oil-range hydrocarbons	<0.270		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		NA
PAHs (μg/l) ⁽ⁱ⁾		•		•	-			•		•		•		•		•		•	
Naphthalene	3,600	2,900	1.6	1.3	18	13	0.26	0.18	0.036	0.036	0.023	0.026	0.24	0.21	5,800	4,400	<0.02	0.042	4,940 ^(k)
Acenaphthylene	5.9	3.8	0.19	0.24	0.84	0.55	0.084	0.071	0.025	0.023	<0.02	<0.02	0.047	0.046	1.4	1.2	<0.02	<0.02	NA
Acenaphthene	170	140	34	31	120	98	10	8.2	3.5	3.0	0.57	0.48	6.20	5.6	180	160	0.17	0.14	643 ^(k)
Fluorene	71	59	18	16	84	73	4.1	3.4	1.8	1.6	<0.02	<0.02	2.8	2.6	84	78	<0.02	<0.02	3,460 ^(k)
Phenanthrene	55	44	18	17	87	79	2.8	2.4	0.28	0.27	<0.02	<0.02	0.25	0.25	88	87	<0.02	<0.02	NA
Anthracene	7.1	3.7	3.2	3.8	16	12	0.45	0.35	0.17	0.12	<0.02	<0.02	0.39	0.32	9.3	8.0	<0.02	<0.02	25,900 ^(k)
Fluoranthene	6.7	3.5	6.1	5.5	15	13	1.3	1.0	0.36	0.31	<0.02	<0.02	0.77	0.71	7.7	6.3	<0.02	<0.02	90.2 ^(k)
Pyrene	4.2	2.1	4.1	3.7	10	8.3	0.84	0.68	0.23	0.19	<0.02	<0.02	0.51	0.46	4.3	3.3	<0.02	<0.02	2,590 ^(k)
Benzo(g,h,i)perylene	<0.2	<0.02	0.032	0.031	<0.2	0.063	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	NA
cPAHs (μg/I) ^(I)																			
Benzo(a)anthracene	0.59	0.072	0.41	0.40	0.68	0.50	0.067	0.052	0.026	<0.02	<0.02	<0.02	0.049	0.042	<0.2	0.048	<0.02	<0.02	NA
Chrysene	0.56	0.072	0.37	0.37	0.48	0.39	0.065	0.049	0.027	<0.02	<0.02	<0.02	0.043	0.032	<0.2	0.036	<0.02	<0.02	NA
Benzo(a)pyrene	<0.2	<0.02	0.16	0.18	<0.2	0.18	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	NA
Benzo(b)fluoranthene	0.24	<0.02	0.21	0.21	0.23	0.22	<0.02	<0.02	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	NA
Benzo(k)fluoranthene	<0.2	<0.02	0.069	0.09	<0.2	0.089	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	NA
Indeno(1,2,3-cd)pyrene	<0.2	<0.02	0.035	0.037	<0.2	0.068	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	NA
Dibenz(a,h)anthracene	<0.2	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	NA
Total cPAHs ^(m)	0.22	0.0079	0.24	0.26	0.23	0.27	0.0074	0.0057	0.0050	<0.02	<0.02	<0.02	0.0053	0.0045	0.15	0.0052	<0.02	<0.02	1.24 ⁽ⁿ⁾

								Gr	oundwater Sam	ple Designatio	n								B
	MW-	-20	MW-	21	MW	I-22	MW	-23	MW	-24	MV	N-25	MW	-26	MW	-27	MW-28(F	R) ^(a)	Proposed Cleanup Level ^(b)
Analyte	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	Level
TPHs (mg/l) ^(c)																			
Gasoline-range hydrocarbons	1.60		1.40		3.30		3.10		0.330		0.300		0.320		<0.100		0.640		NA ^(f)
Diesel-range hydrocarbons	2.10 ^(g)		2.90 ^(g)		0.220 ^(g)		3.10		0.450		0.420		0.860		0.140		3.40		NA
Oil-range hydrocarbons	<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		NA
PAHs (µg/l) ⁽ⁱ⁾							•												
Naphthalene	7.1	5.8	730	560	1,200	990	32	26	19	18	0.29	0.21	91	74.0	0.26	0.22	370	160	4,940 ^(k)
Acenaphthylene	0.75	0.77	1.4	1.1	1.5	1.3	0.90	0.74	0.44	0.41	0.30	0.25	0.48	0.37	0.20	0.18	<2	1.4	NA
Acenaphthene	160	150	230	180	210	170	150	130	42	40	83	68	77	66	28	25	200	170	643 ^(k)
Fluorene	82	75	120	100	110	95	56	49	23	22	15	13	48	42	10	9.0	100	92	3,460 ^(k)
Phenanthrene	68	66	150	120	110	99	52	48	2.1	2.2	1.1	1.0	47	42	1.1	0.920	130	120	NA
Anthracene	3.4	3.4	14	9.5	16	13	5.5	4.5	4.0	3.6	0.14	0.096	4.1	2.7	<0.02	<0.02	13	11	25,900 ^(k)
Fluoranthene	1.9	1.9	20	14	13	11	8.3	7	7.4	7.1	0.13	0.12	<10	<10	2.1	2.0	22	18	90.2 ^(k)
Pyrene	0.88	0.86	14	9.5	8.0	6.9	5.1	5.0	4.8	5.0	0.087	0.078	4.7	4.2	1.3	1.2	14	11	2,590 ^(k)
Benzo(g,h,i)perylene	<0.2	<0.02	<0.2	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.026	<0.02	NA
cPAHs (μg/l) ^(l)																			
Benzo(a)anthracene	<0.2	<0.02	1.3	0.52	0.49	0.36	0.32	0.220	0.42	0.31	<0.02	<0.02	0.16	0.12	0.066	0.047	0.77	0.49	NA
Chrysene	<0.2	<0.02	1.0	0.39	0.47	0.35	0.30	0.21	0.34	0.31	<0.02	<0.02	0.15	0.11	0.061	0.035	0.56	0.36	NA
Benzo(a)pyrene	<0.2	<0.02	0.50	0.13	0.094	0.079	0.022	<0.02	0.043	0.023	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.17	0.067	NA
Benzo(b)fluoranthene	<0.2	<0.02	0.66	0.18	0.13	0.099	0.031	<0.02	0.061	0.038	<0.02	<0.02	0.026	<0.02	<0.02	<0.02	0.21	0.069	NA
Benzo(k)fluoranthene	<0.2	<0.02	0.26	0.055	0.041	0.036	<0.02	<0.02	0.025	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.077	0.035	NA
Indeno(1,2,3-cd)pyrene	<0.2	<0.02	<0.2	0.028	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.036	<0.02	NA
Dibenz(a,h)anthracene	<0.2	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Total cPAHs ^(m)	0.15	<0.02	0.75	0.21	0.16	0.13	0.060	0.024	0.097	0.061	<0.02	<0.02	0.020	0.013	0.0072	0.0051	0.28	0.13	1.24 ⁽ⁿ⁾

TABLE 3

MARCH 2008 GROUNDWATER MONITORING WELL ANALYTICAL RESULTS - TPH and PAHs Former Tacoma Metals Facility

							G	roundwater S	ample Designat	ion							Proposed
	MW-	-29	MW-	-30	MW	-31	MW-100 (M	W-31 dup)	MW	-32	MV	V-33	MW	/ -34	MW	-35	Cleanup
Analyte	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered			Level ^(b)
TPHs (mg/l) ^(c)																	
Gasoline-range hydrocarbons	0.220		2.60		0.200		0.210		0.210		<0.100		<0.100		<0.100		NA ^(f)
Diesel-range hydrocarbons	0.390		4.40 ^(g)		1.80		1.90		0.180		<0.050		<0.050		<0.050		NA
Oil-range hydrocarbons	<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		<0.250		NA
PAHs (µg/l) ⁽ⁱ⁾				•				•		•			•			•	
Naphthalene	0.46	0.34	790	630	<2	0.56	<2	0.54	0.16	0.12	0.036	0.041	<0.02	<0.02	0.059	0.053	4,940 ^(k)
Acenaphthylene	0.32	0.28	1.8	1.9	<2	0.91	<2	0.87	<0.02	0.026	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Acenaphthene	31	29	390	330	190	170	200	180	12	9.8	2.8	3.0	<0.02	<0.02	0.15	0.13	643 ^(k)
Fluorene	12	12	140	120	98	90	100	93	0.026	0.021	0.051	0.054	<0.02	<0.02	<0.02	<0.02	3,460 ^(k)
Phenanthrene	15	14.000	56	49	110	110	120	110	0.034	<0.02	0.39	0.43	<0.02	<0.02	<0.02	<0.02	NA
Anthracene	4.1	3.0	4.0	<10	14	12	14	13	<0.02	<0.02	0.18	0.11	<0.02	<0.02	<0.02	<0.02	25,900 ^(k)
Fluoranthene	6.0	5.6	2.9	<10	22	19	23	21	<0.02	<0.02	0.38	0.41	<0.02	<0.02	<0.02	<0.02	90.2 ^(k)
Pyrene	3.7	3.6	1.9	<10	15	13	16	15	<0.02	<0.02	0.43	0.46	<0.02	<0.02	0.041	0.037	2,590 ^(k)
Benzo(g,h,i)perylene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
cPAHs (μg/I) ^(I)																	
Benzo(a)anthracene	0.26	0.18	<0.2	<0.02	0.77	0.57	0.87	0.62	<0.02	<0.02	0.031	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Chrysene	0.25	0.18	<0.2	<0.02	0.46	0.37	0.55	0.39	<0.02	<0.02	0.040	0.032	<0.02	<0.02	<0.02	<0.02	NA
Benzo(a)pyrene	0.048	<0.02	<0.02	<0.02	0.11	0.082	0.16	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Benzo(b)fluoranthene	0.057	<0.02	<0.02	<0.02	0.15	0.10	0.22	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Benzo(k)fluoranthene	0.025	<0.02	<0.02	<0.02	0.052	0.038	0.073	0.045	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Indeno(1,2,3-cd)pyrene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Dibenz(a,h)anthracene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA
Total cPAHs ^(m)	0.085	0.020	0.011	<0.02	0.21	0.16	0.28	0.20	<0.02	<0.02	0.0035	0.00032	<0.02	<0.02	<0.02	<0.02	1.24 ⁽ⁿ⁾

Notes:

- (a) Well MW-8(R) was installed in May 2000 as a replacement for MW-8, which was damaged. Well MW-28(R) was installed in February 2006 as a replacement for MW-28, which was damaged during construction activities in the 18th Street right-of-way.
- (b) Proposed site cleanup levels based on Kennedy/Jenks Consultants' 2007 Cleanup Level Evaluation report submitted to Ecology under separate cover.
- (c) Samples were analyzed for total petroleum hydrocarbons (TPHs) by Ecology Methods NWTPH-G and NWTPH-Dx with silica gel cleanup.
- (d) "---" Denotes sample was not analyzed for the listed analyte
- (e) "<" Denotes analyte was not detected at the indicated laboratory reporting limit.
- (f) "NA" denotes cleanup level is either not available or not appropriate.
- (g) Laboratory note 'x': "The pattern of peaks present is not indicative of diesel".
- (i) Samples were analyzed for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C using selected ion monitoring (SIM) mode (where appropriate). Non-detected analytes are reported to the MDL.
- (k) Cleanup level based on the Model Toxics Control Act (MTCA) (WAC 173-340) Method B surface water cleanup level based on Ecology's online CLARC database.
- (I) Samples were analyzed for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270C using SIM mode (where appropriate).
- (m) Total cPAHs based on benzo(a) pyrene equivalent values. Individual cPAH concentrations were multiplied by toxicity equivalency factors (TEFs, see Table 1A) prior to summation (per WAC 173-340-708). Non-detected cPAH analytes were not included in the summation if the reporting limit was at the practical quantitation limit (PQL) of 0.02. A value of one-half the reporting limit was used (prior to TEF adjustment) for non-detected analytes with reporting limits above the PQL.
- (n) Modified cleanup level for total cPAHs based on the Ambient Water Quality Criteria (AWQC) for consumption of organisms only (EPA 2004) pursuant to Section 304(a)(1) of the Clean Water Act discussed in Kennedy/Jenks Consultants' 2007 Cleanup Level Evaluation report.

Analytes detected in samples at concentrations exceeding the proposed cleanup level values are shown in bold and italics.

mg/l = milligrams per liter

μg/l = micrograms per liter

TABLE 4

GROUNDWATER ELEVATION MONITORING - 11 APRIL 2008

Former Tacoma Metals Facility

	Top of	Depth to	Groundwater	Depth to	Groundwater
Well	Well Casing	Groundwater at	Elevation	Groundwater at	Elevation
Number	Elevation (feet) ^(a)	Low-Tide (feet)	Low-Tide (feet)	High-Tide (feet)	High-Tide (feet)
MW-1	12.23	10.95	1.28	10.23	2.00
MW-2	12.04	11.28	0.76	10.47	1.57
MW-4(R)	12.55	10.80	1.75	9.90	2.65
MW-5	10.90	9.67	1.23	8.50	2.40
MW-6	10.07	8.91	1.16	7.80	2.27
MW-7	9.45	6.81	2.64	6.78	2.67
MW-8(R) ^(b)	11.12	9.65	1.47	8.39	2.73
MW-9	13.61	12.45	1.16	11.72	1.89
MW-10	9.39	6.85	2.54	6.69	2.70
MW-11	9.47	6.85	2.62	6.81	2.66
MW-12 ^(b)	10.80	8.42	2.38	NM ^(d)	NM
MW-13	9.84	8.21	1.63	6.76	3.08
MW-14	9.77	7.75	2.02	7.21	2.56
MW-15	10.49	7.91	2.58	7.95	2.54
MW-16	9.72	7.85	1.87	7.26	2.46
MW-17	9.57	7.54	2.03	7.14	2.43
MW-18	11.79	10.29	1.50	8.77	3.02
MW-19	10.78	9.57	1.21	7.51	3.27
MW-20	10.21	9.53	0.68	6.99	3.22
MW-21	9.47	6.89	2.58	6.85	2.62
MW-22	9.51	6.90	2.61	6.83	2.68
MW-23	14.35	14.12	0.23	11.08	3.27
MW-24	10.58	9.12	1.46	7.76	2.82
MW-25	11.24	9.19	2.05	8.81	2.43
MW-26	12.52	11.16	1.36	9.60	2.92
MW-27	11.06	9.70	1.36	8.17	2.89
MW-28(R) ^(c)	10.42	9.01	1.41	7.55	2.87
MW-29	11.12	10.56	0.56	7.92	3.20
MW-30	10.05	8.86	1.19	6.97	3.08
MW-31	9.38	8.08	1.30	6.30	3.08
MW-32	9.26	7.14	2.12	6.83	2.43
MW-33	9.24	7.10	2.14	6.74	2.50
MW-34	9.62	7.50	2.12	7.02	2.60
MW-35	7.95	7.34	0.61	4.79	3.16

Notes:

⁽a) Vertical elevation (NGVD 29) is based on well surveys performed by Earth Tech, Inc. on 28 March 2000, 21 November 2000, 13 March 2003, 31 December 2003, 14 April 2004, 21 April 2005, 29 March 2006, and 11 April 2008.

⁽b) Free product [light non-aqueous phase liquid (LNAPL)] present on water table.

⁽c) MW-28 was abandoned and replaced with MW-28(R) in February 2006.

⁽d) "NM" denotes that the water level was not measured in the indicated well.

TABLE 5

MONITORING WELL CONSTRUCTION DETAILS Former Tacoma Metals Facility

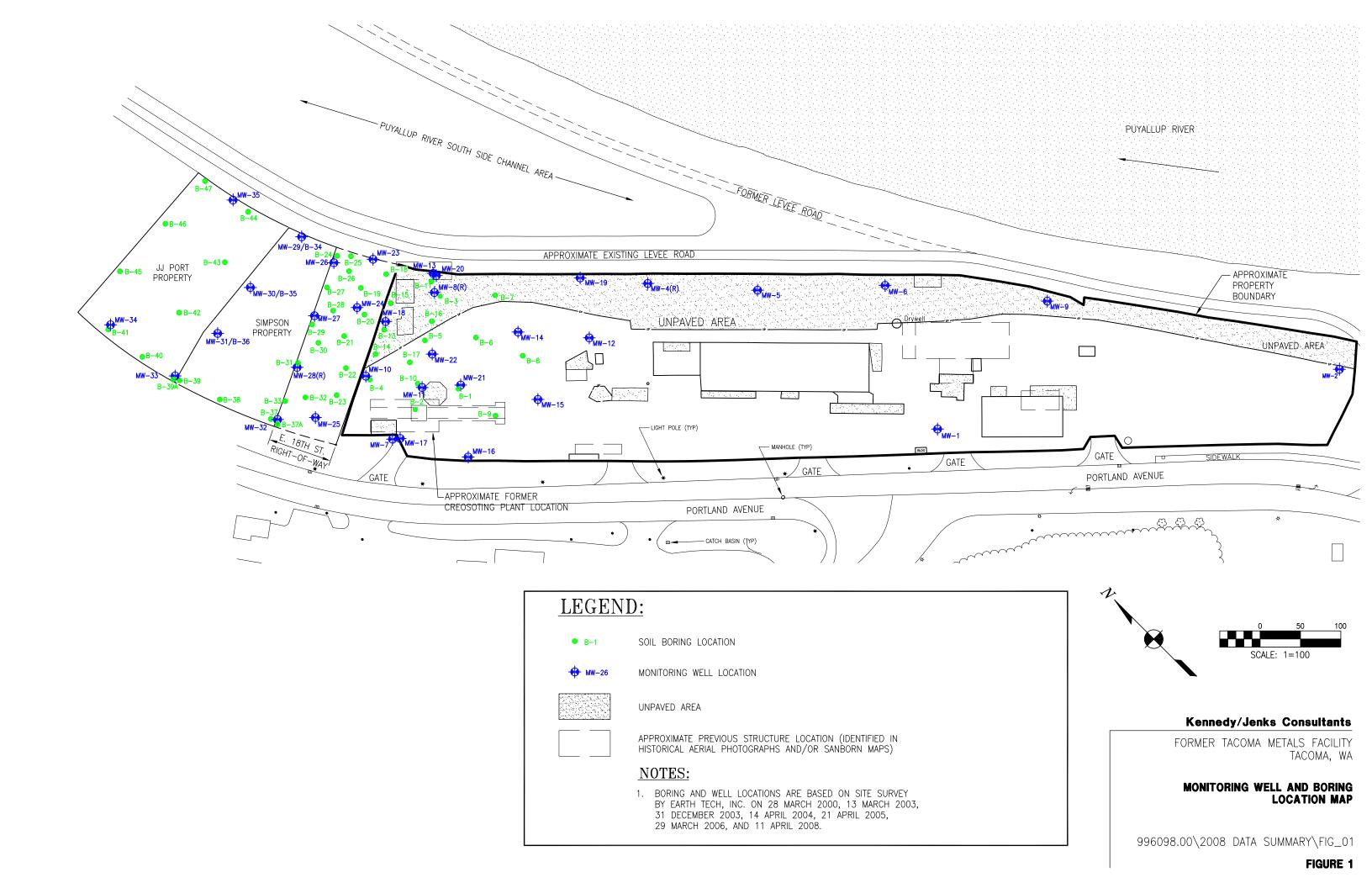
			Casing	Nominal	Top of PVC	Total Well	Length of	Slot
Well	Previous	Date of	Diameter/	Borehole	Casing Elevation	Depth	Screen	Size
Designation	Designation ^(a)	Installation	Construction	Diameter	(feet) ^(D)	(feet)	(feet)	(inch)
On-Property We								
MW-1	NA ^(c)	25-Aug-92	2 inch / PVC	9 inch	12.23	16.5	6	0.010
MW-2	NA	25-Aug-92	2 inch / PVC	9 inch	12.04	16.5	6	0.010
MW-3(D) ^(d)	MW-3	26-Aug-92	2 inch / PVC	9 inch	NA	16.5	6	0.010
MW-4(R) ^(e)	NMW-2	9-May-00	2 inch / PVC	9 inch	12.55	22.8	17.8	0.010
MW-5	NA	27-Aug-92	2 inch / PVC	9 inch	10.90	16.5	6	0.010
MW-6	NA	26-Aug-92	2 inch / PVC	9 inch	10.07	16.5	6	0.010
MW-7	NA	11-Sep-92	2 inch / PVC	9 inch	9.45	16.5	6	0.010
MW-8(R) ^(f)	NMW-3	9-May-00	2 inch / PVC	9 inch	11.12	23.6	18.6	0.010
MW-9	NMW-1	9-May-00	2 inch / PVC	9 inch	13.61	23.5	18.5	0.010
MW-10	NMW-4	10-Nov-00	2 inch / PVC	9 inch	9.39	20	12	0.010
MW-11	NMW-5	10-Nov-00	4 inch / PVC	12 inch	9.47	20	14	0.020
MW-12	NMW-6	10-Nov-00	4 inch / PVC	12 inch	10.80	20	12	0.020
MW-13	NA	26-Jun-02	2 inch / PVC	9 inch	9.84	18.5	10	0.010
MW-14	NA	26-Feb-03	2 inch / PVC	9 inch	9.77	24	10	0.010
MW-15	NA	28-Feb-03	2 inch / PVC	9 inch	10.49	26.3	10	0.010
MW-16	NA	28-Feb-03	2 inch / PVC	9 inch	9.72	26.8	10	0.010
MW-17	NA	28-Feb-03	2 inch / PVC	9 inch	9.57	23.2	10	0.010
MW-18	NA	27-Feb-03	2 inch / PVC	9 inch	11.79	22.7	10	0.010
MW-19	NA	27-Feb-03	2 inch / PVC	9 inch	10.78	24.2	10	0.010
MW-20	NA	27-Feb-03	2 inch / PVC	9 inch	10.21	27	5	0.010
MW-21	NA	28-Feb-03	2 inch / PVC	9 inch	9.47	21.8	10	0.010
MW-22	NA	1-Dec-03	2 inch / PVC	9 inch	9.51	23.3	10	0.010
Off-Property We	lls							
MW-23	NA	29-Mar-04	2 inch / PVC	9 inch	14.35	30	10	0.010
MW-24	NA	29-Mar-04	2 inch / PVC	9 inch	10.58	23	10	0.010
MW-25	NA	29-Mar-04	2 inch / PVC	9 inch	11.24	24	10	0.010
MW-26	NA	5-Apr-05	2 inch / PVC	9 inch	12.52	28.5	10	0.010
MW-27	NA	5-Apr-05	2 inch / PVC	9 inch	11.06	26.8	10	0.010
MW-28(D) ^(g)	MS-28	5-Apr-05	2 inch / PVC	9 inch	10.43	26	10	0.010
MW-28(R) ^(g)	NA	15-Feb-06	2 inch / PVC	9 inch	10.43	24.25	10	0.010
MW-29	NA	15-Feb-06	2 inch / PVC	9 inch	11.12	32.5	10	0.010
MW-30	NA	15-Feb-06	2 inch / PVC	9 inch	10.05	41	15	0.010
MW-31	NA	15-Feb-06	2 inch / PVC	9 inch	9.38	33	10	0.010
MW-32	NA	29-Feb-08	2 inch / PVC	9 inch	9.26	24.5	10	0.010
MW-33	NA	28-Feb-08	2 inch / PVC	9 inch	9.24	24.5	10	0.010
MW-34	NA	28-Feb-08	2 inch / PVC	9 inch	9.62	25.6	10	0.010
MW-35	NA	28-Feb-08	2 inch / PVC	9 inch	7.95	50.5	10	0.010

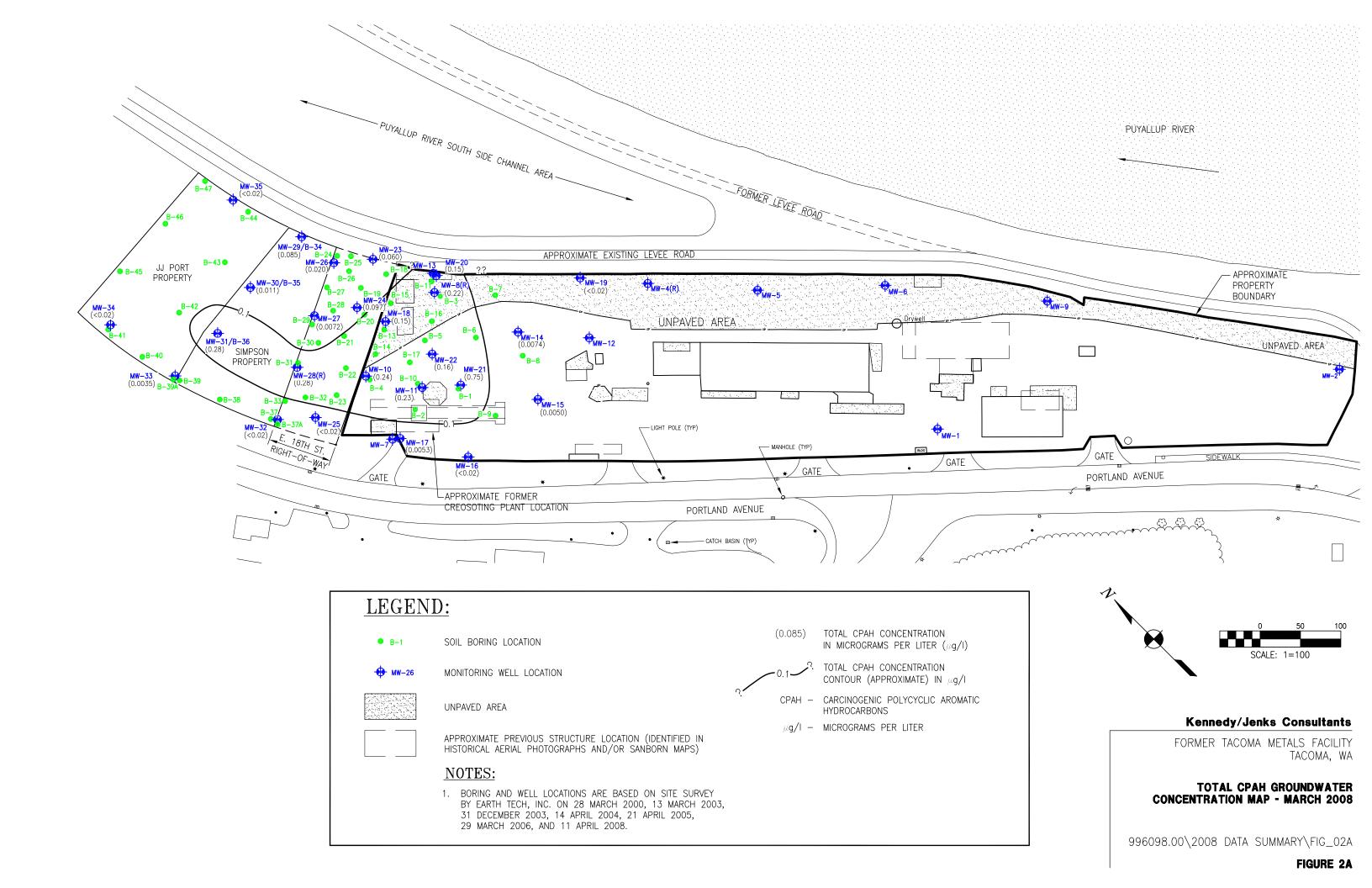
Notes:

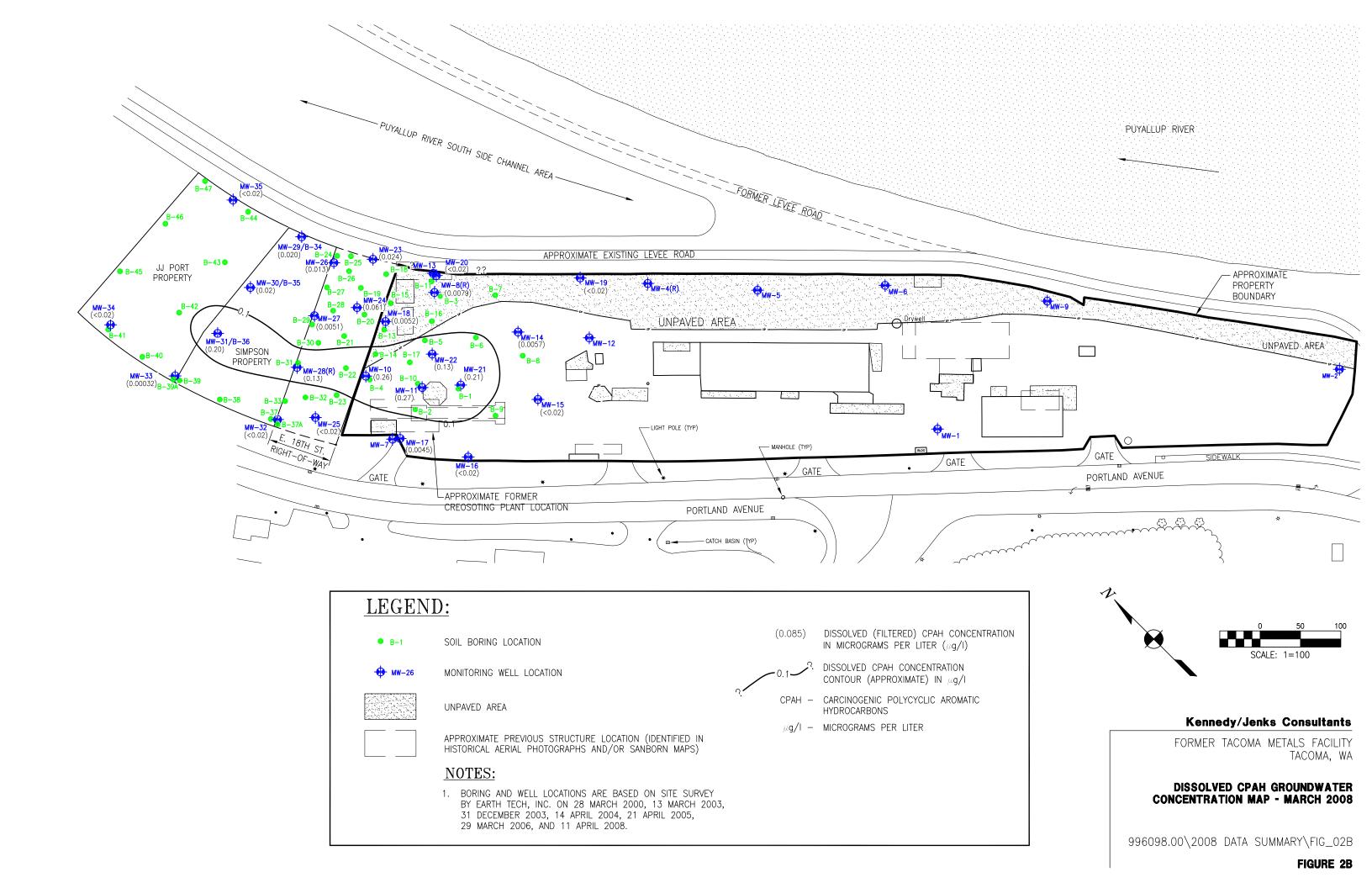
- (a) Wells installed in 2000 by Kennedy/Jenks Consultants were initially designated NMW-# but were subsequently numbered in sequential order with the existing site monitoring wells.
- (b) Elevations measured at northern side of PVC casing. Vertical elevations (NGVD 29) based on well surveys performed by KPG, Inc. (previously Earth Tech, Inc.) on 28 March 2000, 21 November 2000, 13 March 2003, 31 December 2003, 14 April 2004, 21 April 2005, 29 March 2006, and 11 April 2008.
- (c) NA = Not applicable.
- (d) MW-3(D) was originally installed on 26 August 1992 by Pacific Groundwater Group. MW-3(D) was demolished (D) by a former Tacoma Metals site tenant.
- (e) MW-4 was originally installed on 26 August 1992 by Pacific Groundwater Group. MW-4(R) was replaced (R) 9 May 2000 by Kennedy/Jenks Consultants.
- (f) MW-8 was originally installed on 25 August 1992 by Pacific Groundwater Group. MW-8(R) was replaced (R) 9 May 2000 by Kennedy/Jenks Consultants.
- (g) MW-28 was initially installed on 5 April 2005, but was subsequently destroyed (D) by a contractor during construction of the Puyallup River South Side Channel. MW-28(D) was abandoned and replaced with MW-28(R) on 15 February 2006.

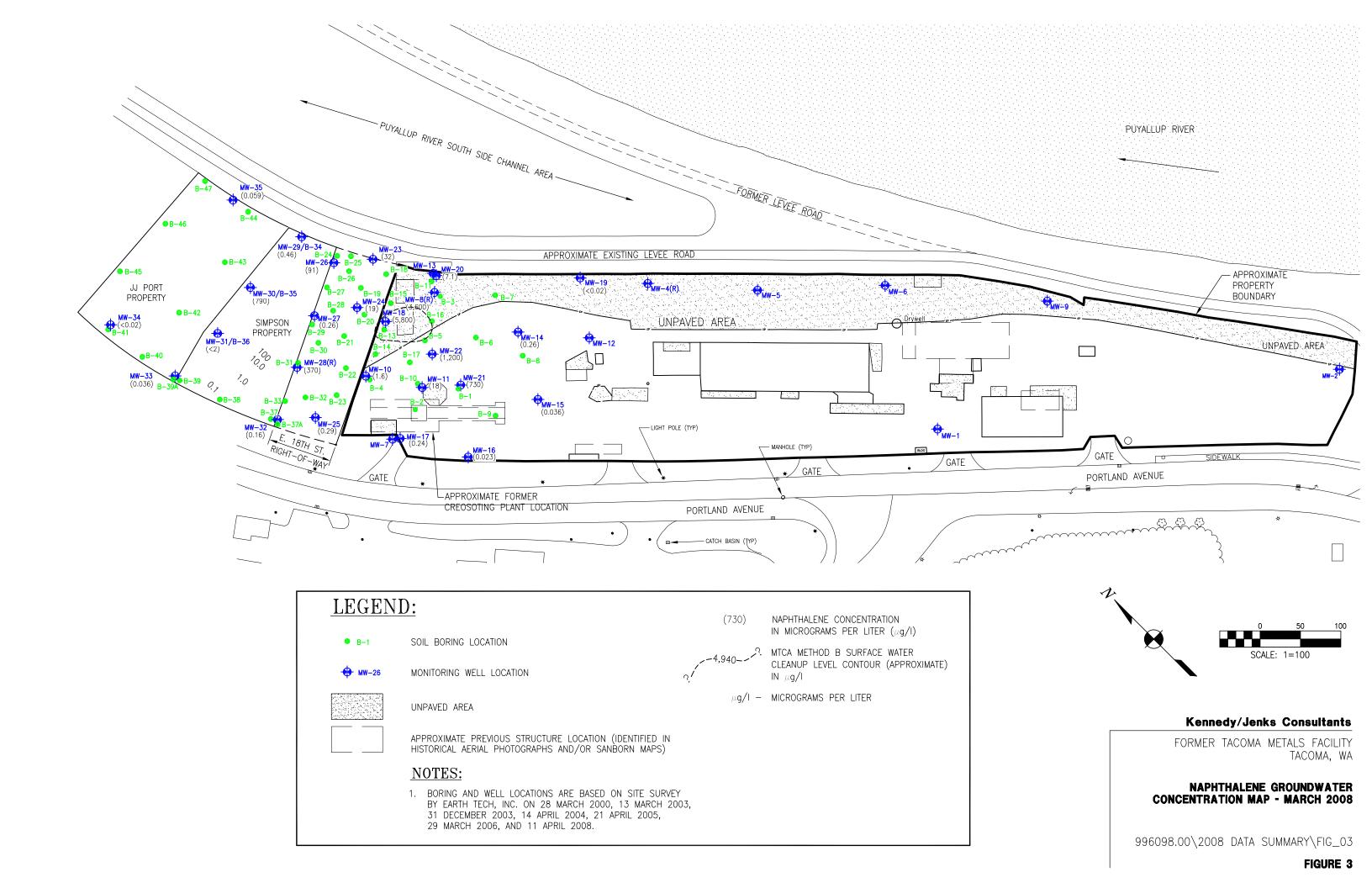
PVC - Polyvinyl chloride (Schedule 40)

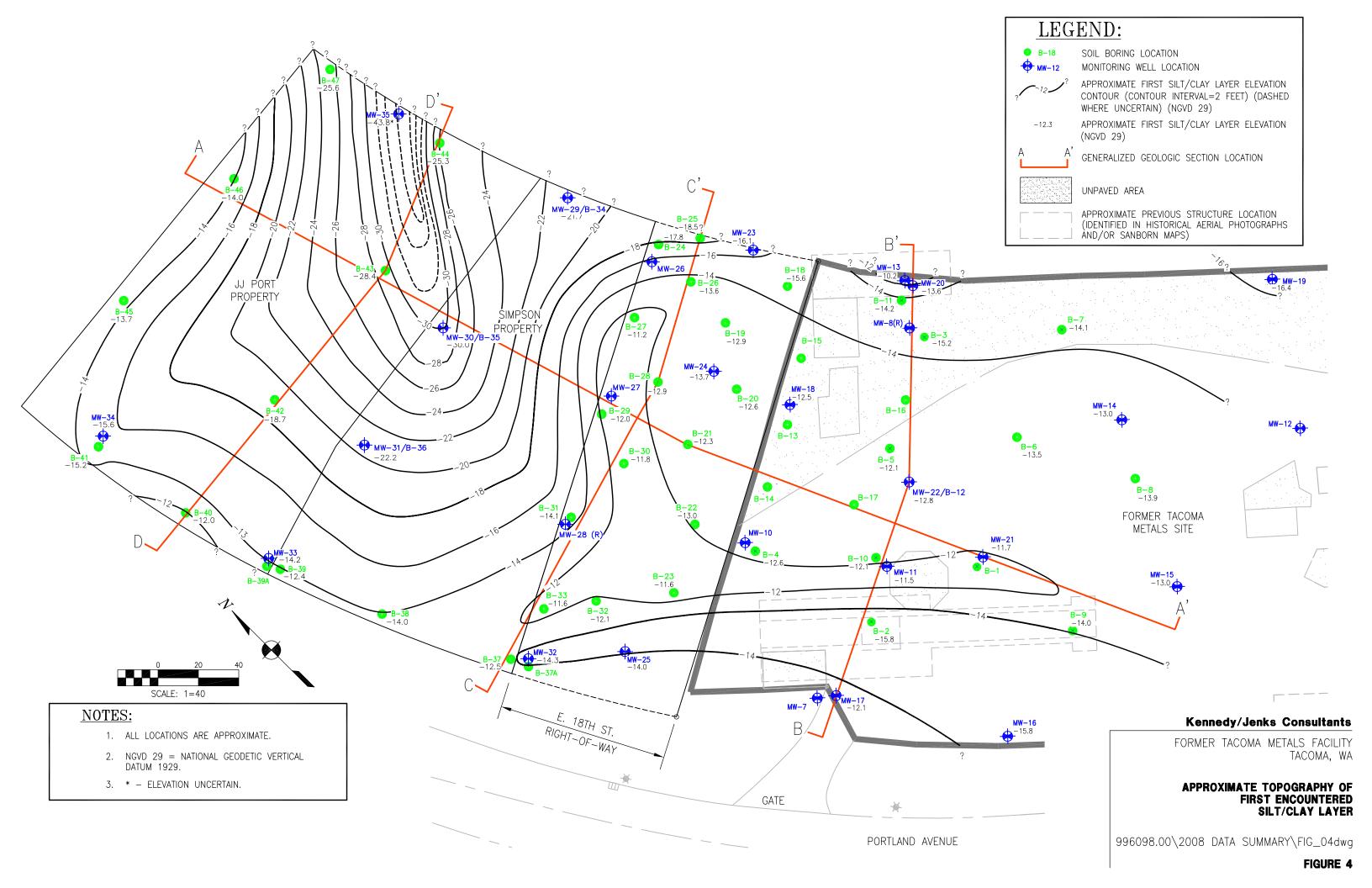
Figures



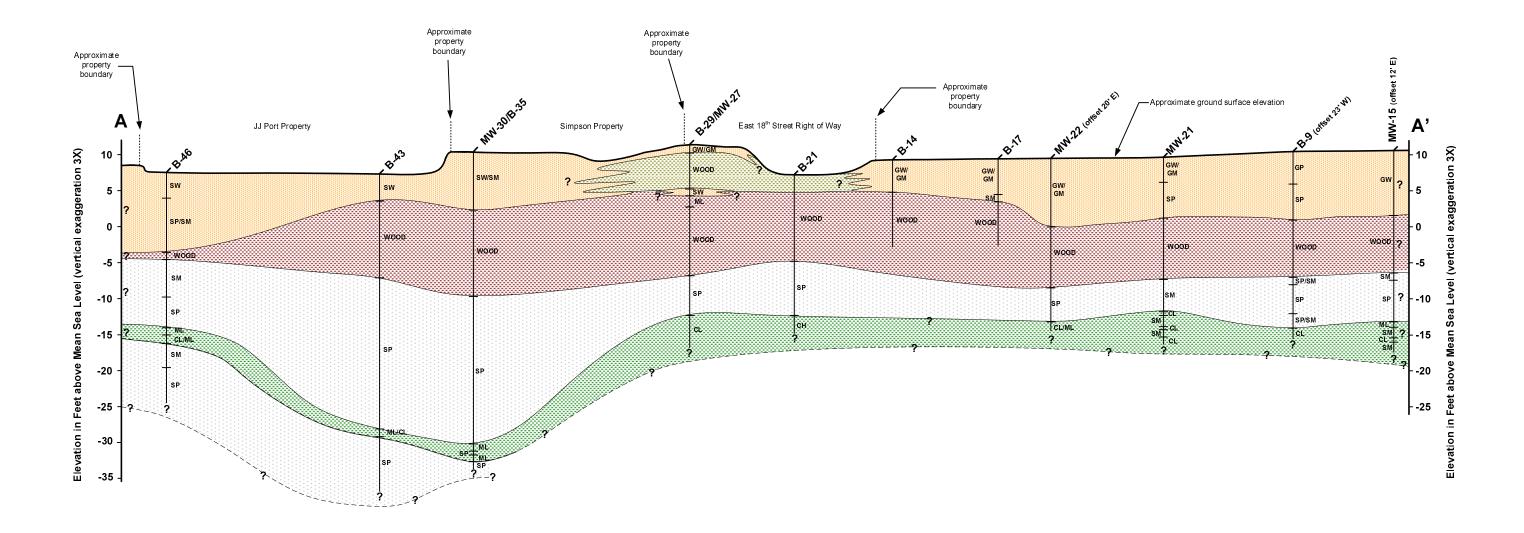








Generalized North-South Geologic Cross Section A-A'



LEGEND:

Primarily gravely and sandy fill material, some silt

Primarily woody material (wood chips with no evident matrix)

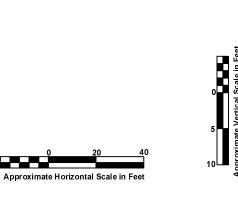
Primarily woody material (woody material typically with sand, silt, and/or clay matrix)

Primarily sand and silty sand material

Primarily clay, silt, and fine sand material, typically layered

NOTES:

- 1. All locations and depths are approximate.
- 2. Offset directions indicate the offset of the boring from the cross section line.



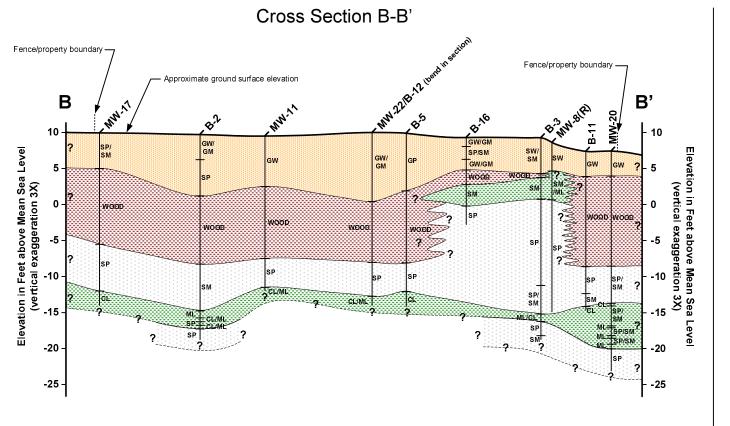
Kennedy/Jenks Consultants

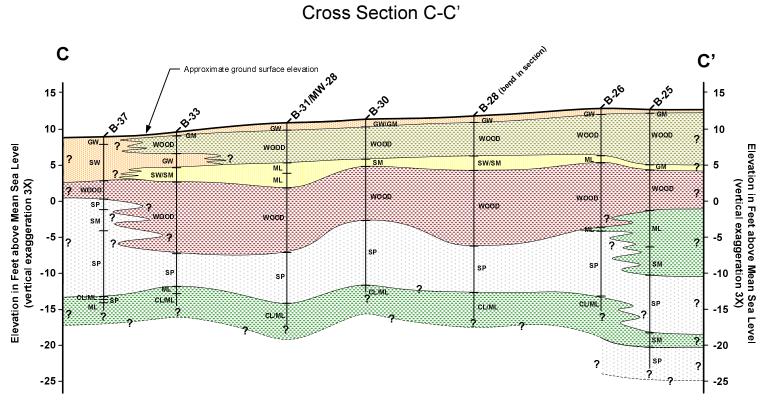
FORMER TACOMA METALS FACILITY TACOMA, WA

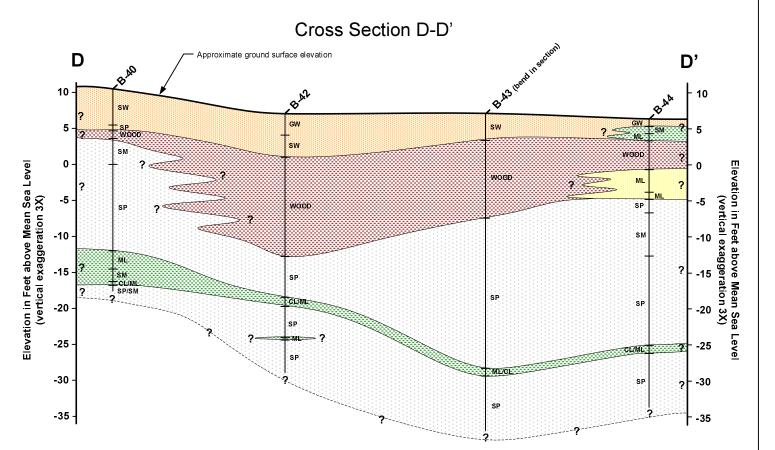
GENERALIZED GEOLOGIC CROSS SECTION A-A'

996098.00/2008/FIGURE5.VSD

Generalized West-East Geologic Cross Sections







LEGEND:

Primarily gravely and sandy fill material, some silt

Primarily woody material (wood chips with no evident matrix)

Primarily silty material mixed with sand and gravel, some woody material

Primarily woody material (woody material typically with sand, silt, and/or clay matrix)

Primarily sand and silty sand material

Primarily clay, silt, and fine sand material, typically layered

NOTES:

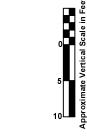
1. All locations and depths are approximate.

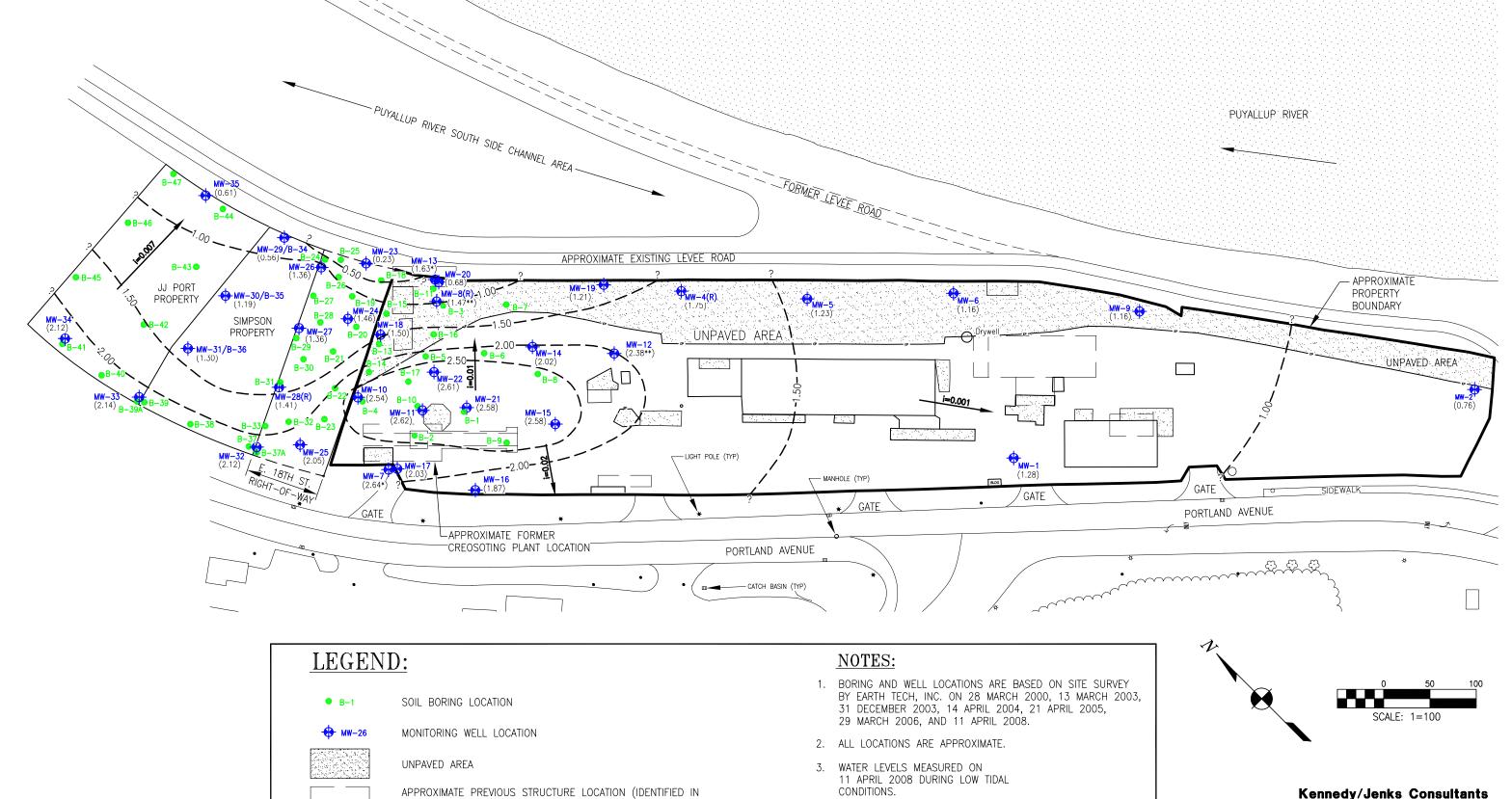
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

GENERALIZED GEOLOGIC CROSS SECTIONS B-B' AND C-C'

996098.00/2008/FIGURE6.VSD





4. * WATER LEVELS IN WELLS NOT INCLUDED

PRIMARILY IN THE WOOD DEBRIS MATERIAL.

5. ** WATER LEVELS IN WELLS NOT INCLUDED IN

POTENTIOMETRIC CONTOUR MAP BASED ON THE

IN POTENTIOMETRIC CONTOUR MAP

BASED ON SCREENED INTERVALS

PRESENCE OF LNAPL.

HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)

GROUDWATER ELEVATION IN MONITORING WELLS

(FEET NGVD) CONTOUR INTERVAL IS 0.50 FEET.

APPROXIMATE GROUNDWATER GRADIENT DIRECTION AND

POTENTIOMETRIC SURFACE CONTOURS

MAGINTUDE (FEET PER FOOT)

(FEET NGVD)

(1.32)

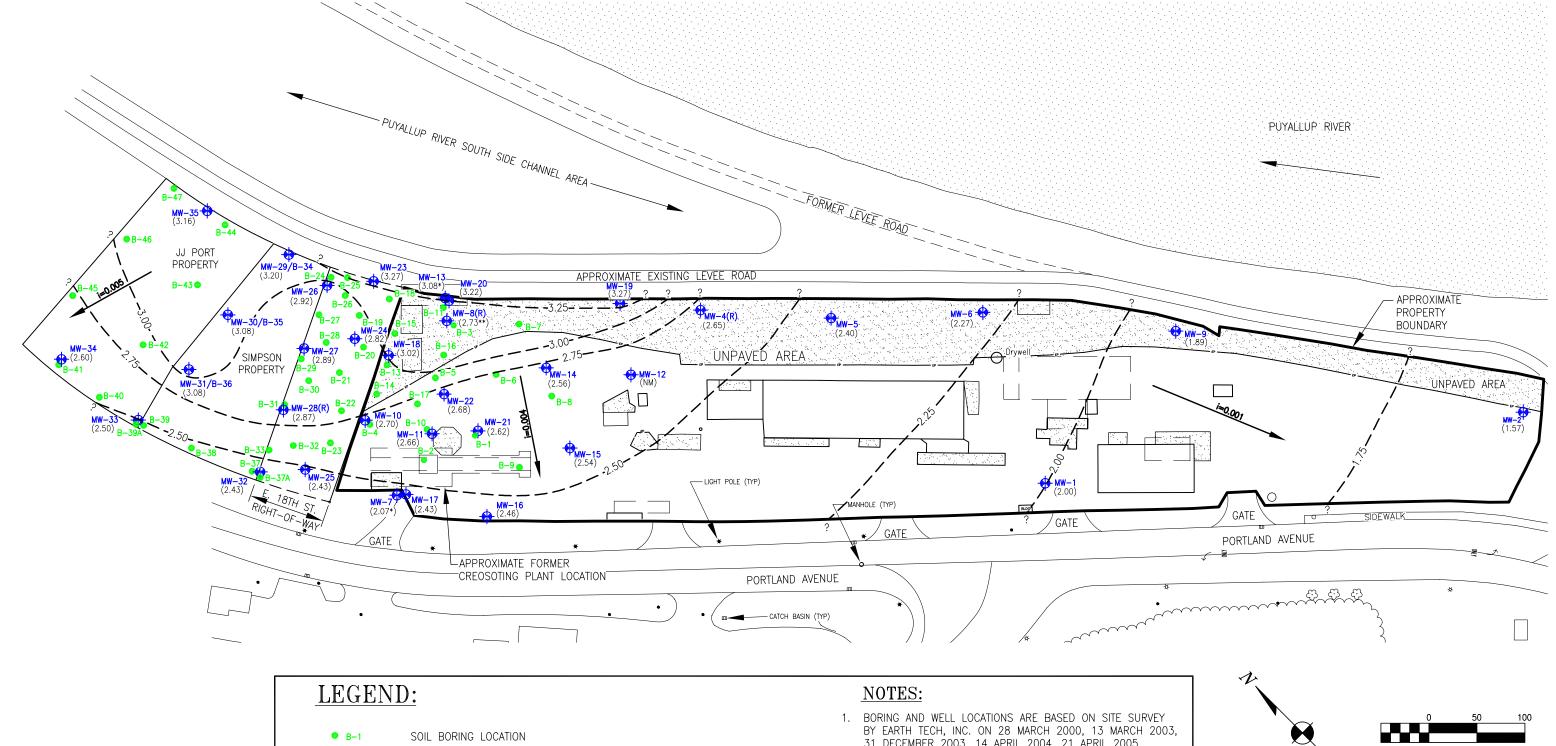
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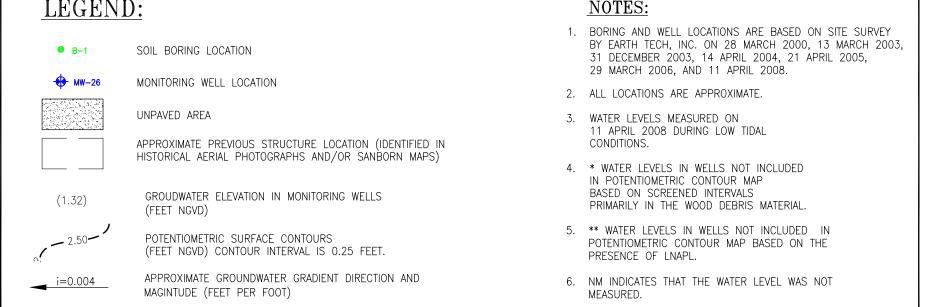
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY TACOMA, WA

> POTENTIOMETRIC SURFACE **CONTOUR MAP** LOW TIDE - 11 APRIL 2008

996098.00\2008 DATA SUMMARY\FIG_07







Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY TACOMA, WA

> POTENTIOMETRIC SURFACE **CONTOUR MAP** HIGH TIDE - 11 APRIL 2008

996098.00\2008 DATA SUMMARY\FIG_08

Attachment 1

Work Plan

Kennedy/Jenks Consultants

Engineers & Scientists

32001 32nd Avenue South Suite 100 Federal Way, Washington 98001 253-874-0555 (Seattle) 253-927-8688 (Tacoma) FAX 253-952-3435

14 March 2007

Ms. Lisa Pearson
Project Manager, Toxics Cleanup Program
Washington State Department of Ecology
Southwest Regional Office
P.O Box 47775
Olympia, Washington 98504-7775

Subject:

Soil and Groundwater Investigation Work Plan

Off-Property Investigation

Simpson Tacoma Land Co. and Comstock GST Trust

Former Tacoma Metals Facility

K/J 996098.00

Dear Ms. Pearson:

This letter presents the work plan for a soil and groundwater investigation at off-property locations associated with the former Tacoma Metals property located at 1919 Portland Avenue in Tacoma, Washington (site). Properties where additional investigation activities will be performed include the Simpson Tacoma Land Co. (Simpson) and Comstock GST Trust (Comstock) properties situated northwest of the site. This Work Plan identifies the scope of work to be performed to further define the lateral limits of hydrocarbon compounds observed in soil and groundwater northwest of the Tacoma Metals property boundary.

Background

Since completion of the Remedial Investigation/Feasibility Study (RI/FS) in 2001, three additional on-property investigations (August 2002, February/March 2003, November/December 2003) have been conducted in the northwestern portion of the property, and three off-property investigations (March 2004, March 2005, and February 2006) have been conducted in the East 18th Street right-of-way and Simpson property northwest of the Tacoma Metals property boundary. These investigations have been performed in the vicinity of a former retort located near the northwestern corner of the site. Existing monitoring wells and previous soil boring locations are shown on Figure 1 (attached).

Data from these on-property and off-property investigations indicates hydrocarbon concentrations in groundwater at levels exceeding Model Toxics Control Act (MTCA) surface water standards and/or applicable, relevant, and appropriate requirements (ARARs) on the northwestern portion of the former Tacoma Metals property, and off-property to the north and west of the site, extending at least to the northwestern boundary of the Simpson property.

The results of these previous onsite and off-property investigations are summarized in our forthcoming Site Data Summary report, which will include data tables, analyte concentration contour maps, and copies of analytical reports. For reference purposes, draft copies of concentration contour maps for naphthalene and carcinogenic polynuclear aromatic hydrocarbons (cPAHs) and a draft elevation contour map of the first-encountered silt layer are provided in Attachment A.

The Washington State Department of Ecology (Ecology) has requested performance of an additional off-property investigation to confirm the northwestern extent of hydrocarbon impacts in groundwater. The purpose of the off-property investigation activities identified herein is to evaluate the potential soil and groundwater impacts northwest of the Simpson property and on the western portions of the Simpson and Comstock properties.

Scope of Work

The scope of work for this investigation includes the following general tasks:

- Advance up to 16 direct-push soil borings to the depth of the first encountered silt/clay layer or, if the silt/clay layer is not encountered, until field indications of contaminant impacts are not evident. Borings may be terminated at 40 feet below ground surface (bgs) where the silt/clay layer is not encountered and contaminant impacts are not evident.
- · Collect soil and reconnaissance groundwater samples from each of the soil borings.
- Install and develop four to six new groundwater monitoring wells at the locations of select direct-push soil borings. Well locations and depths will be selected based on the findings of the direct-push soil borings, including reconnaissance groundwater sample results, and on the locations of existing off-property monitoring wells.
- Collect groundwater samples from new and existing onsite and off-property monitoring wells related to the former retort area, up to 27 wells total.

Specific field activities related to the implementation and performance of these tasks are described below.

Field Activities

Field activities will be conducted in general accordance with the standard operating guidelines presented in the *Work Plan/Sampling and Analysis Plan, Tacoma Metals, Inc. Site*, dated June 1998, prepared for the RI/FS.

Prior to drilling activities, a utility survey will be performed to evaluate the potential for underground utilities at each proposed soil boring/well location. Boring locations may be modified in the field to avoid potential utilities.

In addition, a licensed surveyor will mark the approximate property corners of the Simpson and Comstock properties.

Direct-Push Soil Borings

Up to 16 soil borings will be advanced at off-property locations. Eight soil borings will be advanced initially (refer to Figure 2), and up to eight more will be advanced at locations based on the findings of the initial eight borings. Actual boring locations are subject to change based on utility locations and field observations. A Kennedy/Jenks Consultants geologist will observe the direct-push drilling activities and log soil lithologic conditions and other characteristics. Soil samples will be retained for field screening and chemical analysis, as indicated below. Field screening will include sensory observations, water sheen testing, and headspace screening using a portable photoionization detector (PID).

At least three soil samples from each boring location will be retained for possible chemical analysis, consistent with previous investigations. In general, one soil sample will be retained from:

- 1. The shallow unsaturated zone
- The saturated wood debris zone, or shallow saturated zone if wood debris is not encountered
- 3. The native sand/silt directly above the first encountered silt/clay confining layer, or from the bottom portion of the soil boring if the silt/clay is not encountered (this sample will be collected from the most evidently impacted soil, based on field observations, if applicable).

Field screening will be used to help select soil samples for chemical analysis. Other additional soil samples may also be retained for analysis based on field observations. Soil samples retained for chemical analysis will be analyzed for gasoline-range petroleum hydrocarbons using Ecology Method NWTPH-Gx, for diesel- and oil- range petroleum hydrocarbons using Ecology Method NWTPH-Dx with silica gel cleanup, and for polynuclear aromatic hydrocarbons (PAHs) by Environmental Protection Agency (EPA) Method 8270C, in select ion monitoring (SIM) mode where practicable. Soil samples for gasoline analysis will be collected using EPA 5035 sampling methodology. Soil samples for chemical analysis will be stored in a cooled ice chest pending transportation to a certified analytical laboratory under chain-of-custody protocol.

In addition to the soil samples, attempts will be made to collect reconnaissance groundwater samples at each soil boring location. Reconnaissance groundwater samples will be analyzed for gasoline-range petroleum hydrocarbons using Ecology Method NWTPH-Gx, for diesel- and oil- range petroleum hydrocarbons using Ecology Method NWTPH-Dx with silica gel cleanup, and PAHs by EPA Method 8270C, in SIM mode where practicable.

Monitoring Well Installation

Between four and six groundwater monitoring wells will be installed on the Simpson and Comstock properties. Well locations will be selected based on the findings of the direct-push portion of this investigation, including the laboratory results for soil and reconnaissance groundwater samples, and on the results of previous groundwater monitoring events (primarily the February 2006 event).

Results of the direct-push portion of the investigation, including proposed well locations, will be forwarded to Ecology for review prior to well installation.

Groundwater monitoring wells will be constructed similarly to other deep wells previously installed on-property and off-property in accordance with the *Minimum Standards for Construction and Maintenance of Wells* [Washington Administrative Code (WAC) 173-160]. Wells will be constructed of 2-inch diameter, Schedule 40 polyvinyl chloride (PVC) casing with a 10-foot section of factory-slotted screen (0.010-inch or 0.020-inch slot size) and a 2- to 6-inch sump, as described in Kennedy/Jenks Consultants' previous off-property work plan dated 2 July 2004 and associated correspondence dated 2 December 2004. Where possible, the bottom of the well screen will be installed just below the silt/clay confining layer contact. The top of the well screen interval is anticipated to be approximately 15 to 25 feet bgs; however, final well construction will be based on field conditions.

The wells will be completed at grade using a flush-mounted monument enclosure with a concrete apron, or above grade, based on the property owners' preference. After monitoring well installation, the new wells will be developed by surging with a vented surge block and overpumping with a submersible pump.

Drill cuttings and development water will be contained on the Tacoma Metals property in 55-gallon drums pending disposal.

The vertical elevations of the new wells (top of inner PVC casing), and the horizontal lactations of the soil boring and new wells, will be surveyed by a licensed surveyor.

Groundwater Monitoring Well Sampling

Groundwater samples will be collected from the new off-property wells, and from 21 existing onsite [MW-8(R), MW-10, MW-11, and MW-14 through MW-22] and off-property (MW-23 through MW-31) wells (up to 27 wells total). Groundwater samples will be collected using a peristaltic pump with the bottom of the intake tube positioned just above the top of the well screen interval. The tube intake position is intended to maximize the potential for the entire well screen interval to be represented in the sample. Wells will be purged at a slow rate [less than 0.25 gallons per minute (gpm)] to minimize sample turbidity until field parameters (pH, temperature, and conductivity) are stabilized (approximately three casing volumes). Sampling purge water will be contained in 55-gallon drums and retained on the Tacoma Metals property pending disposal.

Groundwater samples will be submitted for chemical analysis of gasoline-range petroleum hydrocarbons by Ecology Method NWTPH-Gx, for diesel- and oil- range petroleum hydrocarbons by Ecology Method NWTPH-Dx with silica gel cleanup, and for total and dissolved PAHs by EPA Method 8270C, in SIM mode where practicable. Samples analyzed for dissolved PAHs will be filtered by the analytical laboratory using a 0.70-micron glass fiber filter to minimize entrained particulate matter in the samples.

Groundwater samples for chemical analysis will be stored in a cooled ice chest pending transportation to a certified analytical laboratory under chain-of-custody protocol.

Laboratory Analyses

Soil and groundwater samples will be submitted under standard chain-of-custody protocol to Freidman & Bruya, Inc. (Bruya) of Seattle, Washington, for analysis (or equivalent laboratory), and will be analyzed on a standard turn-around basis (approximately two weeks).

Groundwater Elevation Monitoring

Water levels in new and existing monitoring wells will be measured at high and low tidal conditions during a single day. Water levels will be converted to elevations using the surveyed top of casing well elevations, and potentiometric surface maps will be constructed for both high and low tide water elevations.

Schedule

This schedule is dependent upon Ecology's approval of this Work Plan, availability of subcontractors, and attainment of access agreements from property owners. Field activities (direct push borings and sampling) are anticipated to be conducted within approximately 1 month after receipt of Ecology's approval. Monitoring well installation is anticipated to be performed approximately three weeks after completion of the direct-push portion of the investigation. As discussed above, preliminary analytical summary tables will be submitted to Ecology after receipt of final laboratory analytical reports.

If you have any questions regarding the information presented in this Work Plan, please call us at (253) 874-0555.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

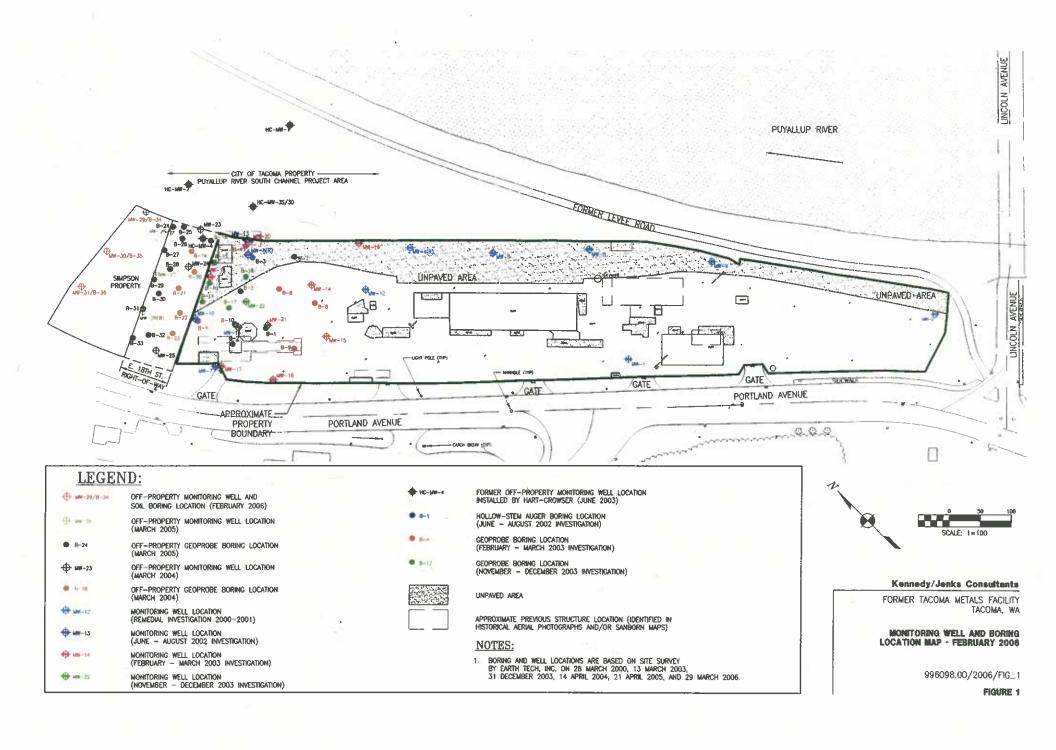
Dean K. Malte, L.G. Project Geologist

Ty C. Schreiner, L.Hg. Industrial Services Manager

Attachments

cc: Mr. Guy Sternal, Eisenhower & Carlson, PLLC Mr. Bill Hengemihle, LECG

Figures





LEGEND:

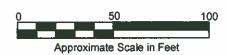
MW-25 ● Existing monitoring well location

Proposed initial direct-push soil boring location. Up to eight additional soil borings may be advanced based on the findings of the initial eight soil borings.

NOTES:

- 1. Monitoring wells will be installed at four to six direct-push boring locations
- 2. All locations are approximate.





Kennedy/Jenks Consultants

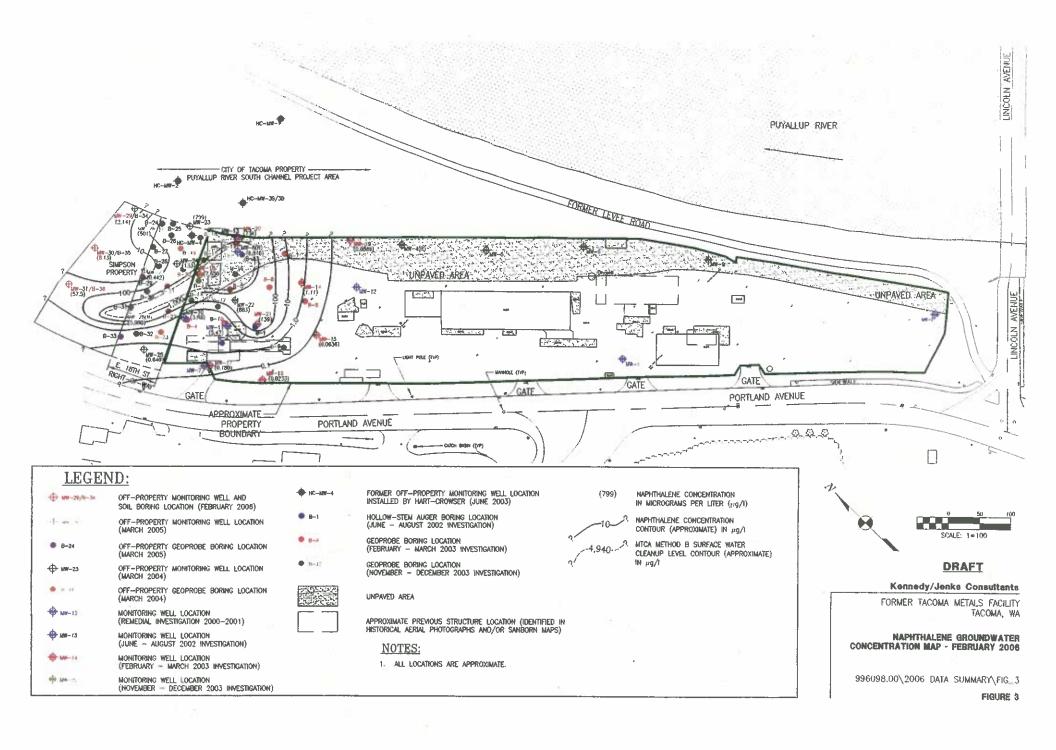
FORMER TACOMA METALS FACILITY TACOMA, WA

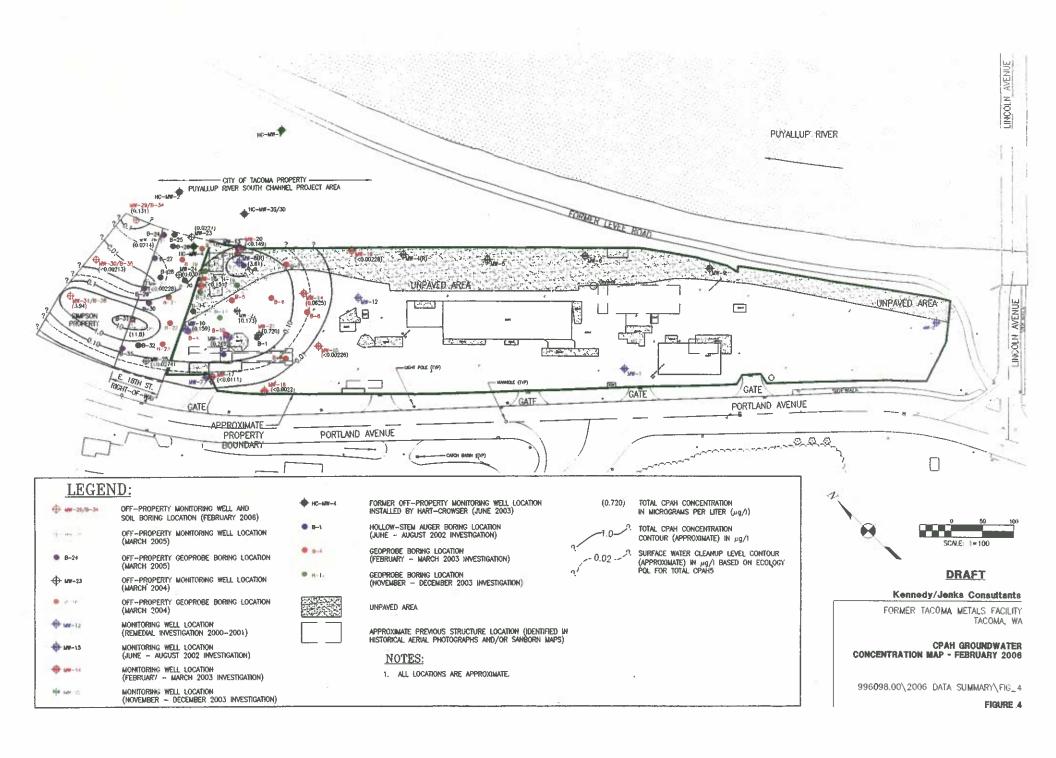
POTENTIAL SOIL BORING AND WELL LOCATION MAP

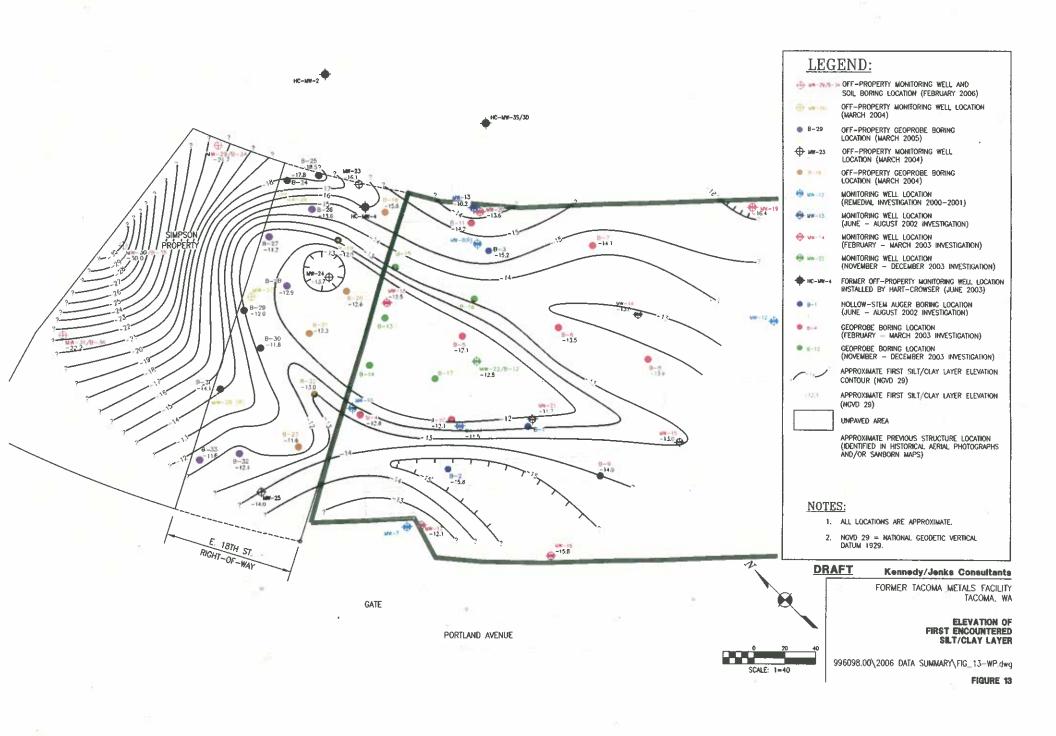
996098.00/FIGURE2.VSD

Attachment A

Draft Concentration Contour Maps and Draft Elevation Contour Map







Attachment 2

Soil Boring and Monitoring Well Construction Logs

BORING LOCA		Proper	tv			D	B-37			
DRILLING CO		· iopul			DRII	LER			Boring Name	
DRILLING ME	THOD(S)	1			DRII	Kas L BIT(S)	SIZE		Project Name	Tacoma Metals
Ged ISOLATION CA	oProbe asing	9			FRC	2-in	ch TO	FT,	Project Number	996098*00
N/A BLANK CASIN	١		· · · · · · · · · · · · · · · · · · ·		FRO	N/A		N/A FT.	ELEVATION AND DATUM ground surface	TOTAL DEPTH 24.0 ft. bgs
N/A	١					N/A		N/A	DATE STARTED 10/29/07	DATE COMPLETED 10/29/07
SLOTTED CAS N/A	١				FRC	M N/A	то	N/A	INITIAL WATER DEPTH (FT)	
SIZE AND TYF N/A		_TER PA(CK		FRC	M N/A	TO	FT. N/A	9.5 LOGGED BY	+= += +=
SEAL Ber	ntonite				FRC		то	FT.	DKM SAMPLING METHODS	WELL COMPLETION
GROUT N/A		***************************************			FRC	M	ТО	FT.	MacroCore with PVC Liner	D SURFACE HOUSING
SAMPLE	∃S	- OFDTU		BACKFILL DETAILS	PID	<u>N/A</u>		N/A	I	STAND PIPE
TYPE RECO	PENETR RESIST BLOWS/	OEPTH (FEET)	SAMPLE NUMBER		FID	LITHOLOGY	USCS		SAMPLE DESCRIPTION AND	DRILLING REMARKS
						\$.	GW	3	graded GRAVEL with sand	
SH 3.5	5					·		_ Well-	n, gravel and sand fill, mois graded SAND with gravel	
		_			0	!		- betwe	ed green-gray/dark gray/ta en different colored layers	, sand with 20-30% grav
							SW	overa	Il (locally variable), some s e, moist, no odor, no sheen	ilt locally, moderately
	***************************************	5-	B37-5-6			· · · ·		_ 30.,50	, no saor, no oneen	•
·SH 3	***************************************		D31-3-0					WOO	D DEBRIS	
		-					Wood	- Dark I	brown to red-brown, wood	material with 5-10% silt
		-						L		· · — — — — — — —
· SH 2.5		10-		<i>돌 </i>	_		SP	Dark	y g <mark>raded SAND</mark> gray, poorly graded mediur	n sand, moderately
7 OF 2.5	']		0	A de de ferrence		dense	e, moist to wet at ~9.5 feet	bgs, no odor, no sheen	
						——————————————————————————————————————	SM	Gray/l	brown, silty fine sand, som rately dense, wet, no odor,	e woody material locally
		-					L	L		
SH 2.5	5	<u> </u> -		-				- Dark	y graded SAND gray, poorly graded mediur	n to coarse sand, local
		15-	B37-14-15	-	0		ower ~3 feet, moderate ote odor 16-20 feet.			
		-						_ otherv	vise no odor, no sheen.	,
	·	-		-			SP	-		
SH 3	·	-		-			0,	-		
			,					ļ .		•
		20-	The state of the s							
• S H 3	***************************************		B37-21-22					_		
	*********	-			0	711	CL/ LML	Silty		mandaust-tratain to the
							SP ML	∖wet, n	silty clay, moderately stiff, o odor, no sheen.	moderately high plastic
NOTES 1. Recon	naissan	ce grour	ndwater sample E	B37-RGW screen se	et 18-2	2 feet bo	js.	Gray,	y graded SAND poorly graded medium sar	nd, moderately dense.
		• •	,			- -	-	wet, n	o odor, no sheen.	
								Gray,	sandy silt, moderately stiff	, low plasticity, wet, no
								loaor,	no sheen.	
			-							
-40.1			***************************************							
-40.3 5-87) (3-88) (8-90										E et 1of

BORING			oma F	Right of Way			Boring Name	B-37A					
DRILLIN	G COMP					DRII	LLER Eli			Project Name	Tacoma Metals		
DRILLIN	G METH GeoF					DRII	LL BIT(S) 2- in			Project Number	996098*00		
ISOLATI						FRO		TO	N/A FT.	ELEVATION AND DATUM	TOTAL DEPTH		
BLANK (FRC		то	FT. N/A	ground surface DATE STARTED	24.0 ft. bgs DATE COMPLETED		
SLOTTE		NG				FRC	M	то	FT.	1/25/08 INITIAL WATER DEPTH (FT)	1/25/08		
SIZE AN	D TYPE	OF FIL	TER PAC	K		FRC		то	N/A FT.	10 LOGGED BY			
SEAL	N/A					FRC		то	N/A FT.	RCZ SAMPLING METHODS	WELL COMPLETION		
GROUT	Bento	onite				FRO		ТО	24 FT.	MacroCore with PVC	WELL COMPLETION D SURFACE HOUSING		
S	N/A AMPLES				BACKFILL OETAILS	1	N/A		N/A	Liner	O STAND PIPE FT.		
TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6*	DEPTH (FEET)	SAMPLE NUMBER	VIIIIIIIIII	PID	LITHOLOGY	uscs Log		SAMPLE DESCRIPTION AND			
- - SH	3	3								y graded GRAVEL with sam n, gravely fill material, mode n.			
SII	3	***************************************]		SP		y graded SAND with grave poorly graded medium-fine			
:						0		SP/	mode	Gray, poorly graded medium-fine sand with 5-10% gray moderately dense, no odor, no sheen. Poorly graded SAND with silt Brown, sand with 30% silt, some organic debris and wo			
						1000	\	SM	Brown				
			5-			SW Wel			Well-	graded SAND with gravel gray, sand with 50% gravel			
- SH	2. 5					0		SW/ SM	\odor,	no sheen. graded SAND with silt	, moderatery dense, no		
-						1		OW	Dark	gray to brown, sand with 30	% silt, moderately dense,		
			_			 		Wood	woo	no odor, no sheen. D DEBRIS Drown to red-brown, wood material with 5-10% silty			
-			_			-				brown to red-brown, wood r <u>k, moist, no odor, no sheen</u>			
- SH	2.3		10-		<i> </i>	1		GW/ GM	L Dark	graded GRAVEL with silt a gray, well graded gravel wit	h 10% fine sand and 20%		
-			4			- 0			_ silt, m	oderately dense, wet, no o	dor, no sheen.		
			T						Gray,	poorly graded medium san I in upper 2 feet, grading to	d, 5% fine to medium		
-			-			-			mode	rately dense, wet, no odor,	no sheen.		
- SH	1.3		-			-			-				
-			15-			4			-				
								SP					
014	0.5												
- SH	0.5								_				
-	:		-			0			-				
	***************************************		20-						-				
-			_			0			-				
- SH	3		_			_			Silty	CLAY			
_			_			-		CL/ ML		silty clay, moderately stiff, o odor, no sheen.	medium-low pasticity,		
NOT	ES					<u> </u>	<u>val</u>		I				
1. R	econna	iss a nc	e groun	dwater sample E	337A-RGW screer	set 18-	-22 feet i	bgs.					

Kennedy/Jenks Consultants

BORING	LOCAT Simp		ropert	······································	**************************************					Boring Name	B-38		
DRILLIN		PANY		•		DRIL	LER Kas	ev		Project Name	Tacoma Metals		
DRILLIN	G METH					DRIL	L BIT(S) 2-in	SIZE			996098*00		
ISOLAT						FRO	M	TO	N/A	Project Number ELEVATION AND DATUM	TOTAL DEPTH		
BLANK	CASING					FRO		TO	FT.	ground surface DATE STARTED	28.0 ft. bgs DATE COMPLETED		
SLOTTE	N/A D CASIN	NG				FRO	N/A M	TO	N/A FT.	10/29/07 INITIAL WATER DEPTH (FT)	10/29/07		
SIZE AN		OF FIL	TER PAC	×		FRO		TO	N/A FT.	9			
SEAL	N/A		_			FRO	N/A	то	N/A FT.	LOGGED BY DKM			
GROUT	Bento	onite				FRO	0	то	28 FT.	SAMPLING METHODS MacroCore with PVC	WELL COMPLETION D SURFACE HOUSING		
	N/A AMPLES		<u> </u>		· · · · · · · · · · · · · · · · · · ·		// N/A		N/A	Liner	☐ STAND PIPE FT.		
TYPE		PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PIO	LITHOLOGY	USCS LOG		SAMPLE DESCRIPTION AND			
-			_				- > 111111	GW		graded GRAVEL with sand gravelly fill material, moderately dense, slightly moist,			
- SH	3		_		-				\no od	for, no sheen.			
-			_			SP/			Dark	gray, sand with 10-15% sili rately dense, moist, no odd			
						SM mo			linode	rately delise, moist, no ode	or, no sheer.		
- - SH	3		5-	B38-5-6					_				
-					-				Silty		/ ailh ann da sahah . da . a		
			_							very fine sand with 30-40% silt, moderately dense, , no odor, no sheen.			
-			_		 			SM	-				
- SH	2.8		10-			0			-				
_								T		rly graded SAND /, poorly graded medi∪m sand, local small (<1/2") silt			
_						noc			nodul	es in lower ~5 feet, modera creosote odor ~15-20 feet	ately dense, wet, possible		
- SH	3.2				-				no sh		bgo, no odor otnerwise,		
-			15-	B38-14.5-15.5	-	0			-				
			_						-				
- SH	2.5		_					SP					
- 311	2.0		_			0			_				
			20-					1	-		•		
-					-				-				
- SH	3.5		-		-				_				
-				B38-22.5-23.5		0			@ ~2	3 feet bgs 1/2" thick layer o	of gr a y/brown silty clay		
1			25-						Silty (Silty clay, some fine sand	ocally moderately stiff		
- SH	4				-			CL/ ML	high p	plasticity, wet, no odor, no	sheen.		
-			_		-			'''-					
NO.	res	<u> </u>		J			ral	! -	L				
		aissand	e grour	ndwater sample (338-RGW s creen se	t 20-2	4 feet b	gs.					

BORING			ropert	у			Boring Name	B-39						
DRILLIN	Caso	ade					LER Ka s	еу		Project Name	Tacoma Metals			
DRILLIN	Geof	Probe				DRIL	L BIT(S) 2-in			Project Number	996098*00			
ISOLATI	N/A					FRO	M N/A	ТО	N/A	ELEVATION AND DATUM ground surface	TOTAL DEPTH 28.0 ft. bgs			
BLANK (N/A					FRO	M N/A	ТО	N/A FT.	DATE STARTED	DATE COMPLETED			
SLOTTE	N/A					FRO	м N/A	то	N/A FT.	10/29/07 INITIAL WATER DEPTH (FT)	10/29/07			
SIZE AN	D TYPE N/A	OF FIL	TER PAC	CK		FRO	M N/A	то	N/A FT.	LOGGED BY				
SEAL	Bente	onite				FRO	M 0	то	28 FT.	DKM SAMPLING METHODS	WELL COMPLETION			
GROUT	N/A					FRO	м N/A	ТО	FT. N/A	MacroCore with PVC Liner	☐ SURFACE HOUSING ☐ STAND PIPE FT.			
TYPE	RECOV (FEET)	PENETR. RESIST. BLOWS/6	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL OETAILS	PIO	LITHOLOGY	USCS LOG	;	SAMPLE DESCRIPTION AND	DRILLING REMARKS			
- - SH	2		_		-			GW	Brown	graded GRAVEL with sand to gray/brown, gravelly fil no sheen.				
-	: 		_		-	Wood Soft				n/red, silty fine sand with 19 noist, no odor, no sheen.	0-20% wood chip material,			
- - sн	3.5		5 -	B39-5,5-6.5	-	WOOD Brown/g materia				D DEBRIS n/gray, wood debris with <5 ial, moist, creosote odor, r	5% silt/sand matrix no sheen.			
_					-			SM	dense sheen	gray, silty sand with some e, moist, possible slight cre l.	wood debris, moderately osote odor, medium			
- sH -	3		10-	B39-10-11	<u></u> -	0			dense, moist, possible slight creosote odor, medium sheen. Silty SAND Tan/gray, fine sand with >40% silt, moderately dense, moist, no odor, no sheen. Poorly graded SAND Dark gray, poorly graded medium sand, coarser sand with					
- SH -	0		- 15 -		-			SP	some no ode	fine gravel in lower ~3 fee or, medium to heavy sheer otherwise.	t, moderately dense, wet,			
- - SH -	3.5		20-	4a	-			or	- -					
- - SH	4			B39-21-22	-	0		ML/	_	y SILT				
-				B39-23-24		0		SP/ SM_	_ Poorly	clayey silt, moderately stift y graded SAND with silt fine sand with 10-15% silt				
- - SH -	4		25 - - -		-			CL/ ML	with in moder Silty C Gray,	terbedded poorly graded s rately dense, wet, no odor,	and to silty fine sand, no sheen.			
	NOTES 1. Reconnaissance groundwater sample B39-RGW screen set 19-23 feet bgs.													

BORING	JJ Po	ort Pro	perty								Boring Name	B-39A	
DRILLIN	IG COM						DRIL	Eli			_	Tacoma Metals	
DRILLIN	IG METH Geof	HOD(S) Probe					DRIL	L BIT(S) 2-in			Project Number	996098*00	
ISOLATI	ION CAS N/A	SING			•		FRO	м N/A	ТО	N/A	ELEVATION AND DATUM	TOTAL DEPTH	
BLANK	CASING N/A						FRO	м N/A	ТО	PT. N/A	ground surface DATE STARTED	28.0 ft. bgs	
SLOTTE	D CASII	NG	·				FRO		то	N/A	1/25/08 INITIAL WATER DEPTH (FT)	1/25/08	
SIZE AN	ID TYPE N/A	OF FIL	TER PAC	СК	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		FRO		ТО	N/A FT.	LOGGED BY		
SEAL	Bent	onite					FRO		то	FT.	RCZ SAMPLING METHODS	WELL COMPLETION	
GROUT							FRO		то	PT. N/A	MacroCore with PVC Liner	☐ SURFACE HOUSING ☐ STAND PIPE FT.	
TYPE	SAMPLES	PENETR. RESIST. BLOWS/6*	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAIL:	s F	PID	піногоел	USCS	.,,,,	SAMPLE DESCRIPTION AND		
- - SH -	-							GW Dark orange/brown, gramoderately dense, no considerately dense, no consider		orange/brown, silty fine san	vith 30-40% sand, heen. 		
			- 5				0		SW/ SM/	_ \mater _ \odor,	ial and 10% gravel, modera no sheen. graded SAND w ith silt	ately dense, moist, no	
- SH	5- H 3 -								SM Wood	Tan/g	ray, silty fine sand with 5-1 e, moist, no odor, no sheen graded SAND with silt	0% gravel, moderately	
_										∏\Dark ∂	praced SAND with Sit orange/brown, fine sand wit o, moist, no odor, no sheen		
~			<u></u>			-			SM 	Brown	D DEBRIS /red, wood debns with up to 50% silt/sand matrix ial, moist, no odor, no sheen.		
- SH -	2.5		10 - -		¥.		0			⁻∖ S ilty S _ \ Tan/g ∖m <u>oist</u> ,			
- - SH <u>-</u>	2.5		- 15 -							- down\	gray, poorly graded mediun wards to medium/coarse sa noderately dense, wet, no o	and, some gravel at 24	
- - SH -	3		-			-	0		SP	-			
- - SH -	2		20 -			The state of the s				-			
- - SH -	3.5		25-			-	0		ML/ CL		y SILT clayey silt with 5% fine san city, wet, no odor, no sheen		
- SH - SH - SH 1. R		aissanc	e groun	dwater sample E	339A-RGW scree	en set	22.	5-26.5 fe	eet bgs.				

BORING		ION ort Pro	perty				Boring Name	B-40					
DRILLIN	NG COMI Caso					DRiL	LER Kas	ev		_	Tacoma Metals		
DRILLIN	IG METH					DRIL	L BIT(S) 2-in	SIZE		Project Number	996098*00		
ISOLAT	ION CAS					FRO		TO	FT. N/A	ELEVATION AND DATUM	TOTAL DEPTH		
BLANK	CASING N/A					FRO		ТО	FT.	ground surface DATE STARTED	28.0 ft. bgs		
SLOTTE	ED CASII	NG				FRO	М	то	FT.	10/29/07 INITIAL WATER DEPTH (FT)	10/29/07		
SIZE AN	ND TYPE	OF FILT	TER PAC	Ж		FRO		то	N/A FT.	9 LOGGED BY			
SEAL	N/A			· · · · · · · · · · · · · · · · · · ·		FRO		то	N/A FT.	DKM SAMPLING METHODS	LAMELL COLUMN ETICAL		
GROUT		onite	4			FRO		TO	28 FT.	MacroCore with PVC	WELL COMPLETION USURFACE HOUSING		
S	N/A SAMPLES				BACKFILL DETAILS	<u> </u>	N/A	T	N/A	Liner	STAND PIPE FT.		
TYPE	RECOV (FEET)	PENETR. RESIST. BLDWS/6*	OEPTH (FEET)	SAMPLE NUMBER	BAON ILL DETAILS	PIO	LITHOLOGY	USCS LOG		SAMPLE DESCRIPTION AND			
-			_		-			ļ		alt surface and base gravel	fill.		
- SH -	3.5		-		-	0		sw	Tan/o	graded SAND with gravel range/brown, sand with 30- I, some silt, moderately der I.			
-			5-		-			SP		y graded SAND			
- SH -	3		\neg]	B40-6.5-7.5				Wood	\mode	n, poorly graded medium sand with 5-10% gravel, trately dense, moist, no odor, no sheen.			
-	-1-4			B40-0.0-7.3	¥			SM	- \Dark	D DEBRIS prange/brown, wood chip m ial, moist, no odor, no shee			
- SH -	3.5		10 -		-	0			− Tan/g variab	ray, fine sand with 30-40% le), moderately dense, moi	silt overall (locally st to wet at ~9' bgs, no		
- - SH -	3.5		- 15 -	B40-14-15					 Tan/gray, fine sand with 30-40% silt overall (locally variable), moderately dense, moist to wet at ~9' bgs, odor, no sheen. Poorly graded SAND Dark gray, poorly graded sand, mostly medium sand top, grading downward to medium/coarse sand mixtle local small (<1") silt nodules ~17-20 feet bgs, moder dense, wet, no odor, no sheen. 				
- - SH -	3		 20		- - -	0		SP	-				
- SH	3.5 B40-21.5-22.5							ML		silt with ~30% fine sand, m			
<u> </u>			25-						<u>'</u>	oity, wet, no odor, no sheen			
- SH	3.5		_		-			SM CL/	Silty S - Brown wet, n	n/gray, fine sand with 15-20 o odor, no sheen.	% silt, moderately dense,		
NO 1. F	TES Reconna	aissanc	e groun	dwater sample E	340-RGW screen so	et 19-23	[∴∵]∭ 3 feet bo	SP/ SM_	Gray/toplastic	an, silty clay, moderately s sity, wet, no odor, no sheen y graded SAND with silt	· · · · · · · · · · · · · · · · · · ·		
SH	Gray, poorly graded medium to fine sand with 10-15% silt, moderately dense, wet, no odor, no sheen.												

BORING			operty				Boring Name	B-41				
DRILLIN	G COMF Casc					DRII	LER Kas	ey		_	Tacoma Metals	
DRILLIN	G METH GeoF					DRII	L BIT(S) 2-in			Project Number	996098*00	
ISOLATI	ON CAS N/A	ING				FRC	M N/A	то	FT. N/A	ELEVATION AND DATUM	TOTAL DEPTH	
BLANK (CASING N/A					FRC		то	N/A	ground surface DATE STARTED	28.0 ft. bgs DATE COMPLETED	
SL.OTTE		1G		, , <u>, , , , , , , , , , , , , , , , , </u>		FRC		TO	N/A	10/30/07 INITIAL WATER DEPTH (FT)	10/30/07	
SIZE AN		OF FIL	TER PAC	CK,		FRC		то	N/A FT.	9.5 LOGGED BY		
SEAL	Bento	nite				FRC		ТО	FT.	DKM SAMPLING METHODS	WELL COMPLETION	
GROUT	N/A	JIIIC				FRC	· · · · · · · · · · · · · · · · · · ·	то	N/A	MacroCore with PVC Liner	SURFACE HOUSING STAND PIPE FT.	
s	AMPLES	PENETR	ОЕРТН	A4110: E 11111055	BACKFILL OETAILS	PIO		uscs	13//	L		
TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6*	OEPTH (FEET)	SAMPLE NUMBER	*///////		LITHOLOGY	LOG		SAMPLE DESCRIPTION AND		
-			-						alt surface and base gravel SAND with gravel	fill.		
- SH -	2		-		-	0		SM	- Tan, f	ine to medium sand with 20 ine moderately dense, moist,		
			5-		-			SP	Brown	y gra d ed SAND n, poorly graded medium to l, moderately dense, moist,		
- SH	3.5		_			0	411	ОН	, -	nic SILT		
				B41-7-8				CL/ ML				
- SН	3		10-		₩	0		ML	L Tan to	tan-brown, silty clay, mod city, moist, no odor, no she	erately stiff, high en.	
				B41-11-12					Gray/l	orown, silt with 30-40% fine e with interbedded clayey s o odor, no sheen.		
- SH -	3		15 -		-	0			Poorty Dark of top co	y graded SAND gray, poorly graded sand, m arsening slightly downward es ~16-20 feet bgs, modera	, local small (<1/2") silt	
- - S H	3				-			S P	-	331.		
			20-			0			-		:	
- - SH -	3.5		 	B41-21.5-22.5					_ Silty S	SAND		
				***************************************				SM 	Gray, □ no ode	fine sand with 20-25% silt, or, no sheen.	moderately dense, wet,	
_			25-	B41-24.5-25.5				SP	_ Poorly	graded SAND poorly graded fine sand, m	oderately dense, wet, no	
- SH -	3.5		_					S P		no sheen.	oddiatoly delise, wet, no	
								gray, clay, moderately stiff, ity, wet, no odor, no sheen				
<u>NOT</u> 1. R		issand	e grour	ndwater sample E	341-RGW screen set	21-2	5 feet bo	js.	Poorly Gray,	r graded SAND poorly graded fine sand, monosheen.		

SHEET ______ OF _____ 1

BORING	G LOCA	TION ort Pro	pperty			٠	Boring Name	B-42				
DRILLIN	VG COM	PANY	<u>, </u>			DRII	LER Kas	201/		_	Tacoma Metals	
DRILLIN	VG MET					DRII	L BIT(S)	SIZE		Project Name		
ISOLAT	TON CA					FRC		TO	FT.	Project Number	996098*00	
BLANK	N/A CASING	;				FRC		ТО	N/A FT.	ground surface DATE STARTED	36.0 ft. bgs	
SLOTTI	N/A ED CASI	NG				FRC	<u>N/A</u> M	TO	N/A FT.	10/30/07	DATE COMPLETED 10/30/07	
SIZE AN	N/A VD TYPE	OF FIL	TER PAC	Ж	.4	FRC	N/A M	ТО	N/A FT.	INITIAL WATER DEPTH (FT)		
SEAL	N/A					FRC	N/A		N/A FT.	LOGGED BY DKM		
GROUT		onite				FRO	0		36 T.	SAMPLING METHODS MacroCore with PVC	WELL COMPLETION SURFACE HOUSING	
L	N/A SAMPLES	,	ı			T	N/A		N/A T	Liner	O STAND PIPE FT	
TYPE		PENETR, RESIST. BLOWS/6*	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PIO	LITHOLOGY	USCS LOG		SAMPLE DESCRIPTION AND		
- SH	2	***************************************	-		-		0 / /	GW	Brown	graded GRAVEL with sand n to gray, gravelly fill with > e, moist, no odor, no sheen	40% sand, moderately	
-			_ 5 -	B42-5-6]		sw	Grant	graded SAND with gravel ular fill material including charcoal and rock nents, moderately loose, no odor, no sheen.		
- SH -	SH 2 B42-5-6 - 4.9									WOOD DEBRIS Brown to red/brown, wood debris with 5-10% silty matrix, moist to wet at ~9 feet bgs, slight creosote odor, light		
-	·				<i>-</i>	0				below ~12 feet bgs, slight	t creosote odor, light	
- SH -	2		10 -		-				<u>-</u>			
_			_					Wood	_			
- sh	1.5		_		-			-				
			15 -		- William -				<u> </u>			
- - SH	2				-				-			
-	2		_		-	0			F			
			20 -		-					y graded SAND poorly graded fine to mediu	and come Share to	
- SH -	2.5			B42-22 - 23	-	0		SP	- blocky	wood debris locally, mode no sheen.		
-				B42-24.5-25.5	-	0			<u> </u>			
- SH	3				-			CL/ ML	Silty (
			-		-				- ∖wet n	ray, s ilty clay, moderately s o odor, no sheen.	tiff, medium plasticity,	
- SH	3		- 30 -					SP	Gray,	y graded SAND poorly graded sand, mostly	medium sand,	
- Q				B42-30-31		0	خبد	ML	modei no she	rately dense, wet, possible een.	very faint creosote odor,	
97176									Sandy	/ SILT ray, silt with 30-40% fine to	very fine sand	
g-SH	4		35 -		-			SP	- ∖modei	rately stiff, wet, no odor, no y graded SAND		
SH				1			<u> </u>	Gray,	poorly graded medium to c	oarse sand, up to 15%		
NO 1. F	TES Reconn	aissanc	e groun	dwater sample E	342-RGW screen s	et 22-2	6 feet b	gs.		-33-34 feet bgs, otherwise, wet, no odor, no sheen.	<5% siit, moderately	
47 200												
10 B												
NO NO 1. FO W 10 847 2007.6PJ												
Ŏ ≊												
\$ 7 8												

BORING	S LOCAT	ION									<u> </u>			
	JJ Po	ort Pro	operty				Loon	1.55			Boring Name	B-43		
DRILLIN	IG COMP		Ŧ					LLER Kas	sey		Project Name	Tacoma Metals		
DRILLIN	IG METH GeoF	OD(S)					DRII	LL BIT(S) 2-in			Project Number	996098*00		
ISOLAT	ION CAS N/A	SING					FRO		тО	FT. N/A	ELEVATION AND DATUM	TOTAL DEPTH		
BLANK	CASING						FRO	M	TO	FT,	ground surface DATE STARTED	44.0 ft. bgs DATE COMPLETED		
SLOTTE	N/A ED CASII	NG					FRO		TO	N/A FT.	10/30/07 INITIAL WATER DEPTH (FT)	10/30/07		
SIZE AN	N/A ND TYPE	OF FIL	TER PAC	X			FRO	N/A M	TO	N/A FT.	10			
SEAL	N/A						FRO	N/A		N/A FT.	LOGGED BY DKM			
GROUT	Bento	onite						0		44	SAMPLING METHODS MacroCore with PVC	WELL COMPLETION USURFACE HOUSING		
	N/A		, <u>.</u>	t · · ·	T		FRC	N/A	то	N/A	Liner	STAND PIPE FT.		
TYPE	RECOV (FEET)	PENETR. RESIST. BLOWS/6	DEPTH (FEET)	SAMPLE NUMBER	BAC	KFILL DETAILS	PID	LITHOLOGY	USCS LOG		SAMPLE DESCRIPTION AND	DRILLING REMARKS		
- - SH	2.5			administrative to the control of the					sw	Gray/	graded SAND with gravel orange/dark gray, Sand ar ial, cinders, rock fragment	nd gravel (20-30%) fill		
-			ا ا				0.5		1		no sheen.	s, some siit, moist, no		
-			5-				1				DD DEBRIS n, wood material with 5-10% gray silty matrix			
- SH	2.5		h -	B43-6-7			0			- mater	ial, matrix varies locally fro t at ~10 feet bos, no odor.	m <5% up to ~20%, moist		
			_]			- 10 110	10 1001 595, 110 0001,			
- - SH	1.5		10-		-		_		Wood	od				
-	1,0		"_		F		- 0			-				
_			-				1							
- SH	2.5		_				-							
			15-	B43-14.5-15.5			1 0			ŧ	y grad ed S AND poorly graded sand, mostl	y medium sand at top		
-							-			gradir	ng to fine sand at bottom, s ~5 feet, moderately dense	some woody material in		
- SH -	3		-							creos	ote odor ~27-33 feet bgs, o	otherwise no odor, no		
			20-							-				
- SH	3.5						- 0			-				
-			-]					
-			25-				-		SP	_				
- SH 	3.5		_				_ 0							
							 			-	,			
- - SH	3.5		30-	B43-28.5-29.5						-				
-			-				- 0			-				
_							1			-				
- SH	3.5		 	B43-34.5-35.5			- 0			-				
			35-	B40-34.5-33.5]		ΜΠ	- Claye	y SILT			
- - SH	3.5		-				_ 0				clayey silt, moderately stif or, no sheen.	f, medium plasticity, wet,		
- 311	3.5		-							Poorl	y graded SAND	m to coope and at the		
			40-					 	SP	gradin	poorly graded sand, media og to mostly medium sand	by ~39 feet bgs, local		
- SH	3		-				+			bgs, n	(<1") silty fine sand layers noderately dense, wet, no	or nodules below ~38 feet odor, no sheen.		
-							1		<u> </u>	<u> </u>				
	TES	iccono	a arour	adwater sample [242 04	GW serses	ot 26.2	O foot be	- ae					
1. 5	ACCOUNTS.	aioodii(e groun	ndwater sample E	つみひ-尺り	G M Screen :	561 70-Y	o reer b(ys.					

SHEET __1__OF __1__

BORING	JJ-Po	ort Pro	perty				Boring Name	B-44			
DRILLIN	Caso	ade					LLER Kas				Tacoma Metals
DRILLIN	GeoF	robe				DRÍ	LL BIT(S) 2-in	ch		Project Number	996098*00
ISOLATI	N/A	ING				FRC	N/A	то	N/A		TOTAL DEPTH 40.0 ft. bgs
BLANK (N/A					FRC	N/A	то	FT. N/A	DATE STARTED	DATE COMPLETED
SLOTTE	N/A					FRC	M N/A	то	FT. N/A	10/31/07 INITIAL WATER DEPTH (FT)	10/31/07
SIZE AN	D TYPE N/A	OF FIL	TER PAC	K		FRC		то	FT. N/A	LOGGED BY	
SEAL	Bente	onite				FRC		то	FT. 40	DKM SAMPLING METHODS	WELL COMPLETION
GROUT	N/A					FRC		ТО	FT. N/A	MacroCore with PVC Liner	☐ SURFACE HOUSING ☐ STAND PIPE FT.
TYPE	AMPLES	PENETR. RESIST. BLOWS/6*	OEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	uscs Log		SAMPLE OESCRIPTION AND	DRILLING REMARKS
-		BLOWS/0	_				5	GW		graded GRAVEL	
- SH -	3			B44-2-3				SM ML	Silty		
								Wood	SILT	o gray, silty fine sand fill, m	
- SH	3		5 -			soft, r	brown, silt, abundant fine w noist, no odor, no sheen.	ood material, moderately			
-			-		¥				-\Brown	D DEBRIS n/red-brown, wood debris w	
- - SH	2		- 40		-			ML	_ \overa	ll, matrix locally variable <5 no sheen.	
- on -			10 -					ML	1 1 -	y SILT with gravel gray, silt/sand mixture with	some gravel, verv
_			_					SP 		/soft, moist to wet at ~8 fee	
- SH	2.5		15-	B44-14-15			the ferresserence		Gray,	silt, soft, low placticity, wet	, no odor, no sheen.
_			- 13				444-444-444-444-444-444-444-444-444-44	SM	- Grav.	y graded SAND poorly graded medium san <u>o odor, no sheen.</u>	d, moderately dense,
- - SH	2		-				, ————————————————————————————————————		Silty	SAND	
			- 20 -			0	1		poorly	fine sand with 30-40% silt of graded sand with silt, silty	sand, and sandy sitt,
- 611	<u>, , , , , , , , , , , , , , , , , , , </u>				-				⊢ /mode	contact is sharp but depth in rately dense, wet, no odor,	
- SH -	2.5		-			0			- Gray,	y graded SAND poorly graded sand, fine to	
-			25 -					SP	mode	ig gradually to medium/coa rately dense, wet, slight cre i at ~24-26 feet bgs and bel	osote odor and light
- SH	2.5			B44-25.5-26.5		^		32		o sheen otherwise.	ow ~so leet bgs, no odor
						0			F		
- - SH	2		30 -						<u> </u>		
				B44-31.5-32.5		0		CL/	- Silty (CLAY	
								ML.	口 Dark b	prown, silty clay, moderately or, no sheen.	y stiff, high plasticity, wet,
- SH -	3		35 -			0			Poort	y graded SAND	
								SP	gradin	poorly graded sand, fine to g to medium/coarse sand b	by ~37 feet bgs,
- SH	3					•			model	rately dense, wet, no odor,	no sneen.
			40-			0					
<u>NO</u> 1. R		issanc	e groun	idwater sample E	344-RGW screen se	t 28-3	2 feet bo	js.			

SHEET __1__OF __1__

		OCATIO JJ Por	t Pro	perty							Boring Name	B-45	
	(COMPA Casca	de					.LER K as	еу		_	Tacoma Metals	
DRIL	LING (метно GeoPr	D(S) Obe				DRIL	L BIT(S) 2-in			Project Number	996098*00	
ISOL		N CASIN V/A	IG				FRO	M N/A	то	FT. N/A	ELEVATION AND DATUM	TOTAL DEPTH	
BLA		SING V/A					FRO		то	FT. N/A	ground surface DATE STARTED	28.0 ft. bgs DATE COMPLETED	
SLO	TTED	CASING	3				FRO		то	FT.	10/30/07 INITIAL WATER DEPTH (FT)	10/30/07	
SIZE	AND	TYPE O	F FILT	ER PAC	CK .		FRO		TO	N/A	8 LOGGED BY		
SEA	L	3entor	nito C	`hinc			FRO	М	то	FT. 28	DKM SAMPLING METHODS	WELL COMPLETION	
GRO	DUT	V/A	iiie C	zi iibə			FRO		то	FT.	MacroCore with PVC	☐ SURFACE HOUSING	
	SAN	//PLES		DEBTU		BACKFILL DETAILS	PID	N/A	USCS	N/A		STAND PIPE FT.	
TYF	PE R	RECOV. R (FEET) BL	ENETR. ESIST, .OWS/6*	DEPTH (FEET)	SAMPLE NUMBER			LITHOLOGY	LOG		SAMPLE DESCRIPTION AND	DRILLING REMARKS	
								, \$.			graded GRAVEL with sand gravelly fill with 40-45% san		
- SH	1	2.5		-		-			GW		no sheen.	a, moderatory derice, no	
-											graded SAND		
	1			-		-	+			Dark	gray, granular material with e-like fragments, no odor, i		
- SH	,	2.5		5 -			- CL			Silty	CLAY		
	SH 2.5 B45-6-7								ML	plastic	ge/gray to gray, silty clay, m city, moist, no odor, no she	en.	
	-			_		-	0				y graded SAND		
-	ŀ									├ mediu	Gray, poorly graded mediur im/coarse sand mixure by ~	n sand, grading to -15 feet bgs, moderately	
- SH	1	3.5		10-		-				dense	e, wet, no odor, no sheen.		
t	ı			7 1	B45-11-12		0			-			
				_]									
- SH	,	2		-		-				-			
-				15-		- ((((((0		SP	-			
<u> </u>				_		-				-			
<u> </u>	_			-		-	0			F	7 F fact has 14 F tack attack		
- SH		2.5								L @ ~1.	7.5 feet bgs, ~1.5 inch silt la	ayer or nodule	
				20-		-	0			_			
-				¬						-			
- SH	1	3.5		╛┧	B45-21-22					Silty	CLAY		
9			-	-					CL/ ML	- Tan/lig	ght brown, silty clay, moder lasticity, wet, no odor, no sl	ately stiff, moderately heen.	
0//6				2-									
§ È-SH		3.5		25-			0		SP/ SM	Gray,	y graded SAND with silt poorly graded fine sand wit	h 10-15% silt, moderately	
- SH				4		-			SP		, wet, no odor, no sheen. y graded SAND	-	
										Gray,	poorly graded medium to find the state of the poorly graded medium to find the poorly of the poorly	ne sand, moderately	
1 1		OTES . Reconnaissance groundwater sample B45-RGW screen set 18-22 feet bgs.											
7 10													
KJ PNW LOGS B37 TO B47 2007.													
M LO													
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BORING										<u> </u>		
DRILLIN			operty			DRII	LER			Boring Name	B-46	
	Casc	ade					Kas L BIT(S)	ey		Project Name	Tacoma Metals	
DRILLIN	GeoF	Probe					2-in	ch		Project Number	996098*00	
ISOLATI	N/A	ING	·			FRO	M N/A	то	N/A	ELEVATION AND DATUM ground surface	TOTAL DEPTH	
BLANK (CASING N/A					FRO	M N/A	TO	N/A	DATE STARTED	32.0 ft. bgs	
SLOTTE	D CASIN	1G			***************************************	FRO		TO	N/A	10/31/07 INITIAL WATER DEPTH (FT)	10/31/07	
SIZE AN	ID TYPE N/A	OF FIL	TER PAC	Ж		FRO		TO	N/A	LOGGED BY	, , , , , , , , , , , , , , , , , , ,	
SEAL	Bento	nite				FRO		то	32 FT.	DKM SAMPLING METHODS	WELL COMPLETION	
GROUT	N/A	Jinto .				FRO	M	то	FT.	MacroCore with PVC Liner	☐ SURFACE HOUSING	
S	AMPLES	Inches P	DEBTU		BACKFILL DETAILS	PID	N/A	USCS	IN/A		STAND PIPE FT.	
TYPE	RECOV. (FEET)	RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER		1.10	LITHOLOGY	LOG		SAMPLE DESCRIPTION AND	DRILLING REMARKS	
_			_							graded SAND with gravel n, sandy fill with 10-20% gravel, some silt,		
- SH	3		_		-		ļ: · · .	sw	mode	rately dense, moist, no odc	or, no sheen.	
-			_		-	- 0 []				-		
			_		-					y graded SAND with silt n, fine sand with 10-20% sil	t. moderately dense	
-			5-		-				moist	to wet at ~9 feet bgs, no o	dor, no sheen.	
- SH -	3			B46-6-7		0		SP/				
			_		후 ///////// -	, v		SM				
-			_		-				-			
- SH	3.5		10-		-				-			
-					-	0		Wood	WOO	D DEBRIS		
			_		-				☐ Dark I	orown to orange-brown, wo material, wet, no odor, no	od debris, 5-10% sandy sheen	
- 011				B46-13-14		Sin			Silty S	SAND		
- SH -	4		15-					SM	Dark (gray, fine sand with 20-30% o odor, no sheen.	silt, moderately dense,	
					-							
-					-				_			
- SH	3		-		-	0				y graded SAND poorly graded medium san	d, local small (<1/2") silt	
-			_		-			SP	nodule	es, moderately dense, wet,	no odor, no sheen.	
			20-	T 40 01 00	-	_						
- SH	3.5			B46-21-22		0		ML	- Sandy	SILT		
-	0.0		-					CL/		silt with ~40% fine sand, m no sheen.	oderately stiff, wet, no	
			_					ML.	Silty (CLAY		
-			25-				, , , , , , , , , , , , , , , , , , ,	SM	<u></u> <u>mode</u> ı	o gray, layered, silty clay, m rately high plasticity, wet, n	o odor, no sheen.	
- SH	4		-					J,	Silty S Gray,	SAND fine sand with 30-40% silt,	moderately dense, wet,	
-			-			0			no ode	or, no sheen. y graded SAND	<u>, , , , , , , , , , , , , , , , , , , </u>	
			-						Gray,	poorly graded medium san	d, moderately dense,	
- SH	3.5		30-					SP	wei, n	o odor, n o sheen.		
-												
<u>NO1</u> 1. R		issanc	e groun	dwater sample E	346-RGW screen s	et 17-2	1 feet bo	gs.				
]				•			•					

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BORING											
DRILLIN			perty			I DRII	LER			Boring Name	B-47
	Caso	ade					Kas	sey		Project Name	Tacoma Metals
DRILLIN		10D(S) Probe				DRIL	L BIT(S) 2-in			Project Number	996098*00
ISOLAT	ON CAS	SING				FRO	FROM TO FT N/A N/A		FT.	ELEVATION AND DATUM	TOTAL DEPTH
BLANK	CASING	·····				FRO	M	то	FT,	ground surface DATE STARTED	36.0 ft. bgs
SLOTTE	N/A D CASII	VG				FRO	<u>N/A</u> м	ТО	N/A FT.	10/31/07	DATE COMPLETED 10/31/07
CIZE AN	N/A	OF 511	TER PAC	**			N/A		N/A	INITIAL WATER DEPTH (FT) 8	
	N/A	OF FIL	IER PAC	.n		FRO	N/A	ТО	N/A	LOGGED BY DKM	
SEAL	Bente	onite				FRO	м О	то	FT. 36	SAMPLING METHODS	WELL COMPLETION
GROUT	N/A					FRO		то	FT.	MacroCore with PVC Liner	☐ SURFACE HOUSING ☐ STAND PIPE FT.
5	AMPLES		DEDTU		BACKFILL DETAILS	PID	IV/A		18//-		D STAND FIFE FT.
TYPE	RECOV (FEET)	PENETR. RESIST. BLOWS/6*	DEPTH (FEET)	SAMPLE NUMBER	V /////////	PID	LITHOLOGY	USCS		SAMPLE OESCRIPTION AND	
- - SH -	3		- - -		- - -	0		SW/ SM	Brown	raded SAND with silt and gr to dark brown, gravelly fill wit oderately dense, moist, no od	h 40-45% sand and 5-10%
- SH -	1.8		5-	B47-6-7	- - -	0		GM	Grave	RAVEL with sand lly fill with 30-40% sand and 1 , moist, no odor, no sheen.	0-15% silt, moderately
- SH -	4		10 -		-	0		ML/ CL SP SM	/ \odor, r	/ SILT clayey silt, moderately soft, m no sheen. / graded SAND	edium plasticity, wet, no
- - SH -	3		15-	B47-13-t4	-	0		ML CL SM	Gray, odor, r Silty S	poorly graded medium sand, r no sheen. AND	
- - SH -	0		- - - 20-		-		*		Sandy Gray,	silt with 30-40% fine to very fir o odor, no sheen.	
- - SH -	1.5		_ _ _			0		GP/ GM	plasticSiity S	gray, clay, some fine root mate ity, wet, no odor, no sheen. AND rown, fine sand with 35-45% :	
- - SH	2.5		25			0			_ moder Poorly	ately dense, wet, no odor, no graded GRAVEL with silt ar	sheen. nd sand
- - • SH	3.3		30 -	B47-30.5-31.5	-	0		SP	materi - \ sample - \no mai - Poorly - Gray, p	preen to dark gray, angular me al with up to 15% silt/sand ma e recovery, ~6 inches of white trix at top of unit, dense, wet, I graded SAND poorly graded medium sand, s	trix material, generally poor fractured rock material with no odor, no sheen.
- - SH	3.5		35=		-	0		ML/ CL. SP ML/ CL	Clayey Tan/br	ately dense, wet, no odor, no : strict own, clayey silt, moderately str. no sheen. caraded SAND	
	NOTES 1. Reconnaissance groundwater sample B47-RGW screen set 28-							SP	Gray, j sheen. Sandy Gray, i	clayey SILT nterbedded clayey silt and por	orly graded medium to
									abrupt Poorly Gray, p grading	sand with silt, layers typically contacts, wet, no odor, no ship graded SAND poorly graded sand, coarse to g to fine/medium sand by ~35 reet, moderately dense, wet, no	een. medium sand at top 5 feet bgs, some silt below

BORING			t Riaht	of Way	· · · · · · · · · · · · · · · · · · ·					Well Name	MW-32	
DRILLIN		PANY				DRIL	LER Sco)tt			Tacoma Metals	
DRILLIN						DRIL	L BIT(S) 9-in	SIZE		. 10,000 Humo	996098*00	
ISOLATION CASING N/A							м N/A	TO	N/A	Project Number	TOTAL DEPTH	
BLANK CASING							м 0	то 1	4.15 FT.	ground surface DATE STARTED	24.5 ft. bgs DATE COMPLETED	
2-inch Schedule 40 PVC Pipe SLOTTED CASING							24.15 M	то	24.5 FT.	2/29/08 INITIAL WATER DEPTH (FT)	2/29/08	
SIZE AN	D TYPE	OF FIL	TER PAC	K	0.010 inch slots	FROI		TO	24.15 FT.	88		
SEAL				2 Monterey Sa	and	FROI	<u>12</u> м	то	24.5 FT.	LOGGED BY DKM		
GROUT	Pure	Gold	Bento	nite Chips		FRO	<u>1</u> м	то	12 FT.	SAMPLING METHODS Split Spoon	WELL COMPLETION SURFACE HOUSING	
S	Conc AMPLES	rete			WELL CONSTRUCTION	<u>l. </u>	0		<u>1</u>	opin oposii	☐ STAND PIPE FT.	
TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6*	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION		LITHOLOGY	USCS LOG		SAMPLE DESCRIPTION AND		
-			_				0	G₽	1	y graded GRAVEL with sain, gravelly fill material, modeen.		
-			-					SP	☐ Gray,	y graded SAND with grave poorly graded medium-fine rately dense, no odor, no sl	sand with 5-10% gravel,	
-			-		-			SP/ SM	Poorl	y graded SAND with silt n, sand with 30% silt, some		
			5-					SW	_chip_n	naterial, soft, no odor, no sl graded SAND with gravel		
							•	SW/ SM	Dark	gray, sand with 50% gravel, moderately dense, no no sheen.		
_					-				Well-g	graded SAND with silt	0/ -34	
_			_		-			Wood	moist,	gray to brown, sand with 30 , no odor, no sheen.	% siit, moderately dense,	
-			10-), , , , , , , , , , , , , , , , , , ,	GW/ GM	Dark I	D DEBRIS prown to red-brown, wood n	naterial with 5-10% silty	
-			_					_GIVI_		r, moist, no odor, no sheen. graded GRAVEL with siit a		
-			-						\Dark o	gray, well graded gravel with oderately dense, wet, no od	h 10% fine sand and 20% dor, no sheen.	
-			-						Poorly	y graded SAND poorly graded medium san		
L			-						- gravel	I in upper 2 feet, grading to rately dense, wet, no odor,	fine sand by 20-21 feet,	
 			15-						_ model	rately delise, wet, no odor,	no sheem.	
_			-					SP	L			
-			_						-			
_			-			İ			-			
-						}			-			
ss	1.5	7	20-						-			
ss	.5	8 5 8	-					SP/	- Gray,	y graded SAND with silt poorly graded fine to medic rately dense, wet, no odor,	om sand with ~15% silt, no sheen.	
ss	1.5	8 3 3	-			ľ		SM	-	, , ,		
		3	-			ľ		CL/ \ ML	Silty C			
<u>NOT</u> 1. Li		for up	per 20 f	eet is based on	B-37A.			······································		silty clay, moderately stiff, i o odor, no sheen.	nedium-low plasticity,	
	~,	•										

BORING	JJ Po	ion ort Pro	perty						Well Name	MW-33
DRILLIN	DRILLING COMPANY Cascade								Project Name	Tacoma Metals
DRILLIN	IG METH HSA	OD(S)				DRILL BIT(s) SIZE inch		Project Number	996098*00
ISOLAT	ISOLATION CASING N/A							FROM TO FT. N/A N/A		TOTAL DEPTH
BLANK	BLANK CASING 2-inch Schedule 40 PVC Pipe							14.15 FT. 24.5	ground surface DATE STARTED	24.5 ft. bgs DATE COMPLETED
SLOTTE	D CASIN	1G			0.010 inch slots	24.1 FROM 14.1	TO	FT. 24.15	2/28/08 INITIAL WATER DEPTH (FT)	2/28/08
SIZE AN	D TYPE	OF FILT	ER PAC	K 2 Monterey Sa		FROM	то 2	FT. 24.5	LOGGED BY	
SEAL				nite Chips		FROM	то 1	FT.	DKM SAMPLING METHODS	WELL COMPLETION
GROUT						FROM	то 0	FT.	Split Spoon	■ SURFACE HOUSING □ STAND PIPE FT.
TYPE	RECOV. (FEET)		DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLO	Hece		SAMPLE DESCRIPTION AND	
KJ PNW LOGS B37 TO B47 Z007 GPJ KJ PNW GDT 5/708 S	1.5 1 1.5	8 12 15 8 15 16 10 6 4	10- 15- 20-	eet is based on	B-39A.		GW SW/ SM SW/ SM SW/ SM SM SW/ CL	Dark of mode Well-st odor, Well-st odense Well-st odense WOOI Brown mater Silty S Tan/g moist, Poorly Dark of downy 20-24	ial and 10% gravel, moderno sheen. graded SAND with silt ray, silty fine sand with 5- to moist, no odor, no sheer graded SAND with silt orange/brown, fine sand w to moist, no odor, no sheer of DEBRIS fred, wood debris with up ial, moist, no odor, no she sAND ray, fine sand with 30-40% no odor, no sheen. graded SAND gray, poorly graded medium wards to medium/coarse s feet bgs, moderately dens	with 30-40% sand, sheen. Ind with 10-20% wood chip rately dense, moist, no solution of the same of th

<u> </u>											
BORING			perty							Well Name	MW-34
DRILLING	G COMP Casc					DRII	LER Sco	ott		Project Name	Tacoma Metals
DRILLING	G METH HSA	OD(S)				DRII	L BIT(S) 9-in	SIZE		Project Number	996098*00
ISOLATIO		ING				FROM TO FT. N/A N/A			ELEVATION AND DATUM	TOTAL DEPTH	
BLANK C	ASING	h Sch	edule	40 PVC Pipe				15.5 FT. 25.6	ground surface DATE STARTED	26.0 ft. bgs DATE COMPLETED	
SLOTTE	D CASIN	1G			0.040 (11-1-	FRO		то	FT.	2/28/08 INITIAL WATER DEPTH (FT)	2/28/08
SIZE ANI	D TYPE	OF FIL.	TER PAC	K	0.010 inch slots	FRO		то	25.5 FT.	9 ` ´	
SEAL.	Lapis	Lust	rr #2/1	2 Monterey S	and	FRO	13.5 M 1	ТО	25.6 13.5 FT.	LOGGED BY DKM	
GROUT	Pure	Gold	Bento	nite Chips		FRO	25.6	то	26	SAMPLING METHODS	WELL COMPLETION ■ SURFACE HOUSING
	Conc	rete				ITAC	0	10	FT. 1	Split Spoon	☐ STAND PIPE FT.
TYPE		PENETR. RESIST. BLOWS/6*	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION		LITHOLOGY	uscs Log		SAMPLE DESCRIPTION AND	DRILLING REMARKS
		, ,			,				Aspha	alt surface and base gravel	fill.
										SAND with gravel ine to medium sand with 20	0.050/ oilk and 5.450/
_			_					SM		l, moderately dense, moist,	
-			_						1	y graded SAND n, poorly graded medium to	coarea cond ~E0/ fine
}	-		5-					SP	grave	I, poorly graded medicin to I, moderately dense, moist,	no odor, no sheen.
			-					ОН	_	nic SILT prown to dark gray, silt with	obundant organio
										ial including woody debris,	
							M	CL/ ML	Silty (CLAY	
					-					tan-brown, silty clay, mod city, moist, no odor, no she	
			10-					ML	Sandy	/ SILT prown, silt with 30-40% fine	
									texture	e with interbedded clayey so odor, no sheen.	
									Poorly	y graded SAND	
_			_						top co	gray, poorly graded sand, n arsening slightly downward	l, local small (<1/2") silt
			4-						nodule no she	es ~16-20 feet b g s, modera een.	itely dense, wet, no odor,
			15-								
								SP			
			20-						Ĺ		
ss	1.5	9 13 15	207						-		
ss	1.5	13 15 18	_					SM	_ Silty S	SAND	
ss	1.5	10 15 18						SP	Gray, - \no odd	fine sand with 20-25% silt, or, no sheen.	moderately dense, wet,
ss	1.5	10 12 15	25-		-			ML/	Gray,	, graded SAND poorly graded fine sand, m no sheen.	oderately dense, wet, no
NOT								CL SP/	Claye	y SILT	
1. Lithology for upper 20 feet is based on B-41.								LSM_	plastic	clayey silt, moderately stiff ity, wet, no odor, no sheen	, moderately high
									1 -	graded SAND with silt poorly graded fine sand wil	h some silt, moderately
										, wet, no odor, no sheen.	-
I											1

SHEET __1__OF __1__

BORING	LOCAT	ION										
	JJ Po	ort Pro	perty								Well Name MW-35	
DRILLIN	G COMF							DRILLER Scott				Tacoma Metals
DRILLIN	IG METH HSA	IOD(S)					DRII	DRILL BIT(S) SIZE 9-inch			Project Number	996098*00
ISOLAT	ISOLATION CASING N/A						FRC	FROM TO FT.		FT. N/A	ELEVATION AND DATUM	TOTAL DEPTH
BLANK	CASING	h Sch	ماريام	40 PVC Pipe	·····		FRO	м 0 50.4	то	40.5FT. 50.5	ground surface DATE STARTED	51.0 ft. bgs DATE COMPLETED
SLOTTE	D CASIN	NG					FRO	M	то	FT.	2/28/08 INITIAL WATER DEPTH (FT)	2/28/08
SIZE AN	ID TYPE	OF FIL	TER PAC			ich slots	FRO	<u>40.5</u> ™	ТО	50.4 FT.	8	
SEAL	Lapis	Lustr	rr #2/1	2 Monterey Sa	and		FRO	38.5	TO	50.5 38.5 FT.	LOGGED BY DKM	
GROUT		Gold	Bento	nite Chips				50.5		51	SAMPLING METHODS	WELL COMPLETION D SURFACE HOUSING
	Conc						FRO	0	то	2 FT.	Split Spoon	■ STAND PIPE 2.5 FT.
TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6*	DEPTH (FEET)	SAMPLE NUMBER	WELL CON	STRUCTION		LITHOLOGY	USCS LOG		SAMPLE DESCRIPTION AND	ORILLING REMARKS
					, P. Y.	,A 4		١,٥.	GW		grad <mark>ed GRAVEL</mark> graded gravel fill material, n	o odor, no shoop
			_		4.4				SM	Silty	SAND	
_			_						ML	Tan to	o gray, silty fine sand fill, mo	oist, no odor, no sheen.
_			-							Dark	brown, silt, abundant fine w	ood material, moderately
-			_								noist, no odor, no sheen. D DEBRIS	
	 	1	5-							- Brown	n/red-brown, wood debris wi ly variable <5% up to 20%),	th 10-15% silty matrix moist to wet, no odor, no
_ S S	1.5	1 2	_							sheer		,, ,, ,, ,, ,, ,
_	İ		_						Wood	-		
-			_		<i></i>	-				-		
-			-							-		
	<u> </u>	2	10-							Ļ		
ss	1.5	3	_									
		3							SP	- Gray,	y graded SAND poorly graded medium san no odor, no sheen.	d, moderately dense,
-			-					7		Silty		
-								+		- Gray,	fine sand with 30-40% silt of graded sand with silt, silty	verall, interbedded sand, and sandy silt.
<u>-</u>	<u> </u>	2	15-			-				mode	rately dense, wet, no odor,	no sheen.
_ SS	1.5	3 3	-			-			SM	-		
-			_			-				-		
_			_	444 2000						-		
ļ.			-	a de la companya de l						_ <u></u> -		
ļ			20-					[Gray,	y graded SAND poorly graded sand, typical	
ss	1	3								sand,	locally some silt and gravel or, no sheen.	
		3					•				01, 110 01100111	
_												
-			1							-		
-			-						SP	<u> </u>		
- - - SS	.5	50	25-							-		
_			-							-		
SS	.5	50	-							-		
SS	.5	50	-							_ Dark o	gray coarse sand, some me	dium sand
SS [1								g j	

Project				Tacoma Metals	5	Project	Numbe	r	996098*00	Well Name	MW-35
S/	AMPLES			w	ELL CONSTRUCTIO	N					
TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/61	DEPTH (FEET)	SAMPLE NUMBER			LITHOLOGY	USCS LOG		RIPTION AND DRILLING	REMARKS
									Poorly graded SAND		
ss	1	18 23 25	30-						 Gray, poorly graded sa sand, locally some silt wet, no odor, no sheer 	and gravel, mode	um to coarse rately dense,
ss	1.5	15 19 20	_			-			-		
ss	1.5	15 18 23				the state of the s					
ss s	1.5	15 19 22	35-			-			Mostly medium sand, : -	some coase sand	minor silt.
ss	1.5	14 17 23				}			_		
ss	1.5	18 21 25	-								
ss	1.5	18 25 27	40 -					SP			
ss	1.5	18 23 24	40 ⁻						Locally 5-10% silt in sr	mall nodules.	
ss	1.5	12 15 18							_		
ss	1.5	15 18 20	-						<u>.</u>		
ss	1.5	18 26 30	45-			_			Gravelly sand (fine gra	vel) 44-47 feet bg	S
ss	1.5	18 27 30	-						-		
ss	1.5	15 22 29				-			-		
ss	1.5	18 26 15	50-								
SS	.5	18	ا			_		ML SP	_ S andy SILT ☐\ Brown, silt with 20-30%	/ fine cord	alau

NOTES

Brown, silt with 20-30% fine sand, some clay, moderately stiff, moderately low plasticity, wet, no odor, no sheen.

Poorly graded SAND

Gray, poorly graded fine to medium sand with some silt, moderately dense, wet, no odor, no sheen.

^{1.} Lithology for upper 30 feet is also based on B-44.

Attachment 3

Analytical Reports Chain-of-Custody Documents (Soil Samples)

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 13, 2007

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on October 30, 2007 from the Tacoma Metals, F&BI 710384 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA1113R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 30, 2007 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals, F&BI 710384 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Kennedy-Jenks
710384-01	B38-5-6
710384-02	B38-14.5-15.5
710384-03	B38-22.5-23.5
710384-04	B37-5-6
710384-05	B37-14-15
710384-06	B37-21-22
710384-07	B39-5.5-6.5
710384-08	B39-10-11
710384-09	B39-21-22
710384-10	B39-23-24
710384-11	B40-6.5-7.5
710384-12	B40-14-15
710384-13	B40-21.5-22.5

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710384

Date Extracted: 10/31/07 Date Analyzed: 11/01/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery</u>) (Limit 50-150)
B38-5-6 710384-01	<2	126
B38-14.5-15.5 710384-02	<2	121
B38-22.5-23.5 710384-03	<2	138
B37-5-6 710384-04	<2	116
B37-14-15 710384-05	<2	119
B37-21-22 710384-06	<2	117
B39-5.5-6.5 710384-07	<2	81
B39-10-11 710384-08	<2	117
B39-21-22 710384-09	<2	122
B40-6.5-7.5 710384-11	<2	126
B40-14-15 710384-12	<2	128

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710384

Date Extracted: 10/31/07 Date Analyzed: 11/01/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B40-21.5-22.5 710384-13	<2	135
Method Blank	<2	93

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710384

Date Extracted: 10/30/07

Date Analyzed: 10/30/07 and 10/31/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Sample ID Laboratory ID	$\frac{\text{Diesel Range}}{(\text{C}_{10}\text{-}\text{C}_{25})}$	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 67-127)
B38-5-6 710384-01	<50	<250	90
B38-14.5-15.5 710384-02	<50	<250	98
B38-22.5-23.5	<50	<250	93
B37-5-6 710384-04	<50	<250	91
B37-14-15 710384-05	<50	<250	89
B37-21-22 710384-06	<50	<250	84
B39-5.5-6.5 710384-07	120	<250	87
B39-10-11 710384-08	<50	<250	89
B39-21-22 710384-09	200	<250	89
B40-6.5-7.5	<50	<250	88

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710384

Date Extracted: 10/30/07

Date Analyzed: 10/30/07 and 10/31/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Sample ID Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 67-127)
B40-14-15 710384-12	<50	<250	91
B40-21.5-22.5	<50	<250	91
Method Blank	<50	<250	93

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B38-5-6 Date Received: 10/30/07 Date Extracted: 10/30/07 Date Analyzed: 11/01/07 Soil Matrix:

Units:

mg/kg (ppm)

Client:

Kennedy-Jenks

Tacoma Metals, F&BI 710384 Project:

Lab ID: Data File: 710384-01 1/5 110122.D

GCMS6 Instrument: ΥA Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	119	50	150
Benzo(a)anthracene-d12	110	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.015
Acenaphthylene	0.011
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	0.034
Anthracene	0.040
Fluoranthene	0.21
Pyrene	0.44
Benz(a)anthracene	0.18
Chrysene	0.27
Benzo(a)pyrene	0.24
Benzo(b)fluoranthene	0.33
Benzo(k)fluoranthene	0.13
Indeno(1,2,3-cd)pyrene	0.12
Dibenz(a,h)anthracene	0.022
Benzo(g,h,i)perylene	0.095

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B38-14.5-15.5
Date Received: 10/30/07
Date Extracted: 10/30/07
Date Analyzed: 11/01/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Project: Lab ID: Kennedy-Jenks Tacoma Metals, F&BI 710384

710384-02 1/5 110113.D

Data File: 110113.1 Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	111	50	150
Benzo(a)anthracene-d12	64	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	0.10
Fluorene	0.089
Phenanthrene	0.13
Anthracene	0.033
Fluoranthene	0.049
Pyrene	0.027
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B38-22.5-23.5
Date Received: 10/30/07
Date Extracted: 10/30/07
Date Analyzed: 11/01/07
Matrix: Soil

Units: mg/kg (ppm)

2011

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 710384
Lab ID: 710384-03 1/5
Data File: 110117.D
Instrument: GCMS6

Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	115	50	150
Benzo(a)anthracene-d12	86	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	0.41
Fluorene	< 0.01
Phenanthrene	0.060
Anthracene	0.015
Fluoranthene	0.017
Pyrene	0.028
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Client:

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B37-5-6
Date Received: 10/30/07
Date Extracted: 10/30/07
Date Analyzed: 11/04/07
Matrix: Soil
Units: mg/kg (ppm)

Project: Tacoma Metals, F&BI 710384
Lab ID: 710384-04 1/5
Data File: 110353.D
Instrument: GCMS6
Operator: YA

Kennedy-Jenks

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	129	50	150
Benzo(a)anthracene-d12	130	50	150

	Concentration
Compounds:	mg/kg (ppm)
Naphthalene	0.020
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	0.011
Anthracene	< 0.01
Fluoranthene	0.016
Pyrene	0.016
Benz(a)anthracene	< 0.01
Chrysene	0.016
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	0.018
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	0.011
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	0.013

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B37-14-15 Date Received: 10/30/07 Date Extracted: 10/30/07 Date Analyzed: 11/01/07 Matrix: Soil

Units: mg/kg (ppm) Client:

Kennedy-Jenks

Tacoma Metals, F&BI 710384 Project: Lab ID:

Data File: Instrument: Operator:

710384-05 1/5 110114.D GCMS6

ΥA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	117	50	150
Benzo(a)anthracene-d12	100	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene	<0.01 <0.01 0.080 <0.01 <0.01 <0.01
Pyrene Benz(a)anthracene Chrysene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	<0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01 <0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B37-21-22 Client: Kennedy-Jenks

Date Received: 10/30/07 Project: Tacoma Metals, F&BI 710384

 Date Extracted:
 10/30/07
 Lab ID:
 710384-06 1/5

 Date Analyzed:
 11/01/07
 Data File:
 110115.D

 Matrix:
 Soil
 Instrument:
 GCMS6

Units: mg/kg (ppm) Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	120	50	150
Benzo(a)anthracene-d12	87	50	150

Benzo(a)anthracene-d12	87	50
Compounds:	Concentration mg/kg (ppm)	
Naphthalene	< 0.01	
Acenaphthylene	<0.01	
Acenaphthene	0.032	
Fluorene	< 0.01	
Phenanthrene	< 0.01	
Anthracene	< 0.01	
Fluoranthene	< 0.01	
Pyrene	< 0.01	
Benz(a)anthracene	< 0.01	
Chrysene	< 0.01	
Benzo(a)pyrene	< 0.01	
Benzo(b)fluoranthene	< 0.01	
Benzo(k)fluoranthene	< 0.01	
Indeno(1,2,3-cd)pyrene	< 0.01	
Dibenz(a,h)anthracene	< 0.01	
Benzo(g,h,i)perylene	< 0.01	

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B39-5.5-6.5
Date Received: 10/30/07
Date Extracted: 10/30/07
Date Analyzed: 11/01/07
Matrix: Soil

Units: mg/kg (ppm)

Client:

Kennedy-Jenks

Project: Tacoma Metals, F&BI 710384 Lab ID: 710384-07 1/5

Data File: Instrument: 710384-07 1/5 110125.D GCMS6

Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	106	50	150
Benzo(a)anthracene-d12	120	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	1.8
Acenaphthylene	0.12
Acenaphthene	0.51
Fluorene	0.39
Phenanthrene	1.3
Anthracene	0.61
Fluoranthene	1.2
Pyrene	1.1
Benz(a)anthracene	0.99
Chrysene	1.7
Benzo(a)pyrene	1.3
Benzo(b)fluoranthene	2.0
Benzo(k)fluoranthene	0.62
Indeno(1,2,3-cd)pyrene	1.0
Dibenz(a,h)anthracene	0.24
Benzo(g,h,i)perylene	0.83

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B39-10-11
Date Received: 10/30/07
Date Extracted: 10/30/07
Date Analyzed: 11/01/07
Matrix: Soil

Units: mg/kg (ppm)

Client:

Kennedy-Jenks

Project: Lab ID: Tacoma Metals, F&BI 710384

Data File:
Instrument:

710384-08 1/5 110118.D GCMS6

Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	106	50	150
Benzo(a)anthracene-d12	105	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.24
Acenaphthylene	< 0.01
Acenaphthene	1.1
Fluorene	1.3
Phenanthrene	1.9
Anthracene	0.47
Fluoranthene	1.3
Pyrene	0.77
Benz(a)anthracene	0.019
Chrysene	0.012
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01
· · · · · · · · · · · · · · · · · · ·	

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B39-21-22 Client: Kennedy-Jenks
Date Received: 10/30/07 Project: Tacoma Metals, F&BI 710384

 Date Extracted:
 10/30/07
 Lab ID:
 710384-09 1/5

 Date Analyzed:
 11/01/07
 Data File:
 110123.D

 Matrix:
 Soil
 Instrument:
 GCMS6

Units: mg/kg (ppm) Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	112	50	150
Benzo(a)anthracene-d12	135	50	150

Concentration Compounds: mg/kg (ppm) < 0.01 Naphthalene Acenaphthylene 0.080 Acenaphthene 0.38 Fluorene 0.39 Phenanthrene 1.8 2.3 ve Anthracene Fluoranthene 12 ve Pyrene 9.9 ve Benz(a)anthracene 5.8 ve Chrysene 7.2 ve Benzo(a)pyrene 3.6 ve Benzo(b)fluoranthene 4.3 ve Benzo(k)fluoranthene 1.4 Indeno(1,2,3-cd)pyrene 1.9 Dibenz(a,h)anthracene 0.54 Benzo(g,h,i)perylene 1.4

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B39-21-22 Date Received: 10/30/07 10/30/07 Date Extracted: 11/04/07 Date Analyzed: Matrix: Soil

Units: mg/kg (ppm) Project:

Client:

Kennedy-Jenks

Tacoma Metals, F&BI 710384

Lab ID: 710384-09 1/50 110352.DData File: GCMS6 Instrument: Operator: YΑ

		Lower	$\cup pper$
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	245 ds	50	150
Benzo(a)anthracene-d12	142	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.1
Acenaphthylene	0.11
Acenaphthene	0.41
Fluorene	0.40
Phenanthrene	2.1
Anthracene	2.6
Fluoranthene	18
Pyrene	15
Benz(a)anthracene	6.7
Chrysene	9.4
Benzo(a)pyrene	4.2
Benzo(b)fluoranthene	5.0
Benzo(k)fluoranthene	1.9
Indeno(1,2,3-cd)pyrene	1.8
Dibenz(a,h)anthracene	0.58
Benzo(g,h,i)perylene	1.5

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B40-6.5-7.5

Date Received: 10/30/07

Date Extracted: 10/30/07

Date Analyzed: 11/01/07

Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks
Project: Tacoma Metals, F&BI 710384

Lab ID: 710384-11 1/5
Data File: 110119.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	115	50	150
Benzo(a)anthracene-d12	99	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	0.019
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B40-14-15
Date Received: 10/30/07
Date Extracted: 10/30/07
Date Analyzed: 11/01/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 710384

 Lab ID:
 710384-12 1/5

 Data File:
 110120.D

 Instrument:
 GCMS6

 Operator:
 YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit.
Anthracene-d10	120	50	150
Benzo(a)anthracene-d12	89	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	0.011
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B40-21.5-22.5

Date Received: 10/30/07

Date Extracted: 10/30/07

Date Analyzed: 11/01/07

Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 710384 Lab ID: 710384-13 1/5

Data File: 110121.D Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	123	50	150
Benzo(a)anthracene-d12	81	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank
Date Received: Not Applicable
Date Extracted: 10/30/07
Date Analyzed: 11/01/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 710384
Lab ID: 071702mb2 1/5
Data File: 110110.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	115	50	150
Benzo(a)anthracene-d12	82	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710384

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 710360-01 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

		Percent				
	Reporting	Spike	Recovery	Acceptance		
Analyte	Units	Level	LCS	Criteria	_	
Gasoline	mg/kg (ppm)	20	117	70-130		

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710384

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 710384-11 (Matrix Spike) Silica Gel

Babolatoly code.	. 10001 11 (1111011)	Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	< 50	104	101	69-125	3

Laboratory Code: Laboratory Control Sample Silica Gel

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Diesel Extended	mg/kg (ppm)	5,000	103	70-127

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710384

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: 710356-03 (Duplicate)

				Relative Percent
	Reporting Sample		Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Naphthalene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthylene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluorene	mg/kg (ppm)	< 0.01	< 0.01	nm
Phenanthrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benz(a)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Chrysene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(b)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(k)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(a)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Dibenz(a,h)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(g,h,i)perylene	mg/kg (ppm)	< 0.01	< 0.01	nm

Laboratory Code: Laboratory Control Sample

			Percent	$\operatorname{Percent}$		
	Reporting	\mathbf{Spike}	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	mg/kg (ppm)	0.17	100	89	66-106	12
Acenaphthylene	mg/kg (ppm)	0.17	93	82	63-110	13
Acenaphthene	mg/kg (ppm)	0.17	98	87	65-108	12
Fluorene	mg/kg (ppm)	0.17	93	82	63-112	13
Phenanthrene	mg/kg (ppm)	0.17	99	88	64-107	12
Anthracene	mg/kg (ppm)	0.17	95	84	64 - 107	12
Fluoranthene	mg/kg (ppm)	0.17	89	82	66-113	8
Pyrene	mg/kg (ppm)	0.17	90	82	66-111	9
Benz(a)anthracene	mg/kg (ppm)	0.17	86	77	55-103	11
Chrysene	mg/kg (ppm)	0.17	94	87	59-109	8
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	85	74	53-107	14
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	98	83	61-112	17
Benzo(a)pyrene	mg/kg (ppm)	0.17	80	70	60-111	13
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	85	72	59-111	17
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	93	80	56-114	15
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	97	84	60-110	14

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- fp Compounds in the sample matrix interfered with quantitation of the analyte. The reported concentration may be a false positive.
- \text{ir} The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L. The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc -- The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

圣 TIMIE C. Return samples Will call with instructions Rush charges authorized by: TURNAROUND TIME SAMPLE DISPOSAL Notes □ Dispose after 30 days XStandard (2 Weeks) D RUSH ڻ ا eξ Samples received at ME 10/30/07 COMPANY ANALYSES REQUESTED FLBIL # Od PAH PAH IIESZAOC® Ph 8510 SAMPLE CHAIN OF CUSTODY AOC# Ph 8500 Tacana Meta) PRINT NAME Wre har 1 Brock (25/12 SAMPLERS (signature) PROJECT NAME/NO Sample Type | containers # of (M) REMARKS 20-City, State, ZIP Federal Ware WM 9871 Phone #253 594 0x55 Fax #255 452 3435 Sampled | Sampled | Time 0201 1050 1035 3 930 [2] Y 25/2 SIGNATURE loteston Address 3200 32nd ALS, SA Sond Report To Dean Malte Received Relinguished b: Relinquished br. Received by: Company Kennedy / Seak & Lab ID 05 A-C 54 C R3915565 K30-21-22 45-52-658 RS8-145-155 836-22-5-23. Friedman & Bruya, Inc. Seattle, W.A 98119.2029 3012 16th Avenue West 1359-10-11 Sample 1D B37-14-15 Fax (206) 283-5044 22-12-650 B37-5-6 Рн. (206) 285-8282 710384 838-5-6

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Samples

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Fax (206) 283-5044 FORMS\COC\COC.DOC

Ph. (206) 285-8282

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 13, 2007

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on October 31, 2007 from the Tacoma Metals, F&BI 710401 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA1113R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 31, 2007 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals, F&BI 710401 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Kennedy-Jenks
710401-01	B41-7-8
710401-02	B41-11-12
710401-03	B41-21.5-22.5
710401-04	B41-24.5-25.5
710401-05	B42-5-6
710401-06	B42-22-23
710401-07	B42-24.5-25.5
710401-08	B42-30-31
710401-09	B43-6-7
710401-10	B43-14.5-15.5
710401-11	B43-28.5-29.5
710401-12	B43-34.5-35.5
710401-13	B45-6-7
710401-14	B45-11-12
710401-15	B45-21-22

The 8270C SIM laboratory spike exceeded the laboratory control limit for Indeno(1,2,3-cd)pyrene. The detection in sample B42-5-6 was flagged accordingly. All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

Date Extracted: 11/01/07 Date Analyzed: 11/02/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery</u>) (Limit 58-139)
B41-7-8 710401-01	<2	109
B41-11-12 710401-02	<2	107
B41-24.5-25.5 710401-04	<2	100
B42-5-6 710401-05	<2	120
B42-22-23 710401-06	<2	99
B42-24.5-25.5 710401-07	<2	92
B43-6-7 710401-09	<2	104
B43-14.5-15.5 710401-10	<2	103
B43-28.5-29.5 710401-11	<2	104
B43-34.5-35.5 710401-12	<2	102

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

Date Extracted: 11/01/07 Date Analyzed: 11/02/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery</u>) (Limit 58-139)
B45-6-7 710401-13	<2	119
B45-11-12 710401-14	<2	97
B45-21-22 710401-15	<2	98
Method Blank	<2	103

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

Date Extracted: 11/05/07 Date Analyzed: 11/05/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Sample ID Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	$rac{ m Motor~Oil~Range}{ m (C_{25}\text{-}C_{36})}$	Surrogate (% Recovery) (Limit 53-144)
B41-7-8 710401-01	<50	<250	99
B41-11-12 710401-02	<50	<250	96
B41-24.5-25.5	<50	<250	100
B42-5-6 710401-05	<50	<250	98
B42-22-23 710401-06	<50	<250	98
B42-24.5-25.5	<50	<250	98
B43-6-7 710401-09	130	<250	104
B43-14.5-15.5	<50	<250	98
B43-28.5-29.5	<50	<250	96

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

Date Extracted: 11/05/07 Date Analyzed: 11/05/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

~	n. 15	34 - O3D	Surrogate
Sample ID	<u>Diesel Range</u>	<u> Motor Oil Range</u>	(% Recovery)
Laboratory ID	$(C_{10}\text{-}C_{25})$	$(C_{25}-C_{36})$	(Limit 53-144)
B43-34.5-35.5	69	<250	98
B45-6-7 710401-13	<50	<250	99
B45-11-12 710401-14	<50	<250	98
B45-21-22 710401-15	<50	<250	97
Method Blank	<50	<250	94

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B41-7-8
Date Received: 10/31/07
Date Extracted: 10/31/07
Date Analyzed: 11/04/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 710401 Lab ID: 710401-01 1/5 Data File: 110330.D Instrument: GCMS6

Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	95	50	150
Benzo(a)anthracene-d12	94	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	<0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B41-11-12 Date Received: 10/31/07 10/31/07 Date Extracted: 11/04/07 Date Analyzed: Matrix: Soil

Units:

mg/kg (ppm)

Client:

Kennedy-Jenks

Project: Lab ID: Tacoma Metals, F&BI 710401

Data File: Instrument:

710401-02 1/5 110331.D GCMS6

Operator:

ΥA

		Lower	$_{ m Upper}$
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	91	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B41-24.5-25.5 Client: Kennedy-Jenks

Date Received: 10/31/07 Project: Tacoma Metals, F&BI 710401
Date Extracted: 10/31/07 Lab ID: 710401-04 1/5

Date Analyzed: 11/04/07 Data File: 110332.D

Matrix: Soil Instrument: GCMS6

Units: mg/kg (ppm) Operator: YA

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 96 50 150

Benzo(a)anthracene-d12 98 50 150

50 Benzo(a)anthracene-d12 98 Concentration Compounds: mg/kg (ppm) < 0.01 Naphthalene Acenaphthylene < 0.01 Acenaphthene < 0.01 Fluorene < 0.01 Phenanthrene < 0.01 Anthracene < 0.01 Fluoranthene < 0.01 < 0.01 Pyrene Benz(a)anthracene < 0.01 Chrysene < 0.01 Benzo(a)pyrene < 0.01 Benzo(b)fluoranthene < 0.01 Benzo(k)fluoranthene < 0.01 < 0.01 Indeno(1,2,3-cd)pyrene < 0.01 Dibenz(a,h)anthracene Benzo(g,h,i)perylene < 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B42-5-6 Client: Kennedy-Jenks

 Date Received:
 10/31/07
 Project:
 Tacoma Metals, F&BI 710401

 Date Extracted:
 10/31/07
 Lab ID:
 710401-05 1/5

Date Analyzed: 11/04/07 Data File: 110351.D

Matrix: Soil Instrument: GCMS6

Units: mg/kg (ppm) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 100 50 150
Benzo(a)anthracene-d12 104 50 150

Concentration Compounds: mg/kg (ppm) Naphthalene 0.028 Acenaphthylene 0.012 < 0.01 Acenaphthene < 0.01 Fluorene 0.052 Phenanthrene Anthracene 0.032Fluoranthene 0.067 0.089 Pyrene Benz(a)anthracene 0.11 Chrysene 0.23 Benzo(a)pyrene 0.25Benzo(b)fluoranthene 0.36 0.12 Benzo(k)fluoranthene $0.17 \, \mathrm{jl}$ Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene 0.040 Benzo(g,h,i)perylene 0.14

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

 Client Sample ID:
 B42-22-23

 Date Received:
 10/31/07

 Date Extracted:
 10/31/07

 Date Analyzed:
 11/04/07

 Matrix:
 Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 710401

 Lab ID:
 710401-06 1/5

 Data File:
 110333.D

 Instrument:
 GCMS6

 Operator:
 YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	95	50	150
Benzo(a)anthracene-d12	96	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	1.3
Fluorene	< 0.01
Phenanthrene	0.015
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B42-24.5-25.5
Date Received: 10/31/07
Date Extracted: 10/31/07
Date Analyzed: 11/04/07
Matrix: Soil

Units: mg/kg (ppm)

Client:

Kennedy-Jenks

Project: Lab ID: Tacoma Metals, F&BI 710401

Upper

Limit:

 $\begin{array}{c} 150 \\ 150 \end{array}$

Data File:
Instrument:
Operator:

710401-07 1/5 110334.D GCMS6

YΑ

		Lower
Surrogates:	% Recovery:	Limit:
Anthracene-d10	96	50
Benzo(a)anthracene-d12	96	50

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B43-6-7 Client: Kennedy-Jenks

 Date Received:
 10/31/07
 Project:
 Tacoma Metals, F&BI 710401

 Date Extracted:
 10/31/07
 Lab ID:
 710401-09 1/5

Date Analyzed: 11/04/07 Data File: 110339.D

Matrix: Soil Instrument: GCMS6

Units: mg/kg (ppm) Operator: YA

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 101 50 150
Benzo(a)anthracene-d12 100 50 150

< 0.01

< 0.01

Benzo(a)anthracene-d12 100

Concentration
Compounds: mg/kg (ppm)

Naphthalene 0.028
Acenaphthylene <0.01
Acenaphthene 0.015

Acenaphthene Fluorene 0.017 Phenanthrene 0.11Anthracene 0.014Fluoranthene 0.0260.027Pyrene Benz(a)anthracene 0.0240.036 Chrysene Benzo(a)pyrene 0.010 Benzo(b)fluoranthene 0.013 Benzo(k)fluoranthene < 0.01 Indeno(1,2,3-cd)pyrene < 0.01

Dibenz(a,h)anthracene

Benzo(g,h,i)perylene

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B43-14.5-15.5 Client: Kennedy-Jenks

 Date Received:
 10/31/07
 Project:
 Tacoma Metals, F&BI 710401

 Date Extracted:
 10/31/07
 Lab ID:
 710401-10 1/5

Date Analyzed: 11/04/07 Data File: 110340.D

Matrix: Soil Instrument: GCMS6

Units: mg/kg (ppm) Operator: YA

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 99 50 150
Benzo(a)anthracene-d12 92 50 150

Concentration Compounds: mg/kg (ppm) Naphthalene 0.26 Acenaphthylene < 0.01 Acenaphthene 0.033 Fluorene 0.012 Phenanthrene 0.012 Anthracene < 0.01 Fluoranthene < 0.01 Pyrene < 0.01 Benz(a)anthracene < 0.01 < 0.01 Chrysene < 0.01 Benzo(a)pyrene Benzo(b)fluoranthene < 0.01 Benzo(k)fluoranthene < 0.01 Indeno(1,2,3-cd)pyrene < 0.01 Dibenz(a,h)anthracene < 0.01 Benzo(g,h,i)perylene < 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B43-28.5-29.5 Date Received: 10/31/07 Date Extracted: 10/31/07 Date Analyzed: 11/04/07 Matrix: Soil

Units: mg/kg (ppm)

Kennedy-Jenks Client:

Tacoma Metals, F&BI 710401 Project:

Lab ID: 710401-11 1/5 Data File: 110341.DInstrument: GCMS6 YΑ Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	95	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.91
Acenaphthylene	< 0.01
Acenaphthene	1.4
Fluorene	0.98
Phenanthrene	1.5
Anthracene	0.11
Fluoranthene	0.14
Pyrene	0.062
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B43-34.5-35.5
Date Received: 10/31/07
Date Extracted: 10/31/07
Date Analyzed: 11/04/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 710401 Lab ID: 710401-12 1/5

Data File: 110345.D Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	90	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.43
Acenaphthylene	< 0.01
Acenaphthene	1.0
Fluorene	0.63
Phenanthrene	0.33
Anthracene	0.078
Fluoranthene	0.12
Pyrene	0.053
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,ı)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B45-6-7 Date Received: 10/31/07 10/31/07 Date Extracted: Date Analyzed: 11/04/07 Matrix: Soil

Units: mg/kg (ppm)

Kennedy-Jenks Client:

Operator:

Tacoma Metals, F&BI 710401 Project: Lab ID: 710401-13 1/5 Data File: 110342.DGCMS6 Instrument:

YΑ

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	87	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B45-11-12 Date Received: 10/31/07 10/31/07 Date Extracted: Date Analyzed: 11/05/07 Matrix: Soil

mg/kg (ppm) Units:

Client:

Kennedy-Jenks

Project: Tacoma Metals, F&BI 710401 Lab ID:

Data File: Instrument: 710401-14 1/5 110520.D GCMS6

Operator: YΑ

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	92	50	150
Benzo(a)anthracene-d12	92	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B45-21-22 Kennedy-Jenks Client:

Tacoma Metals, F&BI 710401 Date Received: 10/31/07 Project: Lab ID: 710401-15 1/5 10/31/07

Date Extracted: Date Analyzed: 11/05/07 Data File: 110523.D Matrix: Soil Instrument: GCMS6 Units: mg/kg (ppm) Operator: ΥA

Lower Upper Limit: Limit: % Recovery:

Surrogates: 150 Anthracene-d10 50 94 Benzo(a)anthracene-d12 93 50 150

Concentration Compounds: mg/kg (ppm) < 0.01 Naphthalene < 0.01 Acenaphthylene Acenaphthene < 0.01 Fluorene < 0.01 Phenanthrene < 0.01 Anthracene < 0.01 Fluoranthene < 0.01 Pyrene < 0.01 Benz(a)anthracene < 0.01 < 0.01 Chrysene < 0.01 Benzo(a)pyrene Benzo(b)fluoranthene < 0.01 Benzo(k)fluoranthene < 0.01 Indeno(1,2,3-cd)pyrene < 0.01 Dibenz(a,h)anthracene < 0.01 < 0.01 Benzo(g,h,i)perylene

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Client: Kennedy-Jenks

Date Received: Not Applicable Project: Tacoma Metals, F&BI 710401
Date Extracted: 10/31/07 Lab ID: 071731mb2 1/5

Date Analyzed: 11/04/07 Data File: 110325.D

Matrix: Soil Instrument: GCMS6

Units: mg/kg (ppm) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 91 50 150
Benzo(a)anthracene-d12 88 50 150

Concentration Compounds: mg/kg (ppm) < 0.01 Naphthalene Acenaphthylene < 0.01 Acenaphthene < 0.01 Fluorene < 0.01 Phenanthrene < 0.01 Anthracene < 0.01 Fluoranthene < 0.01 < 0.01 Pyrene Benz(a)anthracene < 0.01 < 0.01 Chrysene Benzo(a)pyrene < 0.01 Benzo(b)fluoranthene < 0.01 Benzo(k)fluoranthene < 0.01 Indeno(1,2,3-cd)pyrene < 0.01 < 0.01 Dibenz(a,h)anthracene Benzo(g,h,i)perylene < 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Date Received: Not Applicable 11/01/07 Date Extracted: 11/03/07 Date Analyzed: Matrix: Soil Units:

mg/kg (ppm)

Kennedy-Jenks Client: Tacoma Metals, F&BI 710401 Project:

071733 mb2 1/5 Lab ID: Data File: 110317.D Instrument: GCMS6

Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	91	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 710401-15 (Duplicate)

Relative Percent
Reporting Sample Duplicate Difference
Analyte Units Result Result (Limit 20)
Gasoline mg/kg (ppm) <2 <2 nm

Laboratory Code: Laboratory Control Sample

Reporting Spike Recovery Acceptance

Analyte Units Level LCS Criteria

Gasoline mg/kg (ppm) 20 113 61-153

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 710401-15 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	98	71-137	0

Laboratory Code: Laboratory Control Sample Silica Gel

· ·	v	*	Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Diesel Extended	mg/kg (ppm)	5,000	94	70-129

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: 710400-05 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Naphthalene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthylene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluorene	mg/kg (ppm)	< 0.01	< 0.01	nm
Phenanthrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benz(a)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Chrysene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(b)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(k)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(a)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Dibenz(a,h)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(g,h,i)perylene	mg/kg (ppm)	< 0.01	< 0.01	nm

Laboratory Code: 710400-05 (Matrix Spike)

		Percent				
	Reporting	Spike	Sample	Recovery	Acceptance	
Analyte	Units	Level	Result	MS	Criteria	
Naphthalene	mg/kg (ppm)	0.17	< 0.01	88	50-150	
Acenaphthylene	mg/kg (ppm)	0.17	< 0.01	89	16-167	
Acenaphthene	mg/kg (ppm)	0.17	< 0.01	86	58-108	
Fluorene	mg/kg (ppm)	0.17	< 0.01	86	57-113	
Phenanthrene	mg/kg (ppm)	0.17	< 0.01	85	30-138	
Anthracene	mg/kg (ppm)	0.17	< 0.01	91	42-132	
Fluoranthene	mg/kg (ppm)	0.17	< 0.01	87	45-145	
Pyrene	mg/kg (ppm)	0.17	< 0.01	86	44-139	
Benz(a)anthracene	mg/kg (ppm)	0.17	< 0.01	79	17 - 134	
Chrysene	mg/kg (ppm)	0.17	< 0.01	87	10-157	
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	< 0.01	75	37-123	
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	< 0.01	91	28-134	
Benzo(a)pyrene	mg/kg (ppm)	0.17	< 0.01	82	55-115	
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	< 0.01	109 vo	61-104	
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	< 0.01	90	69-100	
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	< 0.01	89	60-105	

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

	J	•	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	mg/kg (ppm)	0.17	88	91	66-106	3
Acenaphthylene	mg/kg (ppm)	0.17	82	85	63-110	4
Acenaphthene	mg/kg (ppm)	0.17	85	88	65-108	3
Fluorene	mg/kg (ppm)	0.17	83	87	63-112	5
Phenanthrene	mg/kg (ppm)	0.17	85	88	64-107	3
Anthracene	mg/kg (ppm)	0.17	88	98	64 - 107	11
Fluoranthene	mg/kg (ppm)	0.17	83	92	66-113	10
Pyrene	mg/kg (ppm)	0.17	83	92	66-111	10
Benz(a)anthracene	mg/kg (ppm)	0.17	73	76	55-103	4
Chrysene	mg/kg (ppm)	0.17	84	88	59-109	5
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	69	74	53-107	7
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	90	94	61-112	4
Benzo(a)pyrene	mg/kg (ppm)	0.17	70	84	60-111	18
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	101	103	59-111	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	87	87	56-114	0
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	85	85	60-110	0

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: 710415-03 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Naphthalene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthylene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluorene	mg/kg (ppm)	< 0.01	< 0.01	nm
Phenanthrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benz(a)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Chrysene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(b)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(k)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(a)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Dibenz(a,h)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(g,h,i)perylene	mg/kg (ppm)	< 0.01	< 0.01	nm

Laboratory Code: 710415-03 (Matrix Spike)

Haboratory Code. 710410	oo (Maarin opin	Percent					
	Reporting	Spike	Sample	Recovery	Acceptance		
Analyte	Units	Level	Result	MS	Criteria		
Naphthalene	mg/kg (ppm)	0.17	< 0.01	81	50-150		
Acenaphthylene	mg/kg (ppm)	0.17	< 0.01	85	16-167		
Acenaphthene	mg/kg (ppm)	0.17	< 0.01	85	58-108		
Fluorene	mg/kg (ppm)	0.17	< 0.01	87	57-113		
Phenanthrene	mg/kg (ppm)	0.17	< 0.01	84	30-138		
Anthracene	mg/kg (ppm)	0.17	< 0.01	94	42-132		
Fluoranthene	mg/kg (ppm)	0.17	< 0.01	91	45-145		
Pyrene	mg/kg (ppm)	0.17	< 0.01	88	44-139		
Benz(a)anthracene	mg/kg (ppm)	0.17	< 0.01	78	17 - 134		
Chrysene	mg/kg (ppm)	0.17	< 0.01	89	10-157		
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	< 0.01	75	37-123		
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	< 0.01	92	28-134		
Benzo(a)pyrene	mg/kg (ppm)	0.17	< 0.01	85	55-115		
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	< 0.01	110 vo	61-104		
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	< 0.01	93	69-100		
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	< 0.01	90	60-105		

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710401

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

v	V	*	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	mg/kg (ppm)	0.17	89	88	66-106	1
Acenaphthylene	mg/kg (ppm)	0.17	84	82	63-110	2
Acenaphthene	mg/kg (ppm)	0.17	87	86	65-108	1
Fluorene	mg/kg (ppm)	0.17	83	81	63-112	2
Phenanthrene	mg/kg (ppm)	0.17	86	85	64 - 107	1
Anthracene	mg/kg (ppm)	0.17	92	91	64 - 107	1
Fluoranthene	mg/kg (ppm)	0.17	81	81	66-113	0
Pyrene	mg/kg (ppm)	0.17	81	81	66-111	0
Benz(a)anthracene	mg/kg (ppm)	0.17	70	66	55-103	6
Chrysene	mg/kg (ppm)	0.17	87	88	59-109	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	68	62	53-107	9
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	91	96	61-112	5
Benzo(a)pyrene	mg/kg (ppm)	0.17	76	72	60-111	5
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	103	99	59-111	4
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	87	82	56-114	6
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	86	82	60-110	5

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- fp Compounds in the sample matrix interfered with quantitation of the analyte. The reported concentration may be a false positive.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

Rush charges authorized by: DXWill call with instructions TURNAROUND TIME SAMPLE DISPOSAL □ Dispose after 30 days KStandard (2 Weeks) [] Return samples SAMPLE CHAIN OF CUSTODY ME 10-81-07 04Sample, PO# So Acona/1/0/x (xara) SAMPLERS (signature) PROJECT NAME/NO City, State, ZIP FCOCT (M)RY WHARKS Address 22001 324 d. De S, Ste. 100 Phone #23 8140555 Fax #2536523435 Company & KENNEDY SENK Send Report To Dean Malde

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Friedman & Bruya, Inc. 3012 16th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282 Fax (206) 283-5044

FURMS/COC/COC.DOC

TIME アショ [0/12/0] Samples received at · DATE COMPANY YEAR MAIK [E-du PRINT NAME SIGNATURE Relinquistred by Relinquished b: Received Received by:

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Rush charges authorized by: □ Return samples □ Will call with instructions TURNAROUND TIME SAMPLE DISPOSAL □ Dispose after 30 days O Standard (2 Weeks) SAMPLE CHAIN OF CUSTODY \mathcal{HE} 10-31-07 ANALYSES REQUESTED Samples # O.J acoura Metals SAMPLERS (signature) PROJECT NAME/NO. REMARKS Phone #6539740557 Fax #2531525435 City, State, ZIP & FORETE (Wex 4) A OSTO Company Kenyle Ny 3ddress 32001 32 10401 Sond Report To

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Fax (206) 283-5044 Ph.

FOR MSNCOCLUOC DOC

Received by:

Samples received at

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 15, 2007

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on November 1, 2007 from the Tacoma Metals, F&BI 711011 project. There are 18 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA1115R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 1, 2007 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals, F&BI 711011 project. Samples were logged in under the laboratory ID's listed below.

Kennedy-Jenks
B44-2-3
B44-14-15
B44-25.5-26.5
B44-31.5-32.5
B47-6-7
B47-13-14
B47-30.5-31.5
B46-6-7
B46-13-14
B46-21-22

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711011

Date Extracted: 11/06/07

Date Analyzed: 11/06/07, 11/07/07, and 11/09/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B44-2-3 711011-01	<2	111
B44-14-15 711011-02	<2	97
B44-31.5-32.5 711011-04	<2	88
B47-6-7 711011-05	<2	96
B47-13-14 711011-06	<2	86
B47-30.5-31.5	<2	101
B46-6-7 711011-08	<2	95
B46-13-14 711011-09	<2	97
B46-21-22	<2	90
Method Blank	<2	88

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711011

Date Extracted: 11/05/07 Date Analyzed: 11/07/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported on a Dry Weight Basis Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C10-C25)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 67-127)
B44-2-3 711011-01	<50	<250	92
B44-14-15 711011-02	<50	<250	92
B44-31.5-32.5	<50	<250	92
B47-6-7	78	<250	86
B47-13-14 711011-06	<50	<250	91
B47-30.5-31.5	<50	<250	86
B46-6-7 711011-08	<50	<250	95
B46-13-14 711011-09	100	<250	95
B46-21-22	<50	<250	95
Method Blank	<50	<250	94

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B44-2-3
Date Received: 11/01/07
Date Extracted: 11/02/07
Date Analyzed: 11/05/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 711011 Lab ID: 711011-01 1/5

Data File: 110531.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	105	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.045
Acenaphthylene	0.076
Acenaphthene	< 0.01
Fluorene	0.010
Phenanthrene	0.077
Anthracene	0.083
Fluoranthene	0.23
Pyrene	0.40
Benz(a)anthracene	0.36
Chrysene	0.67
Benzo(a)pyrene	0.73
Benzo(b)fluoranthene	0.96
Benzo(k)fluoranthene	0.25
Indeno(1,2,3-cd)pyrene	0.49
Dibenz(a,h)anthracene	0.14
Benzo(g,h,i)perylene	0.43

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B44-14-15 Date Received: 11/01/07 Date Extracted: 11/02/07 11/05/07 Date Analyzed: Matrix: Soil Units:

mg/kg (ppm)

Client: Project: Lab ID: Kennedy-Jenks

Tacoma Metals, F&BI 711011 711011-02 1/5

Data File: Instrument: Operator:

110514.D GCMS6 YA

		Lower	$_{ m Upper}$
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	89	50	150
Benzo(a)anthracene-d12	87	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	0.010
Anthracene	< 0.01
Fluoranthene	0.016
Pyrene	0.023
Benz(a)anthracene	0.015
Chrysene	0.013
Benzo(a)pyrene	0.014
Benzo(b)fluoranthene	0.015
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	0.010
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B44-31.5-32.5
Date Received: 11/01/07
Date Extracted: 11/02/07
Date Analyzed: 11/05/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 711011
Lab ID: 711011-04 1/5
Data File: 110515.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	101	50	150
Benzo(a)anthracene-d12	102	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.052
Acenaphthylene	< 0.01
Acenaphthene	0.55
Fluorene	0.23
Phenanthrene	0.081
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B47-6-7 Client: Kennedy-Jenks

Date Received: 11/01/07 Project: Tacoma Metals, F&BI 711011

711011-05 1/5 Date Extracted: 11/02/07 Lab ID: Date Analyzed: 11/05/07 Data File: 110530.D Instrument: GCMS6 Matrix: Soil mg/kg (ppm) Operator: YΑ Units:

 Lower
 Upper

 Surrogates:
 % Recovery:
 Limit:
 Limit:

 Anthracene-d10
 100
 50
 150

 Benzo(a)anthracene-d12
 108
 50
 150

Benzo(a)anthracene-d12 Concentration Compounds: mg/kg (ppm) Naphthalene 0.038 Acenaphthylene 0.046 Acenaphthene < 0.01 Fluorene 0.016 Phenanthrene 0.15 0.080 Anthracene Fluoranthene 0.27Pyrene 0.47Benz(a)anthracene 0.37 Chrysene 0.73 0.62 Benzo(a)pyrene Benzo(b)fluoranthene 0.81 Benzo(k)fluoranthene 0.22 Indeno(1,2,3-cd)pyrene 0.36 Dibenz(a,h)anthracene 0.095 Benzo(g,h,i)perylene 0.34

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B47-13-14 Date Received: 11/01/07 Date Extracted: 11/02/07 Date Analyzed: 11/05/07 Matrix: Soil

Units: mg/kg (ppm)

Kennedy-Jenks Client: Tacoma Metals, F&BI 711011 Project:

Lab ID: 711011-06 1/5 Data File: 110525.D GCMS6 Instrument:

ΥA Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	99	50	150
Benzo(a)anthracene-d12	94	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	0.020
Anthracene	< 0.01
Fluoranthene	0.023
Pyrene	0.022
Benz(a)anthracene	0.011
Chrysene	0.013
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	0.011
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B47-30.5-31.5

Date Received: 11/01/07

Date Extracted: 11/02/07

Date Analyzed: 11/05/07

Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 711011

Lab ID: 711011-07 1/5

Data File: 110516.D Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	97	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B46-6-7
Date Received: 11/01/07
Date Extracted: 11/02/07
Date Analyzed: 11/05/07
Matrix: Soil

Units: mg/kg (ppm)

Soil

Project: T Lab ID: 7 Data File: 1

Client:

Kennedy-Jenks Tacoma Metals, F&BI 711011

711011-08 1/5 110517.D

Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	95	50	150
Benzo(a)anthracene-d12	94	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	0.015
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B46-13-14
Date Received: 11/01/07
Date Extracted: 11/02/07

Date Analyzed: 11/05/07 Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 711011

Lab ID: 711011-09 1/5
Data File: 110526.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	103	50	150
Benzo(a)anthracene-d12	102	50	150

Concentration Compounds: mg/kg (ppm) 0.022Naphthalene Acenaphthylene < 0.01 Acenaphthene < 0.01 Fluorene < 0.01 Phenanthrene 0.085 Anthracene < 0.01 Fluoranthene 0.0490.045Pyrene Benz(a)anthracene 0.011 0.024Chrysene Benzo(a)pyrene 0.014Benzo(b)fluoranthene 0.019 Benzo(k)fluoranthene < 0.01 Indeno(1,2,3-cd)pyrene 0.011Dibenz(a,h)anthracene < 0.01 Benzo(g,h,i)perylene < 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B46-21-22 Client: Kennedy-Jenks

 Date Received:
 11/01/07
 Project:
 Tacoma Metals, F&BI 711011

 Date Extracted:
 11/02/07
 Lab ID:
 711011-10 1/5

 Date Extracted:
 11/02/07
 Lab ID:
 711011-10 1/5

 Date Analyzed:
 11/05/07
 Data File:
 110524.D

 Matrix:
 Soil
 Instrument:
 GCMS6

Units: mg/kg (ppm) Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	92	50	150
Benzo(a)anthracene-d12	86	50	150

Benzo(a)anuracene-u12	00
Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank
Date Received: Not Applicable
Date Extracted: 11/02/07
Date Analyzed: 11/05/07
Matrix: Soil

Units: mg/kg (ppm)

Client: Kennedy-Jenks

Project: Tacoma Metals, F&BI 711011
Lab ID: 071756-mb 1/5
Data File: 110506.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	90	50	150
Benzo(a)anthracene-d12	95	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	< 0.01
Acenaphthylene	< 0.01
Acenaphthene	< 0.01
Fluorene	< 0.01
Phenanthrene	< 0.01
Anthracene	< 0.01
Fluoranthene	< 0.01
Pyrene	< 0.01
Benz(a)anthracene	< 0.01
Chrysene	< 0.01
Benzo(a)pyrene	< 0.01
Benzo(b)fluoranthene	< 0.01
Benzo(k)fluoranthene	< 0.01
Indeno(1,2,3-cd)pyrene	< 0.01
Dibenz(a,h)anthracene	< 0.01
Benzo(g,h,i)perylene	< 0.01

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711011

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 711011-10 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

		Percent			
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	mg/kg (ppm)	20	88	70-130	

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711011

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 711011-07 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	113	102	69-125	10

Laboratory Code: Laboratory Control Sample Silica Gel

Reporting Spike Recovery Acceptance
Analyte Units Level LCS Criteria

Diesel Extended mg/kg (ppm) 5,000 82 70-127

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711011

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: 711042-03 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Naphthalene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthylene	mg/kg (ppm)	< 0.01	< 0.01	nm
Acenaphthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluorene	mg/kg (ppm)	< 0.01	< 0.01	nm
Phenanthrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benz(a)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Chrysene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(b)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(k)fluoranthene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(a)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	< 0.01	< 0.01	nm
Dibenz(a,h)anthracene	mg/kg (ppm)	< 0.01	< 0.01	nm
Benzo(g,h,i)perylene	mg/kg (ppm)	< 0.01	< 0.01	nm

Laboratory Code: 711042-03 (Matrix Spike)

Haboratory Code. 711012	(2,200,200,10)			Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Naphthalene	mg/kg (ppm)	0.17	< 0.01	88	50-150
Acenaphthylene	mg/kg (ppm)	0.17	< 0.01	85	16-167
Acenaphthene	mg/kg (ppm)	0.17	< 0.01	81	58-108
Fluorene	mg/kg (ppm)	0.17	< 0.01	73	57-113
Phenanthrene	mg/kg (ppm)	0.17	< 0.01	80	30-138
Anthracene	mg/kg (ppm)	0.17	< 0.01	74	42 - 132
Fluoranthene	mg/kg (ppm)	0.17	< 0.01	83	45-145
Pyrene	mg/kg (ppm)	0.17	< 0.01	83	44-139
Benz(a)anthracene	mg/kg (ppm)	0.17	< 0.01	75	17-134
Chrysene	mg/kg (ppm)	0.17	< 0.01	77	10-157
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	< 0.01	81	37-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	< 0.01	80	28-134
Benzo(a)pyrene	mg/kg (ppm)	0.17	< 0.01	75	55-115
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	< 0.01	83	61-104
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	< 0.01	82	69-100
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	< 0.01	82	60-105

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711011

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

	y	•	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	mg/kg (ppm)	0.17	93	99	66-106	6
Acenaphthylene	mg/kg (ppm)	0.17	93	99	63-110	6
Acenaphthene	mg/kg (ppm)	0.17	92	98	65-108	6
Fluorene	mg/kg (ppm)	0.17	82	90	63-112	9
Phenanthrene	mg/kg (ppm)	0.17	90	99	64 - 107	10
Anthracene	mg/kg (ppm)	0.17	82	91	64 - 107	10
Fluoranthene	mg/kg (ppm)	0.17	88	101	66-113	14
Pyrene	mg/kg (ppm)	0.17	87	102	66-111	16
Benz(a)anthracene	mg/kg (ppm)	0.17	86	93	55-103	8
Chrysene	mg/kg (ppm)	0.17	88	94	59-109	7
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	96	104	53-107	8
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	88	94	61-112	7
Benzo(a)pyrene	mg/kg (ppm)	0.17	84	92	60-111	9
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	108	104	59-111	4
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	99	102	56-114	3
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	97	101	60-110	4

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- fp Compounds in the sample matrix interfered with quantitation of the analyte. The reported concentration may be a false positive.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

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Attachment 4

Analytical Reports Chain-of-Custody Documents (Reconnaissance Groundwater Samples)

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 13, 2007

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on October 30, 2007 from the Tacoma Metals, F&BI 710383 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA1113R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 30, 2007 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals, F&BI 710383 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Kennedy-Jenks
710383-01	B38-RGW
710383-02	B37-RGW
710383-03	B39-RGW
710383-04	B40-RGW

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710383

Date Extracted: 10/30/07 Date Analyzed: 10/30/07

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery</u>) (Limit 51-134)
B38-RGW 710383-01	<100	87
B37-RGW 710383-02	<100	89
B39-RGW 710383-03	<100	89
B40-RGW 710383-04	<100	89
Method Blank	<100	75

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710383

Date Extracted: 10/30/07 Date Analyzed: 11/01/07

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a

Silica Gel Column Prior to Analysis Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	$rac{ ext{Motor Oil Range}}{ ext{(C}_{25} ext{-C}_{36} ext{)}}$	Surrogate (% Recovery) (Limit 51-132)
B38-RGW 710383-01	290	<250	98
B37-RGW 710383-02	64	<250	84
B39-RGW 710383-03	100	<250	92
B40-RGW 710383-04	<50	<250	87
Method Blank	<50	<250	76

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B38-RGW	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710383

Date Received: Project: 10/30/07 710383-01 Date Extracted: 10/30/07 Lab ID: 10/30/07 Data File: 103013.D Date Analyzed: Instrument: GCMS6 Matrix: Water YA Operator: Units: ug/L (ppb)

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	99	50	150

Delizo(a)antin accinc-a12	33
Compounds:	Concentration ug/L (ppb)
Naphthalene	0.17
Acenaphthylene	0.36
Acenaphthene	50 ve
Fluorene	2.7
Phenanthrene	11 ve
Anthracene	1.1
Fluoranthene	2.4
Pyrene	1.7
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix:	B38-RGW 10/30/07 10/30/07 11/01/07 Water	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks Tacoma Metals, F&BI 710383 710383-01 1/10 110111.D GCMS6 YA
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	135	50	150
Benzo(a)anthracene-d12	88	50	150

Delizo(a)alitili acelle-u12	00
Compounds:	Concentration ug/L (ppb)
Naphthalene	<1
Acenaphthylene	<1
Acenaphthene	59
Fluorene	2.6
Phenanthrene	11
Anthracene	1.6
Fluoranthene	2.3
Pyrene	1.6
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample	ID: B37-RGW	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710383
Date Extracted	: 10/30/07	Lab ID:	$710383-02~{ m rr}$
Date Analyzed:	11/01/07	Data File:	110112.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
	,	-	7.7

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	97	50	150
Benzo(a)anthracene-d12	72	50	150

Benzo(a)anthracene-d12	72
Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	< 0.1
Acenaphthene	3.7
Fluorene	<0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	<0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

ENVIRONMENTAL CHEMISTS

710383

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

~ ~	Doc Darry	COL:	77 3 T 1
Client Sample ID:	B39-RGW	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI
Date Extracted:	10/30/07	Lab ID:	710383-03
Date Analyzed:	10/30/07	Data File:	103015.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
			**

		Lower	$\cup \mathrm{pper}$
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	101	50	150

Concentration ug/L (ppb)
4.2
< 0.1
5.5
3.1
8.9
1.6
2.8
1.9
0.20
0.28
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Kennedy-Jenks Client: Client Sample ID: B40-RGW Tacoma Metals, F&BI 710383 Date Received: 10/30/07 Project: Lab ID: 710383-04 Date Extracted: 10/30/07 10/30/07 Data File: 103012.DDate Analyzed: GCMS6 Instrument: Matrix: Water YΑ ug/L (ppb) Operator: Units: Lower Ilnner

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	100	50	150
Benzo(a)anthracene-d12	108	50	150

201120 (0) 0111111111111111111111111111111111	
Compounds:	Concentration ug/L (ppb)
Naphthalene	0.36
Acenaphthylene	< 0.1
Acenaphthene	0.34
Fluorene	0.24
Phenanthrene	0.54
Anthracene	< 0.1
Fluoranthene	0.13
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank
Date Received: Not Applicable
Date Extracted: 10/30/07
Date Analyzed: 10/30/07
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals, F&BI 710383
Lab ID: 071707mb2
Data File: 103011.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	100	50	150
Benzo(a)anthracene-d12	72	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710383

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 710385-06 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	3,800	3,800	0

Laboratory Code: Laboratory Control Sample

	Percent						
	Reporting	Spike	Recovery	Acceptance			
Analyte	Units	Level	LCS	Criteria	_		
Gasoline	ug/L (ppb)	1,000	100	69-134			

FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710383

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	99	90	67-141	10

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/30/07

Project: Tacoma Metals, F&BI 710383

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	86	86	70-130	0
Acenaphthylene	ug/L (ppb)	5	90	92	70-130	2
Acenaphthene	ug/L (ppb)	5	86	86	70-130	0
Fluorene	ug/L (ppb)	5	86	82	70-130	5
Phenanthrene	ug/L (ppb)	5	86	86	70-130	0
Anthracene	ug/L (ppb)	5	94	93	70-130	1
Fluoranthene	ug/L (ppb)	5	110	101	70-130	9
Pyrene	ug/L (ppb)	5	109	102	70-130	7
Benz(a)anthracene	ug/L (ppb)	5	78	80	70-130	3
Chrysene	ug/L (ppb)	5	80	82	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	5	85	85	70-130	0
Benzo(k)fluoranthene	ug/L (ppb)	5	89	90	70-130	1
Benzo(a)pyrene	ug/L (ppb)	5	93	94	70-130	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	90	99	70-130	10
Dibenz(a,h)anthracene	ug/L (ppb)	5	89	94	70-130	5
Benzo(g,h,i)perylene	ug/L (ppb)	5	88	94	70-130	7

Note: The calibration verification result for benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene exceeded 15% deviation. The average deviation for all compounds was not greater than 15%; therefore, the initial calibration is considered valid.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- fp Compounds in the sample matrix interfered with quantitation of the analyte. The reported concentration may be a false positive.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- i The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

V2/DQY Gas Caly TIME ーらまし D Dispose after 30 days
C Return samples
Will call with instructions Rush charges authorized by: TURNAROUND TIME SAMPLE DISPOSAL Notes Standard (2 Weeks) 10/00/01 D.ATE ۲ ME 10/30/07 Samples received at 3 COMPANY AMALYSES REQUESTED PO# 8711 8710 500 F SVOCs by 8270 SAMPLE CHAIN OF CUSTODY TACOMA METALS PRINT NAME las my SAMPLERS (signature) PROJECT NAME/NO. Sample Type containers Mechani # of 2 REMARKS 19/2/1/045 | 200 tot City, State, ZIP Fe dem [WMy and 9802] Sampled | Sampled Phone #253 874 0555 Fax #253452 3435 52 1355 Address 3200 3200 Ave 5, 54.100 SIGNATURE Company Kenned/Sents Consultants Relinguished b: Receired Relinquished b: Received by: #-£ A.F. Lab ID Sond Report To Dern Malte 837-RGW 839-RGW Friedman & Bruya, Inc. 3012 16th Avenue West Seattle, W.4 98119-2029 1940-RGW B3B-RGW Sample ID. Fax (206) 283-5044 FORMS\COC\COC.DOC Ph. (206) 285-8282 710383

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 13, 2007

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on October 31, 2007 from the Tacoma Metals, F&BI 710407 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA1113R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 31, 2007 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals, F&BI 710407 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Kennedy-Jenks
710407-01	B41-RGW
710407-02	B42-RGW
710407-03	B43-RGW
710407-04	B45-RGW

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710407

Date Extracted: 10/31/07

Date Analyzed: 10/31/07 and 11/01/07

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery)</u> (Limit 51-134)
B41-RGW 710407-01	<100	75
B42-RGW 710407-02	120	95
B43-RGW 710407-03	<100	92
B45-RGW 710407-04	<100	92
Method Blank	<100	90

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710407

Date Extracted: 11/01/07 Date Analyzed: 11/07/07

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C10-C25)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 50-150)
B41-RGW 710407-01	<50	<250	103
B42-RGW 710407-02	95	<250	113
B43-RGW 710407-03	<50	<250	111
B45-RGW 710407-04	<50	<250	94
Method Blank	<50	<250	99

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B41-RGW	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710407
Date Extracted:	11/01/07	Lab ID:	710407-01
Date Analyzed:	11/04/07	Data File:	110327.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	91	50	150
Benzo(a)anthracene-d12	100	50	150

· /	
	Concentration
Compounds:	ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	< 0.1
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B42-RGW
Date Received: 10/31/07
Date Extracted: 11/01/07
Date Analyzed: 11/04/07
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals, F&BI 710407
Lab ID: 710407-02
Data File: 110346.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	91	50	150
Benzo(a)anthracene-d12	98	50	150

Delizo(a)alterracente a12	00
Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	5.0
Fluorene	0.71
Phenanthrene	0.58
Anthracene	0.11
Fluoranthene	0.21
Pyrene	0.19
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B43-RGW
Date Received: 10/31/07
Date Extracted: 11/01/07
Date Analyzed: 11/04/07
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals, F&BI 710407
Lab ID: 710407-03

Lab ID: 710407-03
Data File: 110347.D
Instrument: GCMS6
Operator: YA

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	90	50	150
Benzo(a)anthracene-d12	101	50	150

` '	
	Concentration
Compounds:	ug/L (ppb)
Naphthalene	0.96
Acenaphthylene	< 0.1
Acenaphthene	8.2
Fluorene	0.94
Phenanthrene	0.26
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B45-RGW	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710407
Date Extracted:	11/01/07	Lab ID:	710407-04
Date Analyzed:	11/04/07	Data File:	110328.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	92	50	150
Benzo(a)anthracene-d12	77	50	150

Denzo(a)antifracene-012	11
Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	< 0.1
Acenaphthene	< 0.1
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Blank Not Applicable 11/01/07 11/05/07 Water ug/L (ppb)	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks Tacoma Metals, F&BI 710407 071742mb rr 110518.D GCMS6 YA
Units:	ug/L (ppb)	Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	91	50	150
Benzo(a)anthracene-d12	101	50	150

Delizo(a)allallacette a.z	202
Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	< 0.1
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710407

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 710390-02 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

			Percent		
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	_
Gasoline	ug/L (ppb)	1,000	98	69-134	

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710407

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

	Reporting	Spike	Percent Recovery	Percent Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	120	70-130	18

ENVIRONMENTAL CHEMISTS

Date of Report: 11/13/07 Date Received: 10/31/07

Project: Tacoma Metals, F&BI 710407

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

		<u>r</u>	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	89	91	70-130	2
Acenaphthylene	ug/L (ppb)	5	89	92	70-130	3
Acenaphthene.	ug/L (ppb)	5	92	94	70-130	2
Fluorene	ug/L (ppb)	5	91	98	70-130	7
Phenanthrene	ug/L (ppb)	5	91	94	70-130	3
Anthracene	ug/L (ppb)	5	93	99	70-130	6
Fluoranthene	ug/L (ppb)	5	93	101	70-130	8
Pyrene	ug/L (ppb)	5	92	100	70-130	8
Benz(a)anthracene	ug/L (ppb)	5	85	90	70-130	6
Chrysene	ug/L (ppb)	5	89	92	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	102	102	70-130	0
Benzo(k)fluoranthene	ug/L (ppb)	5	99	99	70-130	0
Benzo(a)pyrene	ug/L (ppb)	5	101	104	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	98	102	70-130	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	102	107	70-130	5
Benzo(g,h,i)perylene	ug/L (ppb)	5	101	106	70-130	5

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- fp Compounds in the sample matrix interfered with quantitation of the analyte. The reported concentration may be a false positive.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

Sond Report To Dean Malte £07012

4E 10-18-07 SAMPLE CHAIN OF CUSTODY

SAMPLERS (signature)

I acoura Metals PROJECT NAME/NO.

Water Sample

REMARKS

City, State, ZIP FEDERA WAY WA 92001

Phone #253 8740555 Fax # 2539523435

Company KRAMEdy / Jenks Address 32001 32nd Ave 5, 5te 100

Estandard (2 Weeks)

PO#

Rush charges authorized by:

 Dispose after 30 days
 Return samples
 Will call with instructions SAMPLE DISPOSAL

Notes ANALYSES REQUESTED H49 HES SVOCa by 8270 ΛOC^2 P^{Λ} 8500 81208 vd XATB PPH-Diesel Sample Type | containers Time Sampled 1300 90 至 = g bate Sanpled M.R. Miofesper 02k.r 03 k⁻¹ Lab ID Sample ID をなってのいか B43-PCW 1941-RFW BHS-REW

Friedman & Bruya, Inc. Seattle, W.4.98119-2029 3012 16th Avenue West Ph. (206) 285-8282

Fax (206) 283-5044 FORMS\COC\COC\DOC

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

November 15, 2007

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on November 1, 2007 from the Tacoma Metals, F&BI 711010 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA1115R.DOC

FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 1, 2007 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals, F&BI 711010 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Kennedy-Jenks
711010-01	B44-RGW
711010-02	B47-RGW
711010-03	B46-RGW

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711010

Date Extracted: 11/01/07 Date Analyzed: 11/01/07

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery)</u> (Limit 51-134)
B44-RGW 711010-01	130	92
B47-RGW 711010-02	<100	76
B46-RGW 711010-03	<100	93
Method Blank	<100	91

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711010

Date Extracted: 11/01/07 Date Analyzed: 11/07/07

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C10-C25)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 50-150)
B44-RGW 711010-01	120	<250	95
B47-RGW 711010-02	<50	<250	104
B46-RGW 711010-03	<50	<250	120
Method Blank	<50	<250	99

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix:	B44-RGW 11/01/07 11/01/07 11/04/07 Water	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks Tacoma Metals, F&BI 711010 711010-01 110349.D GCMS6 YA
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	86	50	150
Benzo(a)anthracene-d12	96	50	150

Concentration ug/L (ppb)
1.3
< 0.1
12 ve
2.3
0.50
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1
< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

B44-RGW 11/01/07 11/01/07 11/05/07 Water
ug/L (ppb)

Client:	Kennedy-Jenks
Project:	Tacoma Metals, F&BI 711010
Lab ID:	711010-01 1/10
Data File:	110519.D
Instrument:	GCMS6
Operator:	YA

Surrogates: Anthracene-d10	% Recovery:	Lower Limit: 50	Upper Limit: 150
Benzo(a)anthracene-d12 Compounds:	94 Concentration ug/L (ppb)	50	150
Naphthalene Acenaphthylene	2.0 <1		

Acenaphthene 13 Fluorene 2.1 Phenanthrene <1 Anthracene <1 Fluoranthene <1 <1 Pyrene Benz(a)anthracene <1 Chrysene <1 Benzo(a)pyrene <1 Benzo(b)fluoranthene <1 <1 Benzo(k)fluoranthene Indeno(1,2,3-cd)pyrene <1 Dibenz(a,h)anthracene <1 Benzo(g,h,i)perylene <1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B47-RGW	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks
Date Received:	11/01/07		Tacoma Metals, F&BI 711010
Date Extracted:	11/01/07		711010-02
Date Analyzed:	11/04/07		110329.D
Matrix:	Water		GCMS6
Units:	ug/L (ppb)		YA
Units:	ug/L (ppb)	Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	89	50	150
Benzo(a)anthracene-d12	97	50	150

Delizo(a)alitimacene-u12	51
Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	< 0.1
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client:	Kennedy-Jenks
Project:	Tacoma Metals, F&BI 711010
Lab ID:	711010-03
Data File:	110348.D
Instrument:	GCMS6
Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	91	50	150
Benzo(a)anthracene-d12	77	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	< 0.1
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank
Date Received: Not Applicable
Date Extracted: 11/01/07
Date Analyzed: 11/05/07
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals, F&BI 711010
Lab ID: 071742mb rr
Data File: 110518.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	91	50	150
Benzo(a)anthracene-d12	101	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	< 0.1
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711010

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 710419-02 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	320	330	3

Laboratory Code: Laboratory Control Sample

			Percent		
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	ug/L (ppb)	1,000	97	69-134	

FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711010

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	120	70-130	18

ENVIRONMENTAL CHEMISTS

Date of Report: 11/15/07 Date Received: 11/01/07

Project: Tacoma Metals, F&BI 711010

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

2	•	•	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	89	91	70-130	2
Acenaphthylene	ug/L (ppb)	5	89	92	70-130	3
Acenaphthene	ug/L (ppb)	5	92	94	70-130	2
Fluorene	ug/L (ppb)	5	91	98	70-130	7
Phenanthrene	ug/L (ppb)	5	91	94	70-130	3
Anthracene	ug/L (ppb)	5	93	99	70-130	6
Fluoranthene	ug/L (ppb)	5	93	101	70-130	8
Pyrene	ug/L (ppb)	5	92	100	70-130	8
Benz(a)anthracene	ug/L (ppb)	5	85	90	70-130	6
Chrysene	ug/L (ppb)	5	89	92	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	102	102	70-130	0
Benzo(k)fluoranthene	ug/L (ppb)	5	99	99	70-130	0
Benzo(a)pyrene	ug/L (ppb)	5	101	104	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	98	102	70-130	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	102	107	70-130	5
Benzo(g,h,i)perylene	ug/L (ppb)	5	101	106	70-130	5

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- fp Compounds in the sample matrix interfered with quantitation of the analyte. The reported concentration may be a false positive.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

A04/1/2 925 TIME O Dispose after 30 days
O Return samples
A Will call with instructions TURNAROUND TIME Rush charges authorized by: SAMPLE DISPOSAL Notes DOMES 11/10/11/ DATE O RUSH A ME 11-01-07 JOH Samples received COMPANY ANALYSES REQUESTED アと Samples PO# WIZ OPISS IILS SAOCs ph 8270 lean Molto SAMPLE CHAIN OF CUSTODY AOC# PA 8860 PRINT NAME SAMPLERS (signature) PROJECT NAME/NO lacana, Sample Type | containers # of <u></u> REMARKS City, State, ZIP-FOOLE (Wey WA OND) Phone #2538740557 Fax #253952 3435 Sampled 1920 1300 (130) Company Kerlyledy (Senk) Address 32001 32M Are 5, 5th 100 SIGNATURE late Sanpled 10/1901 44 Sond Report To Dead, Malte Relinquished b: Rehinduished by Received by 7/ Received by: 3 4 3 4 Tr 20 7 Lab 10 Friedman & Bruya, Inc. Seattle, W.A 98119-2029 3012 16th Avenue West B47-126W のチャーアでの Fax (206) 283-5044 Sample (D' Ph. (206) 285-8282 122-REW 711011

FORMS/COC/COC.DOC

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

February 4, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on January 28, 2008 from the Tacoma Metals, F&BI 801262 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA0204R.DOC RECEIVED

FEB 1 1 2008

K/J Federal Way
K/J No/File
Route
Return To/By

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 28, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals, F&BI 801262 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Kennedy-Jenks</u>
801262-01	B-37A
801262-02	B-39A

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/08 Date Received: 01/28/08

Project: Tacoma Metals, F&BI 801262

Date Extracted: 01/28/08 Date Analyzed: 01/28/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	<u>Gasoline Range</u>	Surrogate (<u>% Recovery</u>) (Limit 51-134)
B-37A 801262-01	<100	103
B-39A 801262-02	<100	103
Method Blank	<100	100

ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/08 Date Received: 01/28/08

Project: Tacoma Metals, F&BI 801262

Date Extracted: 01/29/08 Date Analyzed: 01/31/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 51-132)
B-37A 801262-01	<50	<250	90
B-39A 801262-02	<50	<250	87
Method Blank	<50	<250	94

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: B-37A
Date Received: 01/28/08
Date Extracted: 01/29/08
Date Analyzed: 01/30/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals, F&BI 801262
Lab ID: 801262-01
Data File: 013008.D
Instrument: GCMS6

Instrument: GCI Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	90	50	150
Benzo(a)anthracene-d12	76	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	2.6
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted:	B-39A 01/28/08 01/29/08	Client: Project: Lab ID:	Kennedy-Jenks Tacoma Metals, F&BI 801262 801262-02
Date Extracted: Date Analyzed: Matrix:	01/30/08 Water	Data File: Instrument:	013009.D GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	80	50	129

Benzo(a)anunacene a12	00
Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	0.91
Fluorene	< 0.1
Phenanthrene	0.10
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Not Applicable Date Received: Date Extracted: 01/29/08 Date Analyzed: 01/30/08 Matrix: Water Units: ug/L (ppb)

Client: Kennedy-Jenks Tacoma Metals, F&BI 801262 Project: Lab ID: 08-139 mb Data File: 013007.D GCMS6 Instrument:

Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	95	50	150
Benzo(a)anthracene-d12	81	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.1
Acenaphthylene	< 0.1
Acenaphthene	< 0.1
Fluorene	< 0.1
Phenanthrene	< 0.1
Anthracene	< 0.1
Fluoranthene	< 0.1
Pyrene	< 0.1
Benz(a)anthracene	< 0.1
Chrysene	< 0.1
Benzo(a)pyrene	< 0.1
Benzo(b)fluoranthene	< 0.1
Benzo(k)fluoranthene	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1
Dibenz(a,h)anthracene	< 0.1
Benzo(g,h,i)perylene	< 0.1

ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/08 Date Received: 01/28/08

Project: Tacoma Metals, F&BI 801262

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 801253-03 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
<u>Analyte</u>	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	84	88	50-150	5

Laboratory Code: Laboratory Control Sample

			$\operatorname{Percent}$		
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	ug/L (ppb)	1,000	91	69-134	

ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/08 Date Received: 01/28/08

Project: Tacoma Metals, F&BI 801262

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

•	•	•	Percent	Percent		
	Reporting	Spike	$\operatorname{Recovery}$	$\operatorname{Recovery}$	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	86	67-141	11

ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/08 Date Received: 01/28/08

Project: Tacoma Metals, F&BI 801262

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	83	77	68-101	7
Acenaphthylene	ug/L (ppb)	5	83	77	70-109	7
Acenaphthene	ug/ $ m L$ (ppb)	5	82	75	69 - 104	9
Fluorene	ug/L (ppb)	5	92	85	68-111	8
Phenanthrene	ug/L (ppb)	5	94	86	66-106	9
Anthracene	ug/L (ppb)	5	96	89	67-112	8
Fluoranthene	ug/L (ppb)	5	89	80	69-116	11
Pyrene	ug/L (ppb)	5	87	78	68-115	11
Benz(a)anthracene	ug/L (ppb)	5	72	65	65-102	10
Chrysene	ug/L (ppb)	5	74	67	66-103	10
Benzo(b)fluoranthene	ug/L (ppb)	5	79	75	68-116	5
Benzo(k)fluoranthene	ug/L (ppb)	5	81	73	70-117	10
Benzo(a)pyrene	ug/L (ppb)	5	80	74	64-116	8
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	95	90	63-122	5
Dibenz(a,h)anthracene	ug/L (ppb)	5	91	83	66-116	9
Benzo(g,h,i)perylene	ug/L (ppb)	5	89	83	66-114	7

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

SAMPLE CHAIN OF CUSTODY ME U/28/08

Sond Report To Dean Malter
Company Kennedy Senks
Address 32001 3200 Ave S. Ste. 100
City, State, ZIP Federa [Wax WH 9800]
Phone #253 8740555 Fax #253 932 3435

SAMPLERS (signature) DKM
PROJECT NAMENO.

PROJECT NAMENO.

Tacoma Meta (Signature)

Rush ch
Rush ch
TPH-Ox With Silca Gel
Adjepto
TPH-G without BIEX

TREMARKS

TPH-G without BIEX

TREMARKS

TREMAR

TURNAROUND TIME

**Standard (2 Weeks)

| RUSH | Rush charges authorized by:

| Rush charges authorized by:

| SAMPLE DISPOSAL | A Dispose after 30 days

| Return samples | Return samples |
| Will call with instructions

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	late Sanpled	1/25/08	1/25/08						
	Lab ID	A7F 22	14 X						
	Q	0-37A					•		
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Friedman & Bruya, Inc. 3012 16th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282 Fax (206) 283-5044

FORMS/COC/COC.DOC

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	Received by:				

Attachment 5

Analytical Reports Chain-of-Custody Documents (Groundwater Samples)

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

March 21, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on March 6, 2008 from the Tacoma Metals 996098.00 PO On-Site, F&BI 803047 project. There are 29 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA0321R.DOC RECEIVED

MAR 242008

K/J No/File
Route
Return To/By

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 6, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals 996098.00 PO On-Site, F&BI 803047 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Kennedy-Jenks</u>
803047-01	MW-15
803047-02	MW-19
803047-03	MW-11
803047-04	MW-14
803047-05	MW-16
803047-06	MW-17

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/08 Date Received: 03/06/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803047

Date Extracted: 03/06/08 Date Analyzed: 03/06/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW-15 803047-01	<100	101
MW-19 803047-02	<100	102
MW-11 803047-03	270	114
MW-14 803047-04	<100	106
MW-16 803047-05	<100	107
MW-17 803047-06	<100	88
Method Blank	<100	111

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/08 Date Received: 03/06/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803047

Date Extracted: 03/10/08 Date Analyzed: 03/14/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	$\frac{\text{Diesel Range}}{(\text{C}_{10}\text{-C}_{25})}$	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 50-150)
MW-15 803047-01	<50	<250	73
MW-19 803047-02	<50	<250	77
MW-11 803047-03	1,100 x	<250	. 80
MW-14 803047-04	71 x	<250	64
MW-16 803047-05	<50	<250	71
MW-17 803047-06	<50	<250	83
Method Blank	<50	<250	77

ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Unite:	MW-15 03/06/08 03/10/08 03/11/08 Water
Units:	ug/L (ppb)

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	803047-01
Data File:	031112.D
Instrument:	GCMS6
Operator:	YA
Data File: Instrument:	031112.D GCMS6

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	74	50	150
Benzo(a)anthracene-d12	77	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.036
Acenaphthylene	0.025
Acenaphthene	3.5
Fluorene	1.8
Phenanthrene	0.28
Anthracene	0.17
Fluoranthene	0.36
Pyrene	0.23
Benz(a)anthracene	0.026
Chrysene	0.027
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	0.021
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method $8270 \mathrm{C}$ SIM

Client Sample ID:	MW-15	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-01f
Date Analyzed:	03/12/08	Data File:	031209.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	76	50	150
Benzo(a)anthracene-d12	85	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.036
Acenaphthylene	0.023
Acenaphthene	3.0
Fluorene	1.6
Phenanthrene	0.27
Anthracene	0.12
Fluoranthene	0.31
Pyrene	0.19
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-19
Date Received:	03/06/08
Date Extracted:	03/10/08
Date Analyzed:	03/11/08
Matrix:	Water
Matrix:	water
Units:	ug/L (ppb)

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	803047-02
Data File:	031113.D
Instrument:	GCMS6
Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	78	50	150
Benzo(a)anthracene-d12	76	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.02
Acenaphthylene	< 0.02
Acenaphthene	0.17
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-19	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-02f
Date Analyzed:	03/12/08	Data File:	031210.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
	~P. T. (h.b.n.)	Lower	Upper

		TOM 61.	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	77	50	150
Benzo(a)anthracene-d12	83	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.042
Acenaphthylene	< 0.02
Acenaphthene	0.14
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	MW-11 03/06/08 03/10/08 03/11/08 Water ug/L (ppb)	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks Tacoma Metals 996098.00 803047-03 031116.D GCMS6 YA
Units:	ug/L (ppb)	Operator:	YA

C	0/ Da	Lower	Upper
Surrogates:	% Recovery:	\mathbf{Limit} :	Limit:
Anthracene-d10	48 J, ip	50	150
Benzo(a)anthracene-d12	81 J	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	14 ve, J
Acenaphthylene	$0.84~\mathrm{J}$
Acenaphthene	62 ve, J
Fluorene	49 ve, J
Phenanthrene	$44 \mathrm{\ ve,\ J}$
Anthracene	8.1 ve, J
Fluoranthene	12 ve, J
Pyrene	8.4 ve, J
Benz(a)anthracene	$0.64~\mathrm{J}$
Chrysene	$0.51~\mathrm{J}$
Benzo(a)pyrene	$0.20~\mathrm{J}$
Benzo(b)fluoranthene	$0.25~\mathrm{J}$
Benzo(k)fluoranthene	$0.084~\mathrm{J}$
Indeno(1,2,3-cd)pyrene	$0.057~\mathrm{J}$
Dibenz(a,h)anthracene	<0.02 J
Benzo(g,h,i)perylene	$0.056~\mathrm{J}$

ENVIRONMENTAL CHEMISTS

<u>-</u>	MW-11 03/06/08	Client: Project:	Kennedy-Jenks Tacoma Metals 996098.00
	03/10/08	Lab ID:	803047-03 1/10
Date Analyzed:	03/11/08	Data File:	031115.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	85	50	150
Benzo(a)anthracene-d12	79	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	17
Acenaphthylene	0.84
Acenaphthene	89 ve
Fluorene	64 ve
Phenanthrene	66 ve
Anthracene	13
Fluoranthene	15
Pyrene	10
Benz(a)anthracene	0.68
Chrysene	0.48
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	0.23
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-11	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-03 1/100
Date Analyzed:	03/21/08	Data File:	032117.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
			

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	343 ds	50	150
Benzo(a)anthracene-d12	107	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	18
Acenaphthylene	<2
Acenaphthene	120
Fluorene	84
Phenanthrene	87
Anthracene	16
Fluoranthene	15
Pyrene	10
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-11 Client: Kennedy-Jenks Date Received: 03/06/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803047-03f Date Analyzed: 03/12/08 Data File: 031217.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YA

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 45 ip 50 150 Benzo(a)anthracene-d12 85 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 9.7 ve Acenaphthylene 0.55 Acenaphthene 53 ve Fluorene 42 ve Phenanthrene 38 ve Anthracene 6.0 ve Fluoranthene 10 ve Pyrene 7.3 ve Benz(a)anthracene 0.50 Chrysene 0.39 Benzo(a)pyrene 0.18 Benzo(b)fluoranthene 0.22 Benzo(k)fluoranthene 0.089 Indeno(1,2,3-cd)pyrene 0.068 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene 0.063

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-11	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-03f 1/100
Date Analyzed:	03/14/08	Data File:	031332.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
		Lower	Linner

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$239~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	80	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	13
Acenaphthylene	<2
Acenaphthene	98
Fluorene	73
Phenanthrene	79
Anthracene	12
Fluoranthene	13
Pyrene	8.3
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method $8270 \mathrm{C} \; \mathrm{SIM}$

Client Sample ID: MW-14 Date Received: 03/06/08 Date Extracted: 03/10/08 Date Analyzed: 03/11/08 Matrix: Water Units: ug/L (ppb)	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks Tacoma Metals 996098.00 803047-04 031114.D GCMS6 YA
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		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	67	50	150
Benzo(a)anthracene-d12	71	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.23
Acenaphthylene	0.084
Acenaphthene	8.2 ve
Fluorene	3.7
Phenanthrene	2.4
Anthracene	0.45
Fluoranthene	1.2
Pyrene	0.78
Benz(a)anthracene	0.067
Chrysene	0.065
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-14
Date Received: 03/06/08
Date Extracted: 03/10/08
Date Analyzed: 03/11/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00
Lab ID: 803047-04 1/10
Data File: 031119 D

Lab ID: 803047-04
Data File: 031119.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	79	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.26
Acenaphthylene	< 0.2
Acenaphthene	10
Fluorene	4.1
Phenanthrene	2.8
Anthracene	0.44
Fluoranthene	1.3
Pyrene	0.84
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-14 Client: Kennedy-Jenks Date Received: 03/06/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803047-04f Date Analyzed: 03/12/08 Data File: 031215.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YΑ

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 68 50 150
Benzo(a)anthracene-d12 73 50 129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.18
Acenaphthylene	0.071
Acenaphthene	7.7 ve
Fluorene	3.4
Phenanthrene	2.3
Anthracene	0.35
Fluoranthene	1.0
Pyrene	0.68
Benz(a)anthracene	0.052
Chrysene	0.049
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-14	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-04f 1/10
Date Analyzed:	03/12/08	Data File:	031214.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	88	50	150
Benzo(a)anthracene-d12	71	50	129

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Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	< 0.2
Acenaphthene	8.2
Fluorene	3.4
Phenanthrene	2.4
Anthracene	0.35
Fluoranthene	0.98
Pyrene	0.64
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Cl	ient:	Kennedy-Jenks
Pr	oject:	Tacoma Metals 996098.00
La	ab ID:	803047-05
$\mathbf{D}_{\mathbf{z}}$	ata File:	031111.D
In	strument:	GCMS6
Oı	perator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	77	50	150
Benzo(a)anthracene-d12	80	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.023
Acenaphthylene	< 0.02
Acenaphthene	0.57
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-16	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-05f
		_ -	
Date Analyzed:	03/12/08	Data File:	031211.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
		.	**

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	79	50	150
Benzo(a)anthracene-d12	63	50	129

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Compounds:	Concentration ug/L (ppb)
Naphthalene	0.026
Acenaphthylene	< 0.02
Acenaphthene	0.48
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Chent:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	803047-06
Data File:	031110.D
Instrument:	GCMS6
Operator:	YA

	Lower	Upper
% Recovery:	Limit:	Limit:
74	50	150
79	50	129
	74	% Recovery: Limit: 74 50

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	Concentration
Compounds:	ug/L (ppb)
Naphthalene	0.23
Acenaphthylene	0.047
Acenaphthene	5.5 ve
Fluorene	2.6
Phenanthrene	0.25
Anthracene	0.39
Fluoranthene	0.77
Pyrene	0.51
Benz(a)anthracene	0.049
Chrysene	0.043
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

		$_{ m Lower}$	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	80	50	129

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Compounds:	Concentration ug/L (ppb)
Naphthalene	0.24
Acenaphthylene	< 0.2
Acenaphthene	6.2
Fluorene	2.8
Phenanthrene	0.25
Anthracene	0.38
Fluoranthene	0.76
Pyrene	0.49
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-17	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-06f
Date Analyzed:	03/20/08	Data File:	032007.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	75	50	150
Benzo(a)anthracene-d12	85	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.20
Acenaphthylene	0.046
Acenaphthene	5.2 ve
Fluorene	2.6
Phenanthrene	0.23
Anthracene	0.32
Fluoranthene	0.71
Pyrene	0.45
Benz(a)anthracene	0.042
Chrysene	0.032
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-17	Client:	Kennedy-Jenks
Date Received:	03/06/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803047-06f 1/10
Date Analyzed:	03/12/08	Data File:	031212.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		rower.	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	84	50	129

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Compounds:	Concentration ug/L (ppb)
Naphthalene	0.21
Acenaphthylene	< 0.2
Acenaphthene	5.6
Fluorene	2.6
Phenanthrene	0.25
Anthracene	0.32
Fluoranthene	0.70
Pyrene	0.46
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Clie	nt Sample ID:	Method Blank	C
	e Received:	Not Applicable	r q
			Ţ
	e Extracted:	03/10/08	Ţ
Dat	e Analyzed:	03/10/08	Γ
Mat	rix:	Water	I
Uni	ts:	ug/L (ppb)	C

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	080361mb
Data File:	031014.D
Instrument:	GCMS6
Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	78	50	150
Benzo(a)anthracene-d12	83	50	129
	Concentration		

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.02
Acenaphthylene	< 0.02
Acenaphthene	< 0.02
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Client: Kennedy-Jenks Date Received: Not Applicable Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 080363mbf 03/12/08 Date Analyzed: Data File: 031207.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: ΥA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	79	50	150
Benzo(a)anthracene-d12	84	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.02
Acenaphthylene	< 0.02
Acenaphthene	< 0.02
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/08 Date Received: 03/06/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803047

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 803011-05 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

		Percent			
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	ug/L (ppb)	1,000	106	69-134	-

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/08 Date Received: 03/06/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803047

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

		Percent			
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Diesel Extended	ug/L (ppb)	2,500	97	70-130	

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/08 Date Received: 03/06/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803047

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

·	Donautina	د داده	Percent	Percent	A -	DDD
A 7 .	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	82	80	68-101	2
Acenaphthylene	ug/L (ppb)	5	77	74	70-109	4
Acenaphthene	ug/L (ppb)	5	85	83	69-104	2
Fluorene	ug/L (ppb)	5	84	81	68-111	4
Phenanthrene	ug/L (ppb)	5	84	80	66-106	5
Anthracene	ug/L (ppb)	5	82	80	67 - 112	2
Fluoranthene	ug/L (ppb)	5	85	84	69-116	1
Pyrene	ug/L (ppb)	5	85	84	68-115	1
Benz(a)anthracene	ug/L (ppb)	5	80	76	65-102	5
Chrysene	ug/L (ppb)	5	85	80	66-103	6
Benzo(b)fluoranthene	ug/L (ppb)	5	92	91	70-117	1
Benzo(k)fluoranthene	ug/L (ppb)	5	90	85	64-116	6
Benzo(a)pyrene	ug/L (ppb)	5	88	83	68-116	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	87	82	63-122	6
Dibenz(a,h)anthracene	ug/L (ppb)	5	86	81	66-116	6
Benzo(g,h,i)perylene	ug/L (ppb)	5	87	81	66-114	7

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/08 Date Received: 03/06/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803047

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

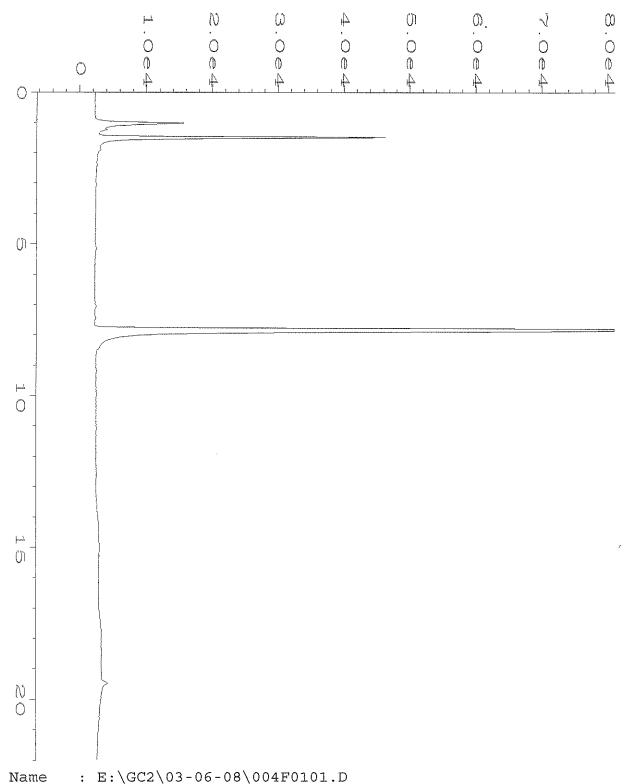
•	•	-	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	88	86	68-101	2
Acenaphthylene	ug/L (ppb)	5	80	78	70-109	3
Acenaphthene	ug/L (ppb)	5	91	87	69-104	4
Fluorene	ug/L (ppb)	5	90	87	68-111	3
Phenanthrene	ug/L (ppb)	5	88	85	66-106	3
Anthracene	ug/ $ m L$ (ppb)	5	86	83	67-112	4
Fluoranthene	ug/L (ppb)	5	91	88	69-116	3
Pyrene	ug/ $ m L$ (ppb)	5	92	88	68-115	4
Benz(a)anthracene	ug/L (ppb)	5	80	81	65-102	1
Chrysene	ug/L (ppb)	5	87	86	66-103	1
Benzo(b)fluoranthene	ug/ $ m L$ (ppb)	5	93	96	70-117	3
Benzo(k)fluoranthene	ug/L (ppb)	5	95	93	64-116	2
Benzo(a)pyrene	ug/L (ppb)	5	87	88	68-116	1
Indeno $(1,2,3\text{-cd})$ pyrene	ug/ L (ppb)	5	76	79	63-122	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	83	85	66-116	2
Benzo(g,h,i)perylene	ug/L (ppb)	5	83	85	66-114	2

Note: The calibration verification result for indeno(1,2,3-cd)pyrene exceeded 15% deviation. The average deviation for all compounds was not greater than 15%; therefore, the initial calibration is considered valid.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.



Data File Name : E:\GC2\03-06-08\004F0101.D

Operator : EL Page Number : 1

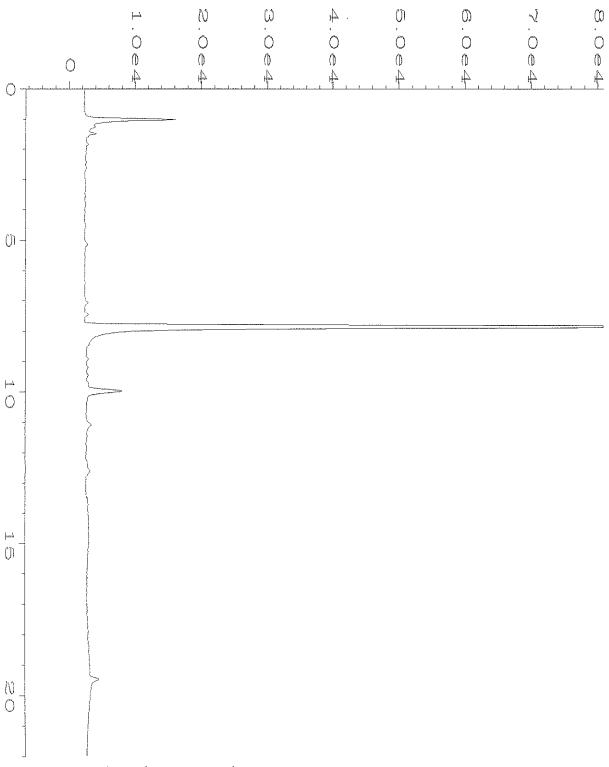
Instrument : GC #2 Vial Number : 4

Sample Name : 08-00345 mb2 Injection Number : 1

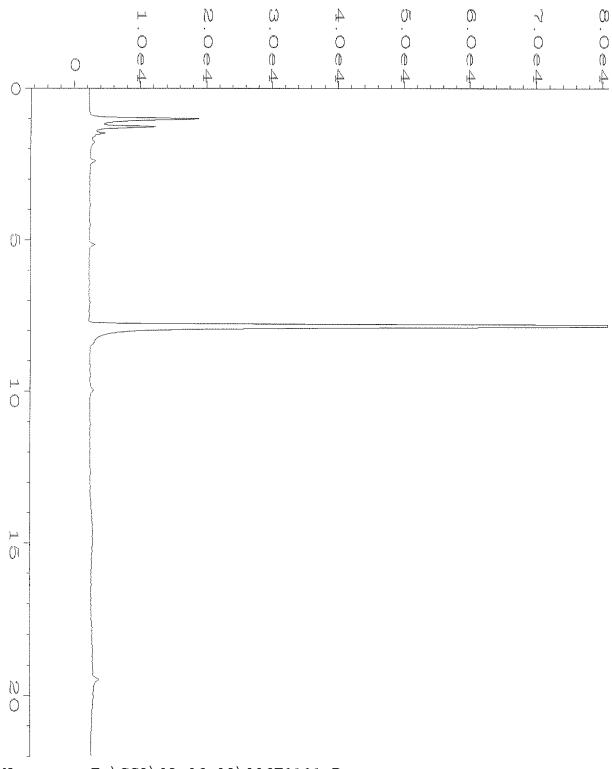
Run Time Bar Code: Sequence Line : 1

Acquired on : 06 Mar 08 01:41 PM Instrument Method: BTEX

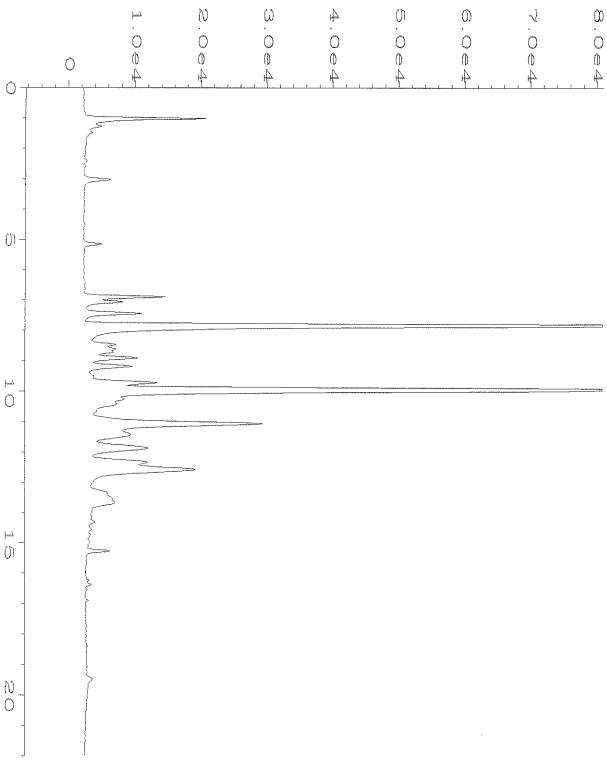
Acquired on : 06 Mar 08 01:41 PM Instrument Method: BTEXG.MTH Report Created on: 20 Mar 08 02:10 PM Analysis Method : DEFAULT.MTH



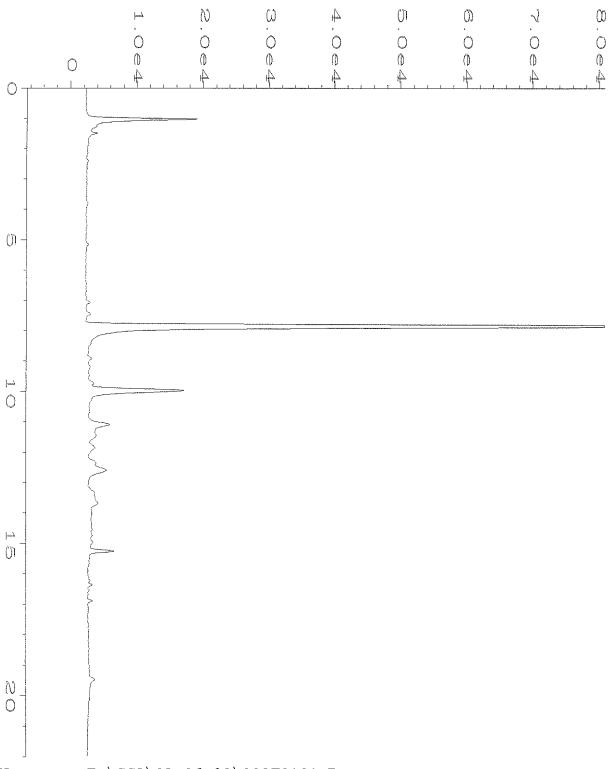
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                                                   Page Number
Operator
                  : EL
                                                   Vial Number
Instrument
                                                                     : 5
                  : GC #2
                                                   Injection Number: 1
Sample Name
                  : 803047-01
Run Time Bar Code: Acquired on :
                                                   Sequence Line
                                                                    : 1
                                                   Instrument Method: BTEXG.MTH
                  : 06 Mar 08
                                02:21 PM
Report Created on: 20 Mar 08
                                02:10 PM
                                                   Analysis Method : DEFAULT.MTH
```



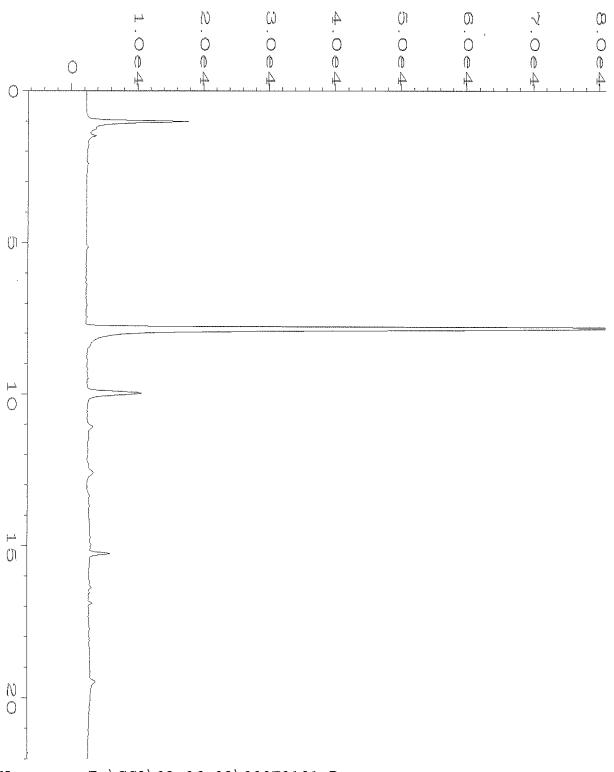
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                                                     Page Number
Vial Number
Operator
                   : EL
Instrument
                   : GC #2
                                                                         : 6
                                                     Injection Number : 1
Sequence Line : 1
Sample Name
                   : 803047-02
Run Time Bar Code:
Acquired on
                   : 06 Mar 08
                                                      Instrument Method: BTEXG.MTH
                                 02:52 PM
                                                     Analysis Method : DEFAULT.MTH
Report Created on: 20 Mar 08
                                 02:10 PM
```



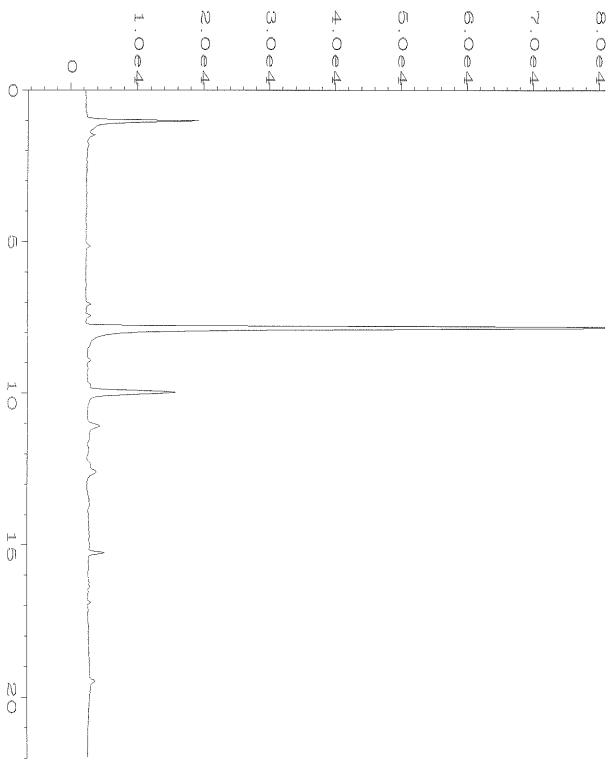
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                                                Page Number
                 : EL
Operator
                                                Vial Number
Instrument
                 : GC #2
                                                                 : 7
Sample Name
                                                Injection Number: 1
                 : 803047-03
Run Time Bar Code:
                                                Sequence Line
                                                               : 1
                                                Instrument Method: BTEXG.MTH
Acquired on
                 : 06 Mar 08
                              03:23 PM
Report Created on: 20 Mar 08
                                                Analysis Method : DEFAULT.MTH
                              02:10 PM
```



```
Data File Name
                   : E:\GC2\03-06-08\008F0101.D
                                                     Page Number
Vial Number
Operator
                   : EL
Instrument
                   : GC #2
Sample Name
                                                     Injection Number: 1
Sequence Line: 1
                  : 803047-04
Run Time Bar Code:
                                                     Instrument Method: BTEXG.MTH
Acquired on
                   : 06 Mar 08
                                 03:54 PM
                                                     Analysis Method : DEFAULT.MTH
Report Created on: 20 Mar 08
                                 02:10 PM
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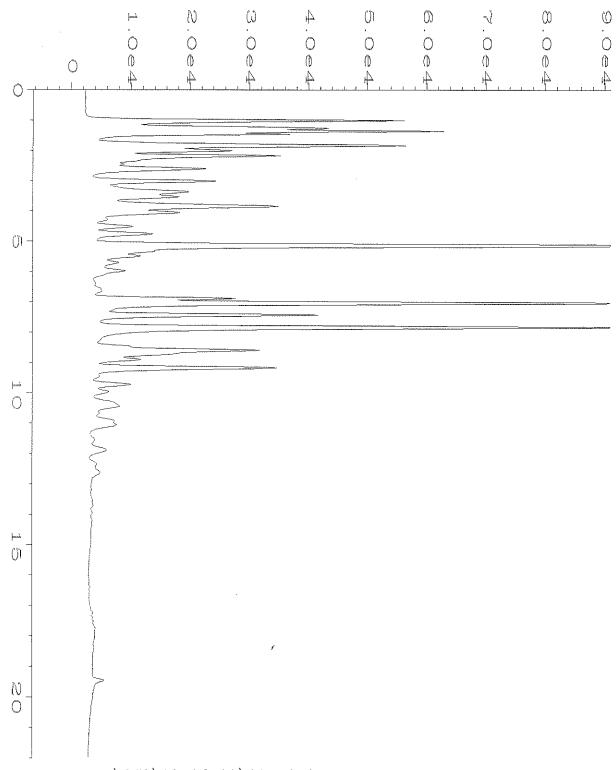


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                                                  Page Number
Operator
                  : EL
Instrument
                                                   Vial Number
                  : GC #2
                                                                     : 9
Sample Name
                                                   Injection Number: 1
                  : 803047-05
Run Time Bar Code: Acquired on :
                                                   Sequence Line
                                                                    : 1
                                                   Instrument Method: BTEXG.MTH
                  : 06 Mar 08
                               04:25 PM
Report Created on: 20 Mar 08
                                                  Analysis Method : DEFAULT.MTH
                               02:10 PM
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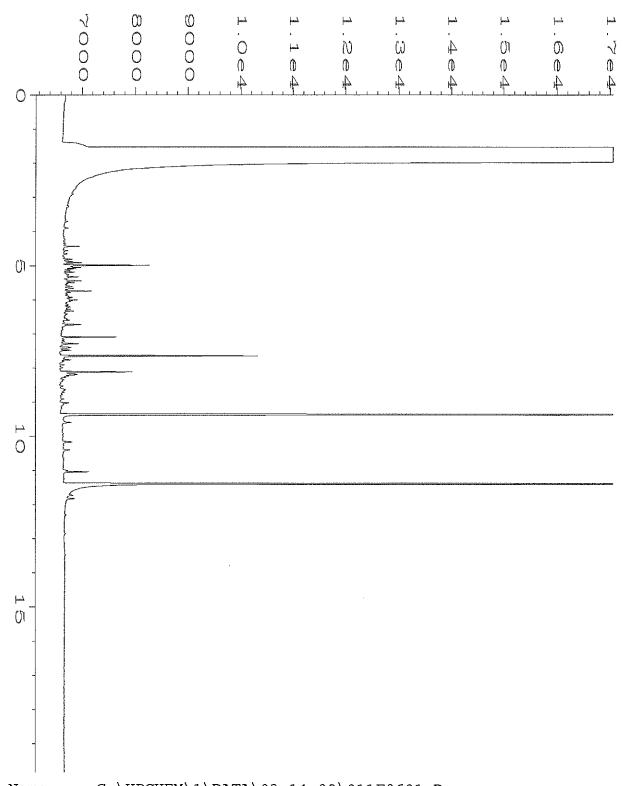


: E:\GC2\03-06-08\010F0101.D Data File Name Page Number Operator : EL : 1 Vial Number : 10 Instrument : GC #2 Sample Name : 703047-06 Injection Number: 1 Sequence Line Run Time Bar Code: : 1 Acquired on : 06 Mar 08 04:56 PM

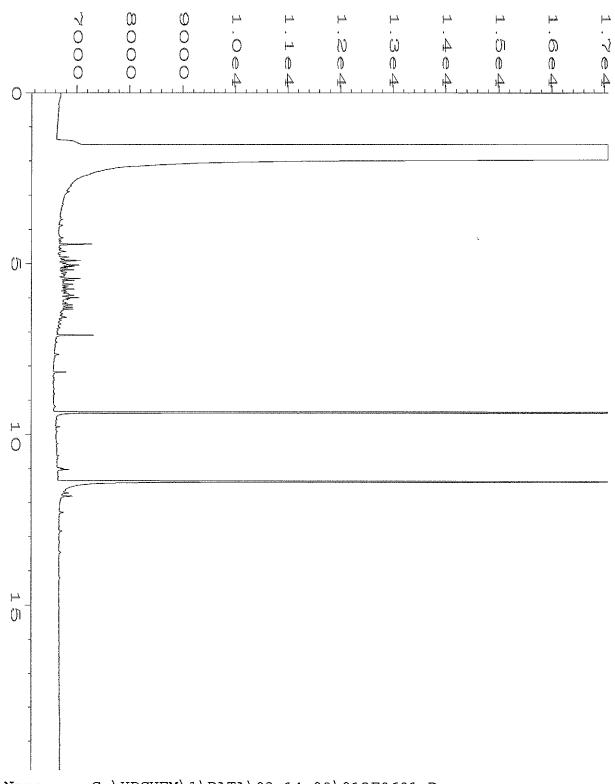
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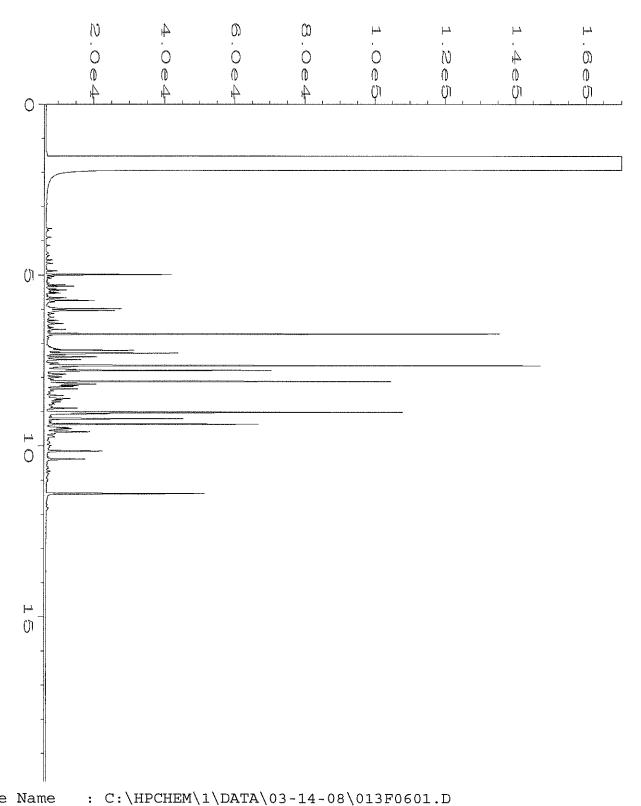
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                                                     Page Number
Vial Number
Operator
                   : EL
Instrument
                   : GC #2
                                                     Injection Number : 1
Sequence Line : 1
Sample Name
                  : 500 gas 27-78
Run Time Bar Code:
Acquired on
                   : 06 Mar 08
                                                     Instrument Method: BTEXG.MTH
                                 08:45 AM
Report Created on: 20 Mar 08
                                                     Analysis Method : DEFAULT.MTH
                                 02:10 PM
```



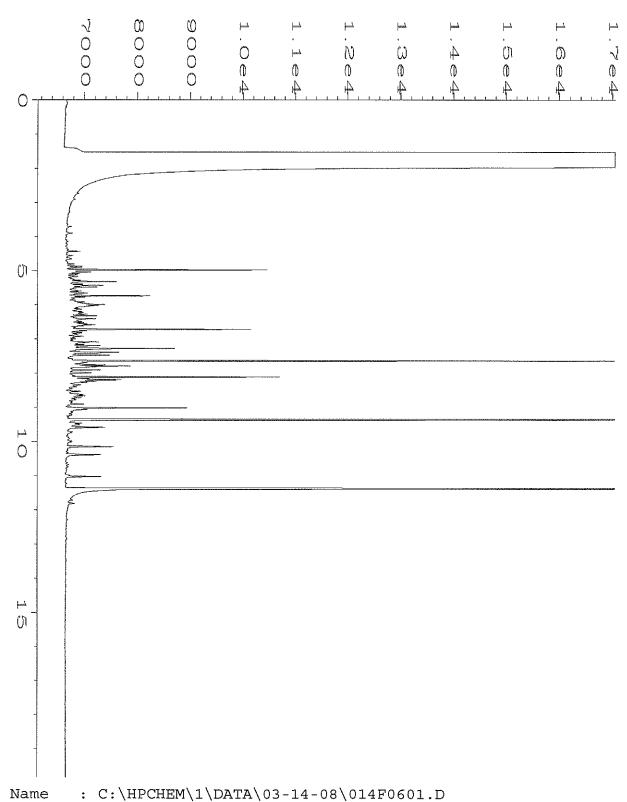
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Operator
                                            Page Number
                : ay
                                                           : 1
                                            Vial Number : 11
Instrument
                : GC1
Sample Name : 803047-01 Sg dy 02/1760
                                            Injection Number: 1
                                            Sequence Line : 6
Run Time Bar Code:
Acquired on
            : 14 Mar 08 02:35 PM
                                            Instrument Method: TPHD.MTH
Report Created on: 17 Mar 08 02:19 PM
                                            Analysis Method : END.MTH
```



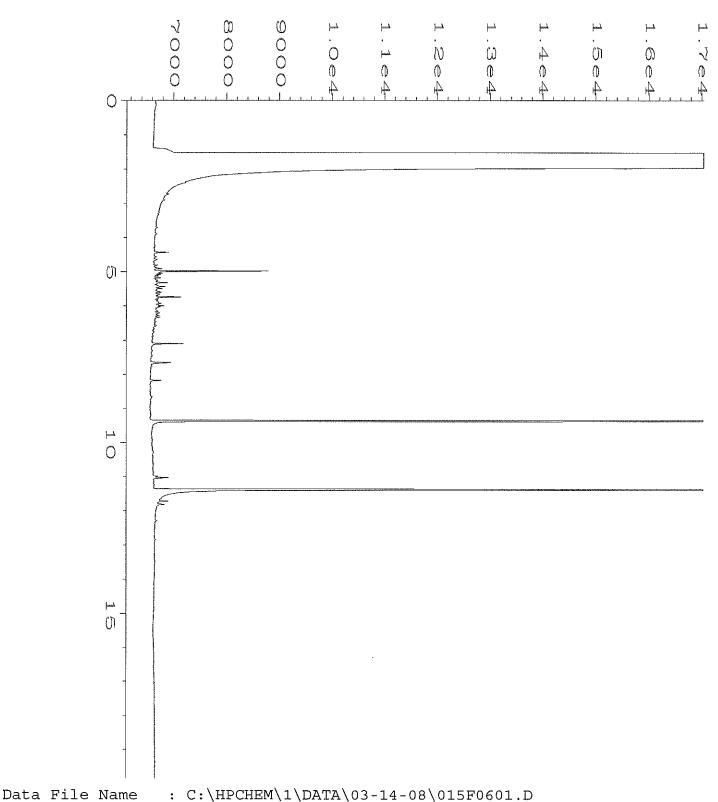
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Operator
                                             Page Number
                : ay
                                                            : 1
Instrument
                : GC1
                                             Vial Number : 12
              : 803047-02 Sg My B/1/4/28
Sample Name
                                             Injection Number: 1
Run Time Bar Code:
                                             Sequence Line : 6
            : 14 Mar 08 03:01 PM
Acquired on
                                             Instrument Method: TPHD.MTH
Report Created on: 17 Mar 08 02:19 PM
                                             Analysis Method : END.MTH
```



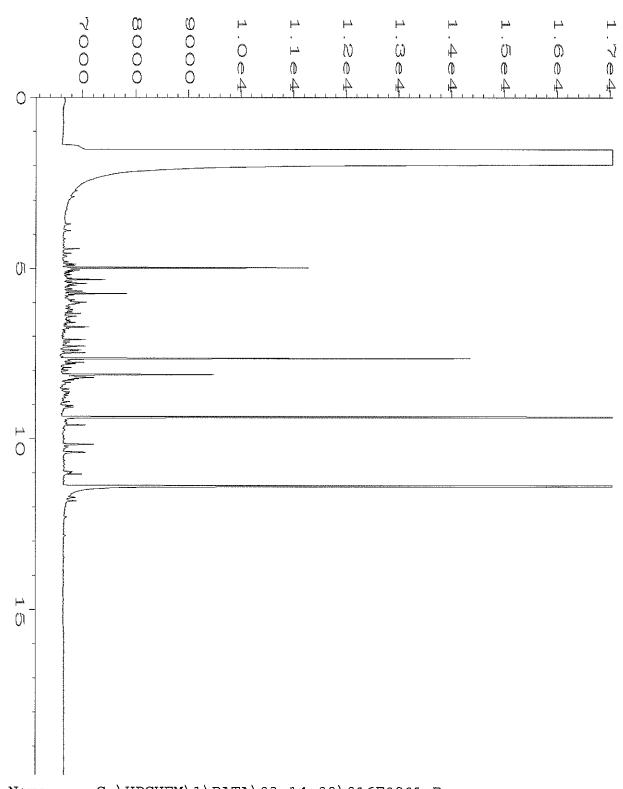
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Data File Name
Operator
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                                                            : 1
Instrument
                : GC1
                                             Vial Number : 13
Sample Name
                                             Injection Number: 1
               : 803047-03 sg
Run Time Bar Code:
                                             Sequence Line : 6
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                                             Analysis Method : END.MTH
Report Created on: 17 Mar 08 02:19 PM
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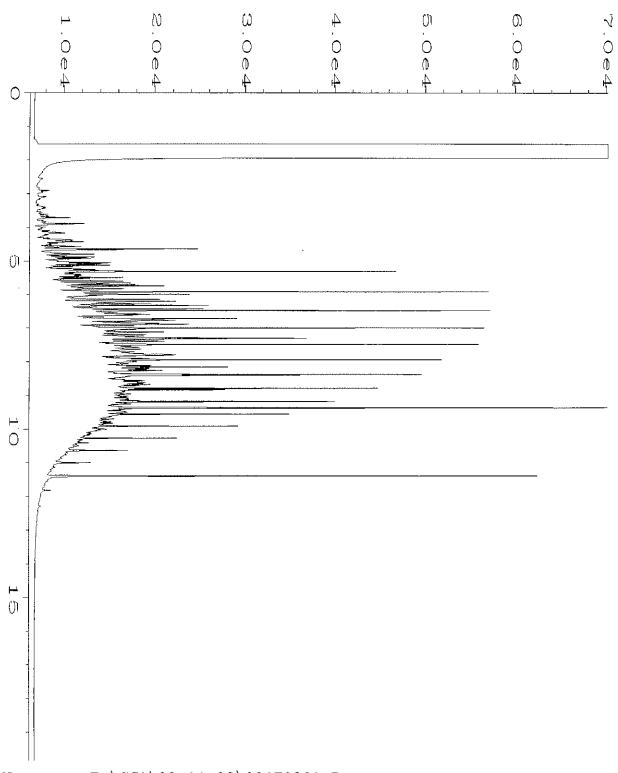
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Operator
                                              Page Number
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                                                              : 1
Instrument
                : GC1
                                              Vial Number
                                                           : 14
Sample Name
                                              Injection Number: 1
               : 803047-04 sg
Run Time Bar Code:
                                              Sequence Line
                                                            : 6
                                              Instrument Method: TPHD.MTH
Acquired on
            : 14 Mar 08 03:53 PM
Report Created on: 17 Mar 08 02:20 PM
                                              Analysis Method : END.MTH
```



```
Operator
                                                Page Number
Vial Number
                 : ay
Instrument
                 : GC1
                                                              : 15
Sample Name
                                                Injection Number: 1
                : 803047-05 sg
Run Time Bar Code:
                                                Sequence Line : 6
                                                Instrument Method: TPHD.MTH
Acquired on
             : 14 Mar 08
                              04:20 PM
Report Created on: 17 Mar 08 02:20 PM
                                                Analysis Method : END.MTH
```



```
Data File Name : C:\HPCHEM\1\DATA\03-14-08\016F0901.D
Operator
                                              Page Number
                : ay
                                                              : 1
Instrument
                : GC1
                                              Vial Number
                                                              : 16
                                              Injection Number: 1
Sample Name
               : 803047-06 sg
Run Time Bar Code:
                                              Sequence Line
Acquired on
            : 14 Mar 08
                                              Instrument Method: TPHD.MTH
                             05:39 PM
Report Created on: 17 Mar 08 02:20 PM
                                              Analysis Method : END.MTH
```



Data File Name : E:\GC1\03-14-08\004F0201.D Page Number Vial Number Operator : ay : GC1 Instrument Sample Name Injection Number: 1 : 26-185F 500 WADF Run Time Bar Code: Sequence Line : 2 Instrument Method: TPHD.MTH Acquired on : 14 Mar 08 10:41 AM

02:09 PM

Report Created on: 20 Mar 08

Analysis Method : DEFAULT.MTH

TIME ☐ Return samples ☐ Will call with instructions Rush charges authorized by: SAMPLE DISPOSAL Notes Apispose after 30 days KStandard (2 Weeks) エゲ ME 03/06/08 COMPANY GENERALED Po# ON-Site KEMARKS & Use lowest reportuging the Kater Later Canalysis SAMPLE CHAIN OF CUSTODY PRINT NAME PROJECT NAME/NO. TROMA MET 996098.00 SAMPLERS (signature) Sample Type containers # of B Phone #253740555 Fax #2529523435 City, State, ZIP Federal (1) of with 9800 Sampled 814 3468 1000 1150 222 345/ Address 32001 324 Ave S, 5+e-100 SIGNATURE Sampled Company Kennedy/ Jenks 78 Lab IU 454 Friedman & Bruya, Inc. 803047 1 EI Sample (D 🛮 Sond Report To JUN-3/

3 Samplés received at Kennedy Laris Kinda Norran Michael Galal Relinquished b: Received by:

3012 16th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282 Fax (206) 283-5044

FORMS/COC/COC.DOC

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

March 28, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on March 13, 2008 from the Tacoma Metals 996098.00 PO Off Site, F&BI 803125 project. There are 38 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA0328R.DOC

RECEIVED

APR -7 2008

K/J Federal Way
K/J No/File
Route
Return To/By

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 13, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals 996098.00, F&BI 803125 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Kennedy-Jenks</u>
803125-01	MW-23
803125-02	MW-26
803125-03	MW-29
803125-04	MW-24
803125-05	MW-27
803125-06	MW-25
803125-07	MW-32

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/08 Date Received: 03/13/08

Project: Tacoma Metals 996098.00, F&BI 803125

Date Extracted: 03/14/08 Date Analyzed: 03/15/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH- G_X

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW-23 803125-01	3,100	110
MW-26 803125-02	320	132
MW-29 803125-03	220	130
MW-24 803125-04	330	129
MW-27 803125-05	<100	125
MW-25 803125-06	300	128
MW-32 803125-07	210	128
Method Blank	<100	123

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/08 Date Received: 03/13/08

Project: Tacoma Metals 996098.00, F&BI 803125

Date Extracted: 03/14/08 Date Analyzed: 03/17/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 51-132)
MW-23 803125-01	3,100	<250	77
MW-26 803125-02	860	<250	71
MW-29 803125-03	390	<250	74
MW-24 803125-04	450	<250	70
MW-27 803125-05	140	<250	71
MW-25 803125-06	420	<250	70
MW-32 803125-07	180	<250	73
Method Blank	<50	<250	66

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-23
Date Received:	03/13/08
Date Extracted:	03/17/08
Date Analyzed:	03/19/08
Matrix:	Water
Units:	ug/L (ppb)

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00 PO Off Site
Lab ID:	803125-01
Data File:	031838.D
Instrument:	GCMS6
Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	62	50	150
Benzo(a)anthracene-d12	100	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	27 ve, J
Acenaphthylene	0.90
Acenaphthene	85 ve
Fluorene	44 ve
Phenanthrene	32 ve
Anthracene	4.6
Fluoranthene	7.4 ve
Pyrene	4.8
Benz(a)anthracene	0.32
Chrysene	0.30
Benzo(a)pyrene	0.022
Benzo(b)fluoranthene	0.031
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

Note: The sample was analyzed outside of the 12 hour shift.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00 PO Off Site
Lab ID:	803125-01 1/100
Data File:	031921.D
Instrument:	GCMS6
Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$346~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	90	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	32
Acenaphthylene	<2
Acenaphthene	150
Fluorene	56
Phenanthrene	52
Anthracene	5.5
Fluoranthene	8.3
Pyrene	5.1
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-23
Date Received: 03/13/08
Date Extracted: 03/18/08
Date Analyzed: 03/20/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-01f
Data File: 032012.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	65	50	150
Benzo(a)anthracene-d12	110	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	21 ve
Acenaphthylene	0.74
Acenaphthene	86 ve
Fluorene	41 ve
Phenanthrene	31 ve
Anthracene	3.8
Fluoranthene	7.6 ve
Pyrene	5.0
Benz(a)anthracene	0.22
Chrysene	0.21
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed:	MW-23 03/13/08 03/18/08 03/19/08	Client: Project: Lab ID: Data File:	Kennedy-Jenks Tacoma Metals 996098.00 PO Off Site 803125-01f 1/100 031920.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
		Lower	Upper

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$371~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	108	50°	129

	Concentration
Compounds:	ug/L (ppb)
Naphthalene	26
Acenaphthylene	<2
Acenaphthene	130
Fluorene	49
Phenanthrene	48
Anthracene	4.5
Fluoranthene	7.0
Pyrene	4.3
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method $8270 \mathrm{C} \ \mathrm{SIM}$

Client Sample ID: Date Received:	MW-26 03/13/08
Date Extracted:	03/13/08
Date Analyzed:	03/19/08
Matrix:	Water
Units:	ug/L (ppb)

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00 PO Off Site

Project:	Tacoma M
Lab ID:	803125-02
Data File:	031832.D
Instrument:	GCMS6
Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	68	50	150
Benzo(a)anthracene-d12	93	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	51 ve
Acenaphthylene	0.48
Acenaphthene	51 ve
Fluorene	40 ve
Phenanthrene	33 ve
Anthracene	4.1
Fluoranthene	8.9 ve
Pyrene	4.7
Benz(a)anthracene	0.16
Chrysene	0.15
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	0.026
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-26
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/19/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site

Lab ID: 803125-02 1/500

Data File: 031925.D Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$0~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	0 ds	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	91
Acenaphthylene	<10
Acenaphthene	77
Fluorene	48
Phenanthrene	47
Anthracene	<10
Fluoranthene	<10
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-26 Client:
Date Received: 03/13/08 Project
Date Extracted: 03/18/08 Lab ID:
Date Analyzed: 03/20/08 Data Fi
Matrix: Water Instrum
Units: ug/L (ppb) Operate

Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-02f
Data File: 032013.D
Instrument: GCMS6
Operator: YA

Kennedy-Jenks

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	67	50	150
Benzo(a)anthracene-d12	110	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	35 ve
Acenaphthylene	0.37
Acenaphthene	41 ve
Fluorene	32 ve
Phenanthrene	26 ve
Anthracene	2.7
Fluoranthene	7.5 ve
Pyrene	4.2
Benz(a)anthracene	0.12
Chrysene	0.11
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-26 Client: Kennedy-Jenks Date Received: Project: Tacoma Metals 996098.00 PO Off Site 03/13/08 Date Extracted: 03/18/08 Lab ID: 803125-02f 1/500 Date Analyzed: 03/19/08 Data File: 031924.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YΑ

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 0 ds 50 150 Benzo(a)anthracene-d12 0 ds 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 74 Acenaphthylene <10 Acenaphthene 66 Fluorene 42 Phenanthrene 42 Anthracene <10 Fluoranthene <10 Pyrene <10 Benz(a)anthracene <10 Chrysene <10 Benzo(a)pyrene <10 Benzo(b)fluoranthene <10 Benzo(k)fluoranthene <10 Indeno(1,2,3-cd)pyrene <10 Dibenz(a,h)anthracene <10 Benzo(g,h,i)perylene <10

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-29
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/18/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-03

Lab ID: 803125-03
Data File: 031829.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	78	50	150
Benzo(a)anthracene-d12	97	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.46
Acenaphthylene	0.32
Acenaphthene	23 ve
Fluorene	11 ve
Phenanthrene	12 ve
Anthracene	3.8
Fluoranthene	5.9 ve
Pyrene	3.7
Benz(a)anthracene	0.26
Chrysene	0.25
Benzo(a)pyrene	0.048
Benzo(b)fluoranthene	0.057
Benzo(k)fluoranthene	0.025
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-29
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/24/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-03 1/100

Lab ID: 803125-03 Data File: 032406.D Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	366 ds	50	150
Benzo(a)anthracene-d12	110	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	31
Fluorene	12
Phenanthrene	15
Anthracene	4.1
Fluoranthene	6.0
Pyrene	3.7
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

996098.00 PO Off Site

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-29	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals
Date Extracted:	03/18/08	Lab ID:	803125-03f
Date Analyzed:	03/19/08	Data File:	031928.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	89	50	150
Benzo(a)anthracene-d12	116	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.34
Acenaphthylene	0.28
Acenaphthene	23 ve
Fluorene	11 ve
Phenanthrene	13 ve
Anthracene	3.0
Fluoranthene	5.8 ve
Pyrene	3.6
Benz(a)anthracene	0.18
Chrysene	0.18
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-29
Date Received: 03/13/08
Date Extracted: 03/18/08
Date Analyzed: 03/24/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site

Lab ID: 803125-03f 1/100 Data File: 032405.D

Data File: 032405.1 Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$341~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	$144 \mathrm{\ ds}$	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	29
Fluorene	12
Phenanthrene	14
Anthracene	3.0
Fluoranthene	5.6
Pyrene	3.5
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Lower

Limit:

50

50

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

% Recovery:

83

Surrogates:

 $An thracene \hbox{-} d10$

Kennedy-Jenks
Tacoma Metals 996098.00 PO Off Site
803125-04
031826.D
GCMS6
YA

Upper

Limit:

150

129

Benzo(a)anthracene-d12	96
Compounds:	Concentration ug/L (ppb)
Naphthalene	16 ve
Acenaphthylene	0.39
Acenaphthene	32 ve
Fluorene	20 ve
Phenanthrene	2.1
Anthracene	4.0
Fluoranthene	7.3 ve
Pyrene	4.7
Benz(a)anthracene	0.36
Chrysene	0.34
Benzo(a)pyrene	0.043
Benzo(b)fluoranthene	0.061
Benzo(k)fluoranthene	0.025
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,ı)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00 PO Off Site
Lab ID:	803125-04 1/20
Data File:	031927.D
Instrument:	GCMS6
Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	128	50	150
Benzo(a)anthracene-d12	89	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	19
Acenaphthylene	0.44
Acenaphthene	42
Fluorene	23
Phenanthrene	2.1
Anthracene	3.8
Fluoranthene	7.4
Pyrene	4.8
Benz(a)anthracene	0.42
Chrysene	< 0.4
Benzo(a)pyrene	< 0.4
Benzo(b)fluoranthene	< 0.4
Benzo(k)fluoranthene	< 0.4
Indeno(1,2,3-cd)pyrene	< 0.4
Dibenz(a,h)anthracene	< 0.4
Benzo(g,h,i)perylene	< 0.4

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-24
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/20/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-04f
Data File: 031937.D
Instrument: GCMS6

YΑ

Operator:

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 96 50 150 Benzo(a)anthracene-d12 110 50 129

Compounds:	Concentration ug/L (ppb)
Naphthalene	14 ve
Acenaphthylene	0.38
Acenaphthene	29 ve
Fluorene	$19 \mathrm{\ ve}$
Phenanthrene	2.2
Anthracene	3.6
Fluoranthene	7.4 ve
Pyrene	5.0
Benz(a)anthracene	0.31
Chrysene	0.31
Benzo(a)pyrene	0.023
Benzo(b)fluoranthene	0.038
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-24	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/18/08	Lab ID:	803125-04f 1/20
Date Analyzed:	03/19/08	Data File:	031926.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	137	50	150
Benzo(a)anthracene-d12	100	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	18
Acenaphthylene	0.41
Acenaphthene	40
Fluorene	22
Phenanthrene	2.1
Anthracene	3.2
Fluoranthene	7.1
Pyrene	4.5
Benz(a)anthracene	< 0.4
Chrysene	< 0.4
Benzo(a)pyrene	< 0.4
Benzo(b)fluoranthene	< 0.4
Benzo(k)fluoranthene	< 0.4
Indeno(1,2,3-cd)pyrene	< 0.4
Dibenz(a,h)anthracene	< 0.4
Benzo(g,h,i)perylene	< 0.4

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-27
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/18/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site

Lab ID: 803125-05
Data File: 031827.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	101	50	129

<i>a</i> ,	Concentration
Compounds:	ug/L (ppb)
Naphthalene	0.26
Acenaphthylene	0.20
Acenaphthene	20 ve
Fluorene	9.2 ve
Phenanthrene	1.1
Anthracene	< 0.02
Fluoranthene	2.1
Pyrene	1.3
Benz(a)anthracene	0.066
Chrysene	0.061
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-27 Date Received: 03/13/08 Date Extracted: 03/17/08 Date Analyzed: 03/23/08 Matrix: Water Units: ug/L (ppb)

Client: Kennedy-Jenks Project: Tacoma Metals 996098.00 PO Off Site

803125-05 1/100

Lab ID: Data File: 032308.DGCMS6 Instrument: Operator: YΑ

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$401 \mathrm{\ ds}$	50	150
Benzo(a)anthracene-d12	110	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	28
Fluorene	10
Phenanthrene	<2
Anthracene	<2
Fluoranthene	2.1
Pyrene	<2
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-27
Date Received: 03/13/08
Date Extracted: 03/18/08
Date Analyzed: 03/19/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-05f

Data File: 031929.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	113	50	129

. ,	
	Concentration
Compounds:	ug/L (ppb)
Naphthalene	0.22
Acenaphthylene	0.18
Acenaphthene	21 ve
Fluorene	9.0 ve
Phenanthrene	0.92
Anthracene	< 0.02
Fluoranthene	2.0
Pyrene	1.2
Benz(a)anthracene	0.047
Chrysene	0.035
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

MW-27 Client Sample ID: Client: Kennedy-Jenks Date Received: 03/13/08 Project: Tacoma Metals 996098.00 PO Off Site Date Extracted: 03/18/08 Lab ID: 803125-05f 1/100 Date Analyzed: 03/23/08 Data File: 032307.D GCMS6 Matrix: Water Instrument: Units: ug/L (ppb) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 421 ds 50 150
Benzo(a)anthracene-d12 120 50 129

Concentration Compounds: ug/L (ppb) Naphthalene <2 <2 Acenaphthylene Acenaphthene 25 Fluorene 9.0 Phenanthrene <2 Anthracene <2 <2 Fluoranthene Pyrene <2 Benz(a)anthracene <2 <2 Chrysene Benzo(a)pyrene <2 Benzo(b)fluoranthene <2 Benzo(k)fluoranthene ≤ 2 Indeno(1,2,3-cd)pyrene <2 Dibenz(a,h)anthracene <2 Benzo(g,h,i)perylene <2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-25
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/19/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-06
Data File: 031835.D
Instrument: GCMS6

Operator: YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	86	50	150
Benzo(a)anthracene-d12	98	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.29
Acenaphthylene	0.30
Acenaphthene	$52 \mathrm{\ ve}$
Fluorene	14 ve
Phenanthrene	1.1
Anthracene	0.14
Fluoranthene	0.13
Pyrene	0.087
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-25
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/23/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-06 1/100

Lab ID: 803125-06
Data File: 032310.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$403 \mathrm{\ ds}$	50	150
Benzo(a)anthracene-d12	108	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	83
Fluorene	15
Phenanthrene	<2
Anthracene	<2
Fluoranthene	<2
Pyrene	<2
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-25	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/18/08	Lab ID:	803125-06f
Date Analyzed:	03/19/08	Data File:	031930.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	108	50	129

	Concentration
Compounds:	ug/L (ppb)
1	3 41.7
Naphthalene	0.21
Acenaphthylene	0.25
Acenaphthene	43 ve
Fluorene	12 ve
Phenanthrene	1.0
Anthracene	0.096
Fluoranthene	0.12
Pyrene	0.078
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02
	-0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-25 Client: Kennedy-Jenks Date Received: 03/13/08 Project: Tacoma Metals 996098.00 PO Off Site Date Extracted: 03/18/08 Lab ID: 803125-06f 1/100 Data File: Date Analyzed: 03/23/08 032309.DMatrix: Instrument: GCMS6 Water Units: ug/L (ppb) Operator: YALower Hnner

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$407 \mathrm{\ ds}$	50	150
Benzo(a)anthracene-d12	109	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	68
Fluorene	13
Phenanthrene	<2
Anthracene	<2
Fluoranthene	<2
Pyrene	<2
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Date Received: Date Extracted: Date Analyzed: Matrix:	MW-32 03/13/08 03/17/08 03/19/08 Water ug/L (ppb)	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks Tacoma Metals 996098.00 PO Off Site 803125-07 031836.D GCMS6 YA
---	--	---	--

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	102	50	129

Concentration ug/L (ppb)
0.16
< 0.02
11 ve
0.026
0.034
< 0.02
< 0.02
< 0.02
< 0.02
< 0.02
< 0.02
< 0.02
< 0.02
< 0.02
< 0.02
< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-32
Date Received: 03/13/08
Date Extracted: 03/17/08
Date Analyzed: 03/23/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site

Lab ID: 803125-07 1/10 Data File: 032312.D Instrument: GCMS6

Instrument: GC Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	113	50	150
Benzo(a)anthracene-d12	100	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.2
Acenaphthylene	< 0.2
Acenaphthene	12
Fluorene	< 0.2
Phenanthrene	< 0.2
Anthracene	< 0.2
Fluoranthene	< 0.2
Pyrene	< 0.2
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-32 Client: Kennedy-Jenks Date Received: 03/13/08 Project: Tacoma Metals 996098.00 PO Off Site Lab ID: Date Extracted: 03/18/08 803125-07f03/20/08 Data File: 032011.DDate Analyzed: Matrix: GCMS6 Water Instrument: Units: ug/L (ppb) ΥA Operator:

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	92	50	150
Benzo(a)anthracene-d12	106	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.12
Acenaphthylene	0.026
Acenaphthene	9.0 ve
Fluorene	0.021
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-32
Date Received: 03/13/08
Date Extracted: 03/18/08
Date Analyzed: 03/23/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off Site
Lab ID: 803125-07f 1/10
Data File: 032311.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	119	50	150
Benzo(a)anthracene-d12	105	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.2
Acenaphthylene	< 0.2
Acenaphthene	9.8
Fluorene	< 0.2
Phenanthrene	< 0.2
Anthracene	< 0.2
Fluoranthene	< 0.2
Pyrene	< 0.2
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Client: Kennedy-Jenks

Date Received: NA Project: Tacoma Metals 996098.00 PO Off Site

Date Extracted: 03/17/08 Lab ID: 080412mb03/18/08 Date Analyzed: Data File: 031822.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YΑ

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 84 50 150 Benzo(a)anthracene-d12 91 50 129

Concentration Compounds: ug/L (ppb) Naphthalene < 0.02 Acenaphthylene < 0.02 Acenaphthene < 0.02 Fluorene < 0.02 Phenanthrene < 0.02 Anthracene < 0.02 Fluoranthene < 0.02 Pyrene < 0.02 Benz(a)anthracene < 0.02 Chrysene < 0.02 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Client: Kennedy-Jenks

Date Received: NA Project: Tacoma Metals 996098.00 PO Off Site

Date Extracted: 03/18/08 Lab ID: 08416mb f 03/19/08 Date Analyzed: Data File: 031908.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 93 50 150
Benzo(a)anthracene-d12 110 50 129

Concentration Compounds: ug/L (ppb) Naphthalene < 0.02 Acenaphthylene < 0.02 Acenaphthene < 0.02 Fluorene < 0.02 Phenanthrene < 0.02 Anthracene < 0.02 Fluoranthene < 0.02 Pyrene < 0.02 Benz(a)anthracene < 0.02 Chrysene < 0.02 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/08 Date Received: 03/13/08

Project: Tacoma Metals 996098.00, F&BI 803125

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 803125-01 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	3,100	3,100	0

Laboratory Code: Laboratory Control Sample

			$\operatorname{Percent}$		
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	ug/L (ppb)	1,000	102	69-134	_

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/08 Date Received: 03/13/08

Project: Tacoma Metals 996098.00, F&BI 803125

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Amalasta	Reporting	Spike	Percent Recovery	Percent Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	91	91	67-141	0

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/08 Date Received: 03/13/08

Project: Tacoma Metals 996098.00, F&BI 803125

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	88	90	68-101	2
Acenaphthylene	ug/L (ppb)	5	95	95	70-109	0
Acenaphthene	ug/L (ppb)	5	90	91	69-104	1
Fluorene	ug/L (ppb)	5	95	95	68-111	0
Phenanthrene	ug/L (ppb)	5	88	90	66-106	2
Anthracene	ug/L (ppb)	5	91	93	67-112	2
Fluoranthene	ug/L (ppb)	5	93	93	69-116	0
Pyrene	ug/L (ppb)	5	92	92	68-115	0
Benz(a)anthracene	ug/L (ppb)	5	79	87	65-102	10
Chrysene	ug/L (ppb)	5	79	89	66-103	12
Benzo(b)fluoranthene	ug/L (ppb)	5	94	98	70-117	4
Benzo(k)fluoranthene	ug/L (ppb)	5	82	97	64-116	17
Benzo(a)pyrene	ug/L (ppb)	5	92	102	68-116	10
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	83	90	63-122	8
Dibenz(a,h)anthracene	ug/L (ppb)	5	87	95	66-116	9
Benzo(g,h,i)perylene	ug/L (ppb)	5	84	93	66-114	10

ENVIRONMENTAL CHEMISTS

Date of Report: 03/28/08 Date Received: 03/13/08

Project: Tacoma Metals 996098.00, F&BI 803125

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

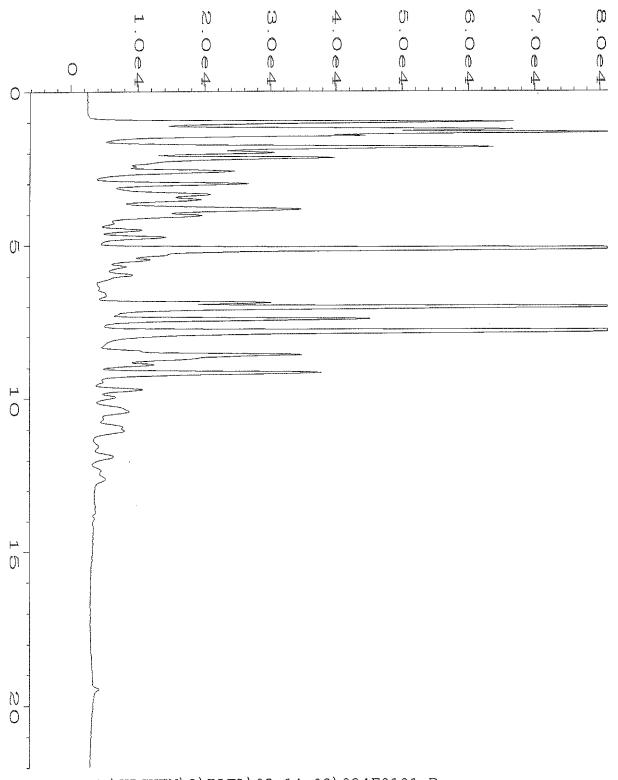
Laboratory Code: Laboratory Control Sample

		_	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	m RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	84	83	68-101	1
Acenaphthylene	ug/L (ppb)	5	90	88	70-109	2
Acenaphthene	ug/L (ppb)	5	85	83	69-104	2
Fluorene	ug/L (ppb)	5	91	88	68-111	3
Phenanthrene	ug/L (ppb)	5	86	83	66-106	4
Anthracene	ug/L (ppb)	5	86	82	67-112	5
Fluoranthene	$ug/L\ (ppb)$	5	91	88	69-116	3
Pyrene	ug/L (ppb)	5	91	87	68-115	4
Benz(a)anthracene	ug/L (ppb)	5	84	86	65-102	2
Chrysene	ug/L (ppb)	5	86	87	66-103	1
Benzo(b)fluoranthene	ug/ $ m L$ (ppb)	5	100	98	70-117	2
Benzo(k)fluoranthene	ug/L (ppb)	5	89	86	64-116	3
Benzo(a)pyrene	ug/L (ppb)	5	97	95	68-116	2
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	88	89	63-122	1
Dibenz(a,h)anthracene	ug/L (ppb)	5	91	92	66-116	1
Benzo(g,h,i)perylene	ug/L (ppb)	5	89	89	66-114	0

ENVIRONMENTAL CHEMISTS

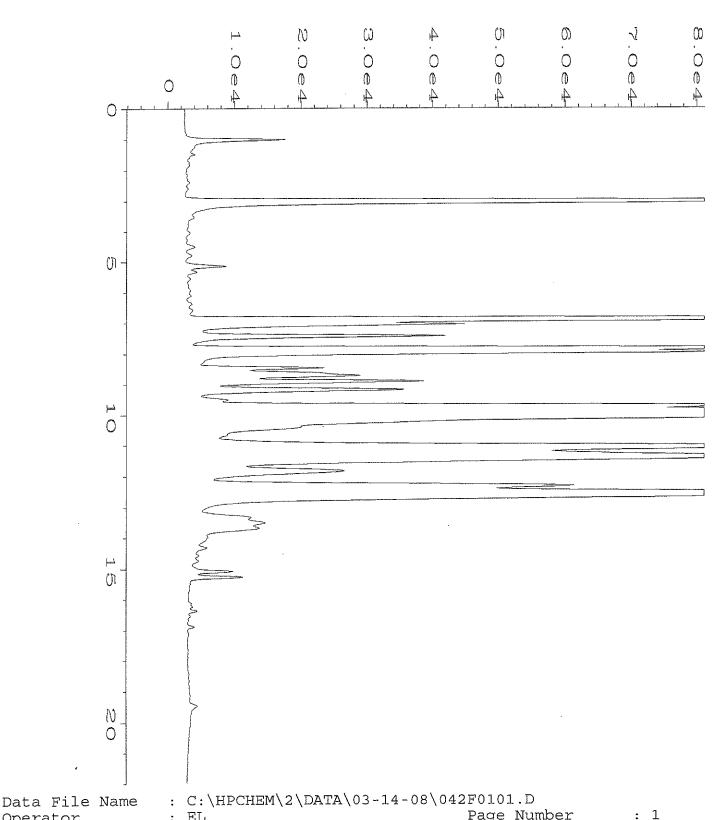
Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr-The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

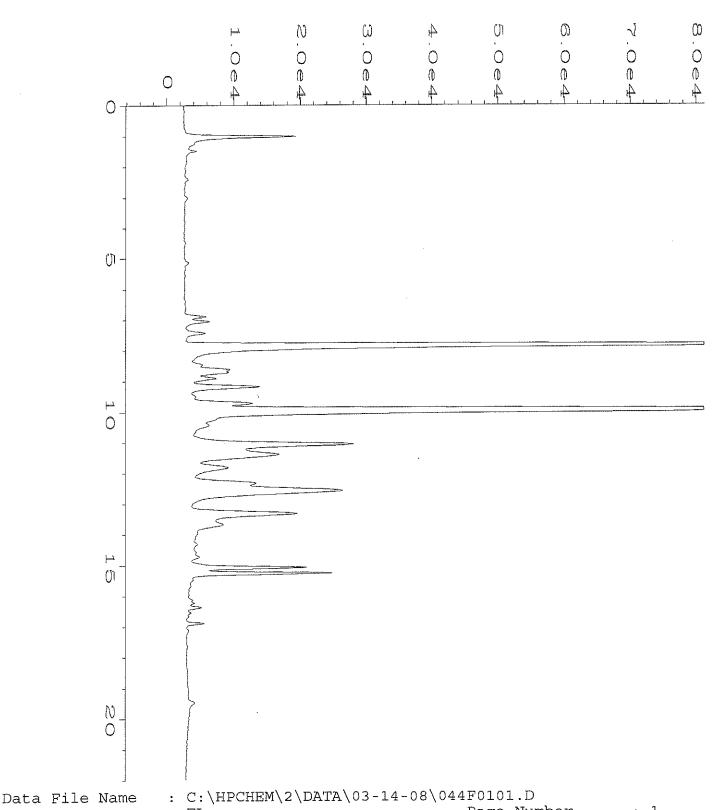


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Operator
                                                      Vial Number
                   : GC #2
                                                                         : 34
Instrument
                                                      Injection Number: 1
                   :-25
                        btex 27
Sample Name
Run Time Bar Code: 1000 g A Acquired on : 15 Mar 08
                                 27-145
                                                      Sequence Line
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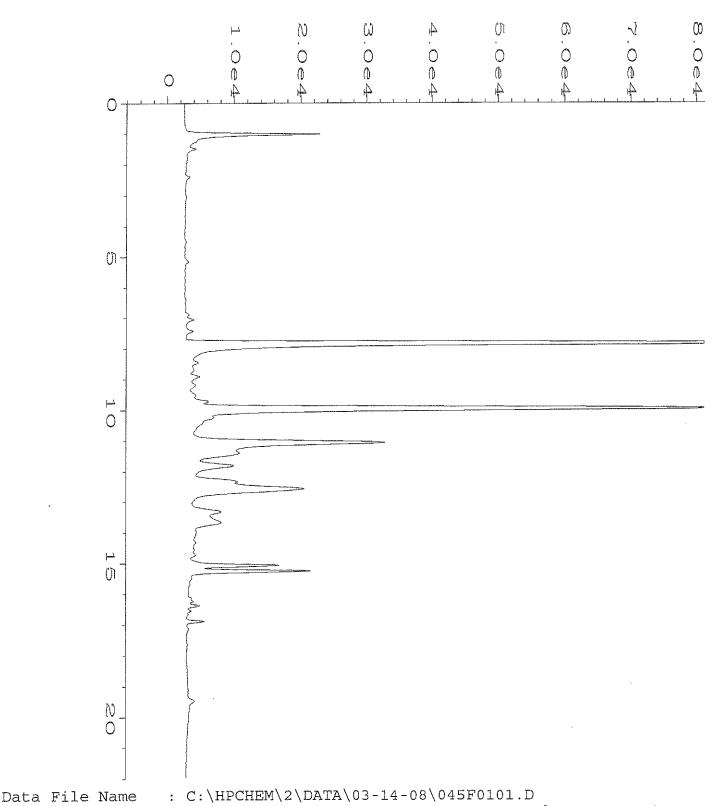


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                                                 Vial Number
Instrument
                 : GC #2
                                                 Injection Number: 1
                 : 803125-01 DU
Sample Name
                                                 Sequence Line
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Run Time Bar Code:
                                                 Instrument Method: BTEXG.MTH
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Acquired on
                                                 Analysis Method : BTEXG.MTH
Report Created on: 20 Mar 08
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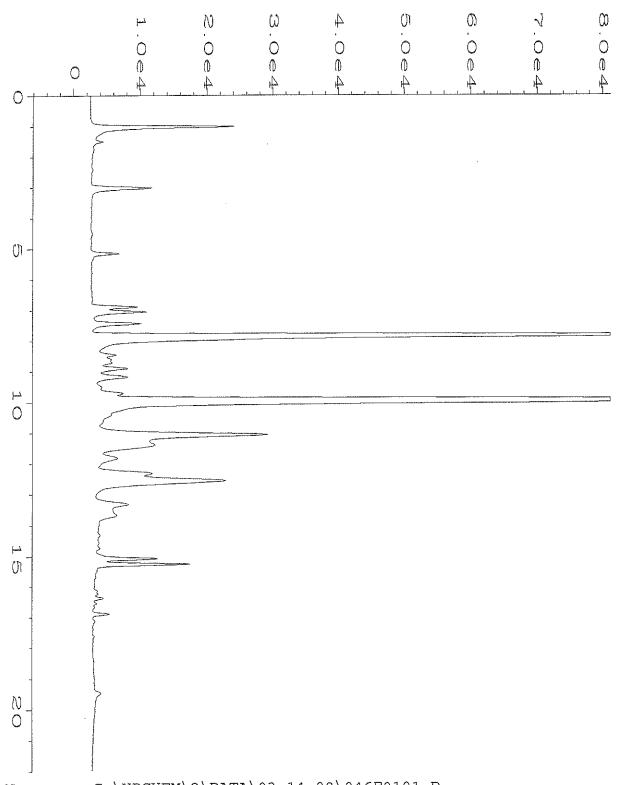


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                                                 Vial Number
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Instrument
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                                                 Injection Number: 1
Sample Name
                                                 Sequence Line
Run Time Bar Code:
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                                                 Instrument Method: BTEXG.MTH
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Acquired on
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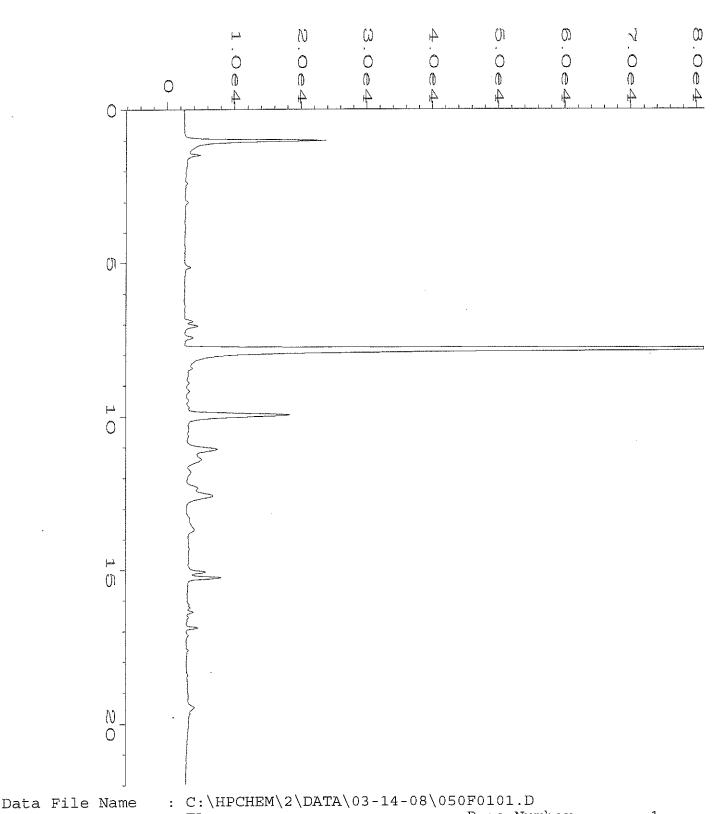
Analysis Method : BTEXG.MTH Report Created on: 20 Mar 08 02:16 PM



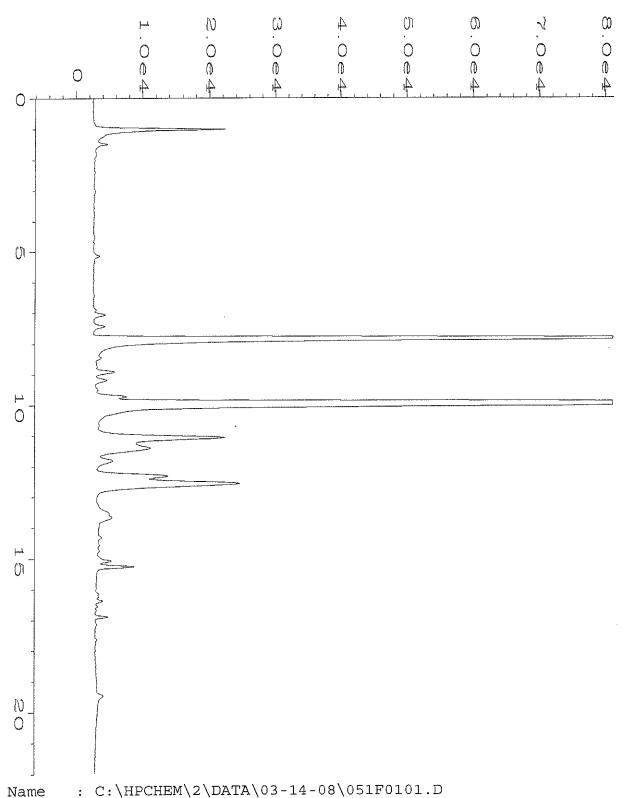
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Operator
                                                 Vial Number
Instrument
                 : GC #2
Sample Name
                 : 803125-0403
                                                 Injection Number: 1
Run Time Bar Code:
                                                 Sequence Line
                                                                  : 1
                                                 Instrument Method: BTEXG.MTH
                 : 15 Mar 08
                              07:59 AM
Acquired on
Report Created on: 20 Mar 08
                                                Analysis Method : BTEXG.MTH
                              02:17 PM
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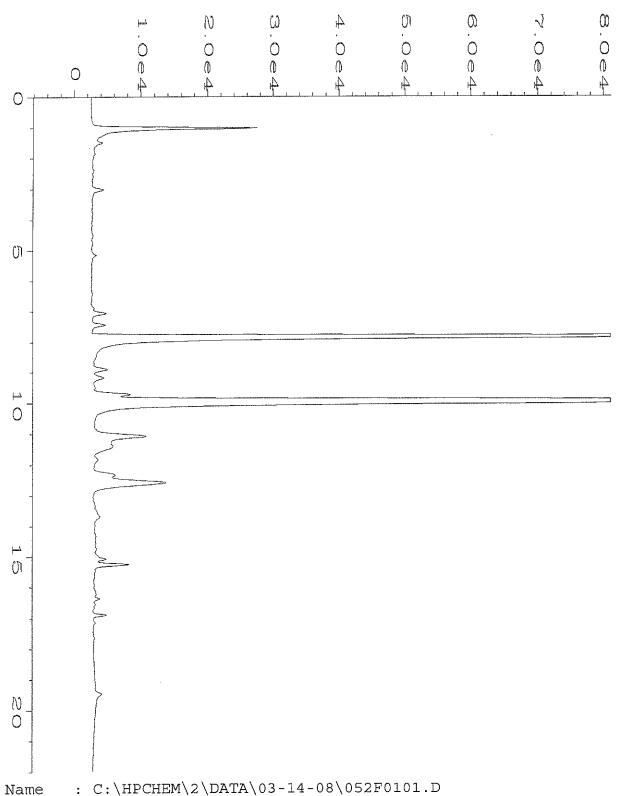
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Operator
                                                Vial Number
                                                                  : 46
                 : GC #2
Instrument
                 : BLANK 803/25 -04
                                                Injection Number: 1
Sample Name
                                                Sequence Line
Run Time Bar Code:
                                                Instrument Method: BTEXG.MTH
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Acquired on
Report Created on: 20 Mar 08
                              02:17 PM
                                                Analysis Method : BTEXG.MTH
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Page Number
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Operator
                                                 Vial Number
                                                                  : 50
Instrument
                 : GC #2
                 : 803125-96 05
                                                 Injection Number: 1
Sample Name
                                                 Sequence Line
                                                                  : 1
Run Time Bar Code:
                                                 Instrument Method: BTEXG.MTH
                 : 15 Mar 08
                              10:34 AM
Acquired on
Report Created on: 20 Mar 08
                                                 Analysis Method : BTEXG.MTH
                              02:17 PM
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Data File Name
                                                Page Number
Operator
                 : EL
                                                Vial Number
                                                                 : 51
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                 : GC #2
                 : 803125-0706
                                                Injection Number: 1
Sample Name
                                                Sequence Line
Run Time Bar Code:
                                                Instrument Method: BTEXG.MTH
                 : 15 Mar 08
Acquired on
                              11:05 AM
                                                Analysis Method : BTEXG.MTH
Report Created on: 20 Mar 08
                              02:17 PM
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Data File Name
                                                Page Number
                 : EL
Operator
                                                Vial Number
                                                                 : 52
                 : GC #2
Instrument
                 : 803119-01
                                                Injection Number : 1
Sample Name
                            803125-07
                                                Sequence Line
Run Time Bar Code:
                                                Instrument Method: BTEXG.MTH
Acquired on
               : 15 Mar 08 11:36 AM
                              02:18 PM
                                               Analysis Method : BTEXG.MTH
Report Created on: 20 Mar 08
```

805125

SAMPLE CHAIN OF CUSTODY $ME 05-13-0 \ensuremath{\mathcal{X}}$ City, State, ZIP Federal Way WA 98001 Phone #2538940555 Fax #2539523434 Address 32001 200 4/20 5 Ste- 100 Send Report To Cear Malde Company Krynedy, Jenk J

Page #	TURNAROUND TIME	C'Standard (2 Weeks)	Puch charges sutherized by:	Company coding to the control of the	SAMPLE DISPOSAL	Stispose after 30 days	C Return samples	☐ Will call with instructions
SAMPI ERS (signature)	(a target base) Carrier Transport	PROJECT NAME/NO	`	-3+15 20.8.000 bb	REMARKS * USE lowest reporting limits	一一一十十十十十十十十十十十十十十十十十十十十十十十十十十十十十十十十十十十	TOPE TELET POST	is to analysis.

											
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Friedman & Bruya, Inc.	3012 John Avenue West	Seattle, WA 98119-2029	Ph. (206) 285-8282	Fax (206) 283-5044

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

March 31, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on March 17, 2008 from the Tacoma Metals 996098.00 PO Off-Site, F&BI 803158 project. There are 28 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA0331R.DOC RECEIVED

APR -7 2008

KIJ Federal Way

Return To/By

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 17, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals 996098.00 PO Off-Site, F&BI 803158 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Kennedy-Jenks
803158-01	MW-31
803158-02	MW-100
803158-03	MW-28(R)
803158-04	MW-33
803158-05	MW-34
803158-06	MW-35

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/31/08 Date Received: 03/17/08

Project: Tacoma Metals 996098.00 PO Off-Site, F&BI 803158

Date Extracted: 03/17/08 Date Analyzed: 03/17/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW-31 803158-01	200	109
MW-100 803158-02	210	115
MW-28(R) 803158-03	640	109
MW-33 803158-04	<100	110
MW-34 803158-05	<100	110
MW-35 803158-06	<100	107
Method Blank	<100	106
incomod Diams	100	100

ENVIRONMENTAL CHEMISTS

Date of Report: 03/31/08 Date Received: 03/17/08

Project: Tacoma Metals 996098.00 PO Off-Site, F&BI 803158

Date Extracted: 03/17/08

Date Analyzed: 03/24/08 and 03/25/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	Motor Oil Range (C25-C36)	Surrogate (% Recovery) (Limit 52-134)
MW-31 803158-01	1,800	<250	85
MW-100 803158-02	1,900	<250	99
MW-28(R) 803158-03	3,400	<250	110
MW-33 803158-04	<50	<250	90
MW-34 803158-05	<50	<250	89
MW-35 803158-06	<50	<250	90
Method Blank	<50	<250	103

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-31
Date Received: 03/17/08
Date Extracted: 03/17/08
Date Analyzed: 03/19/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks

Project: Tacoma Metals 996098.00 PO Off-Site

Lab ID: 803158-01 Data File: 031833.D Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	49 vo	50	150
Benzo(a)anthracene-d12	96	50	129

	Concentration
Compounds:	ug/L (ppb)
Naphthalene	0.70 js
Acenaphthylene	$1.0 \mathrm{js}$
Acenaphthene	100 ve, js
Fluorene	65 ve, js
Phenanthrene	59 ve, js
Anthracene	8.1 ve, js
Fluoranthene	17 ve, js
Pyrene	13 ve, js
Benz(a)anthracene	0.77
Chrysene	0.46
Benzo(a)pyrene	0.11
Benzo(b)fluoranthene	0.15
Benzo(k)fluoranthene	0.052
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-31
Date Received: 03/17/08
Date Extracted: 03/17/08
Date Analyzed: 03/23/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off-Site

 Lab ID:
 803158-01 1/100

 Data File:
 032314.D

 Instrument:
 GCMS6

 Operator:
 YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$356~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	93	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	190
Fluorene	98
Phenanthrene	110
Anthracene	14
Fluoranthene	22
Pyrene	15
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-31
Date Received: 03/17/08
Date Extracted: 03/18/08
Date Analyzed: 03/20/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks

Project: Tacoma Metals 996098.00 PO Off-Site

Lab ID: 803158-01f Data File: 031935.D Instrument: GCMS6 Operator: YA

		Lower	$_{ m Upper}$
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	54	50	150
Benzo(a)anthracene-d12	114	5 0	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.56
Acenaphthylene	0.91
Acenaphthene	100 ve
Fluorene	61 ve
Phenanthrene	55 ve
Anthracene	7.4 ve
Fluoranthene	16 ve
Pyrene	12 ve
Benz(a)anthracene	0.57
Chrysene	0.37
Benzo(a)pyrene	0.082
Benzo(b)fluoranthene	0.10
Benzo(k)fluoranthene	0.038
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-31 Client: Kennedy-Jenks
Date Received: 03/17/08 Project: Tacoma Metals 996098.00 PO Off-Site
Date Extracted: 03/18/08 Lab ID: 803158-01f 1/100

 Date Extracted:
 03/18/08
 Lab ID:
 803158-01f 1/100

 Date Analyzed:
 03/23/08
 Data File:
 032313.D

 Matrix:
 Water
 Instrument:
 GCMS6

 Units:
 ug/L (ppb)
 Operator:
 YA

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 365 ds 50 150 Benzo(a)anthracene-d12 120 50 129

Concentration Compounds: ug/L (ppb) Naphthalene <2 Acenaphthylene <2 Acenaphthene 170 Fluorene 90 Phenanthrene 110 Anthracene 12 Fluoranthene 19 Pyrene 13 Benz(a)anthracene ≤ 2 <2 Chrysene Benzo(a)pyrene <2 Benzo(b)fluoranthene <2 <2 Benzo(k)fluoranthene Indeno(1,2,3-cd)pyrene <2 Dibenz(a,h)anthracene <2 Benzo(g,h,i)perylene <2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

103

Client Sample ID: MW-100 Date Received: 03/17/08 Date Extracted: 03/17/08 Date Analyzed: 03/18/08 Matrix: Water Units: ug/L (ppb)

Surrogates:

Anthracene-d10

Benzo(a)anthracene-d12

Client: Kennedy-Jenks Project: Tacoma Metals 996098.00 PO Off-Site

YΑ

129

Lab ID: 803158-02 Data File: 031830.D Instrument: GCMS6

Lower Upper % Recovery: Limit: Limit: 48 vo 50 150 50

Operator:

Concentration Compounds: ug/L (ppb) Naphthalene 0.74 jsAcenaphthylene 1.1 jsAcenaphthene 110 ve, js Fluorene 67 ve, js Phenanthrene 57 ve, is Anthracene 7.6 ve, js Fluoranthene 18 ve, js Pyrene 13 ve, js Benz(a)anthracene 0.87 Chrysene 0.55 Benzo(a)pyrene 0.16 Benzo(b)fluoranthene 0.22 Benzo(k)fluoranthene 0.073 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-100	Client:	Kennedy-Jenks
Date Received:	03/17/08	Project:	Tacoma Metals 996098.00 PO Off-Site
Date Extracted:	03/17/08	Lab ID:	803158-02 1/100
Date Analyzed:	03/23/08	Data File:	032316.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
		_	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$379~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	100	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	200
Fluorene	100
Phenanthrene	120
Anthracene	14
Fluoranthene	23
Pyrene	16
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-100 Client: Kennedy-Jenks Date Received: 03/17/08 Project: Tacoma Metals 996098.00 PO Off-Site Date Extracted: Lab ID: 03/18/08 803158-02f Date Analyzed: 03/20/08 Data File: 032010.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 57 50 150 Benzo(a)anthracene-d12 111 50 129

	Concentration
Compounds:	ug/L (ppb)
Naphthalene	0.54
Acenaphthylene	0.87
Acenaphthene	97 ve
Fluorene	61 ve
Phenanthrene	57 ve
Anthracene	7.8 ve
Fluoranthene	16 ve
Pyrene	12 ve
Benz(a)anthracene	0.62
Chrysene	0.39
Benzo(a)pyrene	0.11
Benzo(b)fluoranthene	0.15
Benzo(k)fluoranthene	0.045
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	MW-100 03/17/08 03/18/08 03/23/08 Water ug/L (ppb)	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks Tacoma Metals 996098.00 PO Off-Site 803158-02f 1/100 032315.D GCMS6 YA
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	363 ds	50	150
Benzo(a)anthracene-d12	113	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	180
Fluorene	93
Phenanthrene	110
Anthracene	13
Fluoranthene	21
Pyrene	15
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-28(R)
Date Received: 03/17/08
Date Extracted: 03/17/08
Date Analyzed: 03/19/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off-Site
Lab ID: 803158-03
Data File: 031837.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$52~\mathrm{J}$	50	150
Benzo(a)anthracene-d12	97	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	150 ve, J
Acenaphthylene	1.6, J
Acenaphthene	110 ve, J
Fluorene	$72 \mathrm{\ ve,\ J}$
Phenanthrene	70 ve
Anthracene	8.5 ve
Fluoranthene	18 ve
Pyrene	$12 \mathrm{\ ve}$
Benz(a)anthracene	0.77
Chrysene	0.56
Benzo(a)pyrene	0.17
Benzo(b)fluoranthene	0.21
Benzo(k)fluoranthene	0.077
Indeno(1,2,3-cd)pyrene	0.036
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	0.026

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-28(R)
Date Received: 03/17/08
Date Extracted: 03/17/08
Date Analyzed: 03/23/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00 PO Off-Site

 Lab ID:
 803158-03 1/100

 Data File:
 032318.D

 Instrument:
 GCMS6

 Operator:
 YA

		Lower	$_{ m Upper}$
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$347 \mathrm{\ ds}$	50	150
Benzo(a)anthracene-d12	97	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	370
Acenaphthylene	<2
Acenaphthene	200
Fluorene	100
Phenanthrene	130
Anthracene	13
Fluoranthene	22
Pyrene	14
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-28(R) Client: Kennedy-Jenks Date Received: Tacoma Metals 996098.00 PO Off-Site 03/17/08 Project: Date Extracted: 03/18/08 Lab ID: 803158-03f Date Analyzed: 03/20/08 Data File: 032014.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) YA Operator:

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 54 50 150 Benzo(a)anthracene-d12 111 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 71 ve Acenaphthylene 1.4 96 ve Acenaphthene Fluorene 64 ve Phenanthrene 62 ve Anthracene 6.8 ve Fluoranthene 15 ve Pyrene 10 ve Benz(a)anthracene 0.49 Chrysene 0.36 Benzo(a)pyrene 0.067 Benzo(b)fluoranthene 0.069 Benzo(k)fluoranthene 0.035 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-28(R) Date Received: 03/17/08 Date Extracted: 03/18/08 03/23/08 Date Analyzed: Matrix: Water Units: ug/L (ppb)

Client: Kennedy-Jenks Tacoma Metals 996098.00 PO Off-Site Project:

803158-03f 1/100

Lab ID: Data File: 032317.D Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$362~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	103	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	160
Acenaphthylene	<2
Acenaphthene	170
Fluorene	92
Phenanthrene	120
Anthracene	11
Fluoranthene	18
Pyrene	11
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-33
Date Received: 03/17/08
Date Extracted: 03/17/08
Date Analyzed: 03/19/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks

Project: Tacoma Metals 996098.00 PO Off-Site

Lab ID: 803158-04
Data File: 031831.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	73	50	150
Benzo(a)anthracene-d12	83	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.036
Acenaphthylene	< 0.02
Acenaphthene	2.8
Fluorene	0.051
Phenanthrene	0.39
Anthracene	0.18
Fluoranthene	0.38
Pyrene	0.43
Benz(a)anthracene	0.031
Chrysene	0.040
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-33 Client: Kennedy-Jenks Date Received: 03/17/08 Project: Tacoma Metals 996098.00 PO Off-Site Date Extracted: Lab ID: 03/18/08 803158-04f Date Analyzed: 03/20/08 Data File: 032009.DMatrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: ΥA

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 100 50 150 Benzo(a)anthracene-d12 116 50 129

· •	
	Concentration
Compounds:	ug/L (ppb)
Naphthalene	0.041
Acenaphthylene	< 0.02
Acenaphthene	3.0
Fluorene	0.054
Phenanthrene	0.43
Anthracene	0.11
Fluoranthene	0.41
Pyrene	0.46
Benz(a)anthracene	< 0.02
Chrysene	0.032
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02
-	

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-34
Date Received: 03/17/08
Date Extracted: 03/17/08
Date Analyzed: 03/19/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks

Project: Tacoma Metals 996098.00 PO Off-Site

Lab ID: 803158-05 Data File: 031834.D Instrument: GCMS6 Operator: YA

 Surrogates:
 % Recovery:
 Limit:
 Limit:

 Anthracene-d10
 85
 50
 150

 Benzo(a)anthracene-d12
 95
 50
 129

Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.02
Acenaphthylene	< 0.02
Acenaphthene	< 0.02
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

MW-34	Client:	Kennedy-Jenks
		Tacoma Metals 996098.00 PO Off-Site
•	•	
		803158-05f
03/20/08	Data File:	031933.D
Water	Instrument:	GCMS6
ug/L (ppb)	Operator:	ΥA
		03/17/08 Project: 03/18/08 Lab ID: 03/20/08 Data File: Water Instrument:

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	97	50	150
Benzo(a)anthracene-d12	112	50	129

(- / •	
Compounds:	Concentration ug/L (ppb)
Naphthalene	< 0.02
Acenaphthylene	< 0.02
Acenaphthene	< 0.02
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-35
Date Received: 03/17/08
Date Extracted: 03/17/08
Date Analyzed: 03/18/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks

Project: Tacoma Metals 996098.00 PO Off-Site
Lab ID: 803158-06
Data File: 031828.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	81	50	150
Benzo(a)anthracene-d12	81	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.059
Acenaphthylene	< 0.02
Acenaphthene	0.15
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	0.041
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-35 Client: Kennedy-Jenks Date Received: 03/17/08 Project: Tacoma Metals 996098.00 PO Off-Site Date Extracted: 03/18/08 Lab ID: 803158-06f Data File: Date Analyzed: 03/20/08 031934.D GCMS6 Matrix: Water Instrument: Units: ug/L (ppb) Operator: YA

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 87 50 150 Benzo(a)anthracene-d12 93 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 0.053 Acenaphthylene < 0.02 Acenaphthene 0.13 Fluorene < 0.02 Phenanthrene < 0.02 Anthracene < 0.02 Fluoranthene < 0.02 Pyrene 0.037 Benz(a)anthracene < 0.02 Chrysene < 0.02 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Client: Kennedy-Jenks

Date Received: NA Project: Tacoma Metals 996098.00 PO Off-Site Date Extracted: 03/17/08 Lab ID: 080412mb

Date Extracted:03/17/08Lab ID:080412mbDate Analyzed:03/18/08Data File:031822.DMatrix:WaterInstrument:GCMS6Units:ug/L (ppb)Operator:YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 84 50 150 Benzo(a)anthracene-d12 91 50 129

Concentration Compounds: ug/L (ppb) < 0.02 Naphthalene < 0.02 Acenaphthylene Acenaphthene < 0.02 Fluorene < 0.02 Phenanthrene < 0.02 Anthracene < 0.02 Fluoranthene < 0.02 Pyrene < 0.02 Benz(a)anthracene < 0.02 Chrysene < 0.02 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	Method Blank	Client:	Kennedy-Jenks
-------------------	--------------	---------	---------------

Date Received: NA Project: Tacoma Metals 996098.00 PO Off-Site Date Extracted: 03/18/08 Lab ID: $08416 \mathrm{mb} \; \mathrm{f}$ 03/19/08 Data File: 031908.D Date Analyzed: Instrument: GCMS6 Matrix: Water Units: ug/L (ppb) Operator: YΑ

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 93 50 150 Benzo(a)anthracene-d12 110 50 129

Concentration Compounds: ug/L (ppb) Naphthalene < 0.02 Acenaphthylene < 0.02 Acenaphthene < 0.02 Fluorene < 0.02 Phenanthrene < 0.02 < 0.02 Anthracene Fluoranthene < 0.02 Pyrene < 0.02 Benz(a)anthracene < 0.02 Chrysene < 0.02 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Date of Report: 03/31/08 Date Received: 03/17/08

Project: Tacoma Metals 996098.00 PO Off-Site, F&BI 803158

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 803158-01 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	200	210	5

Laboratory Code: Laboratory Control Sample

		Percent				
	Reporting	$_{ m Spike}$	Recovery	Acceptance		
Analyte	Units	Level	LCS	Criteria		
Gasoline	ug/L (ppb)	1,000	81	69-134	_	

FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

Date of Report: 03/31/08 Date Received: 03/17/08

Project: Tacoma Metals 996098.00 PO Off-Site, F&BI 803158

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

J	Reporting	Spike	Percent Recovery	Percent Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	91	90	73-142	1

ENVIRONMENTAL CHEMISTS

Date of Report: 03/31/08 Date Received: 03/17/08

Project: Tacoma Metals 996098.00 PO Off-Site, F&BI 803158

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

•	-	-	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	88	90	68-101	2
Acenaphthylene	ug/L (ppb)	5	95	95	70-109	0
Acenaphthene	ug/L (ppb)	5	90	91	69-104	1
Fluorene	ug/L (ppb)	5	95	95	68-111	0
Phenanthrene	ug/L (ppb)	5	88	90	66-106	2
Anthracene	ug/L (ppb)	5	91	93	67-112	2
Fluoranthene	ug/L (ppb)	5	93	93	69-116	0
Pyrene	ug/L (ppb)	5	92	92	68-115	0
Benz(a)anthracene	ug/L (ppb)	5	79	87	65-102	10
Chrysene	ug/L (ppb)	5	79	89	66-103	12
Benzo(b)fluoranthene	ug/L (ppb)	5	94	98	70-117	4
Benzo(k)fluoranthene	ug/L (ppb)	5	82	97	64-116	17
Benzo(a)pyrene	ug/L (ppb)	5	92	102	68-116	10
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	83	90	63-122	8
Dibenz(a,h)anthracene	ug/L (ppb)	5	87	95	66-116	9
Benzo(g,h,i)perylene	ug/L (ppb)	5	84	93	66-114	10

ENVIRONMENTAL CHEMISTS

Date of Report: 03/31/08 Date Received: 03/17/08

Project: Tacoma Metals 996098.00 PO Off-Site, F&BI 803158

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

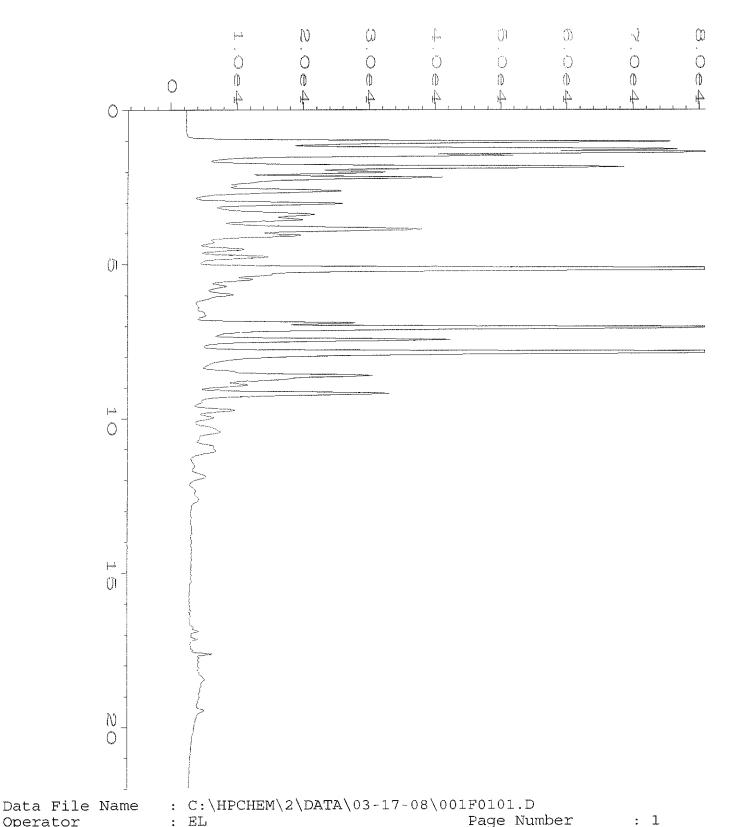
Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	$_{ m Spike}$	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	84	83	68-101	1
Acenaphthylene	ug/L (ppb)	5	90	88	70-109	2
Acenaphthene	ug/L (ppb)	5	85	83	69-104	2
Fluorene	ug/L (ppb)	5	91	88	68-111	3
Phenanthrene	ug/L (ppb)	5	86	83	66-106	4
Anthracene	ug/L (ppb)	5	86	82	67-112	5
Fluoranthene	ug/L (ppb)	5	91	88	69-116	3
Pyrene	ug/L (ppb)	5	91	87	68-115	4
Benz(a)anthracene	ug/L (ppb)	5	84	86	65-102	2
Chrysene	ug/L (ppb)	5	86	87	66-103	1
Benzo(b)fluoranthene	ug/L (ppb)	5	100	98	70-117	2
Benzo(k)fluoranthene	ug/L (ppb)	5	89	86	64-116	3
Benzo(a)pyrene	ug/L (ppb)	5	97	95	68-116	2
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	88	89	63-122	1
Dibenz(a,h)anthracene	ug/L (ppb)	5	91	92	66-116	1
Benzo(g,h,i)perylene	ug/L (ppb)	5	89	89	66-114	0

ENVIRONMENTAL CHEMISTS

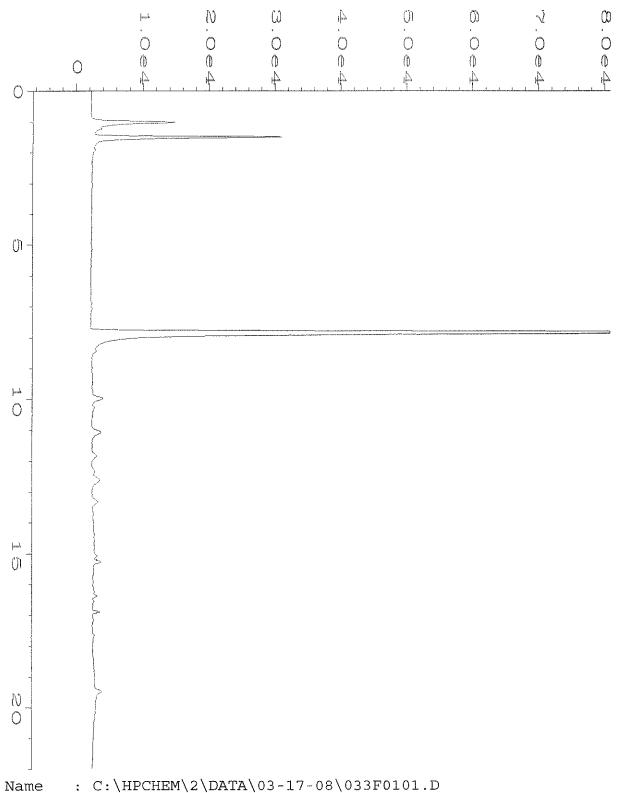
Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

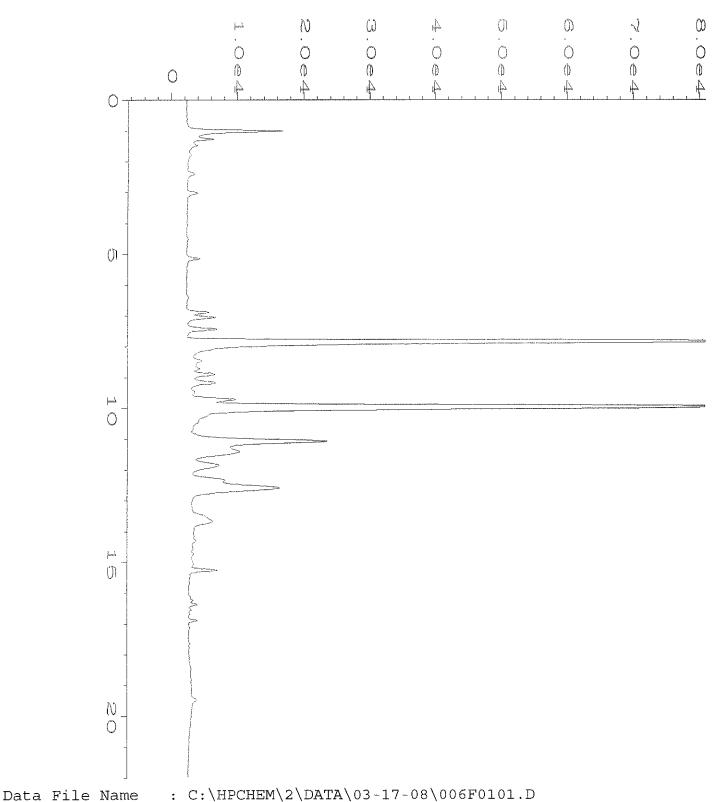


```
Operator
                                                Vial Number
Instrument
                 : GC #2
                                                 Injection Number: 1
                 : 500 gas 27-145
Sample Name
                                                 Sequence Line
Run Time Bar Code:
                                                                 : 1
Acquired on
                 : 17 Mar 08
                                                 Instrument Method: BTEXG.MTH
                              09:44 AM
```

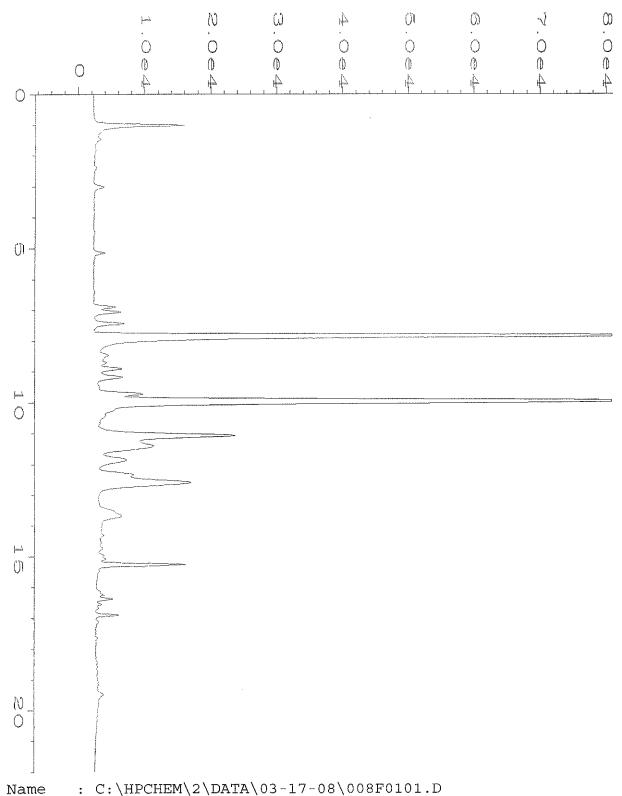
Analysis Method : BTEXG.MTH 10:55 AM Report Created on: 18 Mar 08



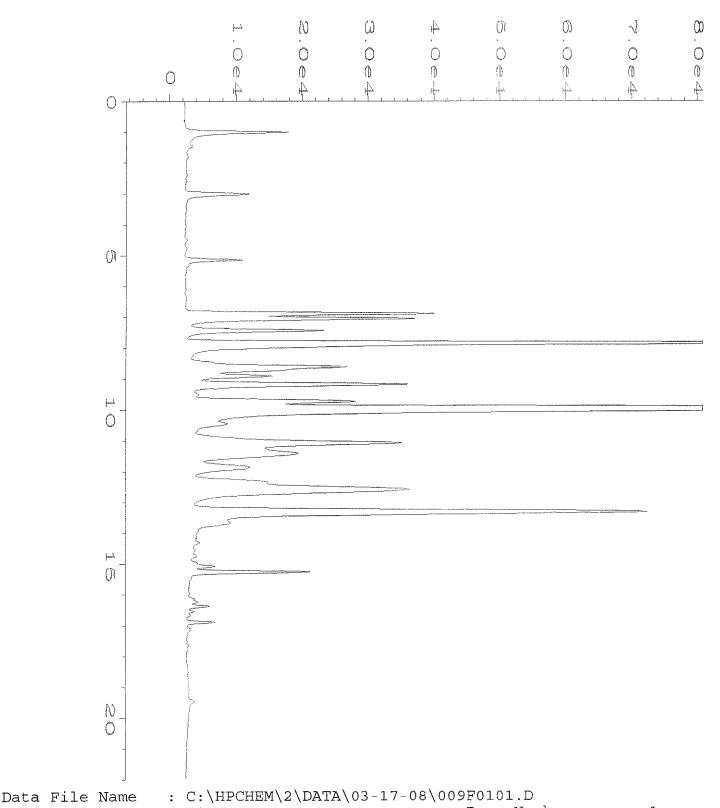
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                                                Page Number
Operator
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                                                Vial Number
                                                                 : 33
Instrument
                 : GC #2
                                                Injection Number: 1
                 : 08-00419 mb
Sample Name
                                                Sequence Line
Run Time Bar Code:
                                                                : 1
                                                Instrument Method: BTEXG.MTH
                : 18 Mar 08
                              03:24 AM
Acquired on
                              10:55 AM
                                                Analysis Method : BTEXG.MTH
Report Created on: 18 Mar 08
```



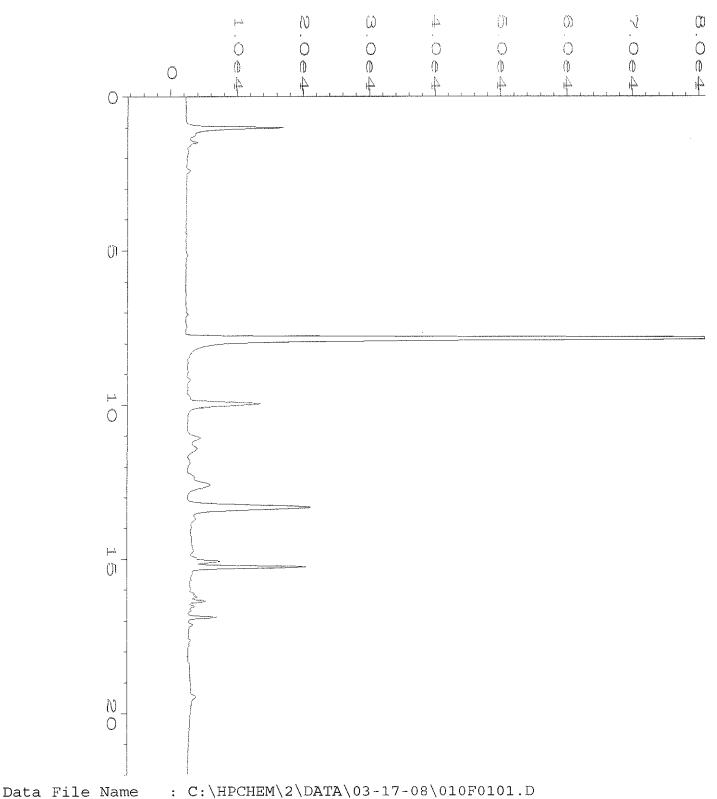
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Page Number
Operator
                 : EL
Instrument
                 : GC #2
                                                 Vial Number
                                                                   : 6
                                                 Injection Number: 1
                 : 803158-01
Sample Name
Run Time Bar Code:
                                                 Sequence Line
                                                                  : 1
                                                 Instrument Method: BTEXG.MTH
Acquired on
                 : 17 Mar 08
                               01:24 PM
                                                 Analysis Method : BTEXG.MTH
Report Created on: 18 Mar 08
                               10:55 AM
```



```
Data File Name
                  : EL
                                                 Page Number
Operator
                                                 Vial Number
Instrument
                 : GC #2
                                                  Injection Number: 1
                 : 803158-02
Sample Name
                                                  Sequence Line
                                                                  : 1
Run Time Bar Code:
Acquired on
                                                 Instrument Method: BTEXG.MTH
                 : 17 Mar 08
                               02:27 PM
                                                 Analysis Method : BTEXG.MTH
                               10:56 AM
Report Created on: 18 Mar 08
```

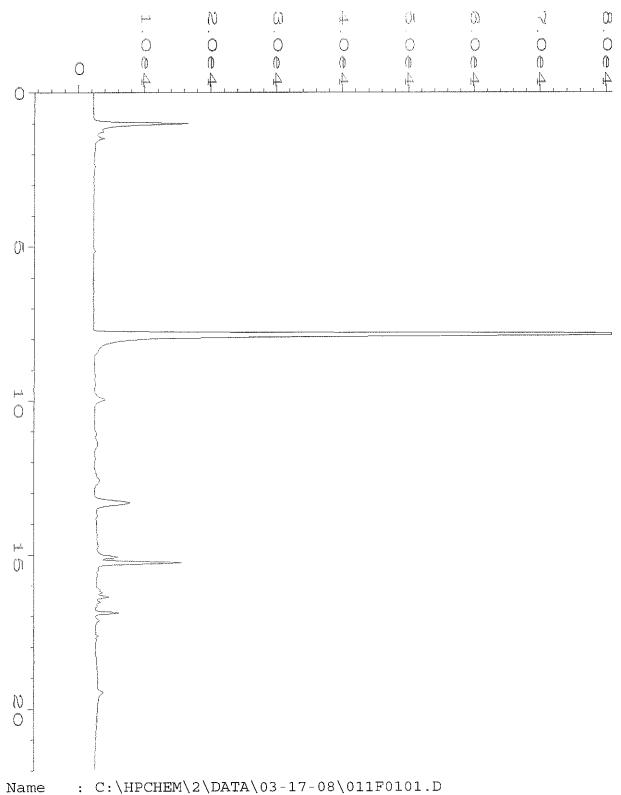


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Page Number
Operator
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Instrument
                                               Vial Number
                 : GC #2
                                               Injection Number: 1
                : 803158-03
Sample Name
                                               Sequence Line
                                                              : 1
Run Time Bar Code:
                                               Instrument Method: BTEXG.MTH
Acquired on : 17 Mar 08
                             02:58 PM
                                               Analysis Method : BTEXG.MTH
Report Created on: 18 Mar 08
                             10:56 AM
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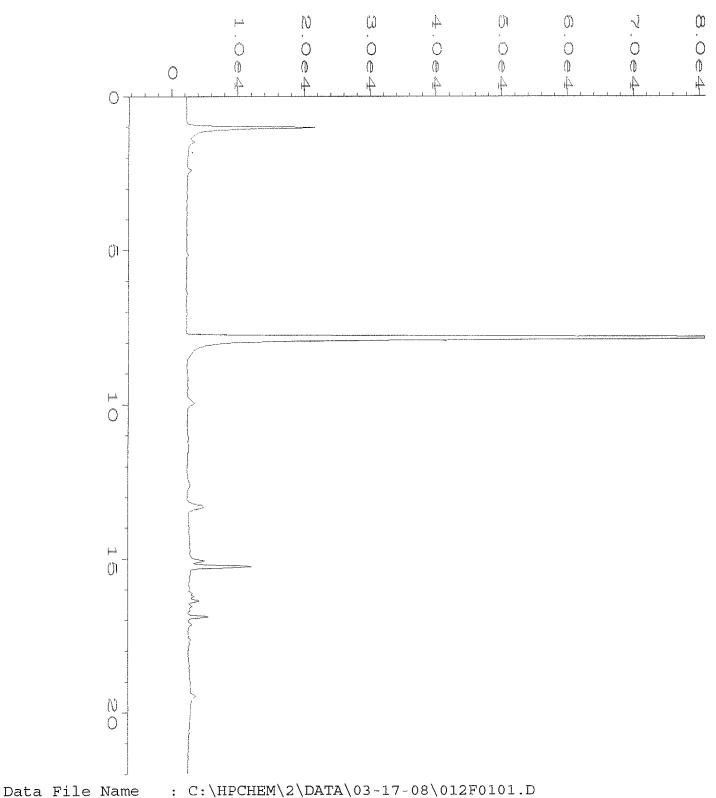


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Operator : EL Page Number : 1
Instrument : GC #2 Vial Number : 10
Sample Name : 803158-04 Injection Number : 1
Run Time Bar Code: Sequence Line : 1
Acquired on : 17 Mar 08 03:30 PM Instrument Method: BTEXO
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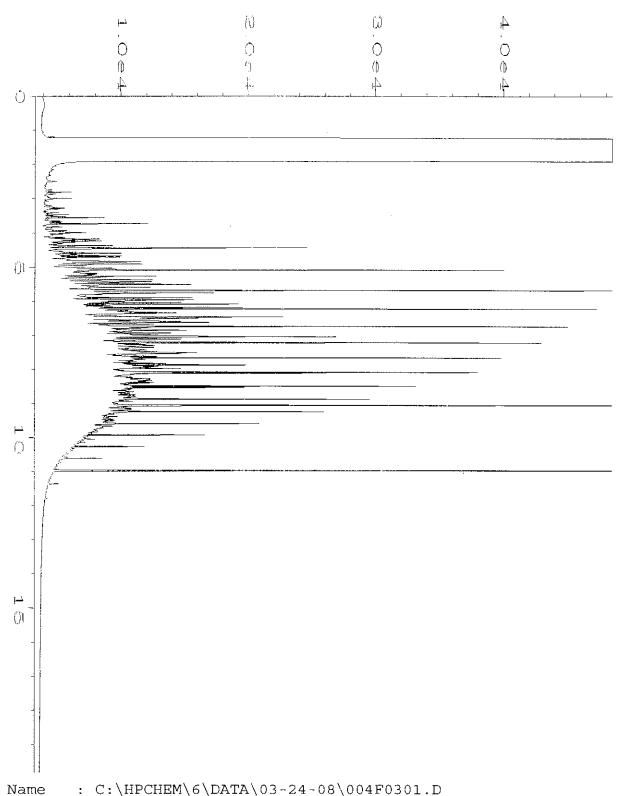
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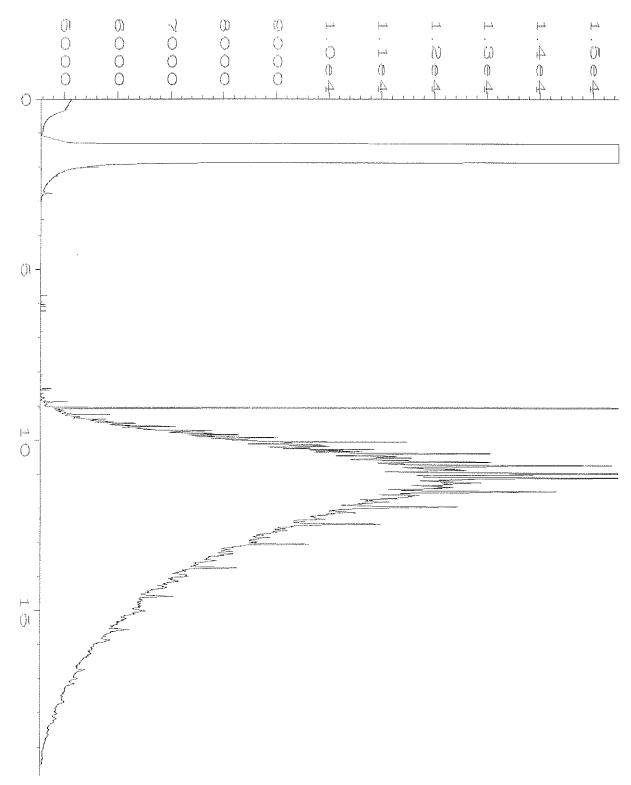
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Data File Name
                                                 Page Number
                 : EL
Operator
                                                 Vial Number
                                                                  : 11
Instrument
                 : GC #2
                                                 Injection Number: 1
                 : 803158-05
Sample Name
                                                 Sequence Line
Run Time Bar Code:
                                                 Instrument Method: BTEXG.MTH
Acquired on
                 : 17 Mar 08
                              04:01 PM
                                                 Analysis Method : BTEXG.MTH
                              10:57 AM
Report Created on: 18 Mar 08
```



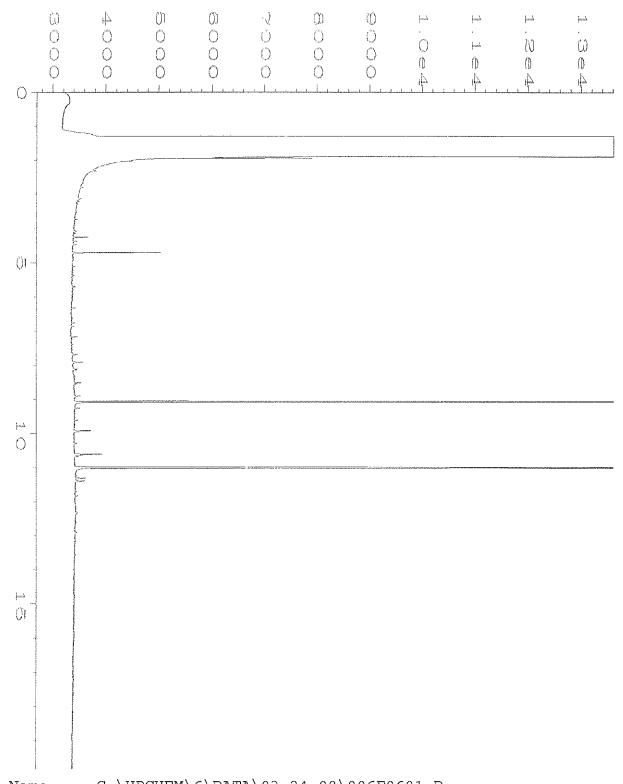
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Operator
                 : EL
                                                 Page Number
                                                 Vial Number
                                                                  : 12
Instrument
                 : GC #2
                                                 Injection Number: 1
                 : 803158-06
Sample Name
                                                 Sequence Line
                                                                  : 1
Run Time Bar Code:
                 : 17 Mar 08
                                                 Instrument Method: BTEXG.MTH
Acquired on
                              04:32 PM
                              10:57 AM
                                                 Analysis Method : BTEXG.MTH
Report Created on: 18 Mar 08
```



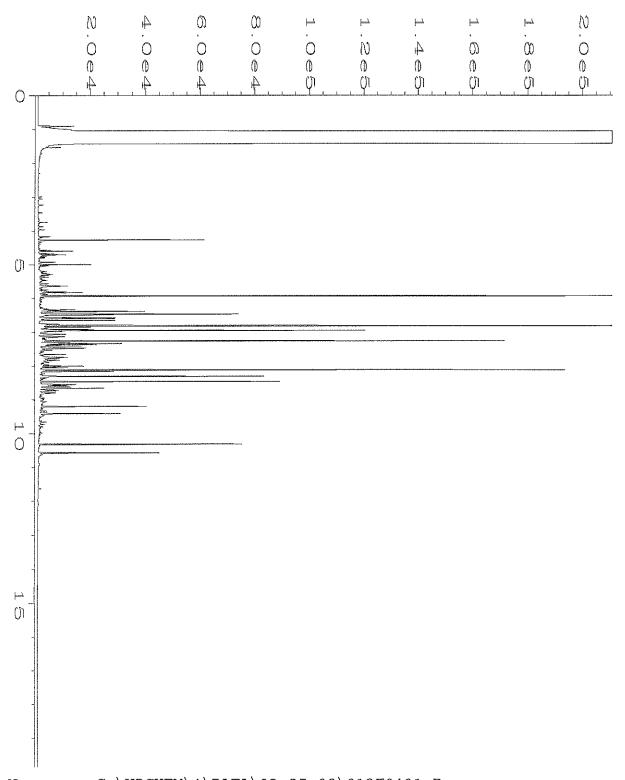
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Data File Name
Operator
                                               Page Number
                : ay
                : GC #6
Instrument
                                               Vial Number
                : 500 WADF 26-185F
                                              Injection Number: 1
Sample Name
Run Time Bar Code:
                                               Sequence Line : 3
Acquired on : 24 Mar 08 08:31 AM
                                               Instrument Method: TPHD.MTH
Report Created on: 25 Mar 08 07:34 AM
                                              Analysis Method : TPHD.MTH
```



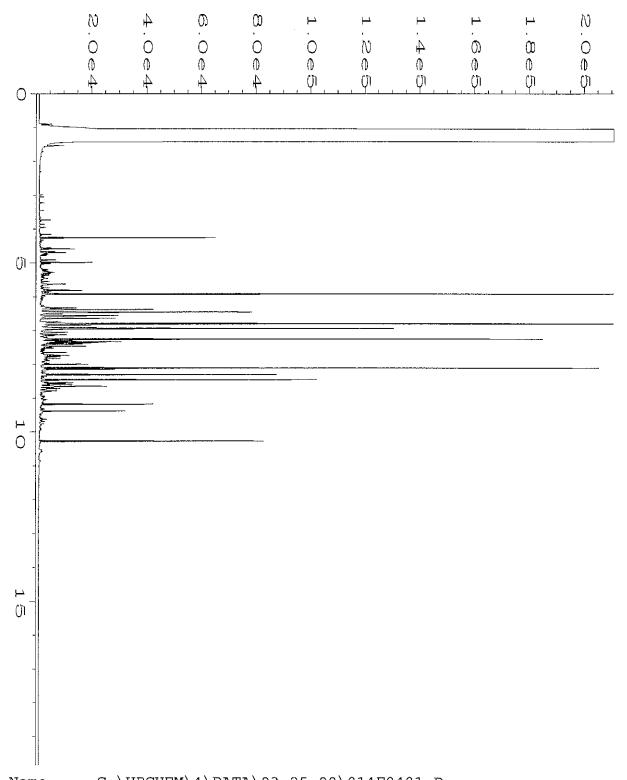
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Operator
                                             Page Number
                : ay
                                                            : 1
Instrument
                : GC #6
                                             Vial Number
                                                             : 2
              : 500 MO 26-69D
Sample Name
                                             Injection Number: 1
Run Time Bar Code:
                                             Sequence Line : 2
                                             Instrument Method: TPHD.MTH
Acquired on
            : 24 Mar 08
                            08:06 AM
Report Created on: 25 Mar 08
                           07:34 AM
                                            Analysis Method : TPHD.MTH
```



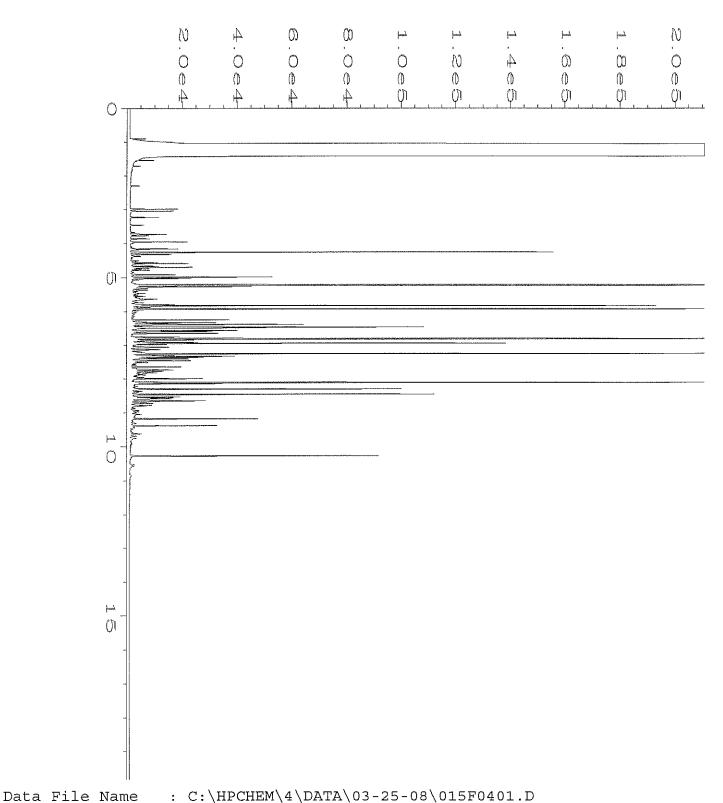
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Data File Name : C:\HPCHEM\6\DATA\03-24-08\006F0601.D
                                              Page Number
Operator
                : ay
                                                               : 1
                : GC #6
Instrument
                                              Vial Number
                                                               : 6
Sample Name
               : 08-0411 mb2§g
                                              Injection Number: 1
Run Time Bar Code:
                                              Sequence Line
                                                            : 6
Acquired on : 24 Mar 08
                                              Instrument Method: TPHD.MTH
                             12:25 PM
Report Created on: 25 Mar 08 07:35 AM
                                              Analysis Method : TPHD.MTH
```



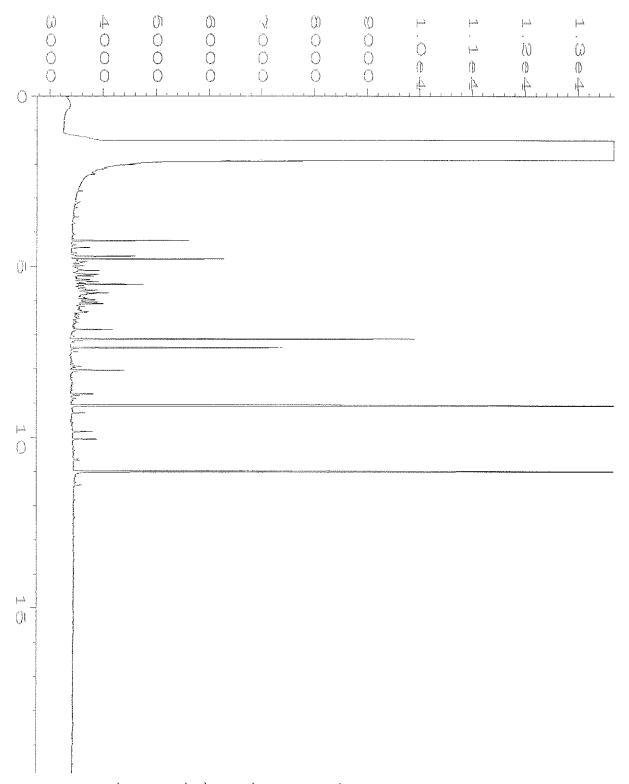
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Data File Name
                                                  Page Number
Vial Number
Operator
                 : ay
Instrument
                 : GC#4
                                                                    : 13
                                                  Injection Number: 1
Sample Name
                 : 803158-01 sq rr
Run Time Bar Code:
                                                  Sequence Line
                 : 25 Mar 08
                                                  Instrument Method: TPHD.MTH
Acquired on
                               05:05 PM
Report Created on: 26 Mar 08
                                                  Analysis Method : TPHD.MTH
                               12:46 PM
```



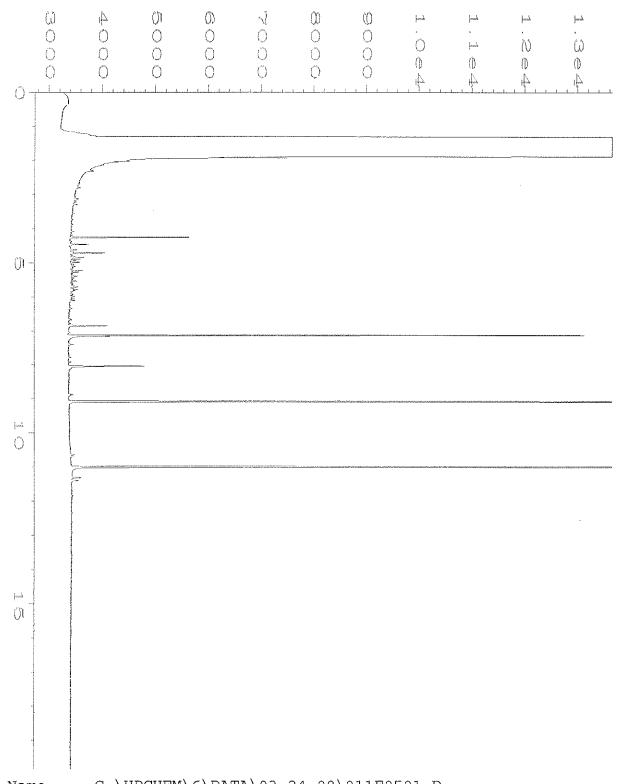
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Data File Name
                                                  Page Number
Vial Number
Operator
                 : ay
: GC#4
Instrument
                                                                    : 14
Sample Name
                 : 803158-02 sg rr
                                                  Injection Number: 1
                                                  Sequence Line : 4
Run Time Bar Code:
                                                  Instrument Method: TPHD.MTH
                 : 25 Mar 08 05:28 PM
Acquired on
Report Created on: 26 Mar 08 12:47 PM
                                                  Analysis Method : TPHD.MTH
```



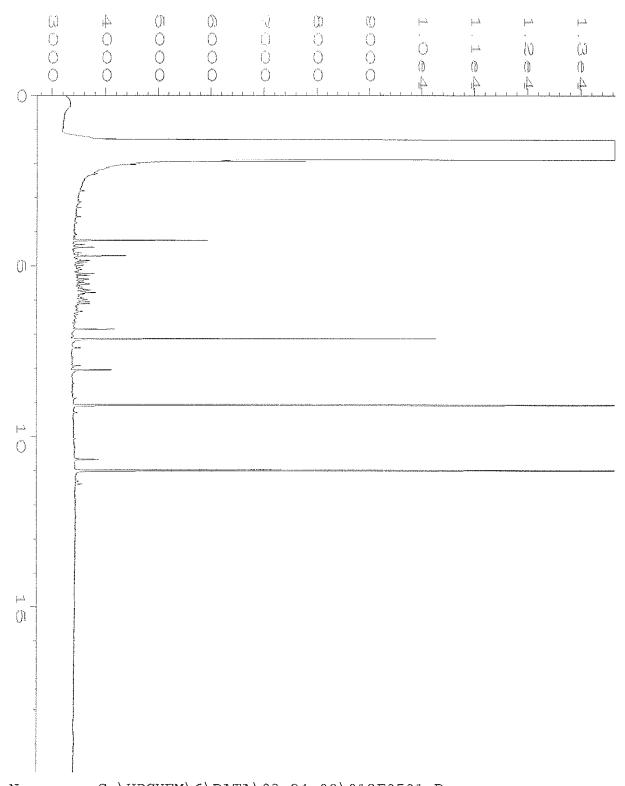
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Page Number
Operator
                 : ay
Instrument
                 : GC#4
                                               Vial Number
                                                                : 15
                                               Injection Number: 1
Sample Name
                 : 803158-03 sg rr
Run Time Bar Code:
                                               Sequence Line
                                                                : 4
                : 25 Mar 08 05:54 PM
                                               Instrument Method: TPHD.MTH
Acquired on
                                               Analysis Method : TPHD.MTH
Report Created on: 26 Mar 08 12:46 PM
```



```
Data File Name : C:\HPCHEM\6\DATA\03-24-08\010F0501.D
                                             Page Number
Operator
                : ay
               : GC #6
                                                            : 10
Instrument
                                             Vial Number
Sample Name
               : 803158-04 sg
                                             Injection Number: 1
Run Time Bar Code:
                                             Sequence Line : 5
Acquired on : 24 Mar 08 11:10 AM
                                             Instrument Method: TPHD.MTH
Report Created on: 25 Mar 08 07:36 AM
                                             Analysis Method : TPHD.MTH
```



```
Data File Name : C:\HPCHEM\6\DATA\03-24-08\011F0501.D
Operator
                                              Page Number
                : ay
                : GC #6
                                                              : 11
Instrument
                                              Vial Number
Sample Name
               : 803158-05 sg
                                              Injection Number: 1
Run Time Bar Code:
                                              Sequence Line : 5
Acquired on : 24 Mar 08 11:35 AM
                                              Instrument Method: TPHD.MTH
Report Created on: 25 Mar 08 07:36 AM
                                              Analysis Method : TPHD.MTH
```



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Data File Name : C:\HPCHEM\6\DATA\03-24-08\012F0501.D

Operator : ay Page Number : 1

Instrument : GC #6 Vial Number : 12

Sample Name : 803158-06 sg Injection Number : 1

Run Time Bar Code: Sequence Line : 5

Acquired on : 24 Mar 08 12:00 PM Instrument Method: TPHD
```

Acquired on : 24 Mar 08 12:00 PM Instrument Method: TPHD.MTH Report Created on: 25 Mar 08 07:36 AM Analysis Method : TPHD.MTH

851808

SAMPLE CHAIN OF CUSTODY

SAMPLERS (signature)

Sond Roport To Dear WAITCA
Company Kennedy Jearks
Address 3 2001 3200 Aue S, Ste. 100
City, State, ZIP Federal Way WA 9800

Phone # 253 874 0555 Fax # 253 952 3435

PROJECT NAME/NO. PO#
1 acoma Vetals OFF096008.00 SITE

REMARKS * Use lowest reporting cin; +1

TURNAROUND TIME
XStandard (2 Weeks)

RUSH
Rush charges authorized by:

age #

SAMPLE DISPOSAL EDispose after 30 days IT Return samples IT Will call with instructions

□ Will call with instructions

		v,i	 										
_	Friedman & Bruya, Inc.				MW -35	MW-34	MW-33	MW-28(R)	MW-100	MW-31	Sample ID		
Paliment					P-H	H-K	4.4 DU	12 A	#C;	101 19-#	Lab ID		
1	SIGN				AH 3/14/08 1230					3/13/08	late Sanpled		
	SIGNATURE				1230	1600	1350	SSII	0001	95D	Time Sampled		
					S	\leftarrow				W	Sample Type		
}	Id				F	\bigvee				8	# of containers		
	PRINT NAME				X	X	X	X	\prec	\times	TPH-Diesel ^{w/}	Sil Se	îc
	Z			_	7	X	$\frac{\lambda}{}$	区	X	\times	TPH-GasolineA		
,	E										BTEX by 8021B		
1								<u></u>			VOCs by 8260		
			 								SVOCs by 8270	ANA	
1	4										IIFS	SAT	
					X	X	X	X	+	X	PAH(Total) *	FS F	
	COMPANY				X	X	X	X	۲	X	PAH(Total) * PAH(EHERD) \$	ANALYSES REQUESTED	
	Ž	<u></u>										CET	
	~												
,													
	DATE							Hot	Hot	Hol	7		
7	HME							+	+	+	Notes		

3012 16th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282 Fax (206) 283-5044 FORMS\COC\COCDOC

| Relinquished to Relinquished b: Received by: Samples received at / Proper

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Atavkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S.

3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

March 26, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on March 10, 2008 from the Tacoma Metals 996098.00 PO Off-Site, F&BI 803081 project. There are 14 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA0326R.DOC RECEIVED

MAR 31 2008

K/J Federal Way
K/J No/File
Route
Route

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 10, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals 996098.00, F&BI 803081 project. Samples were logged in under the laboratory ID's listed below.

 $\underline{Laboratory\ ID}$

Kennedy-Jenks

803081-01

MW-30

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00, F&BI 803081

Date Extracted: 03/10/08 Date Analyzed: 03/10/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery)</u> (Limit 51-134)
MW-30 803081-01	2,600	99
Method Blank	<100	112

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00, F&BI 803081

Date Extracted: 03/11/08 Date Analyzed: 03/14/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 51-132)
MW-30 803081-01	4,400 x	<250	82
Method Blank	<50	<250	89

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-30 Client: Kennedy-Jenks
Date Received: 03/10/08 Project: Tacoma Metals 996098.00, F&BI 803081

Date Extracted: 03/10/08 Lab ID: 803081-01 Date Analyzed: 03/24/08 Data File: 032411.D Matrix: Instrument: Water GCMS6 Units: ug/L (ppb) Operator: YΑ

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 58 J 50 150
Benzo(a)anthracene-d12 91 J 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 260 ve Acenaphthylene 2.1 JAcenaphthene 220 ve, J Fluorene 100 ve, J Phenanthrene 33 ve. J Anthracene 3.2, J Fluoranthene 2.6, J Pyrene 1.9, J Benz(a)anthracene < 0.02 JChrysene <0.02 J Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-30	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00, F&BI 803081

Lab ID: Date Extracted: 03/10/08 803081-01 1/500 Data File: 03/24/08 Date Analyzed: 032408.D Matrix: GCMS6 Water Instrument: Units: ug/L (ppb) Operator: YΑ

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 0 ds 50 150
Benzo(a)anthracene-d12 0 ds 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 790 Acenaphthylene <10 Acenaphthene 390 Fluorene 140 Phenanthrene 56 Anthracene <10 Fluoranthene <10 Pyrene <10 Benz(a)anthracene <10 Chrysene <10 Benzo(a)pyrene <10 Benzo(b)fluoranthene <10 Benzo(k)fluoranthene <10 Indeno(1,2,3-cd)pyrene <10 Dibenz(a,h)anthracene <10 Benzo(g,h,i)perylene <10

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-30
Date Received: 03/10/08
Date Extracted: 03/10/08
Date Analyzed: 03/24/08
Matrix: Water
Units: ug/L (ppb)

 Client:
 Kennedy-Jenks

 Project:
 Tacoma Metals 996098.00, F&BI 803081

 Lab ID:
 80308101f

 Data File:
 032409.D

Data File: 032409.1 Instrument: GCMS6 Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	67 J	50	150
Benzo(a)anthracene-d12	101	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	$230 \mathrm{\ ve,\ J}$
Acenaphthylene	$1.5 \mathrm{~J}$
Acenaphthene	150 ve, J
Fluorene	79 ve, J
Phenanthrene	$29 \mathrm{\ ve,\ J}$
Anthracene	$2.6 \mathrm{~J}$
Fluoranthene	$2.1~\mathrm{J}$
Pyrene	$1.5\mathrm{J}$
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

Note: The sample was filtered prior to extraction.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-30 Client: Kennedy-Jenks

Date Received: 03/10/08 Project: Tacoma Metals 996098.00, F&BI 803081

Date Extracted: 03/10/08 Lab ID: 803081-01f 1/500

Date Analyzed:03/24/08Data File:032407.DMatrix:WaterInstrument:GCMS6Units:ug/L (ppb)Operator:YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 0 ds 50 150
Benzo(a)anthracene-d12 0 ds 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 630 Acenaphthylene <10 Acenaphthene 330 Fluorene 120 Phenanthrene 49 Anthracene <10 Fluoranthene <10 Pyrene <10 Benz(a)anthracene <10 Chrysene <10 Benzo(a)pyrene <10 Benzo(b)fluoranthene <10 Benzo(k)fluoranthene <10 Indeno(1,2,3-cd)pyrene <10 Dibenz(a,h)anthracene <10 Benzo(g,h,i)perylene <10

Note: The sample was filtered prior to extraction.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Client: Kennedy-Jenks

Date Received: NA Project: Rennedy-Jenks

Tacoma Metals 996098.00, F&BI 803081

Date Extracted: 03/10/08 Lab ID: 080361mb Date Analyzed: 03/10/08 Data File: 031014.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YΑ

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 78 50 150
Benzo(a)anthracene-d12 83 50 129

Concentration Compounds: ug/L (ppb) Naphthalene < 0.02 Acenaphthylene < 0.02 Acenaphthene < 0.02 Fluorene < 0.02 Phenanthrene < 0.02 Anthracene < 0.02 Fluoranthene < 0.02 Pyrene < 0.02 Benz(a)anthracene < 0.02 Chrysene < 0.02 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Method Blank Client: Kennedy-Jenks

Date Received: NA Project: Tacoma Metals 996098.00, F&BI 803081

Date Extracted: 03/10/08 Lab ID: 080363mbf 03/12/08 Date Analyzed: Data File: 031207.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YΑ

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 79 50 150
Benzo(a)anthracene-d12 84 50 129

Concentration Compounds: ug/L (ppb) Naphthalene < 0.02 Acenaphthylene < 0.02 Acenaphthene < 0.02 Fluorene < 0.02 Phenanthrene < 0.02 Anthracene < 0.02 Fluoranthene < 0.02 Pyrene < 0.02 Benz(a)anthracene < 0.02 Chrysene < 0.02 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

Note: The sample was filtered prior to extraction.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00, F&BI 803081

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 803068-03 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	550	510	8

Laboratory Code: Laboratory Control Sample

		Percent			
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	ug/L (ppb)	1,000	102	69-134	_

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00, F&BI 803081

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

·	Reporting	Spike	Percent Recovery	Percent Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	89	96	67-141	8

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00, F&BI 803081

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

·	Reporting	Spike	Percent Recovery	Percent Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	82	80	68-101	2
Acenaphthylene	ug/L (ppb)	5	77	74	70-109	4
Acenaphthene	ug/L (ppb)	5	85	83	69-104	2
Fluorene	ug/L (ppb)	5	84	81	68-111	4
Phenanthrene	ug/L (ppb)	5	84	80	66-106	5
Anthracene	ug/L (ppb)	5	82	80	67-112	2
Fluoranthene	ug/L (ppb)	5	85	84	69-116	1
Pyrene	ug/L (ppb)	5	85	84	68-115	1
Benz(a)anthracene	ug/L (ppb)	5	80	76	65-102	5
Chrysene	ug/L (ppb)	5	85	80	66-103	6
Benzo(b)fluoranthene	ug/L (ppb)	5	92	91	70-117	1
Benzo(k)fluoranthene	ug/L (ppb)	5	90	85	64-116	6
Benzo(a)pyrene	ug/L (ppb)	5	88	83	68-116	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	87	82	63-122	6
Dibenz(a,h)anthracene	ug/L (ppb)	5	86	81	66-116	6
Benzo(g,h,i)perylene	ug/L (ppb)	5	87	81	66-114	7

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00, F&BI 803081

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

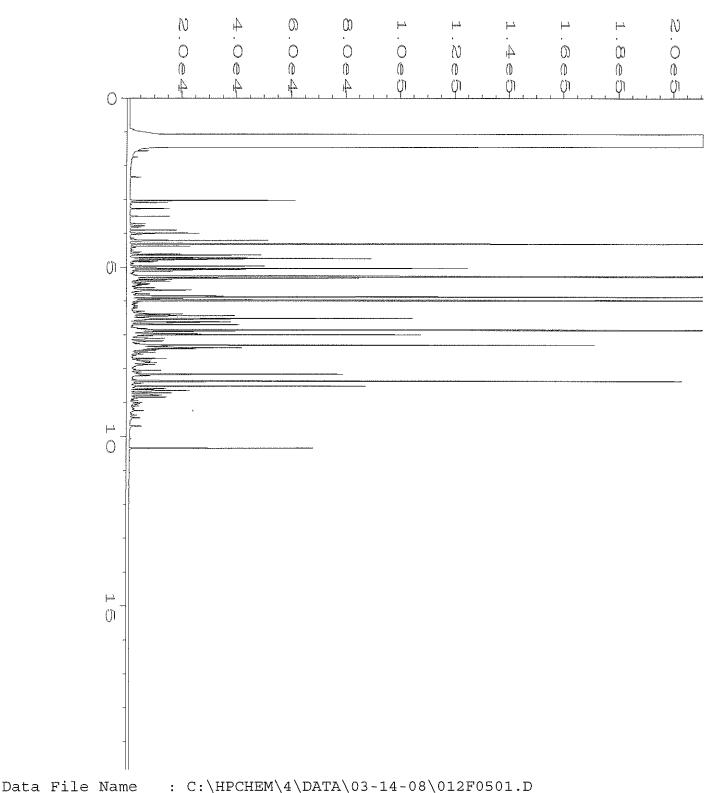
Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	88	86	68-101	2
Acenaphthylene	ug/L (ppb)	5	80	78	70-109	3
Acenaphthene	ug/L (ppb)	5	91	87	69-104	4
Fluorene	ug/L (ppb)	5	90	87	68-111	3
Phenanthrene	ug/L (ppb)	5	88	85	66-106	3
Anthracene	ug/L (ppb)	5	86	83	67-112	4
Fluoranthene	ug/L (ppb)	5	91	88	69-116	3
Pyrene	ug/L (ppb)	5	92	88	68-115	4
Benz(a)anthracene	ug/L (ppb)	5	80	81	65-102	1
Chrysene	ug/L (ppb)	5	87	86	66-103	1
Benzo(b)fluoranthene	ug/L (ppb)	5	93	96	70-117	3
Benzo(k)fluoranthene	ug/L (ppb)	5	95	93	64-116	2
Benzo(a)pyrene	ug/L (ppb)	5	87	88	68-116	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	76	79	63-122	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	83	85	66-116	2
Benzo(g,h,i)perylene	ug/L (ppb)	5	83	85	66-114	2

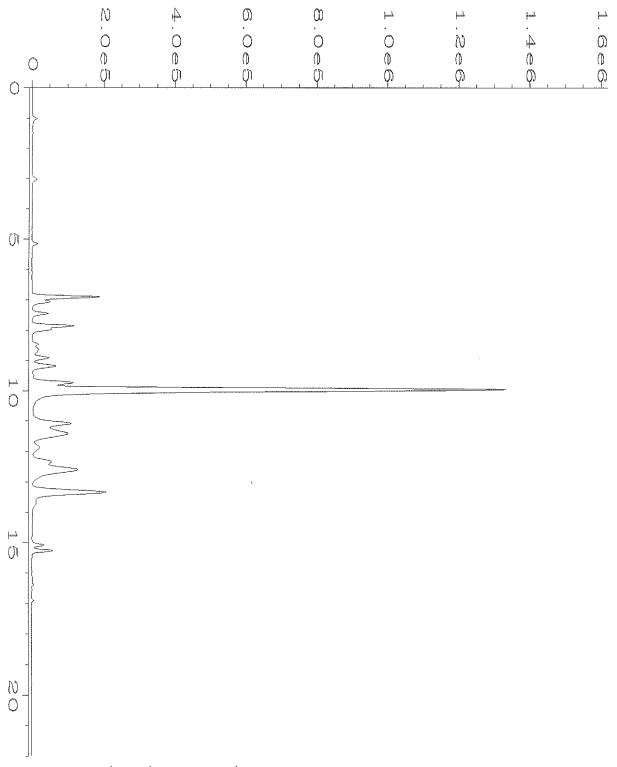
ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.



```
Page Number
Operator
                 : ay
                 : GC#4
                                               Vial Number
Instrument
                                                                : 12
                                               Injection Number: 1
Sample Name
                 : 803081-01 sg
Run Time Bar Code:
                                               Sequence Line
                                               Instrument Method: TPHD.MTH
Acquired on : 14 Mar 08 03:21 PM
Report Created on: 17 Mar 08 02:27 PM
                                               Analysis Method : TPHD.MTH
```



: E:\GC2\03-10-08\026F0101.D Data File Name Page Number Operator : EL Vial Number : 26 Instrument : GC #2 Injection Number : 1
Sequence Line : 1 Sample Name : 803081-01 Run Time Bar Code: Acquired on

Instrument Method: BTEXG.MTH : 10 Mar 08 10:28 PM Report Created on: 26 Mar 08 12:22 PM Analysis Method : DEFAULT.MTH

7.45 AM A05/12 TIME Rush charges authorized by: □ Return samples
□ Will call with instructions SAMPLE DISPOSAL Notes A Dispose after 30 days KStandard (2 Weeks) DATE Samples received at 2 SAMPLE CHAIN OF CUSTODY $M \in \frac{\sigma_3}{\sigma_0}$ COMPANY SAOC® PN 8270 **AOC8 PA 8500** BTEX by 8021B PRINT NAME SAMPLERS (signature) PROJECT NAME/NC Sample Type | containers 100018.00 # of REMARKS Phone #253874 0555 Fax # 253952 3435 City, State, ZIPFEDGTAL WAY WIA OSDOL Pate Time Sampled Sampled 1415 SIGNATURE 89/4/5/H 78 2001 32nd Ave 5 Relinquished b: Company Kennedy/ Jenks Received by: Received De Lab ID Friedman & Bruya, Inc. Seattle, W.A 98119-2029 3012 16th Avenue West Send Report To Sample ID Fax (206) 283-5044 FORMS\COC\COC\DOC Ph. (206) 285-8282 80308

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

April 8, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the additional results from the testing of material submitted on March 10, 2008 from the Tacoma Metals 996098.00 PO Off-Site, F&BI 803081 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

RECEIVED

APR 1 4 2008

KIJ Federal Way

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 10, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals 996098.00 PO Off-Site, F&BI 803081 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>

Kennedy-Jenks

803081-01

MW-30

The sample MW-30 filtered and unfiltered were analyzed at a 1/10 dilution per your request. All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-30	Client: Project: Lab ID: Data File: Instrument: Operator:	Kennedy-Jenks
Date Received:	03/10/08		ProjectID
Date Extracted:	03/10/08		803081-01 1/10
Date Analyzed:	03/11/08		031124.D
Matrix:	Water		GCMS6
Units:	ug/L (ppb)		YA
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	87	50	129

Benzo(a)anthracene-d12	87	50	
Compounds:	Concentration ug/L (ppb)		
Naphthalene	370 ve		
Acenaphthylene	1.8		
Acenaphthene	250~ m ve		
Fluorene	100 ve		
Phenanthrene	46		
Anthracene	4.0		
Fluoranthene	2.9		
Pyrene	1.9		
Benz(a)anthracene	< 0.2		
Chrysene	< 0.2		
Benzo(a)pyrene	< 0.2		
Benzo(b)fluoranthene	< 0.2		
Benzo(k)fluoranthene	< 0.2		
Indeno(1,2,3-cd)pyrene	< 0.2		
Dibenz(a,h)anthracene	< 0.2		
Benzo(g,h,i)perylene	< 0.2		

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-30	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	ProjectID
Date Extracted:	03/10/08	Lab ID:	803081-01f 1/10
Date Analyzed:	03/14/08	Data File:	031336.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	104	50	150
Benzo(a)anthracene-d12	107	50	129

Delizo(a)aliuli acelle-u12	107
Compounds:	Concentration ug/L (ppb)
Naphthalene	300 ve
Acenaphthylene	1.9
Acenaphthene	230 ve
Fluorene	100 ve
Phenanthrene	45
Anthracene	3.4
Fluoranthene	2.4
Pyrene	1.5
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

Note: The sample was filtered prior to extraction.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
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- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

7.45 AM TIME A05/142 ☐ Return samples ☐ Will call with instructions Rush charges authorized by: TURNAROUND TIME Notes SAMPLE DISPOSAL d Dispose after 30 days 3/14/08 Standard (2 Weeks) DATE Samples received at 2 MG 03/10/08 Page #. COMPANY ANALYSES REQUESTED use lowest reporting Im SAOC® PA 8510 SAMPLE CHAIN OF CUSTODY PRINT NAME 81208 vd XATA PROJECT NAMENO SAMPLERS (signature) 700018.00 containers # of X REMARKS Sample Type Phone #253874 0555 Fax #253952 3435 Company Kenned V/ Jenks Address 32001 32nd Ave 5, 54-100 City, State, ZIPFEDENA WAY WIA GROOT Sampled | Sampled | 7415 SIGNATURE 91 H31/08 Relinquished b: Received by: Repeired D [ab Seattle, WA 98119-2029 Friedman & Bruya, Inc. 3012 16th Avenue West Sond Report To Fax (206) 283-5044 Ph. (206) 285-8282 Sample ID 803081

ENTERIED FOR LYTIC DOC

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

March 26, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the results from the testing of material submitted on March 10, 2008 from the Tacoma Metals 996098.00 PO On-Site, F&BI 803080 project. There are 44 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA0326R.DOC

RECEIVED

MAR 31 2008

KIJ Federal Way

Route Return To/By.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 10, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals 996098.00 PO On-Site, F&BI 803080 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Kennedy-Jenks</u>
803080-01	MW-20
803080-02	MW-8(R)
803080-03	MW-18
803080-04	MW-10
803080-05	MW-22
803080-06	MW-21

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803080

Date Extracted: 03/10/08

Date Analyzed: 03/10/08 and 03/11/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (<u>% Recovery)</u> (Limit 51-134)
MW-20 803080-01	1,600	93
MW-8(R) d 803080-02 1/10	17,000	123
MW-18 803080-03	6,500	112
MW-10 803080-04	490	107
MW-22 803080-05	3,300	115
MW-21 803080-06	1,400	ip
Method Blank	<100	112

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803080

Date Extracted: 03/11/08 Date Analyzed: 03/14/08

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Sample Extracts Passed Through a Silica Gel Column Prior to Analysis

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C ₁₀ -C ₂₅)	Motor Oil Range (C ₂₅ -C ₃₆)	Surrogate (% Recovery) (Limit 51-132)
MW-20 803080-01	2,100 x	<250	84
MW-8(R) dv 803080-02	9,900 x	<270	79
MW-18 803080-03	9,500 x	<250	83
MW-10 803080-04	4,300 x	<250	78
MW-22 803080-05	220 x	<250	78
MW-21 803080-06	2,900 x	<250	78
Method Blank	<50	<250	89

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-20	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-01
Date Analyzed:	03/14/08	Data File:	031417.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	67 J	50	150
Benzo(a)anthracene-d12	$91\mathrm{J}$	50	129

` '	
Compounds:	Concentration ug/L (ppb)
Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Chrysene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene	6.9 ve, J 1.1 J 100 ve, J 75 ve, J 46 ve, J 3.1 J 2.0 J 0.88 J <0.02 J <0.02 J <0.02 J <0.02 J <0.02 J <0.02 J <0.02 J <0.02 J <0.02 J
Benzo(g,h,i)perylene	<0.02 J

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-20	Client:
Date Received:	03/10/08	Project:
Date Extracted:	03/10/08	Lab ID:
Date Analyzed:	03/11/08	Data Fi
Matrix:	Water	Instrum
Units:	ug/L (ppb)	Operato

Project:	Tacoma Metals 996098.00
Lab ID:	803080-01 1/10
Data File:	031121.D
Instrument:	GCMS6
Operator:	YA

Kennedy-Jenks

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	95	50	150
Benzo(a)anthracene-d12	82	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	6.8
Acenaphthylene	0.75
Acenaphthene	140 ve
Fluorene	72 ve
Phenanthrene	59 ve
Anthracene	3.4
Fluoranthene	1.9
Pyrene	0.88
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-20	Client:
Date Received:	03/10/08	Project:
Date Extracted:	03/10/08	Lab ID:
Date Analyzed:	03/14/08	Data Fi
Matrix:	Water	Instrum
Units:	ug/L (ppb)	Operato

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	803080-01 1/100
Data File:	031334.D
Instrument:	GCMS6
Operator:	YA

	Lower	Upper
% Recovery:	Limit:	Limit:
296 ds	50	150
73	50	129
	296 ds	% Recovery: Limit: 296 ds 50

Compounds:	Concentration ug/L (ppb)
Naphthalene	7.1
Acenaphthylene	<2
Acenaphthene	160
Fluorene	82
Phenanthrene	68
Anthracene	3.4
Fluoranthene	<2
Pyrene	<2
Benz(a)anthracene	<2
Chrysene	<2
Benzo(a)pyrene	<2
Benzo(b)fluoranthene	<2
Benzo(k)fluoranthene	<2
Indeno(1,2,3-cd)pyrene	<2
Dibenz(a,h)anthracene	<2
Benzo(g,h,i)perylene	<2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-20	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-01f
Date Analyzed:	03/14/08	Data File:	031339.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	60	50	150
Benzo(a)anthracene-d12	101	50	129

	Concentration
Compounds:	ug/L (ppb)
Naphthalene	5.7 ve
Acenaphthylene	0.66, J
Acenaphthene	85 ve, J
Fluorene	62 ve, J
Phenanthrene	39 ve
Anthracene	2.5
Fluoranthene	1.9
Pyrene	0.86
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02
10: //2	

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-20	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-01f 1/10
Date Analyzed:	03/14/08	Data File:	031337.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	103	50	150
Benzo(a)anthracene-d12	97	50	129

` '	
	Concentration
Compounds:	ug/L (ppb)
Naphthalene	5.8
Acenaphthylene	0.77
Acenaphthene	130 ve
Fluorene	75 ve
Phenanthrene	61 ve
Anthracene	3.4
Fluoranthene	1.9
Pyrene	0.83
Benz(a)anthracene	< 0.2
Chrysene	< 0.2
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-20	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-01f 1/500
Date Analyzed:	03/18/08	Data File:	031824.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$0~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	$0~\mathrm{ds}$	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<10
Acenaphthylene	<10
Acenaphthene	150
Fluorene	75
Phenanthrene	66
Anthracene	<10
Fluoranthene	<10
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8(R)	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-02
Date Analyzed:	03/14/08	Data File:	031418.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$67~\mathrm{J}$	50	150
Benzo(a)anthracene-d12	$91\mathrm{J}$	50	129

• •	
	Concentration
Compounds:	ug/L (ppb)
Naphthalene	300 ve, J
Acenaphthylene	$4.6\mathrm{J}$
Acenaphthene	100 ve, J
Fluorene	61 ve, J
Phenanthrene	38 ve, J
Anthracene	6.3 ve, J
Fluoranthene	5.9 ve, J
Pyrene	$3.8 \mathrm{~J}$
Benz(a)anthracene	0.51, J
Chrysene	$0.55~\mathrm{J}$
Benzo(a)pyrene	$0.19 \mathrm{~J}$
Benzo(b)fluoranthene	$0.24~\mathrm{J}$
Benzo(k)fluoranthene	$0.097\mathrm{J}$
Indeno(1,2,3-cd)pyrene	$0.063 \mathrm{J}$
Dibenz(a,h)anthracene	<0.02 J
Benzo(g,h,i)perylene	$0.048\mathrm{J}$

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-8(R)
Date Received: 03/10/08
Date Extracted: 03/10/08
Date Analyzed: 03/11/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00

Lab ID: 803080-02 1/50
Data File: 031125.D
Instrument: GCMS6

Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	175 ds	50	150
Benzo(a)anthracene-d12	77	50	129

	Concentration
Compounds:	ug/L (ppb)
Naphthalene	1,900 ve
Acenaphthylene	4.6
Acenaphthene	160
Fluorene	69
Phenanthrene	51
Anthracene	6.7
Fluoranthene	6.4
Pyrene	4.1
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8(R)	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-02 1/1000
Date Analyzed:	03/13/08	Data File:	031323.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA
		- •	**

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	0 ds	50	150
Benzo(a)anthracene-d12	0 ds	50	129

(11)	
Compounds:	Concentration ug/L (ppb)
Naphthalene	3,600
Acenaphthylene	<20
Acenaphthene	170
Fluorene	71
Phenanthrene	55
Anthracene	<20
Fluoranthene	<20
Pyrene	<20
Benz(a)anthracene	<20
Chrysene	<20
Benzo(a)pyrene	<20
Benzo(b)fluoranthene	<20
Benzo(k)fluoranthene	<20
Indeno(1,2,3-cd)pyrene	<20
Dibenz(a,h)anthracene	<20
Benzo(g,h,i)perylene	<20

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-8(R) Client: Kennedy-Jenks

Date Received: 03/10/08 Project: Tacoma Metals 996098.00

Date Extracted: 03/10/08 Lab ID: 803080-02f Date Analyzed: 03/14/08 Data File: 031340.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: ΥA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 65 50 150
Benzo(a)anthracene-d12 100 50 129

< 0.02

< 0.02

< 0.02

Concentration Compounds: ug/L (ppb) Naphthalene 190 ve Acenaphthylene 3.5 74 ve Acenaphthene Fluorene 48 ve Phenanthrene 27 ve Anthracene 3.0 Fluoranthene 3.5 Pyrene 2.1Benz(a)anthracene 0.072 Chrysene 0.072Benzo(a)pyrene < 0.02

Dibenz(a,h)anthracene <0.02 Benzo(g,h,i)perylene <0.02

Benzo(b)fluoranthene

Benzo(k)fluoranthene

Indeno(1,2,3-cd)pyrene

Note: The sample was filtered prior to extraction.

Note: The sample was analyzed outside of the 12 hour shift.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

		Lower	$_{ m Upper}$
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	180 ds	50	150
Benzo(a)anthracene-d12	90	50	129

• •	
	Concentration
Compounds:	ug/L (ppb)
Naphthalene	1,400 ve
Acenaphthylene	3.8
Acenaphthene	130
Fluorene	59
Phenanthrene	42
Anthracene	3.7
Fluoranthene	3.5
Pyrene	2.0
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1
	•

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	` '	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-02f 1/1000
Date Analyzed:	03/13/08	Data File:	031322.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$0 \mathrm{\ ds}$	50	150
Benzo(a)anthracene-d12	$0~\mathrm{ds}$	50	129

(-)	
Compounds:	Concentration ug/L (ppb)
Naphthalene	2,900
Acenaphthylene	<20
Acenaphthene	140
Fluorene	59
Phenanthrene	44
Anthracene	<20
Fluoranthene	<20
Pyrene	<20
Benz(a)anthracene	<20
Chrysene	<20
Benzo(a)pyrene	<20
Benzo(b)fluoranthene	<20
Benzo(k)fluoranthene	<20
Indeno(1,2,3-cd)pyrene	<20
Dibenz(a,h)anthracene	<20
Benzo(g,h,i)perylene	<20

ENVIRONMENTAL CHEMISTS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	61 J	50	150
Benzo(a)anthracene-d12	95 J	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	420 ve, J
Acenaphthylene	$1.5\mathrm{J}$
Acenaphthene	100 ve, J
Fluorene	71 ve, J
Phenanthrene	58 ve, J
Anthracene	7.9 ve, J
Fluoranthene	7.6 ve, J
Pyrene	$4.3~\mathrm{J}$
Benz(a)anthracene	$0.096 \mathrm{J}$
Chrysene	$0.075\mathrm{J}$
Benzo(a)pyrene	<0.02 J
Benzo(b)fluoranthene	$0.022~\mathrm{J}$
Benzo(k)fluoranthene	<0.02 J
Indeno(1,2,3-cd)pyrene	<0.02 J
Dibenz(a,h)anthracene	<0.02 J
Benzo(g,h,i)perylene	<0.02 J

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-18 Client:
Date Received: 03/10/08 Project
Date Extracted: 03/10/08 Lab ID
Date Analyzed: 03/11/08 Data F
Matrix: Water Instruct
Units: ug/L (ppb) Operate

Project: Tacoma Metals 996098.00 Lab ID: 803080-03 1/50 Data File: 031126.D Instrument: GCMS6 Operator: YA

Kennedy-Jenks

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 175 ds 50 150 Benzo(a)anthracene-d12 88 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 2.500 veAcenaphthylene 1.4 Acenaphthene 170 Fluorene 84 Phenanthrene 88 Anthracene 9.3 Fluoranthene 7.7 Pyrene 4.2Benz(a)anthracene <1 Chrysene <1 Benzo(a)pyrene <1 Benzo(b)fluoranthene <1 Benzo(k)fluoranthene <1 Indeno(1,2,3-cd)pyrene <1 Dibenz(a,h)anthracene <1 Benzo(g,h,i)perylene <1

ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix:	MW-18 03/10/08 03/10/08 03/18/08 Water	Client: Project: Lab ID: Data File: Instrument:	Kennedy-Jenks Tacoma Metals 996098.00 803080-03 1/5000 031823.D GCMS6
Matrix: Units:	water ug/L (ppb)	Instrument: Operator:	GCMS6 YA
		*	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	0 ds	50	150
Benzo(a)anthracene-d12	$0~\mathrm{ds}$	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	5,800
Acenaphthylene	<100
Acenaphthene	180
Fluorene	<100
Phenanthrene	<100
Anthracene	<100
Fluoranthene	<100
Pyrene	<100
Benz(a)anthracene	<100
Chrysene	<100
Benzo(a)pyrene	<100
Benzo(b)fluoranthene	<100
Benzo(k)fluoranthene	<100
Indeno(1,2,3-cd)pyrene	<100
Dibenz(a,h)anthracene	<100
Benzo(g,h,i)perylene	<100

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-18 Client: Kennedy-Jenks Date Received: 03/10/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803080-03f Date Analyzed: 03/14/08 Data File: 031414.D Matrix: Water GCMS6 Instrument: Units: ug/L (ppb) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 57 50 150
Benzo(a)anthracene-d12 105 50 129

Concentration Compounds: ug/L (ppb) Naphthalene 390 ve Acenaphthylene 1.2 Acenaphthene 83 ve Fluorene 58 ve Phenanthrene 46 ve Anthracene 5.8 ve Fluoranthene 5.9 ve Pyrene 3.3 Benz(a)anthracene 0.048 Chrysene 0.036 Benzo(a)pyrene < 0.02 Benzo(b)fluoranthene < 0.02 Benzo(k)fluoranthene < 0.02 Indeno(1,2,3-cd)pyrene < 0.02 Dibenz(a,h)anthracene < 0.02 Benzo(g,h,i)perylene < 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-18
Date Received: 03/10/08
Date Extracted: 03/10/08
Date Analyzed: 03/12/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00
Lab ID: 803080-03f 1/50
Data File: 031219.D
Instrument: GCMS6
Operator: YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$172~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	$3138~\mathrm{ds}$	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	1,700 ve
Acenaphthylene	<1
Acenaphthene	150
Fluorene	75
Phenanthrene	79
Anthracene	8.0
Fluoranthene	6.3
Pyrene	3.3
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-18 Client: Kennedy-Jenks Date Received: 03/10/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803080-03f 1/1000 03/13/08 Date Analyzed: Data File: 031324.D Matrix: GCMS6 Water Instrument: Units: ug/L (ppb) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 0 ds 50 150
Benzo(a)anthracene-d12 0 ds 50 129

Compounds:	Concentration ug/L (ppb)
Naphthalene	4,400
Acenaphthylene	<20
Acenaphthene	160
Fluorene	78
Phenanthrene	87
Anthracene	<20
Fluoranthene	<20
Pyrene	<20
Benz(a)anthracene	<20
Chrysene	<20
Benzo(a)pyrene	<20
Benzo(b)fluoranthene	<20
Benzo(k)fluoranthene	<20
Indeno(1,2,3-cd)pyrene	<20
Dibenz(a,h)anthracene	<20
Benzo(g,h,i)perylene	<20

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-10	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-04
Date Analyzed:	03/11/08	Data File:	031120.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		\mathbf{Lower}	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	62	50	150
Benzo(a)anthracene-d12	74	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	1.4
Acenaphthylene	0.19
Acenaphthene	21 ve
Fluorene	12 ve
Phenanthrene	12 ve
Anthracene	2.7
Fluoranthene	4.9
Pyrene	3.5
Benz(a)anthracene	0.41
Chrysene	0.37
Benzo(a)pyrene	0.16
Benzo(b)fluoranthene	0.21
Benzo(k)fluoranthene	0.069
Indeno(1,2,3-cd)pyrene	0.035
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	0.032

ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed:	03/10/08 03/10/08 03/14/08	Client: Project: Lab ID: Data File:	Kennedy-Jenks Tacoma Metals 996098.00 803080-04 1/50 031333.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	188 ds	50	150
Benzo(a)anthracene-d12	77	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	1.6
Acenaphthylene	<1
Acenaphthene	34
Fluorene	18
Phenanthrene	18
Anthracene	3.2
Fluoranthene	6.1
Pyrene	4.1
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-10 Client: Kennedy-Jenks Date Received: 03/10/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803080-04f Date Analyzed: 03/20/08 Data File: 032008.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: ΥA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	70	50	150
Benzo(a)anthracene-d12	93	35	159

Compounds:	Concentration ug/L (ppb)
Naphthalene	1.3
Acenaphthylene	0.24
Acenaphthene	$23 \mathrm{\ ve}$
Fluorene	$15 \mathrm{\ ve}$
Phenanthrene	14 ve
Anthracene	2.8
Fluoranthene	5.5 ve
Pyrene	3.7
Benz(a)anthracene	0.40
Chrysene	0.37
Benzo(a)pyrene	0.18
Benzo(b)fluoranthene	0.21
Benzo(k)fluoranthene	0.090
Indeno(1,2,3-cd)pyrene	0.037
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	0.031

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Unite:	03/10/08 03/10/08 03/18/08 Water	Client: Project: Lab ID: Data File: Instrument:	Kennedy-Jenks Tacoma Metals 996098.00 803080-04f 1/50 031825.D GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	218 ds	50	150
Benzo(a)anthracene-d12	93	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	1.3
Acenaphthylene	<1
Acenaphthene	31
Fluorene	16
Phenanthrene	17
Anthracene	3.8
Fluoranthene	5.5
Pyrene	3.6
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

ENVIRONMENTAL CHEMISTS

3.00

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	48 J,vo	50	150
Benzo(a)anthracene-d12	85	50	129

~	Concentration
Compounds:	ug/L (ppb)
Naphthalene	190 ve, js
Acenaphthylene	1.2 J, js
Acenaphthene	110 ve, J, js
Fluorene	72 ve, J, js
Phenanthrene	55 ve, J, js
Anthracene	8.0 ve, J, js
Fluoranthene	11 ve, J, js
Pyrene	7.0 ve, J, js
Benz(a)anthracene	0.47
Chrysene	0.47
Benzo(a)pyrene	0.094
Benzo(b)fluoranthene	0.13
Benzo(k)fluoranthene	0.041
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-22
Date Received: 03/10/08
Date Extracted: 03/10/08
Date Analyzed: 03/11/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00

Lab ID: 803080-05 1/10 Data File: 031122.D

Instrument: GCMS6
Operator: YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	86	50	150
Benzo(a)anthracene-d12	84	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	480 ve
Acenaphthylene	1.5
Acenaphthene	150 ve
Fluorene	92 ve
Phenanthrene	81 ve
Anthracene	13
Fluoranthene	13
Pyrene	8.0
Benz(a)anthracene	0.49
Chrysene	0.46
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-22	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-05 1/500
Date Analyzed:	03/14/08	Data File:	031327.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	0 ds	50	150
Benzo(a)anthracene-d12	0 ds	50	129

Benzo(a)anthracene-d12	0 ds	50
Compounds:	Concentration ug/L (ppb)	
Naphthalene	1,200	
Acenaphthylene	<10	
Acenaphthene	210	
Fluorene	110	
Phenanthrene	110	
Anthracene	16	
Fluoranthene	12	
Pyrene	<10	
Benz(a)anthracene	<10	
Chrysene	<10	
Benzo(a)pyrene	<10	
Benzo(b)fluoranthene	<10	
Benzo(k)fluoranthene	<10	
Indeno(1,2,3-cd)pyrene	<10	
Dibenz(a,h)anthracene	<10	
Benzo(g,h,i)perylene	<10	

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-22
Date Received: 03/10/08
Date Extracted: 03/10/08
Date Analyzed: 03/14/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00
Lab ID: 803080-05f
Data File: 031415.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	50	50	150
Benzo(a)anthracene-d12	97	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	340 ve
Acenaphthylene	1.3
Acenaphthene	100 ve
Fluorene	79 ve
Phenanthrene	52 ve
Anthracene	7.2 ve
Fluoranthene	10 ve
Pyrene	6.6 ve
Benz(a)anthracene	0.36
Chrysene	0.35
Benzo(a)pyrene	0.079
Benzo(b)fluoranthene	0.099
Benzo(k)fluoranthene	0.036
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-22 Client: Kennedy-Jenks Date Received: 03/10/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803080-05f 1/10 Date Analyzed: 03/13/08 Data File: 031220.DMatrix: Water GCMS6 Instrument: Units: ug/L (ppb) Operator: YΑ Lower

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	84	50	129

	0.1
Compounds:	Concentration ug/L (ppb)
Naphthalene	420 ve
Acenaphthylene	1.3
Acenaphthene	130 ve
Fluorene	79 ve
Phenanthrene	76 ve
Anthracene	10
Fluoranthene	11
Pyrene	6.9
Benz(a)anthracene	0.35
Chrysene	0.31
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	< 0.2
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-22 Client: Kennedy-Jenks Date Received: 03/10/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803080-05f 1/500 Date Analyzed: 03/13/08 Data File: 031326.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: ΥA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 0 ds 50 150
Benzo(a)anthracene-d12 0 ds 50 129

Compounds:	Concentration ug/L (ppb)
Naphthalene	990
Acenaphthylene	<10
Acenaphthene	170
Fluorene	95
Phenanthrene	99
Anthracene	13
Fluoranthene	11
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-21	Client:	Kennedy-Jenks
Date Received:	03/10/08	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	803080-06
Date Analyzed:	03/11/08	Data File:	031128.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	44 J, vo	50	150
Benzo(a)anthracene-d12	$82~\mathrm{J}$	50	129

Benzo(a)anthracene-d12	82 J	50	129
	Concentration		
Compounds:	ug/L (ppb)		
Naphthalene	110 ve, J, js		
Acenaphthylene	1.1 J, js		
Acenaphthene	120 ve, J, js		
Fluorene	79 ve, J, js		
Phenanthrene	73 ve, J, js		
Anthracene	8.5 ve, J, js		
Fluoranthene	16 ve, J, js		
Pyrene	12 ve, J, js		
Benz(a)anthracene	1.3 J		
Chrysene	1.0 J		
Benzo(a)pyrene	0.55 J		
Benzo(b)fluoranthene	$0.73~\mathrm{J}$		
Benzo(k)fluoranthene	$0.25~\mathrm{J}$		
Indeno(1,2,3-cd)pyrene	0.18 J		
Dibenz(a,h)anthracene	$0.055~{ m J}$		
Benzo(g,h,i)perylene	$0.16 \mathrm{~J}$		

ENVIRONMENTAL CHEMISTS

Operator:

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	803080-06 1/10
Data File:	031123.D
Instrument:	GCMS6

YΑ

		Lower	Upper
Surrogates:	% Recovery:	\mathbf{Limit} :	Limit:
Anthracene-d10	84	50	150
Benzo(a)anthracene-d12	80	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	390 ve
Acenaphthylene	1.4
Acenaphthene	170 ve
Fluorene	100 ve
Phenanthrene	110 ve
Anthracene	14
Fluoranthene	20
Pyrene	14
Benz(a)anthracene	1.3
Chrysene	1.0
Benzo(a)pyrene	0.50
Benzo(b)fluoranthene	0.66
Benzo(k)fluoranthene	0.26
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	$0~\mathrm{ds}$	50	150
Benzo(a)anthracene-d12	$0~\mathrm{ds}$	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	730
Acenaphthylene	<10
Acenaphthene	230
Fluorene	120
Phenanthrene	150
Anthracene	14
Fluoranthene	19
Pyrene	13
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-21
Date Received: 03/10/08
Date Extracted: 03/10/08
Date Analyzed: 03/24/08
Matrix: Water
Units: ug/L (ppb)

Client: Kennedy-Jenks
Project: Tacoma Metals 996098.00

Lab ID: 803080-06f
Data File: 032413.D
Instrument: GCMS6
Operator: YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	44 J, vo	50	150
Benzo(a)anthracene-d12	90 J	50	129

	Concentration
Compounds:	ug/L (ppb)
Naphthalene	210 ve, J, js
Acenaphthylene	1.1 J, js
Acenaphthene	110 ve, J, js
Fluorene	76 ve, J, js
Phenanthrene	58 ve, J, js
Anthracene	6.6 ve, J, js
Fluoranthene	13 ve, J, js
Pyrene	9.0 ve, J, js
Benz(a)anthracene	$0.54\mathrm{J}$
Chrysene	$0.56~\mathrm{J}$
Benzo(a)pyrene	0.13
Benzo(b)fluoranthene	0.18
Benzo(k)fluoranthene	0.055
Indeno(1,2,3-cd)pyrene	0.028
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	0.021

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

,		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	84	50	150
Benzo(a)anthracene-d12	78	50	129

Concentration ug/L (ppb)
300 ve
1.1
130 ve
86 ve
92 ve
9.5
14
9.5
0.52
0.39
< 0.2
< 0.2
< 0.2
< 0.2
< 0.2
< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-21 Client: Kennedy-Jenks Date Received: 03/10/08 Project: Tacoma Metals 996098.00 Date Extracted: 03/10/08 Lab ID: 803080-06f 1/500 Date Analyzed: 03/14/08 Data File: 031328.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: ΥA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	0 ds	50	150
Benzo(a)anthracene-d12	0 ds	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	560
Acenaphthylene	<10
Acenaphthene	180
Fluorene	100
Phenanthrene	120
Anthracene	<10
Fluoranthene	14
Pyrene	<10
Benz(a)anthracene	<10
Chrysene	<10
Benzo(a)pyrene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Indeno(1,2,3-cd)pyrene	<10
Dibenz(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

ENVIRONMENTAL CHEMISTS

Client Sample ID:	Method Blank
Date Received:	NA
Date Extracted:	03/10/08
Date Analyzed:	03/10/08
Matrix:	Water
Units:	ug/L (ppb)

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	080361mb
Data File:	031014.D
Instrument:	GCMS6
Operator:	YA

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	78	50	150
Benzo(a)anthracene-d12	83	50	129
	Concentration		
Compounds:	ug/L (nnb)		

	Concentration
Compounds:	ug/L (ppb)
Naphthalene	< 0.02
Acenaphthylene	< 0.02
Acenaphthene	< 0.02
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	Method Blank	Client:	Kennedy-Jenks
Date Received:	NA	Project:	Tacoma Metals 996098.00
Date Extracted:	03/10/08	Lab ID:	080363 mbf
Date Analyzed:	03/12/08	Data File:	031207.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	79	50	150
Benzo(a)anthracene-d12	84	50	129

•	
	Concentration
Compounds:	ug/L (ppb)
NT 141 1	-0.00
Naphthalene	< 0.02
Acenaphthylene	< 0.02
Acenaphthene	< 0.02
Fluorene	< 0.02
Phenanthrene	< 0.02
Anthracene	< 0.02
Fluoranthene	< 0.02
Pyrene	< 0.02
Benz(a)anthracene	< 0.02
Chrysene	< 0.02
Benzo(a)pyrene	< 0.02
Benzo(b)fluoranthene	< 0.02
Benzo(k)fluoranthene	< 0.02
Indeno(1,2,3-cd)pyrene	< 0.02
Dibenz(a,h)anthracene	< 0.02
Benzo(g,h,i)perylene	< 0.02

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803080

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 803068-03 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Gasoline	ug/L (ppb)	550	510	8

Laboratory Code: Laboratory Control Sample

			$\operatorname{Percent}$		
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	ug/L (ppb)	1,000	102	69-134	

FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803080

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

A 7 (Reporting	Spike	Percent Recovery	Percent Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	89	96	67-141	8

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803080

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

•		•	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	82	80	68-101	2
Acenaphthylene	ug/L (ppb)	5	77	74	70-109	4
Acenaphthene	ug/L (ppb)	5	85	83	69-104	2
Fluorene	ug/L (ppb)	5	84	81	68-111	4
Phenanthrene	ug/L (ppb)	5	84	80	66-106	5
Anthracene	ug/L (ppb)	5	82	80	67-112	2
Fluoranthene	ug/L (ppb)	5	85	84	69-116	1
Pyrene	ug/L (ppb)	5	85	84	68-115	1
Benz(a)anthracene	ug/L (ppb)	5	80	76	65-102	5
Chrysene	ug/L (ppb)	5	85	80	66-103	6
Benzo(b)fluoranthene	ug/L (ppb)	5	92	91	70-117	1
Benzo(k)fluoranthene	ug/L (ppb)	5	90	85	64-116	6
Benzo(a)pyrene	ug/L (ppb)	5	88	83	68-116	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	87	82	63-122	6
Dibenz(a,h)anthracene	ug/L (ppb)	5	86	81	66-116	6
Benzo(g,h,i)perylene	ug/L (ppb)	5	87	81	66-114	7

ENVIRONMENTAL CHEMISTS

Date of Report: 03/26/08 Date Received: 03/10/08

Project: Tacoma Metals 996098.00 PO On-Site, F&BI 803080

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

-	-	_	Percent	Percent		
	Reporting	$_{ m Spike}$	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Naphthalene	ug/L (ppb)	5	88	86	68-101	2
Acenaphthylene	ug/L (ppb)	5	80	78	70-109	3
Acenaphthene	ug/L (ppb)	5	91	87	69-104	4
Fluorene	ug/ $ m L$ (ppb)	5	90	87	68-111	3
Phenanthrene	ug/L (ppb)	5	88	85	66-106	3
Anthracene	ug/ $ m L$ (ppb)	5	86	83	67 - 112	4
Fluoranthene	ug/ $ m L$ (ppb)	5	91	88	69-116	3
Pyrene	ug/ $ m L$ (ppb)	5	92	88	68-115	4
Benz(a)anthracene	ug/L (ppb)	5	80	81	65-102	1
Chrysene	ug/ $ m L$ (ppb)	5	87	86	66-103	1
Benzo(b)fluoranthene	ug/L (ppb)	5	93	96	70-117	3
Benzo(k)fluoranthene	ug/L (ppb)	5	95	93	64-116	2
Benzo(a)pyrene	ug/L (ppb)	5	87	88	68-116	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	76	79	63-122	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	83	85	66-116	2
Benzo(g,h,i)perylene	ug/L (ppb)	5	83	85	66-114	2

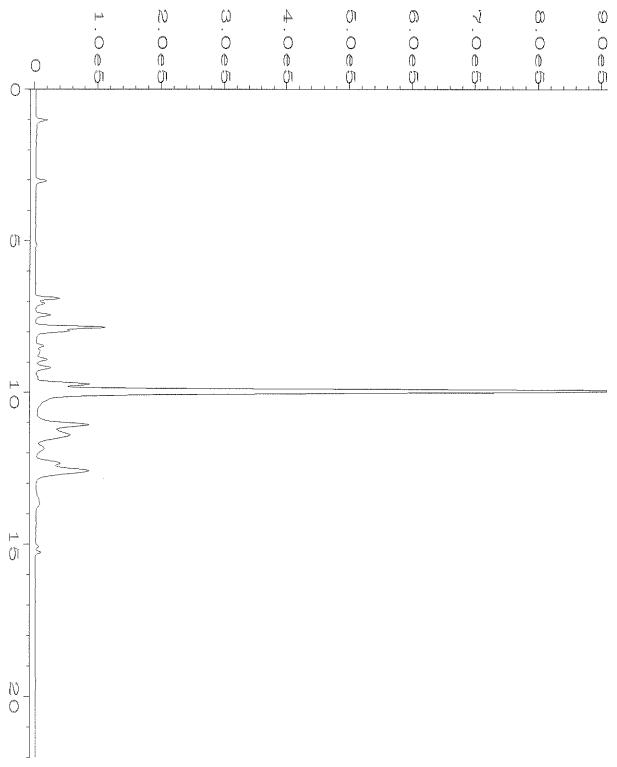
Note: The calibration verification result for indeno(1,2,3-cd)pyrene exceeded 15% deviation. The average deviation for all compounds was not greater than 15%; therefore, the initial calibration is considered valid. This applies to samples 803080-02f 1/50, 803080-03f 1/50, 803080-05f 1/10, and 803080-06f 1/10.

Note: The calibration verification result for indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene exceeded 15% deviation. The average deviation for all compounds was not greater than 15%; therefore, the initial calibration is considered valid. This applies to samples 803080-01 1/10, 803080-02 1/50, 803080-03 1/50, 803080-04, 803080-05, 803080-05 1/10, 803080-06, and 803080-06 1/10.

ENVIRONMENTAL CHEMISTS

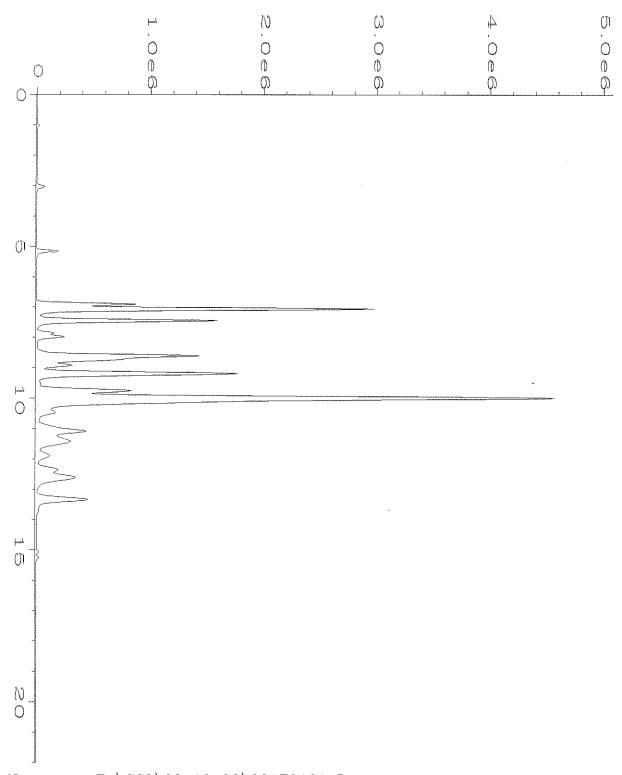
Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.



Data File Name : E:\GC2\03-10-08\020F0101.D Operator Page Number : EL Instrument : GC #2 Vial Number : 20 Sample Name : 803080-01 Injection Number: 1 Run Time Bar Code: Sequence Line : 1 Acquired on : 10 Mar 08 Instrument Method: BTEXG.MTH 07:22 PM

Report Created on: 26 Mar 08 12:23 PM Analysis Method : DEFAULT.MTH



Data File Name : E:\GC2\03-10-08\021F0101.D

Operator : EL Page Number : 1

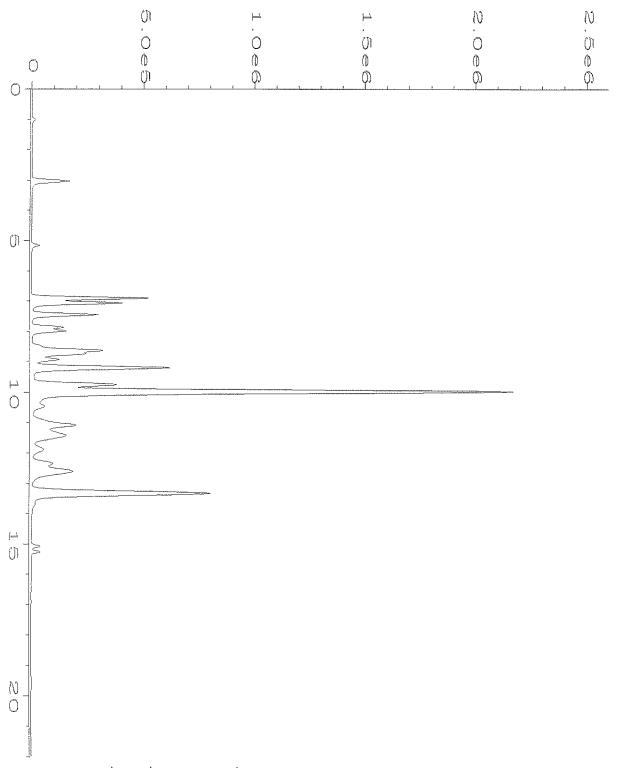
Instrument : GC #2 Vial Number : 21

Sample Name : 803080-02 Injection Number : 1

Run Time Bar Code: Sequence Line : 1

Acquired on : 10 Mar 08 07:53 PM Instrument Method: BTE

Acquired on : 10 Mar 08 07:53 PM Instrument Method: BTEXG.MTH Report Created on: 26 Mar 08 12:23 PM Analysis Method : DEFAULT.MTH



Data File Name : E:\GC2\03-10-08\022F0101.D

Operator : EL Page Number : 1

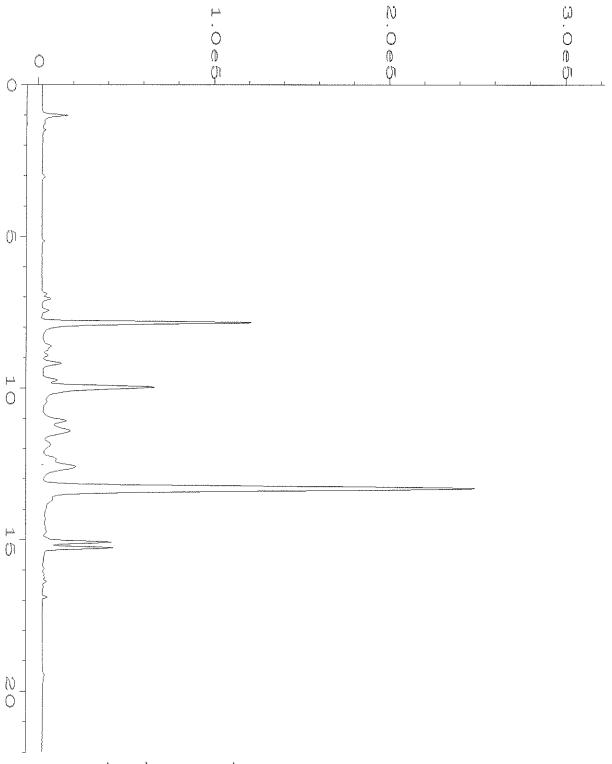
Instrument : GC #2 Vial Number : 22

Sample Name : 803080-03 Injection Number : 1

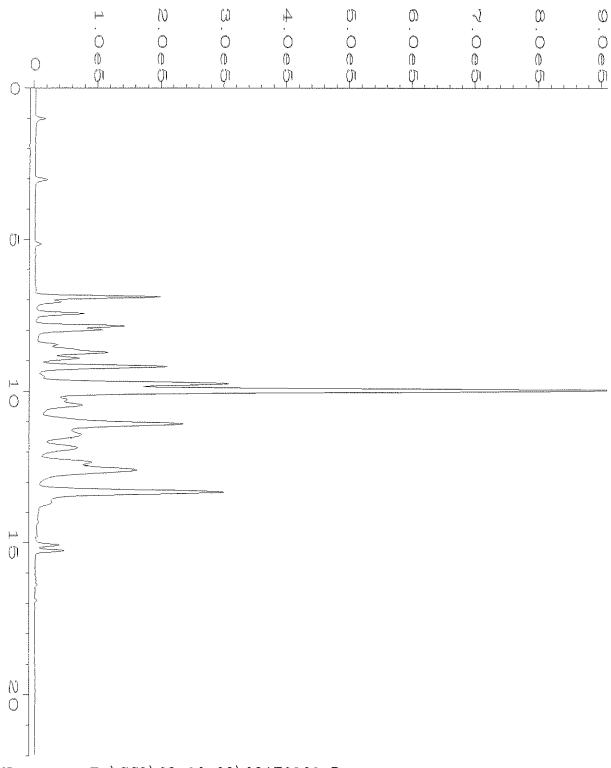
Run Time Bar Code: Sequence Line : 1

Acquired on : 10 Mar 08 08:24 PM Instrument Method: BTB

Acquired on : 10 Mar 08 08:24 PM Instrument Method: BTEXG.MTH Report Created on: 26 Mar 08 12:23 PM Analysis Method : DEFAULT.MTH

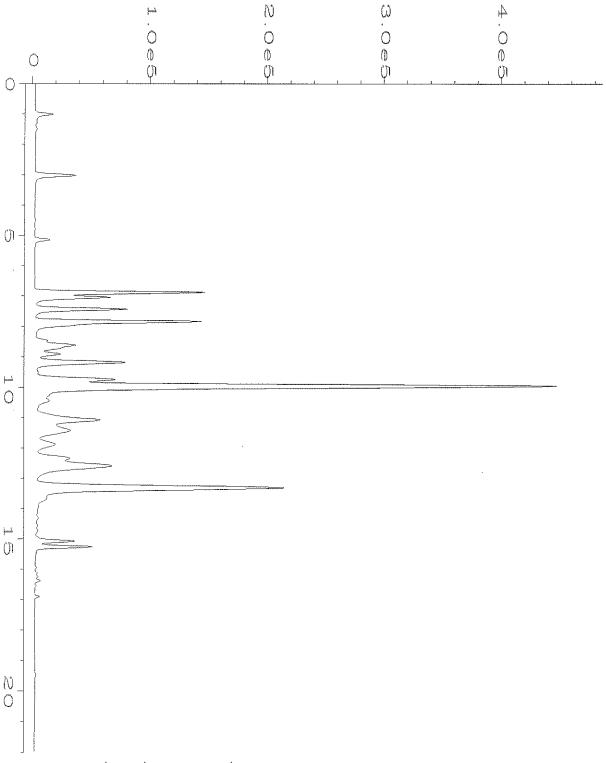


```
: E:\GC2\03-10-08\023F0101.D
Data File Name
Operator
                 : EL
                                                Page Number
Instrument
                                                Vial Number
                 : GC #2
                                                 Injection Number: 1
Sample Name
                 : 803080-04
Run Time Bar Code:
                                                 Sequence Line
                                                                : 1
Acquired on
                 : 10 Mar 08
                              08:55 PM
                                                 Instrument Method: BTEXG.MTH
                                                Analysis Method : DEFAULT.MTH
Report Created on: 26 Mar 08
                              12:23 PM
```



: E:\GC2\03-10-08\024F0101.D Data File Name Operator : EL Page Number Vial Number : 24 Instrument : GC #2 Sample Name : 803080-05 Injection Number: 1 Run Time Bar Code: Sequence Line : 1 Acquired on : 10 Mar 08 09:26 PM

Acquired on : 10 Mar 08 09:26 PM Instrument Method: BTEXG.MTH Report Created on: 26 Mar 08 12:23 PM Analysis Method : DEFAULT.MTH

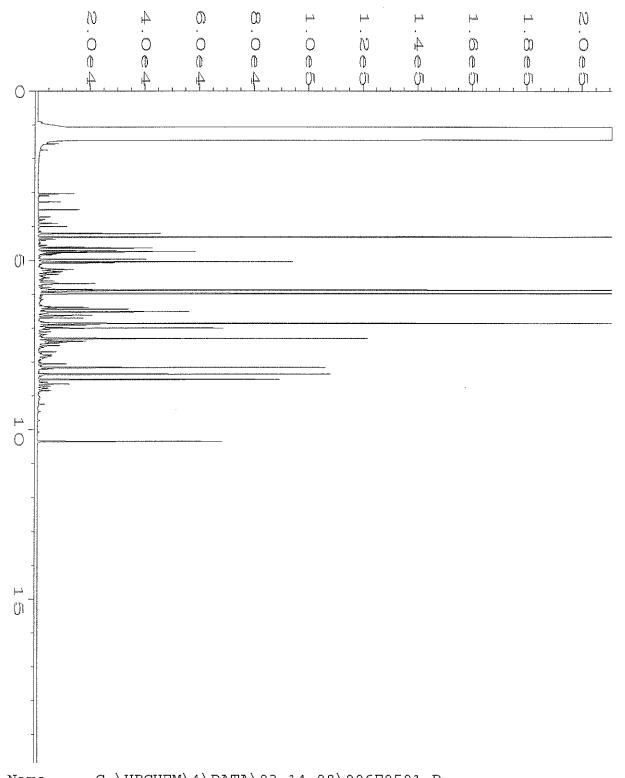


```
Data File Name
                 : E:\GC2\03-10-08\025F0101.D
                                                 Page Number
Operator
                 : EL
                                                 Vial Number
Instrument
                 : GC #2
                                                                   : 25
Sample Name
                                                 Injection Number: 1
                 : 803080-06
Run Time Bar Code:
                                                 Sequence Line
                                                                : 1
Acquired on
                                                 Instrument Method: BTEXG.MTH
                 : 10 Mar 08
                              09:57 PM
```

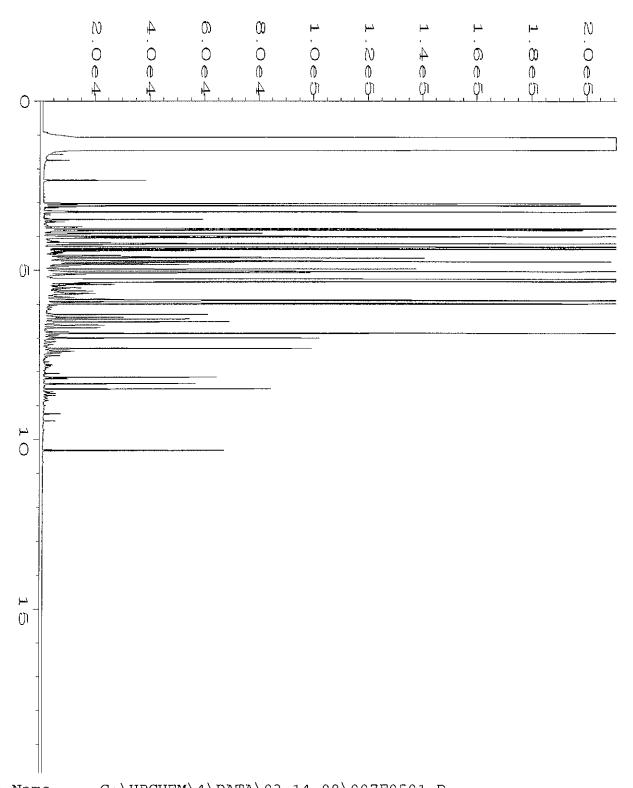
12:23 PM

Analysis Method : DEFAULT.MTH

Report Created on: 26 Mar 08



```
Data File Name
                 : C:\HPCHEM\4\DATA\03-14-08\006F0501.D
Operator
                                               Page Number
                 : ay
Instrument
                 : GC#4
                                               Vial Number
                                               Injection Number: 1
Sample Name
                 : 803080-01 sg
Run Time Bar Code:
                                               Sequence Line
Acquired on
                : 14 Mar 08 12:38 PM
                                               Instrument Method: TPHD.MTH
Report Created on: 17 Mar 08 02:26 PM
                                               Analysis Method : TPHD.MTH
```



```
Data File Name : C:\HPCHEM\4\DATA\03-14-08\007F0501.D

Operator : ay Page Number : 1

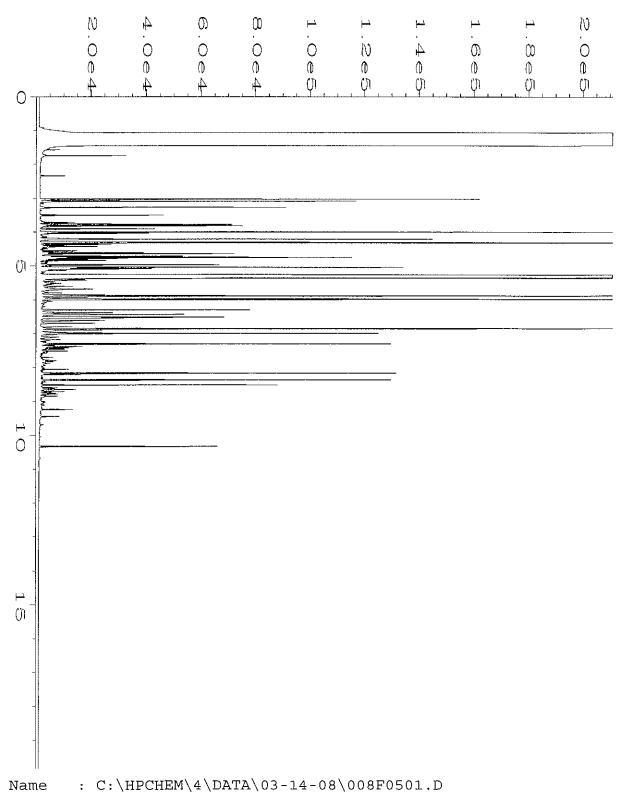
Instrument : GC#4 Vial Number : 7

Sample Name : 803080-02 sg Injection Number : 1

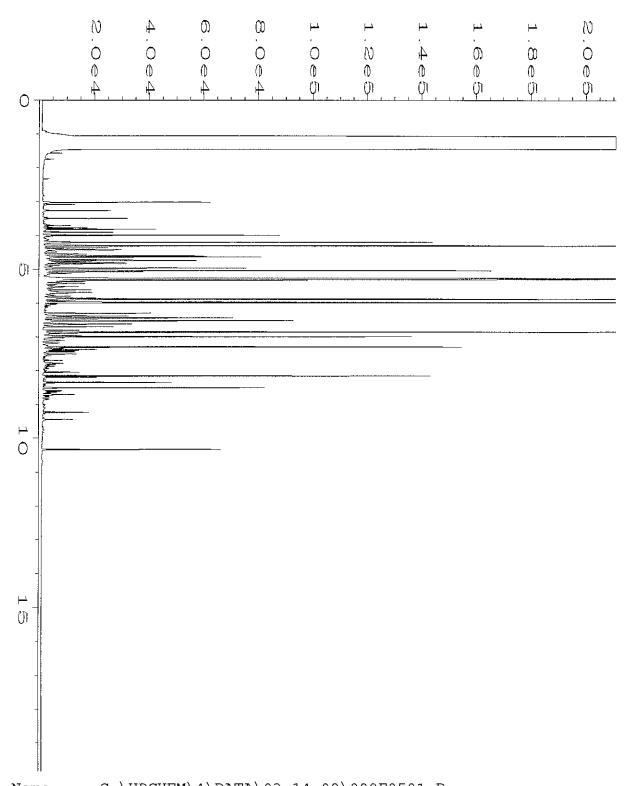
Run Time Bar Code: Sequence Line : 5

Acquired on : 14 Mar 08 01:00 PM Instrument Method: TPHD.MTH

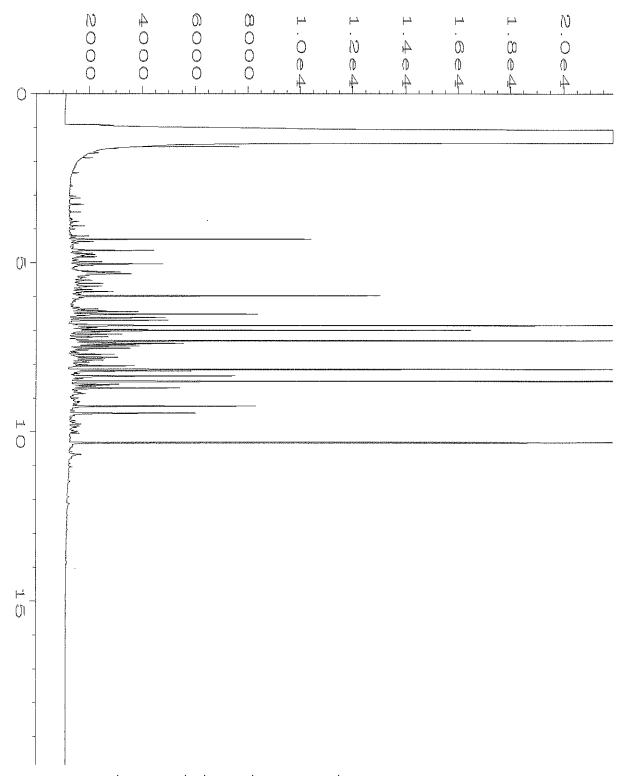
Report Created on: 17 Mar 08 02:26 PM Analysis Method : TPHD.MTH
```



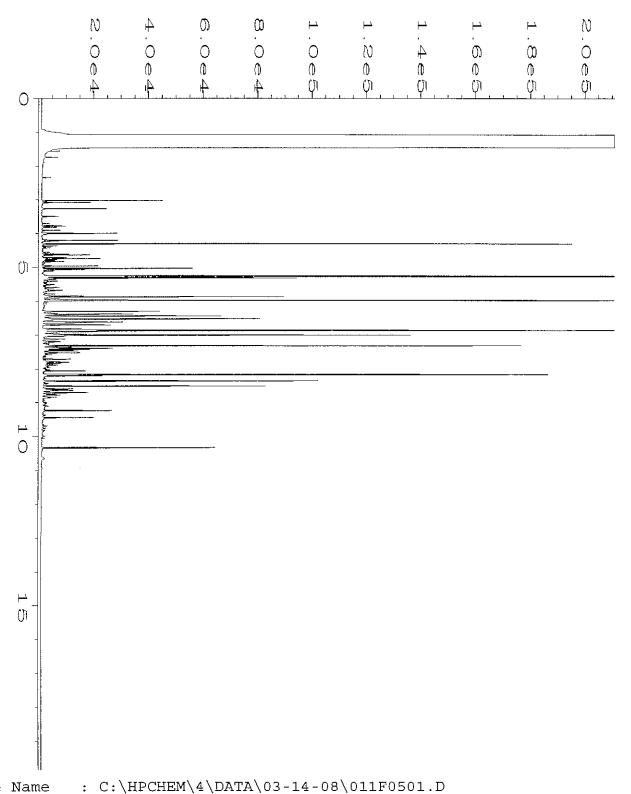
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Data File Name
                                                Page Number
Operator
                 : ay
                                                                 : 1
                                                Vial Number
Instrument
                 : GC#4
Sample Name
                 : 803080-03 sg
                                                Injection Number: 1
Run Time Bar Code:
                                                Sequence Line
Acquired on
                 : 14 Mar 08 01:27 PM
                                                Instrument Method: TPHD.MTH
Report Created on: 17 Mar 08 02:25 PM
                                                Analysis Method : TPHD.MTH
```



```
: C:\HPCHEM\4\DATA\03-14-08\009F0501.D
Data File Name
                                               Page Number
                 : ay
: GC#4
Operator
                                               Vial Number
Instrument
Sample Name
                                               Injection Number: 1
                : 803080-04 sq
Run Time Bar Code:
                                               Sequence Line
Acquired on : 14 Mar 08 01:53 PM
                                               Instrument Method: TPHD.MTH
Report Created on: 17 Mar 08 02:29 PM
                                               Analysis Method : TPHD.MTH
```



```
Data File Name
                : C:\HPCHEM\4\DATA\03-14-08\010F0501.D
                : ay
: GC#4
Operator
                                              Page Number
                                              Vial Number
Instrument
                                                               : 10
Sample Name
                : 803080-05 sq
                                              Injection Number: 1
Run Time Bar Code:
                                              Sequence Line : 5
Acquired on : 14 Mar 08 02:20 PM
                                              Instrument Method: TPHD.MTH
Report Created on: 17 Mar 08 02:27 PM
                                              Analysis Method : TPHD.MTH
```



```
Data File Name
Operator
                                                Page Number
                 : ay
                 : GC#4
Instrument
                                                Vial Number
                                                                 : 11
                                                Injection Number: 1
Sample Name
                 : 803080-06 sq
Run Time Bar Code:
                                                Sequence Line
                                                Instrument Method: TPHD.MTH
Acquired on
                : 14 Mar 08 02:47 PM
Report Created on: 17 Mar 08 02:27 PM
                                                Analysis Method : TPHD.MTH
```

1905/1V2 TIME PINK F Rush charges authorized by: □ Return samples
□ Will call with instructions TURNAROUND TIME SAMPLE DISPOSAL Notes Hoti 出ったご Hot 7 ADispose after 30 days KStandard (2 Weeks) 39/01/5 DATE Samples received at 2 °C MG 03/10/08 COMPANY ANALYSES REQUESTED PO# PO# SAMPLE CHAIN OF CUSTODY VOCs by 8260 PROJECT NAMENO / JETA | S PRINT NAME BTEX by 8021B 20-8 pogbo SAMPLERS (signature) Sample Type |containers # of 8 REMARKS \sum_{z} Phone #253 804 0555 Fax #253952 3435 Sampled Sampled Send Report To Dean Malfe.
Company Kennedy/Jenks
Address Secol 22nd AyeS, Ste-100 1235 至0 1545 2/6/08/1030 228 City, State, ZIP Federal Way WH 9800 SIGNATURE 3/1/88/ Relinquished b: Relinquished by Becklyod by: Received by: 24°5 40°4 40°4 40°4 OS-H #-W Lab IO Friedman & Bruya, Inc. Seattle, W.4 98119.2029 3012 16th Avenue West 80308. Sample ID Fax (206) 283-5044 PORMS\COC\COC.DOC Ph. (206) 285-8282 7-MW NN-81 55-15 M_{N}

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

April 8, 2008

Dean Malte, Project Manager Kennedy-Jenks 32001 32nd Ave S, Suite 100 Federal Way, WA 98001

Dear Mr. Malte:

Included are the additional results from the testing of material submitted on March 10, 2008 from the Tacoma Metals 996098.00 PO On-Site, F&BI 803080 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures NAA0408R.DOC

RECEIVED

APR 1 4 2008

K/J Federal Way

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 10, 2008 by Friedman & Bruya, Inc. from the Kennedy-Jenks Tacoma Metals 996098.00 PO On-Site, F&BI 803080 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Kennedy-Jenks
803080-01	MW-20
803080-02	MW-8 (R)
803080-03	MW-18
803080-04	MW-10
803080-05	MW-22
803080-06	MW-21

The samples MW-8 (R) and MW-18 were analyzed at a 1/10 dilution per your request. All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method $8270 \mathrm{C}$ SIM

Client:	Kennedy-Jenks
Project:	Tacoma Metals 996098.00
Lab ID:	803080-02 1/10
Data File:	040104.D
Instrument:	GCMS6
Operator:	YA

Surrogates: Anthracene-d10 Benzo(a)anthracene-d12	% Recovery: 99 86	Lower Limit: 50 50	Upper Limit: 150 129
Compounds:	Concentration ug/L (ppb)		
Nanhthalene	900 ve		

Compounds:	ug/L (ppb)
Naphthalene	900 ve
Acenaphthylene	5.9
Acenaphthene	160 ve
Fluorene	71 ve
Phenanthrene	51 ve
Anthracene	7.1
Fluoranthene	6.7
Pyrene	4.2
Benz(a)anthracene	0.59
Chrysene	0.56
Benzo(a)pyrene	< 0.2
Benzo(b)fluoranthene	0.24
Benzo(k)fluoranthene	< 0.2
Indeno(1,2,3-cd)pyrene	< 0.2
Dibenz(a,h)anthracene	< 0.2
Benzo(g,h,i)perylene	< 0.2

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID: MW-18 Client: Kennedy-Jenks
Date Received: 03/10/08 Project: Tacoma Metals 996098.00

Date Extracted: 03/10/08 Lab ID: 803080-03 1/10 Date Analyzed: 04/01/08 Data File: 040106.D Matrix: Water Instrument: GCMS6 Units: ug/L (ppb) Operator: YA

Surrogates: % Recovery: Limit: Limit: Anthracene-d10 102 J 50 150
Benzo(a)anthracene-d12 84 50 129

Concentration Compounds: ug/L (ppb) 1,300 ve, J Naphthalene Acenaphthylene 2.0 JAcenaphthene 170 ve, J Fluorene 84 ve, J Phenanthrene 85 ve Anthracene 10 Fluoranthene 7.9 Pyrene 4.3 Benz(a)anthracene < 0.2 Chrysene < 0.2 Benzo(a)pyrene < 0.2 Benzo(b)fluoranthene < 0.2 Benzo(k)fluoranthene < 0.2 Indeno(1,2,3-cd)pyrene < 0.2 Dibenz(a,h)anthracene < 0.2 Benzo(g,h,i)perylene < 0.2

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 More than one compound of similar molecule structure was identified with equal probablility.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte indicated may be due to carryover from previous sample injections.
- d The sample was diluted. Detection limits may be raised due to dilution.
- ds The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht The sample was extracted outside of holding time. Results should be considered estimates.
- ip Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The result is below normal reporting limits. The value reported is an estimate.
- J The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the compound indicated is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The pattern of peaks present is not indicative of diesel.
- y The pattern of peaks present is not indicative of motor oil.

レジを予 TIME ☐ Return samples
☐ Will call with instructions Rush charges authorized by: TURNAROUND TIME SAMPLE DISPOSAL Notes ナイン KDispose after 30 days Hot ? 日かり Hot Standard (2 Weeks) 39/01/2 DATE 2.2 Samples received of 03/10/08 COMPANY ANALYSES REQUESTED *Use lowest Peperting limit ** Filter With shis Fiber Filter before analysis P15-40 × RE SAOCe ph 8510 SAMPLE CHAIN OF CUSTODY **AOC8 PA 8260** PRINT NAME PROJECT NAMENY APPROPRIED 94609 8.00 SAMPLERS (signature) Sample Type | containers 8 # of REMARKS \sum_{z} Phone #253 874 0555 Fax #253952 3435 Sampled Address 22001 22nd Ave S, Ste-100 1030 五 つ 子 1545 925 Time SIGNATURE City, State, ZIP tederal Wey WH 9800 P-# 3/6/08 Sampled Company Kennedy/Jenks Send Report To Vean Malte Relinquished by Relinquished b: Beckived-by: Received by: 03 A'#. 92. A-H #-H 0-# 용민 Friedman & Bruya, Inc. Seattle, WA 98119-2029 3012 16th Avenue West とジノの Ph. (206) 285-8282 Fax (206) 283-5044 Sample 1D 80308Q MW-7

FORMS/COC/COC.DOC

秦

Attachment 6

Groundwater Sampling Field Forms

Groundwater	Purge a	ana S	ampi	e rorm	Date):	446	Keni	ieay/Je	nks C	onsultants					
PROJECT NAME: PROJECT NUMBER:		ra f	Me	7=13		WELL NUMBER: MW-SCR) PERSONNEL: DKM										
STATIC WATER LE		9.	117				~			- 7						
WATER LEVEL MEA			. 1	D CASA		_ MEASURING POINT DESCRIPTION:										
TIME START PURG				evor				=12	MI)I C							
TIME END PURGE:			· · · · · · · · · · · · · · · · · · ·		FORG	16 V6F1	п (гі)									
TIME SAMPLED: _		<u> </u>														
COMMENTS: Can			k	DAVA LEAGE	· ^ -				705 =	ssizeli gsizeli	= 27.5-8.5					
Purse	52 V	11 P	ver	Y stow (=1	0.55pm) (0	146										
		-		<u>'</u>		· · · · · · · · · · · · · · · · · · ·										
WELL VOLUME CALCULATION (FILL IN	TOTAL D		- 1	DEPTH TO ATER (FT)	WATER COLUMN (F		1	ULTIPLIER NG DIAMETE		C/	ASING VOLUME (GAL)					
BEFORE PURGING)		5		9,17	14.4	ξ X	0.16	0.64	1.44		2.30					
TIME		1140		1200	1220	17	30	1730)							
VOLUME PURGED (GAL)		2	3	4		5	2								
PURGE RATE (GPM))				-											
TEMPERATURE (°C))	(3.	0 \	17.72	13.90	B.	91	13.96								
рН		6.5	0	6-52	6.53	-		6.53								
SPECIFIC CONDUCTIVITY (<u>m</u> (uncorrected)	icromhos) cm	137	>1	1363	418	14		1435								
DISSOLVED OXYGE	(mg/L)	1.6	al Tonnes	1.31	0.87	0.	50	0.60								
eH(MV)Pt-AgC1 re	ef.	-60.	J.	-57.8	-589	-55		-57.9								
TURBIDITY/COLOR		Cle	er -				**************************************									
ODOR		NO	9	Martin Commercy Advisory and	rice commencer schaller propriet and the school of the sch											
DEPTH OF PURGE INTAKE (FT)		317	> -			was market and the	Section of the sectio									
DEPTH TO WATER D PURGE (FT)	DURING	9.3	6		9.39											
NUMBER OF CASING VOLUMES REMOVED								-7								
DEWATERED?		\wedge				T CHURCASTON CONTRACTOR	Site and the second second second second second second second second second second second second second second		+							

Ground	water P	urge a	nd San	nple Fo	rm	Date:	3/6/	OS Ker	nedy/Jen	ks Consultants
1					etal)		NUMBEI	R: MW-	Z(B)	
	.~.									
DEPTH SAMPLI	SAMPLED (I	FT): ENT: <u>_</u>	12' es.5	telte		****				
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	ح	A	\nearrow	N	Sc	Te	m	Y	PAH	
	2	A		**Ampley of whole all the control of	75				RAH	
	\	A	V_		71	And the state of t		property desirable and desirab	Dx	
	3	Vv?	M. C.	Committee	1ma21	<u> </u>		<u> </u>	GX	
PURGE WA	TER DISPO DISCHARGE	SAL NOTE (GAL):	<u>s:</u> 5	gagadilinen.r	co	OMMENTS: _				
DISPOS	AL METHOD	: <u>dr</u>	ANN	164	······································	••••			***************************************	
DRUM DI	ESIGNATIO	N(S)/VOI	LUME PER	(GAL):_						
WELL HEA	D CONDITIO	ONS CHEC	CKLIST (CIRCLE Y	es or no –	IF NO, AD	D COMM	ENTS):		
WELL SEC	URITY DEV	ICES OK	(BOLLARI	OS, CHRI	STY LID, C	ASING LID	AND LO	CK)?: (YES)	NO	
INSIDE O	F WELL HEA	AD AND (OUTER CAS	SING DRY	?: (YES	NO				
WELL CAS	ING OK?:	YES	NO							
COMMENTS	*	<u> </u>						·····		
GENERAL: WEATHE	R CONDITIO	ONS:	Cle	ur-						
TEMPER.	ATURE (SPI	ECIFY °(COR°F)		7					
					SAMPLING?	N				
	3 1									
cc: Pro	ject Manag	ger:								

Other:

Groundwater Purge and Sample Form

Date: 3/6/08

Kennedy/Jenks Consultants

PROJECT NAME:	TEC	m	a N	1eta	_ WELL	WELL NUMBER: MW-10										
PROJECT NUMBER:	·····					_ PERS	PERSONNEL: DKM									
STATIC WATER LEVEL	EMENT 1	METHO	D: <u>S</u>	tenlo		PURG	E METH	op: _	DESCRIPTION))))))))	TOC					
TIME START PURGE:	14	3 C	>			PURG	E DEPTI	⊣ (FT)	- 4							
TIME END PURGE:	1 2	1			•											
TIME SAMPLED:	12,	1 >			•											
COMMENTS:																
					<u>-</u>	<u> </u>				<u>.</u>						
(FILL IN	OTAL DE	PTH		DEPTH TO ATER (FT)	со	WATER			ULTIPLIER NG DIAMETE		c,	ASING VOLUME (GAL)				
BEFORE PURGING)	20		- 6	5,71	- 1	5. Z ^c	1 ×	0.16	0.64	1.44		2.12				
TIME		1450		1510	1510 15		1535		154	0						
VOLUME PURGED (GAL))		2	4		6		5	\Box							
PURGE RATE (GPM)																
TEMPERATURE (°C)		17.10		11.88		<u>(90</u>	10.51		12.01							
рН				5,99	_		(AG 6-DD		6,00			· .				
SPECIFIC CONDUCTIVITY (<u>micro</u> (uncorrected) cm]3	36	345	3、	17			349							
DISSOLVED OXYGEN (ng/L)	0.1	07	0.0/	0.	0.01		77	0.03							
eH(MV)Pt-AgCl ref.		- b.	5.4	1.50-	-8	0.2	-52	2.2	-87.6	>						
TURBIDITY/COLOR		Cle	:cr	water the state of			ang angerment of the second of				-					
ODOR		W	d						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							
DEPTH OF PURGE INTAKE (FT)		= 6	1					The state of the s								
DEPTH TO WATER DURI PURGE (FT)	(NG	7	16		7,	14			7.16							
NUMBER OF CASING VOLUMES REMOVED									c 3							
DEWATERED?		1	/	THE RESIDENCE OF THE PERSON OF				***************************************	hamilton							

iround	water P	urge a	nd San	nple Fo	orm	Date:	3/6/	05 Ker	nedy/Jen	nks Consulta
)c()			MW.		
······································										
DEPTH :	SAMPLED (F	T):	59			****				
SAMPLII	NG EQUIPME	NT:	Pens	1/2/	C					
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	2	9	7	N	15	Clei	ro	γ ,	PAH	
· · · · · · · · · · · · · · · · · · ·	て	P	, parice (), constitution of the second of	** To Marketon Land of **	21	** Valuation and the state of t		ing many///, well-sold from the con-	PAH (9122)	
·		A		edin de Verene and com cisama, com cisama de des	1/26				Dx	
	3	Yoff	Reserved for the state of the s	· · · · · · · · · · · · · · · · · · ·	120m1	V		V/	GX	
	TER DISPOS DISCHARGE AL METHOD:				Co	DMMENTS: _				······································
	ESIGNATION									
ELL HEAD	CONDITIO	ONS CHEC	KLIST (CIRCLE Y	ES OR NO -	IF NO, AD	D COMM	ENTS):		
ELL SECU	JRITY DEVI	CES OK	(BOLLARI	OS, CHRI	STY LID, C	ASING LID	AND LO	CK)?: YES	NO	
NSIDE OF	F WELL HEA	AD AND C	OUTER CAS	SING DRY	?: (YES)	NO				
ELL CAS	ING OK?:	YES	МО							
OMMENTS:										
SENERAL: WEATHER	R CONDITIO	DNS:	Cleri	15	·					
TEMPERA	ATURE (SPE	CIFY °C	OR °F):	: 50)					
PROBLEM	AS ENCOUNT	TERED DU	JRING PU	RGING OR	SAMPLING?	ND				
cc: Proj Job Othe	File:	jer:				- -				

Groundwater	Purge a	and S	Samı	ple	Form		Date	: 3	/4	90	Ke	nne	dy/Je	nks (Consultants
PROJECT NAME: _ PROJECT NUMBER:		eta)s		WELL NUMBER: MW-1) PERSONNEL: DKM											
STATIC WATER LE	VEL (FT):						MEAS	URI	NG	POINT	DESCRIPT	ION:	10	J C	
WATER LEVEL MEA	SUREMENT	METHO	D: <u>_</u>	2 0),ns}-		PURG	E MI	ETH	od: <u>(</u>	6155	11	h C		
TIME START PURG	E: 12.	20	>				PURG	E DI	EPTI	H (FT)	<u> ~ C</u>	7			
TIME END PURGE:	., .	····													
TIME SAMPLED: _	151	5			-,										
COMMENTS:															
										····					
		· · · · · · · · · · · · · · · · · · ·	r r				T			1		··········		, ,	
WELL VOLUME CALCULATION (FILL IN BEFORE	TOTAL D (FT)				EPTH TO		WATER COLUMN (F	- 1	v	l .	ULTIPLIE NG DIAME 4			C	CASING VOLUME (GAL)
PURGING)	20)	_	6	`.89	=	13.11		Х	0.16	0.64)	1.44		8.39
TIME		13	00		1340		1420) \	500	150	>5	15	10	
VOLUME PURGED (C	GAL)	į	+	ľ	Z		17		1	6	16:		10	······································	man.
PURGE RATE (GPM))								,						_
TEMPERATURE (°C))	12-	58	-	12.87		12.75	1	7	.70	12.7	.)	17:	70	
рН		6-1	0%	_	608	,	6.07	6	-6	56	6.0:)	6.0	26	
SPECIFIC CONDUCTIVITY (mi (uncorrected)	(cromhos)	30	716		389		387		3 7	33	38	2	38		
DISSOLVED OXYGEN	(mg/L)	0-	03	,	0.22		0.07),	08	D.D	6	0.0	ノつ	
eH(MV)Pt-AgC1 re	ef.	~	142.6		-169.D		-179.	<u> </u>		7.4	-188			880)
TURBIDITY/COLOR		C	(egr	-		<u>-</u> -						*>>>>			
ODOR			nd .		and the same of th				w names	granical appropriate and the second		THE TAXABLE PROPERTY.			
DEPTH OF PURGE INTAKE (FT)			9	-					waicher grühit.	Vargo agraedado de que que	MANAPOORT COMMANDE SCHOOL	aggirdis = aceros		\	
DEPTH TO WATER D PURGE (FT)	URING	6.	91		691		:		*****		6.9%	2			
NUMBER OF CASING VOLUMES REMOVED												•	20	Z	
DEWATERED?		^)											7	

Ground	water P	urge a	nd San	nple Fo)rm	Date:	3/9	f/0 8 Ke	nnedy/Jeni	ks Consulta
PROJECT N	NAME:	JEG	ME	Me.	Ja 13	WELL	NUMBEI	R: Mr. DIEM	1-11	
							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
SAMPLE DA TIME SA	AMPLED:	15	15		C	OMMENTS:		/AMAGAMA		
DEPTH S	SAMPLED (FT):	> 0							
SAMPLII	NG EQUIPM	ENT:	Peris	tal b	Σ					
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDE CHAIN-OF-CUS TODY AT 4°C?	- REOUEST	COMMENTS
	2	A	\sim	\wedge	7	clea		Ÿ	PAH	
	7	A	The state of the s	*Turozidanokkida kişi-kizes	7				GUS.	
	\	A		ecempoteratus quesee XXXXIII	15	And the second s			Dy	
	3	V¢ A	HC	V	170 m [V			GX	
TOTAL D	TER DISPO DISCHARGE AL METHOD	(GAL):			Co	OMMENTS:		AR PARKETURE VIOLEN PROGRAMMENT AREA MANAGEMENT AREA CONTROL		
	ESIGNATIO									
√ELL HEAC	CONDITIO	ONS CHE	CKLIST (CIRCLE Y	ES OR NO -	IF NO, ADI	COMM	ENTS):		
VELL SECU	JRITY DEV	ICES OK	(BOLLARI	OS, CHRI	STY LID, C	ASING LID	AND LO	CK)?: NES	NO	
INSIDE OF	WELL HE	AD AND (OUTER CAS	SING DRY	?: YES	NO				
VELL CASI	ING OK?:	YES)	NO							
COMMENTS:										
			, <u>, , , , , , , , , , , , , , , , , , </u>		-					
GENERAL: WEATHER	CONDITION	ONS:	Cle	or						
TEMPER/	ATURE (SPI	ECIFY °(COR°F)	: 50)					
				-	SAMPLING?	1)	c/			

cc: Proj Job	ect Manag	ger:								

Groundwater	Purge a	and S	ampl	e Form	Date	: 1/5	10%	Kenn	edy/Je	nks Consultants
PROJECT NAME: _ PROJECT NUMBER:			M	etals				MW-	14	
STATIC WATER LE			<u> </u>	? F7			-	DESCRIPTION		* /
WATER LEVEL MEA								Per15		
TIME START PURG								=12		
TIME END PURGE:		<u>V I </u>			PORG	יב טברוו	ת (רו)			
TIME SAMPLED: _		5							<u>.</u>	
COMMENTS:								·		
WELL VOLUME CALCULATION (FILL IN	TOTAL D			DEPTH TO ATER (FT)	WATER COLUMN (F	т)		ULTIPLIER F		CASING VOLUME (GAL)
BEFORE PURGING)	23.9	5	-	1.37	16.59	Z X	0.16	0.64	1.44	2.65
TIME		9	05	925	945	10	05	1010		
VOLUME PURGED (GAL)	2		4	Ь	Ş	ſ	8.5		
PURGE RATE (GPM))				•			· · · · · · · · · · · · · · · · · · ·		
TEMPERATURE (°C))	14.	34	14.48	14.54	14-	55	14.57		
pH		6.1			6.51	6.11		6.11		
SPECIFIC CONDUCTIVITY (mill) (uncorrected)	Icromhos)	5		749	733	779		7756		
DISSOLVED OXYGEN	(mg/L)	0.4	$\overline{\Box}$	0.5b	0.06	0.13		5.12		
eH(MV)Pt-AgC1 re	ef.	-100	۲.ر	-118-0	-117.6	-118.3		-118.9		
TURBIDITY/COLOR	clear						and the second of the second o			
ODOR		NZ,	17.							
DEPTH OF PURGE INTAKE (FT)		=12		:		Committee of the Commit				
DEPTH TO WATER D PURGE (FT)	OURING	8.	63	8.66	300			4.71		
NUMBER OF CASING VOLUMES REMOVED								23		
DEWATERED?		1	/			-				

Ground	water P	urge a	nd San	nple Fa	rm	Date:	Date: 3/ Kennedy/Jenks Consultan							
PROJECT I	NAME:	Tec	MC	Me-	tals	WELL NUMBER: MW-14 PERSONNEL: DKM								
DEPTH :	SAMPLED (I	FT):	=12			******								
SAMPLI	NG EQUIPM	ENT:/	Penis	reltic	r pr									
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS				
	T	A	ハ	N	26	cle	cc	7	PAH					
	2	A	¹⁰ 00 Мануне Шанкаланана	Ormpore Mandack is an appropriately	21	**************************************		**************************************	PAH					
	pi de Addin de Mariano	\triangle	Value of the same)) (jepje) (jepše produce prod	.5				Dx					
P-10-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	3	WA.	Talancia, Talancia, sua gisteria marco posterio	and the second second	170ml	Ú			GX					
PURGE WAT TOTAL I	TER DISPOS DISCHARGE AL METHOD	SAL NOTE (GAL) :	VYNW	ne M	co	DMMENTS:								
	ESIGNATIO													
					ES OR NO -				110					
	F WELL HEA				~	NO TID A	AND LO	CK)?: (YES	NO					
	ING OK?:	pm/	NO NO	JING DICT	. 6	,10								
GENERAL: WEATHER	R CONDITIO	DNS:	Clea											
TEMPER/	ATURE (SPI	ECIFY °(C OR °F):	4	9									
					SAMPLING?	10	/							
cc: Proj Job Othe	File:]er:			**************************************									

Groundwater	Purge a	and Sa	mp	le Form	Date	: -5/4	108	Kenn	edy/Je	nks (Consultants
PROJECT NAME: _	Tru	MG		letels	WELL	. NUMBE	R: <u>/</u>	1W-1.	5		
PROJECT NUMBER:					PERS	ONNEL:		KM			
STATIC WATER LE	VEL (FT):		٦ ک	.^	MEAS	URING	POINT	DESCRIPTION	4:	DC	
WATER LEVEL MEA	SUREMENT	METHOD:	<u>S</u>	olinst				erista			
TIME START PURG					PURG	E DEPT	H (FT)	×141	above	Torec	enl
TIME END PURGE:	95	<u> </u>									
TIME SAMPLED:	1000	<u> </u>									
COMMENTS:											
WELL VOLUME CALCULATION (FILL IN	TOTAL D			DEPTH TO	WATER COLUMN (F	1 1.		ULTIPLIER F NG DIAMETER 4	ETER (IN)		ASING VOLUME
BEFORE PURGING)	25,	66 °		7.87	17,99	} ×	0.16	0.64	1.44	-	2.87
TIME		82	D	910	A30	43	7)	055	_		
VOLUME PURGED (GAL)	2		4	6		D	8.5			
PURGE RATE (GPM))										
TEMPERATURE (°C))	(3.97		14.36	14.47	14.45		14.47			
рН		6.0	B	6-11	***************************************			6.07			
SPECIFIC CONDUCTIVITY (mi (uncorrected)	l <u>cromhos</u>) cm			456	454	45	7	454			
DISSOLVED OXYGEN	(mg/L)	(,3	Ь	15-0	0.11	0.09		0.06			
eH(MV)Pt-AgCl re	ef.	-87.		-165.4	-154.1	-15	8.1	-158.3			
TURBIDITY/COLOR		Clear					-				
ODOR		N	,				·				
DEPTH OF PURGE INTAKE (FT)		=14		gradely, or you are the state of the state of the state of the state of the state of the state of the state of							
DEPTH TO WATER D PURGE (FT)	OURING	8.7	5	8-30	8.31	8.	IZ	8.33			
NUMBER OF CASING VOLUMES REMOVED							>	~3			
DEWATERED?		1	1								

	·			11			Date: 314/09 Kennedy/Jenks Consulta								
ROJECT I	NAME:	1600	ma/	leta				a: <u>MW-</u>							
ROJECT	NUMBER: _					PERS	PERSONNEL: DKm								
SAMPLE DA	ATA: AMPLED:	100	0		C	DMMENTS:		·							
	SAMPLED (1					******									
	NG EQUIPM					_									
SAMPLE NO.	NO. OF CONTAIN- ERS		PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS					
	セ	A	\sim	N	Z	t le	16	Y	PAH						
	7	A	^Q Tribute manager propagation of the state	er Gallet i voller for dell'en sectorie	2	Manager agreement to the second section to the section to the second section to the section to the second section to the se			PAH						
	/	A		was recognised the way	.5	Primity of partiage and partiag			Dx						
	3	MA	Vagament Januar Januar Januar		120ml				Gx						
PURGE WAT	TER DISPO	SAL NOTE (GAL):	<u>s:</u>	.5	C	OMMENTS: _									
	AL METHOD					_									
DRUM DI	ESIGNATIO	۱(S)/۷0۱	LUME PER	(GAL):_											
ELL HEAI	CONDITIO	ONS CHEC	CKLIST (CIRCLE Y	ES OR NO -	IF NO, AD	D COMM	ENTS):							
ELL SEC	JRITY DEV	ICES OK	(BOLLAR	DS, CHRIS	STY LID, C	ASING LID	AND LO	CK)?: YES	NO						
NSIDE OF	F WELL HEA	AD AND (OUTER CAS	SING DRY	?: YES	NO)									
ELL CAS	ING OK?:	YES) но												
OMMENTS															
GENERAL: WEATHE	R CONDITIO	ONS :	Cleri												
	ATURE (SPI	ECIFY °	C OR °F)	: 45											
TEMPERA						12)									
	AS ENCOUN	rered di	JRING PU	RGING OR	SAMPLING?	-100									

Groundwater	Purge a	and S	Sam	pl	e Form		Date	:3/5	108	Kenr	10	dy/Je	nks	C	onsultants
PROJECT NAME:	Tec	en	0/		letel,			WELL NUMBER: MW/-16 PERSONNEL: DKM							
PROJECT NUMBER:							PERS	ONNEL:	$\underline{\mathcal{L}}$	Km					
STATIC WATER LE	VEL (FT):		-6	1				URING	POINT	DESCRIPTIO	N:	TO	C	-::	
WATER LEVEL MEA	SUREMENT	METHO	D:	2	112,+	-	PURG	e meth	oo: <u>(</u>	N. 13 HI	7	<u>,c</u>			
TIME START PURG	e: <u>/0</u>	3 5					PURG	E DEPT	H (FT)	=14	1				
TIME END PURGE:															
TIME SAMPLED:	1151	2													
COMMENTS:															
WELL VOLUME CALCULATION (FILL IN	CALCULATION TOTAL DEPTH				DEPTH TO ATER (FT)		WATER COLUMN (F	· 1	1	ULTIPLIER I NG DIAMETEI 4				CA	SING VOLUME (GAL)
BEFORE PURGING)	7,6	51	-		7.61	=	18.9	」×	0.16	0.64	1	. 44		-	3.02
TIME		T	55	 >	1115		1135	1)5	5	2051			***************************************		
VOLUME PURGED (GAL)	7_			4	- -	4	- 73	-	9	-				
PURGE RATE (GPM))							<u> </u>							
TEMPERATURE (°C))	13,573		<u> </u>	13.98	_	13.88	13	68	13-69				_	
pH		-/-	77		6.77	_ _	6.76	6.		6,73		<u> </u>		_	
SPECIFIC CONDUCTIVITY (mit (uncorrected)	(cromhos)	76	°54	(2518		2436	136 2		252	\				
DISSOLVED OXYGE	(mg/L)	0.	v١		100		D.D3	0.6) (0.02					
eH(MV)Pt-AgC1 re	ef.	-9	5.9		-99.6	_	-97.7		01.9	-101.7	_			_	
TURBIDITY/COLOR			eir								_			_	
ODOR		1	J			- -			· · · · · · · · · · · · · · · · · · ·					_	
DEPTH OF PURGE INTAKE (FT)		5	· · · · · · · · · · · · · · · · · · ·						en en en en en en en en en en en en en e	The state of the s		· <u></u>			
DEPTH TO WATER DEPTH	DURING	7	.65	-				7	.66			-			
NUMBER OF CASING VOLUMES REMOVED			-			_				= 3					
DEWATERED?		/							Carl Hillman 1877 pipawik		_				

Ground	water P	urge a	nd Sar	nple Fo	rm	Date:	3/5	68 Ken	nedy/Jen	ıks Consultants
PROJECT	NAME:	Tec	ma	Met	el)	WELL PERSO	NUMBEF	n. MW- DKM	-16	
										<u> </u>
i	SAMPLED (1					N-1-11-11-1-1				
	NG EQUIPM			FILL						
SAMPLE NO.	NO. OF CONTAIN- ERS		PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	2	4	N	\sim	20	rle	T Y	4	PAH	
	7	P	N	de militar de franches de la companya de la company	72	· Company		The state of the s	HAG	
	W transport	A	N		1/26	opposite Comment of the Comment of t		The section of the se	O _X	
	3	Yash	HCI	<u> </u>	100ml			<u></u>	Gx	
					C	OMMENTS: _				
DISPOSA	AL METHOD	: <u>d</u>	NWA	nph						
DRUM D	ESIGNATIO	N(S)/VOI	UME PER	(GAL):_						
WELL HEAD	CONDITIO	ONS CHE	KLIST (CIRCLE Y	ES OR NO -	IF NO, AD	D COMM	ENTS):		
WELL SEC	JRITY DEV	ICES OK	(BOLLAR	DS, CHRI	STY LID, C	ASING LID	AND LO	CK)?: (ES)	NO	
INSIDE OF	F WELL HEA	AD AND (OUTER CA	SING DRY	?: YES	NO				
WELL CAS	ING OK?:	YES	NO							
COMMENTS										
GENERAL: WEATHER	R CONDITION	ONS :	C	eu						
TEMPERA	ATURE (SPI	ECIFY °(OR °F)	:	5					
					SAMPLING?	1)0	>			
cc: Proj Job	File:	ger:				-				

Groundwater	Purge a	and S	Samp	ole Form		Date	: <u>3/5</u>	108	•	Kenr	edy/.	Jenl	cs C	onsultants	
PROJECT NAME: _ PROJECT NUMBER:		m	5 L	Metal.	<u>ک</u>	WELL	WELL NUMBER: MW-LM PERSONNEL: OKM								
STATIC WATER LE	VEL (FT):		ζ,	41						CRIPTIO) C		
WATER LEVEL MEA	SUREMENT	METHO	D:	Solinzt	_	PURG	E METH	OD: _	$e^{-\frac{1}{2}}$	rista	145		····		
TIME START PURG	<u>51 </u>	20)		PURG	E DEPT	H (FT)	·	2/						
TIME END PURGE:	134	0			-										
TIME SAMPLED: _	134	2													
COMMENTS:															
			T					I				- 7-			
WELL VOLUME CALCULATION (FILL IN	TOTAL D			DEPTH TO WATER (FT)		WATER COLUMN (F	-		OULTIPLIER F				C/	ASING VOLUME (GAL)	
BEFORE PURGING)	22.5	14	- -	7.41	=	15.3	ζ x	0.16		0.64	1.44	7	•	2.45	
TIME		1	240	1300)	1320	13	35	T	1346	7				
VOLUME PURGED (C	GAL)	5		¥		f.	7.5		-	X					
PURGE RATE (GPM))					V			-						
TEMPERATURE (°C))	13.47		13.63		13.66	13.	3.90		13.88					
рН		6-063		3 6-03	_ -	6-03	٠.								
SPECIFIC CONDUCTIVITY (mi (uncorrected)	(cromhos			408	_ _	426	_	10		463					
DISSOLVED OXYGE	(mg/L)	0.	01	0.01		OUC	0.	70	1	2.01					
eH(MV)Pt-AgC1 re	ef.	-10	3.3	-134-8	, -	-107.8	-1	30.9	F	131.11					
TURBIDITY/COLOR		,	err						-						
ODOR)								_				
DEPTH OF PURGE INTAKE (FT)		2							 -	a production of the same of th					
DEPTH TO WATER D PURGE (FT)	URING	٦.	44			7.43			7	7.43					
NUMBER OF CASING VOLUMES REMOVED										= 3					
DEWATERED?		^	()						es derived	mound					

Ground	water P	urge a	nd San	nple Fo	rm	Date: <u>プノン) と</u> Kennedy/Jenks Consultants								
					tals	WELL NUMBER: MW-IT								
DEPTH :	 SAMPLED (I	T):	子子中	5=11		•								
SAMPLI	NG EQUIPME	ENT:	2119	71/	<u> </u>	<u></u>								
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UND CHAIN-OF-CU TODY AT 4°C	ER ANALYSIS REQUEST (METHOD)	COMMENTS				
	Z	A	N	\sim	21	cle	tr	Y	PAH					
	7	A	The many to the state of the st	Magney and some some some	25				PAH					
		A	1	روويزي فستويز عدادة المائوران	5 L			er anna e dispusa e de la compania del compania de la compania de la compania del compania de la compania del la compania de la compania de la compania de la compania de la compania del la compa	ρ×					
	3	VOA	harana harana andana	and the second	120m	V/			6+					
	TER DISPOS DISCHARGE AL METHOD				C	OMMENTS: _								
DRUM D	ES IGNATION	1(S)/VOL	UME PER	(GAL):_										
					ES OR NO -				`					
	JRITY DEVI				STY LID, C/ ?: YES	ASING LID	AND LO	CK)?: (YES) NO					
WELL CAS		YES	NO	SING DKI	1: 123									
COMMENTS														
<u></u>														
GENERAL: WEATHER	R CONDITIO	DNS:(Jeai											
TEMPER/	ATURE (SPE	CIFY °(OR °F)	: <u>50</u>					04444-1-44					
PROBLEM	4S ENCOUNT	TERED DI	JRING PU	RGING OR	SAMPLING?	1)0)							

cc: Proj Job Othe	File:	ger:				-								

Date: 3/6/08

				A								
PROJECT NAME:	TKCO	W10	N	letals					MW-	18		
PROJECT NUMBER:					PER	SONNE	EL:)KM			
STATIC WATER LE	VEL (FT):		10.0	>6	ME/	SURIN	√G P	POINT	DESCRIPTION	4: <u> </u>	TOC	
WATER LEVEL MEA	SUREMENT	METHO	D: <u>S</u>	tendo					Per15)			
TIME START PURG	E: <u> Z</u>	5 <u>0</u>)		PUR	GE DE	EPTH	l (FT)	=13	TOC		
TIME END PURGE:			<u>.</u> .		······································							
TIME SAMPLED: _	1410)										
COMMENTS:												
									· · · · · · · · · · · · · · · · · · ·			
	T		, 								T 1	
WELL VOLUME CALCULATION	TOTAL D			DEPTH TO	WATER			CASI	ULTIPLIER F	(IN)	С	ASING VOLUME
(FILL IN BEFORE	25.1		l - -	MATER (FT)	= COLUMN (х	2	4	6	┃ ┣╸	(GAL)
PURGING) TIME	U3.	\		10.06	15.0	<u> </u>		0.16	0.64	1.44		2.41
	······································	1.3	?10	1330	1350		4	TU _	1405			
VOLUME PURGED (GAL)		$Z_{\underline{}}$	4	6			1	7.5			
PURGE RATE (GPM))								1			
TEMPERATURE (°C))	13	18.6	17.5)	13.76	1	7 T	>0	13.80			
pH		I	μl	6.44	6.45				6.45			
SPECIFIC CONDUCTIVITY (mi	Icromhos)	117	<u>'</u> 6	5/11	1155	٦Ť	16		115			
DISSOLVED OXYGE	N (mg/L)	0,	+D	0.25	0.12	0	.7	0	0.19			
eH(MV)Pt-AgC1 re	of.		15	-105.7	-122.9	-1	45	1.6	-V5.3			
TURBIDITY/COLOR			ler									
ODOR			dlow			-	********	C. Marine .				
DEPTH OF PURGE INTAKE (FT)		<i>></i>	3				Marine mayo	ant of some special section of the s				
DEPTH TO WATER D PURGE (FT)	OUR I NG	1/)	.02	9.95		9	Ŋ	7				
NUMBER OF CASING VOLUMES REMOVED							·	`				
DEWATERED?		Λ)					with the same of t				

PROJECT NAME: Tecomo Metal)						Date:	3	8010	Ken	nedy/Jen	ks Consultant
	NAME:							:: <u>N</u> <u>D</u> K		-18	
SAMPLE D	ATA:) (fID		C	DMMENTS:			: · · · · · · · · · · · · · · · · · · ·		
DEPTH :	SAMPLED (F	FT):	=13 f	.5							
SAMPLI	NG EQUIPME	ENT: <u></u>	Pris-	知外	*						
SAMPLE NO.	NO. OF CONTAIN- ERS	CON-		FIELD	VOLUME FILLED	TURBIDITY	COLOR	CHAIN-O	F-CUS-	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	70	cle	er	4)	PAH	
	Z	A	M	The man the state of the state	21	And The proprietable and the Section of the Section				PAH	
		\wedge	N	de de restadores hamilias difinamen	60	,				\mathcal{D}_{X}	
	ζ	VO S	The state of the s	1	120m1	V		Ų	/	GX	
					C	OMMENTS: _		· · · · · · · · · · · · · · · · · · ·			
DISPOSA	AL METHOD:	: <u></u> _ 선	<i>t</i> vuru	ne n							
DRUM DI	ESIGNATION	N(S)/VOL	UME PER	(GAL):_							
WELL HEAI	CONDITIO	ONS CHEC	KLIST (CIRCLE Y	es or no -	IF NO, AD	D COMM	ENTS):			
WELL SEC	JRITY DEVI	ICES OK	(BOLLARI	OS, CHRI	STY LID, C	ASING LID	AND LO	CK)?:	YES	NO	
INSIDE O	WELL HEA	AD AND C	OUTER CAS	SING DRY	?: YES	NO					
WELL CAS	ING OK?:	y € s)	NO								
COMMENTS										·	
					· · · · · · · · · · · · · · · · · · ·						
GENERAL: WEATHEI	R CONDITIO	ONS:	of cl	V							
	ATURE (SPE										
					SAMPLING?	NO					
cc: Proj Job	File:	jer:				<u>-</u>					

Groundwater	Purge a	and S	ampi	e Form		Date	:	14/0	<u>Z</u> .	Kenn	edy/Je	nks (Consultan
PROJECT NAME: _	Tac	on	a l	Meta	5	WELL	NUM	BER: _		MW-	19		
PROJECT NUMBER:						PERS	ONNE	.:					
STATIC WATER LE	VEL (FT):		8.4	46		MEAS	URIN	POIN	T)	DESCRIPTION	(:	00	
WATER LEVEL MEA	SUREMENT	METHOD	<u>S</u>	ohn, +		PURG	E ME	rhod:		Peris-	JA14-C		
TIME START PURG	E: <u>[0</u>	20				PURG	e dei	PTH (F	T)	=16	2		
TIME END PURGE:													
TIME SAMPLED: _	1150	2											
COMMENTS:													
WELL VOLUME CALCULATION (FILL IN	TOTAL D (FT)		- 1	OEPTH TO ATER (FT)	F	WATER UMN (F	τ)			JLTIPLIER F			ASING VOLUM
BEFORE PURGING)	26	79	-	8.46	- //	3,33	ر آگ	1	16	0.64	1.44	┪╸┝	2.93
TIME		104	† O	1100	(17	U	((40)	1145			
VOLUME PURGED (GAL)	2	-	4	6		Ć			8.5			
PURGE RATE (GPM)				-								
TEMPERATURE (°C)	11.1	5	11-20	11.7	27		79		11.82	_		
рН		5.8		5.93	5-9		<u> </u>	At		5.96			
SPECIFIC CONDUCTIVITY (m) (uncorrected)	l <u>cromhos</u>)	79	 .	765		151	\Box			710			
DISSOLVED OXYGE	(mg/L)	0.0	5	0.03	0.0	5 (0-	01		0.01			
eH(MV)Pt-AgC1 re	ef.	_135	1-5	-1549		6.4	-1	54,.	3	-164.6			
TURBIDITY/COLOR		cli	err										
ODOR		_	/			-		rangi Marana Kabina	**********				
DEPTH OF PURGE INTAKE (FT)		~ 12	2			THE TOTAL PROPERTY AND THE	SURWAY,						
DEPTH TO WATER (PURGE (FT)	DURING	9.3	9		7.4	13	9	145	<u> </u>	-			
NUMBER OF CASING VOLUMES REMOVED	ì		······································							=3			

DEWATERED?

Ground	water P	urge a	nd San	nple Fo		Date:	/ 2	4/0 8 Ken	nedy/Jen	ks Consultants				
					tals			:: <u>MW-</u> DKM						
SAMPLE D	ΔΤΔ.													
					C(OMMENTS:								
	SAMPLED (I	,	-		(
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS				
	7	A	ハ	\sim	7	cle	to	Υ	PAH					
	ZA (PAP)													
	\	A		Overholes and Manageria	.5	e project (project pr		A post of the property of the second of the	04	www.				
	3	VoA	HE	1	121/1	1	·	V	61					
PURGE WAT	TER DISPO	SAL NOTE	<u>:s:</u>	8.5	C(OMMENTS: _								
	AL METHOD ESIGNATIO		*		Mr. E	_								
					ES OR NO -	TE NO. AD	о сомм	FNTS):						
					STY LID, CA				NO					
	WELL HE					NO			,,,					
	ING OK?:	YES	NO			0								
COMMENTS			•											
CENERAL			2											
	R CONDITIO													
TEMPER/	ATURE (SPI	ECIFY °(C OR °F)	: <u>45</u>	<u> </u>					***************************************				
PROBLE	AS ENCOUN	TERED DI	JRING PU	RGING OR	SAMPLING?	$\Delta \theta$								
cc: Pro Job Otho	File:	ger:				-								

Groundwater	Purge a	and S	Samp	le Form		Date	3/6	100	Kenr	edy/Jo	enks	Consultants
PROJECT NAME: _ PROJECT NUMBER:		MA	M	p+15					MW- Dicm	2C	7	
STATIC WATER LE	VEL (FT):		8,	36		MEAS	URING	POINT	DESCRIPTIO	N:		
WATER LEVEL MEA	SUREMENT	метно	อ:	50/m3-	_	PURG	E METH	OD:				
TIME START PURG	e:9	45	<u> </u>			PURG	E DEPTI	H (FT)	~20			
TIME END PURGE:												
TIME SAMPLED: _	103	0										
COMMENTS:										-J.)S =	-
		•										
LETT WATER			T I			I		F			T	I
WELL VOLUME CALCULATION (FILL IN	TOTAL D			DEPTH TO WATER (FT)		WATER COLUMN (F	· 1		ULTIPLIER NG DIAMETE 4		_	CASING VOLUME (GAL)
PURGING)	29,5			8.36	#	5.15	T	0.16	0.64	1.44	-	3.39
T I M E VOLUME PURGED (GAL)		925		945		1005	1020		1025			
VOLUME PURGED (C	GAL)	4		6		4,		5	10			
PURGE RATE (GPM)		1			_		,	(/ 1/			
TEMPERATURE (°C))	13	1b	13.45	-	13-54	13.	5 ⁴	13.5b			
рН		,	116	7,17		7.10	7-		7-09			
SPECIFIC CONDUCTIVITY (m1 (uncorrected)	cromhos)	3'	160	4400		4744	48	28	18M			
DISSOLVED OXYGEN	(mg/L)	0 -	20	0-08		7.07	17.(71	0.07			
eH(MV)Pt-AgC1 re	of.	-7	7.5	-61.7	- -	54.5	-53	3.6	-53.4			
TURBIDITY/COLOR			ed									
ODOR			V		_					_		
DEPTH OF PURGE INTAKE (FT)		23	20						\supset			
DEPTH TO WATER D	URING	٥.	45				9.2	>4				
NUMBER OF CASING VOLUMES REMOVED			- '		_		1.0		=3			
DEWATERED?		\wedge	Ĵ	_								

Ground	water P	urge a	nd San	nple Fo	rm	Date:	_5/	<u>/</u>	nedy/Jenl	cs Consultar
PROJECT	NAME:	一亿	com	M	r-lelu			a: <u>Mw-</u>	2 0	
							ONNEL:			
			· · · · · · · · · · · · · · · · · · ·							
TIME S	AMPLED: _	/ -	<u> </u>		C(OMMENTS:	·····	WICE TO THE REST OF THE REST O		
DEPTH S	SAMPLED (I	FT): FNT: {	2003	KIA		*****	***************************************			
	NO. OF	CON-		FIELD	VOLUME			SHIPPED UNDER	ANALYSIS	
SAMPLE NO.	CONTAIN- ERS		PRESER- VATIVE	FILTRA- TION	FILLED	TURBIDITY	COLOR	CHAIN-OF-CUS- TODY AT 4°C?	REQUEST (METHOD)	COMMENTS
	2	A	N	N	20	Cle	cs	4	MK	
	Z	A	And the distribution of the sections		75	WELFAST RECEIVED AND THE PROPERTY OF THE PROPE		The state of the s	Const.	
	(valence)	1		Accommon to the share share the state of the share sha	1/2/	Parameter with the second seco		Section Associated and Associated an	04	
	3		Secondarios	Wasserson of the State of the S	(20 m)	V		1/	Gx	
PURGE WA	TER DISPO	SAL NOTE	s: //	7	C	DMMENTS:				
	AL METHOD					_				
	ESIGNATIO									
ELL HEAD	CONDITIO	ONS CHE	CKLIST (CIRCLE Y	ES OR NO -	IF NO, AD	D COMM	ENTS):		
ELL SEC	JRITY DEV	ICES OK	(BOLLARI	OS, CHRI	STY LID, C	ASING LID	AND LO	CK)?: XES	NO	
NSIDE OF	F WELL HEA	AD AND (OUTER CAS	SING DRY	?:	NO				
ELL CAS	ING OK?:	(YES)	NO							
COMMENTS								· · · · · · · · · · · · · · · · · · ·	······································	
							·		· · · · · · · · · · · · · · · · · · ·	
GENERAL: WEATHE	R CONDITION	ONS:	C/e							
TEMPER/	ATURE (SPI	ECIFY °(OR °F)	· 45	grapes.					
					SAMPLING?	1/4				
			·····							
	File:					_				

Date: 3/7/08 Kennedy/Jenks Consultants Groundwater Purge and Sample Form PROJECT NAME: TEETING Metals WELL NUMBER: MW-Z PERSONNEL: PROJECT NUMBER: STATIC WATER LEVEL (FT): _____ WATER LEVEL MEASUREMENT METHOD: ________ PURGE METHOD: (COIS ta) to C TIME START PURGE: 940 PURGE DEPTH (FT) TIME END PURGE: TIME SAMPLED: 100 COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN (FT) WATER (FT) COLUMN (FT) (GAL) BEFORE Χ 14.70 6-97 21.57 PURGING) 0.16 0.64 1.44 TIME 1040 1050 000 10201 1055 VOLUME PURGED (GAL) PURGE RATE (GPM) TEMPERATURE (°C) 3.02 1293 50-(1) 3.01 6.19 pН 6.18 SPECIFIC 454 CONDUCTIVITY (micromhos) 454 457 (uncorrected) DISSOLVED OXYGEN (mg/L) 0.04 0-05 10,0 10.01 eH(MV)Pt-AgCl ref. 20-1 759 TURBIDITY/COLOR Clear ODOR Med DEPTH OF PURGE INTAKE (FT) DEPTH TO WATER DURING PURGE (FT) 7.77

DEWATERED?

NUMBER OF CASING VOLUMES REMOVED

PROJECT NAME: Tecama Metal 1							3/1	100	Kennedy/Je	nks Consultants
					40/1				<u> </u>	
SAMPLE D	ATA:									
	SAMPLED (1					W-E-1211101				
	NG EQUIPM			4<14	<u> </u>					
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UN CHAIN-OF-C TODY AT 4	NDER ANALYSIS CUS- REQUEST (METHOD)	COMMENTS
	2	A	N	\sim	25	cle	56	Y	PAH	
	2	A	William and a second property and a second p		76	Siz de Webstell Webstell webst			PAH	
	the same of the sa	A	\bigvee	A CONTRACTOR OF THE CONTRACTOR	126				Dx	
	3	VOA	HCI	V	120m1	V		our d'approprie	Gx	
	TER DISPOS DISCHARGE AL METHOD	*			co	OMMENTS: _				
DRUM D	SIGNATION	1(S)/VOL	UME PER	(GAL):_						
					es or no –					
WELL SEC	JRITY DEV	ICES OK	(BOLLAR	DS, CHRI	STY LID, C	ASING LID	AND LO	CK)?: YI	ES NO	
INSIDE OF	WELL HEA	AD AND (OUTER CAS	SING DRY	?: YES	NO)				
WELL CAS	[NG OK?:	YES	[/] NO							
COMMENTS									·	
GENERAL: WEATHER	R CONDITIO	DNS: <u>/</u>	900 St	·1257						
TEMPER/	ATURE (SP	ECIFY °(OR °F)	: <u>S</u>	0					
					SAMPLING?	100				
	ject Manag File:	ger:								

Other: __

Date: 3/1/08 Kennedy/Jenks Consultants **Groundwater Purge and Sample Form** WELL NUMBER: MW-ZZ PROJECT NAME: Taroma MP to 5 PERSONNEL: DKM PROJECT NUMBER: ____ STATIC WATER LEVEL (FT): _______ MEASURING POINT DESCRIPTION: _______ PURGE METHOD: PP815-11-1-C WATER LEVEL MEASUREMENT METHOD: Splins PURGE DEPTH (FT) TIME START PURGE: \$ 90 TIME END PURGE: _____ TIME SAMPLED: 925 COMMENTS: WELL VOLUME MULTIPLIER FOR TOTAL DEPTH CALCULATION DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME WATER (FT) (FILL IN (FT) COLUMN (FT) (GAL) BEFORE Х 23.00 PURGING) 15,98 0.16 0.64 1.44 2.55 TIME 820 900 920 VOLUME PURGED (GAL) PURGE RATE (GPM) TEMPERATURE (°C) 13.59 13.66 13.80 13-19 13.79 рН 6-17 6.15 6.16 SPECIFIC 551 556 552 CONDUCTIVITY (micromhos) (uncorrected) cm 552 0.13 DISSOLVED OXYGEN (mg/L) 0.09 5-72 12-07 eH(MV)Pt-AgC1 ref. 16.5 11.0 11.2 13.5 TURBIDITY/COLOR Clear **ODOR** 100 =11 DEPTH OF PURGE INTAKE (FT) 7.07 DEPTH TO WATER DURING PURGE (FT)

DEWATERED?

NUMBER OF CASING VOLUMES REMOVED

7.06

Ground	water P	urge a	nd Sar	nple Fo	orm	Date:	3/7	/08 Ker	nedy/Jenl	cs Consultants
)=()			R: MW- DKM	5S	
CAMDLE D										
	SAMPLED (· · · · · · · · · · · · · · · · · · ·						
i	NG EQUIPM			Jalh C						
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	2	A	N	N	20	cle	75	Y	PAH	
	2	A	ALIA (W) MANAGEMENT	Market and the second	21	TERRORITOR ACTIONS AND ACTIONS		diseason beautiful and the season of the sea	(AH (diss)	
		A		Variante de la companya de la compan	1/2/	egy poysammer word spridd chares		Charles and the state of the st	Dx	
	3	VoP)	bonnes Portugai publicariona, quandissananon	V	150ms	V		The second secon	67	
PURGE WAT	TER DISPO	SAL NOTE	s: 5		C	OMMENTS: _				
DISPOS	AL METHOD	: _d	VWW!	ied		_				
DRUM DI	ES IGNATIO	N(S)/VOI	.UME PER	(GAL):_						
WELL HEAD	CONDITION CONDITION	ONS CHEC	CKLIST (CIRCLE Y	ES OR NO -	IF NO, AD	D COMM	ENTS):		
WELL SEC	URITY DEV	ICES OK	(BOLLAR	DS, CHRI	STY LID, CA	ASING LID	AND LO	CK)?: YES	NO	
INSIDE O	F WELL HE/	AD AND O	OUTER CA	SING DRY	?: AES	NO				
WELL CAS	ING OK?:	YES	NO							
COMMENTS	*									
<u>GENERAL</u> : WEATHEI	R CONDITION	ONS:	Clou	14		:				
TEMPER/	ATURE (SPI	ECIFY °C	OR °F)	: 45						
PROBLE	AS ENCOUN	TERED DI	JRING PU	RGING OR	SAMPLING?	No	··			
cc: Proj Job Otho	File:	ger:				<u>-</u>				

Date: 3/11/08 Kennedy/Jenks Consultants **Groundwater Purge and Sample Form** PROJECT NAME: Tacoma Metals WELL NUMBER: MW-Z3 PROJECT NUMBER: ____ STATIC WATER LEVEL (FT): /D. 78 MEASURING POINT DESCRIPTION: _______ WATER LEVEL MEASUREMENT METHOD: 50 ms 1 PURGE METHOD: PER 15 to 1/2-C TIME START PURGE: 915 PURGE DEPTH (FT) = 18 TIME END PURGE: TIME SAMPLED: 1100 COMMENTS: WELL VOLUME MULTIPLIER FOR TOTAL DEPTH CALCULATION DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN WATER (FT) (FT) COLUMN (FT) (GAL) BEFORE 31.30 3.36 10.28 21.07 PURGING) 0.16 0.64 1.44 TIME 1055 1015 1015 1050 VOLUME PURGED (GAL) 4 10 PURGE RATE (GPM) TEMPERATURE (°C) 13.78 13.84 -13-87 13-89 13-81 9.08 ph 1 cal 9,16 921 9.18 9-20 SPECIFIC 1969 1913 CONDUCTIVITY (micromhos) (uncorrected) cm 1924 1917 2049 DISSOLVED OXYGEN (mg/L) 0-16 0.34 14 0.15 0.68 87.3 eH(MV)Pt-AgC1 ref. 90.0 88.6 89.6 TURBIDITY/COLOR

DEWATERED?

ODOR

DEPTH OF PURGE

NUMBER OF CASING VOLUMES REMOVED

DEPTH TO WATER DURING PURGE (FT)

INTAKE (FT)

clew

Moder

(PP. O)

11.69

= 16

Ground	NAME: Tarma Metals WELL NUMBER: MU-Z						nedy/Je	nks Consultants						
l					tali		NUMBEI	R: MU DKM	1-23					
SAMDLED	ΔΤΔ.							7						
TIME S	AMPLED: _				C(DMMENTS: _								
DEPTH :	SAMPLED (FT):	- 18		1									
SAMPLI	NG EQUIPM	ENT:	, e , r	372)	<u> </u>									
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS				
	ZANNZL clear													
	2 A) / ZL													
	Addition	A		The Care of the Ca	16L									
	3 VIA HEI V 120MI													
PURGE WAT	TER DISPO	SAL NOTI	<u>ES:</u> /	D	c	OMMENTS: _								
DISPOS	AL METHOD	: <u>d</u>	rvMv	10 h										
DRUM DI	ESIGNATIO	N(S)/VOI	LUME PER	(GAL):_										
WELL HEA	D CONDITIO	ONS CHE	CKLIST (CIRCLE Y	es or no -	IF NO, AD	D COMM	ENTS):						
WELL SEC	URITY DEV	ICES OK	(BOLLARI	OS, CHRI	STY LID, CA	ASING LID	AND LO	CK)?: YES	NO					
INSIDE O	F WELL HEA	AD AND	OUTER CAS	SING DRY	?: YES) NO								
WELL CAS	ING OK?:	YES	МО											
COMMENTS	·													
GENERAL: WEATHE	R CONDITIO	ONS:	Clave	ly, 50 i	^									
TEMPER/	ATURE (SPI	ECIFY °	C OR °F)	45										
PROBLE	MS ENCOUN	TERED DI	URING PU	RGING OR	SAMPLING?	<u>NO</u>								
	ject Manag File:					<u>-</u>								

Date: 3/12/09 Kennedy/Jenks Consultants Groundwater Purge and Sample Form WELL NUMBER: MW-CY PERSONNEL: DKM PROJECT NAME: TROOMA MCtals PROJECT NUMBER: STATIC WATER LEVEL (FT): 7.47 MEASURING POINT DESCRIPTION: 705 PURGE METHOD: PRICALE WATER LEVEL MEASUREMENT METHOD: __________ナ TIME START PURGE: Q 0-0 PURGE DEPTH (FT) 217 TIME END PURGE: TIME SAMPLED: 1030 COMMENTS: WELL VOLUME MULTIPLIER FOR TOTAL DEPTH CALCULATION DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN WATER (FT) (FT) COLUMN (FT) (GAL) BEFORE 25.04 17.5 PURGING) 0.16 0.64 1.44 TIME 470 950 1025 1000 10201 VOLUME PURGED (GAL) PURGE RATE (GPM) TEMPERATURE (°C) 17.51 13.14 13.17 13-20 15.21 pH bod prote? NA N/A NA **SPECIFIC** 1213 1159 1231 CONDUCTIVITY (micromhos) 1881 1251 (uncorrected) DISSOLVED OXYGEN (mg/L) 0.49 0.13 D.13 0.15 eH(MV)Pt-AgCl ref. 3445 346.C 369.8 372.1 345.5 S CV) TURBIDITY/COLOR **ODOR** Slight DEPTH OF PURGE INTAKE (FT)

7,48

7.49

ζ

DEWATERED?

DEPTH TO WATER DURING PURGE (FT)

NUMBER OF CASING

VOLUMES REMOVED

Ground	ROJECT NAME: Town Metals WELL NUMBER: MW-Z4									
	NAME:					WELL PERS	NUMBER	MW- DKM	-24	
SAMPLE D	ATA: AMPLED:	(D	3 O		cc	MMENTS: _				
DEPTH	SAMPLED (FT):	-12			-				
SAMPLI	NG EQUIPM	ENT:	261/7	414	(
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	2	A	1)	<i>\(\nabla\)</i>	21	cle	ar	>	PAX	
	2	A	Glowel or Called the second to the page of	ANGERIA PARTE I I ATTEST	21	_C eres of Parish (17) is expensed on		ggggggapter de l'est de la constitución de l'est	PAH	
	Villanov	A	No. of the second secon	headh e mean e childe e e	70	v (L)berdjjoner/Kinnspirkum		Limbor the same and the same	0x	
	3		40	y man transport of the state of	700	Section 1.		1	(FX	
DISPOS	AL METHOD:	:	<u>)rvm</u>	med	co	_				
					ES OR NO - STY LID, CA				NO	
INSIDE O	F WELL HEA	AD AND C	OUTER CAS	SING DRY	?: / 158	NO				
	ING OK?:		NO							
							`			
GENERAL: WEATHE	R CONDITIO	DNS:	Clov	91						
TEMPERA	ATURE (SPE	CIFY °C	OR °F)	43						
PROBLE	MS ENCOUNT	TERED DU	JRING PU	RGING OR	SAMPLING?	<u> </u>				
cc: Pro Job Oth	File:	jer:				-				

Date: 3/12/0% Kennedy/Jenks Consultants **Groundwater Purge and Sample Form** PROJECT NAME: Tacoma Metals WELL NUMBER: MW-25 PROJECT NUMBER: PERSONNEL: MEASURING POINT DESCRIPTION: TO C PURGE METHOD: PORTS telto WATER LEVEL MEASUREMENT METHOD: Solins PURGE DEPTH (FT) _= 17 TIME START PURGE: 1240 TIME END PURGE: TIME SAMPLED: _____ COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN (FT) WATER (FT) COLUMN (FT) (GAL) BEFORE 17.45 26.14 PURGING) 8.69 0.16 0.64 1.44 TIME 1350 330 1355 1300 1320 VOLUME PURGED (GAL) PURGE RATE (GPM) 13.25 TEMPERATURE (°C) 13.53 13.46 13.50 13.45 рΗ NA NA NA AN NA SPECIFIC 759 B743 CONDUCTIVITY (micromhos) 675 764 りょて (uncorrected) DISSOLVED OXYGEN (mg/L) 0.03 0.01 0.01 50.0 12-01 eH(MV)Pt-AgC1 ref 361.2 31518 363.M \$ 27.3 7147 CAI & TURBIDITY/COLOR Cleer ODOR DEPTH OF PURGE 51= INTAKE (FT) DEPTH TO WATER DURING PURGE (FT) 4.81

DEWATERED?

NUMBER OF CASING VOLUMES REMOVED

Ground	urge a	nd San	nple Fo	rm	Date:	3/1	Vod Ker	nedy/Jenl	ks Consultant	
					c\5	WELL PERSO	NUMBEF	: MW- DKN	-25	
SAMPLE D	ATA: AMPLED:	14	00		c	MMENTS:				
DEPTH :	SAMPLED (T):	17							
SAMPLI	NG EQUIPME	ENT: <u>(</u>	3000	tel tel	<u> </u>					
SAMPLE NO.	NO. OF CONTAIN- ERS		PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	2	A	Ŋ	N	20	clea	(V	PAH	
	2	A	elitika iz elektrik belanderekene	"Bod Nidero a my a	20				PAH	
	**************************************	Austra		Terbilled halfer a raffin fra dimen	50				©×	
	5	VIA	eggelen Kasas Kasas Kasas Kasas Kasas	The second secon	1 m 051	<i>Y</i>		<u> </u>	G+	
	TER DISPOS DISCHARGE AL METHOD			(C(DMMENTS: _				
DRUM DI	ESIGNATIO	1(S)/VOI	UME PER	(GAL):_						
WELL HEA	CONDITIO	ONS CHE	KLIST (CIRCLE Y	es or no -	IF NO, AD	о сомм	ENTS):		
WELL SEC	JRITY DEVI	CES OK	(BOLLAR	OS, CHRI	STY LID, CA	ASING LID	AND LO	CK)?: YES) NO	
INSIDE O	F WELL HEA	AD AND	OUTER CAS	SING DRY	?: (YES)	NO				
WELL CAS	ING OK?:	YES	NO		_					
COMMENTS								·		
GENERAL: WEATHEI	R CONDITIO	DNS:	Clau	dy						
TEMPER/	ATURE (SPE	CIFY °	OR °F)	45	5					
PROBLE	AS ENCOUN	TERED DI	JRING PUI	RGING OR	SAMPLING?	N_{0}				
cc: Proj Job	File:	jer:								

Date: 3/11/08

PROJECT NAME: _	TECA	<u> </u>	M	etals	WELL	NUMBEI	R:/	nw-i	26		
PROJECT NUMBER:					PERS	ONNEL:					
			_					DESCRIPTION	N:	つこ	
				Tearing		E METH		0-1.			
TIME START PURG	ME SAMPLED: 255 MENTS: MENTS: MENTS: MELL VOLUME CALCULATION (FILL IN (FT) BEFORE PURGING) T I M E UME PURGED (GAL) GE RATE (GPM) PERATURE (°C)				PURG	E DEPTI	H (FT)	215			
TIME END PURGE:											
TIME SAMPLED: _	165	<u>S</u>	· · · <u>-</u> · · · · ·						•		
COMMENTS:	· · · · · · · · · · · · · · · · · · ·		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								
		· · ·								***	
WELL VOLUME CALCULATION (FILL IN	I .		1 1	DEPTH TO	WATER COLUMN (F	т)	1	JLTIPLIER (C.	ASING VOLUM (GAL)
BEFORE PURGING)	27.9	67	┨╻┝┉	9.61	18.23	— x	0.16	0.64	1.44	.	2.91
TIME		()	50	1220	1240	5)	45	1250			
VOLUME PURGED (GAL)		3	6	8	8.	5	9			
PURGE RATE (GPM)		1198*								<u> </u>
TEMPERATURE (°C)	13	s - 4h	13.58	13-91	(3-	86	13.86			
рH		6.	10	6-30	· 	6-		6.38			
SPECIFIC CONDUCTIVITY (m' (uncorrected)	icromhos) cm	8	27	867	820	8	7)	558			
DISSOLVED OXYGE	N (mg/L)	0	.15	0.0%	0-04	0.0	07	0.02			
eH(MV)Pt-AgC1 re	ef.	15	,7.5	158.3	161.8	160	.	7.501			
TURBIDITY/COLOR		<1	BIL	game of the later		of the second second second second second second second second second second second second second second second	to the second second second second second second second second second second second second second second second				
ODOR	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		J			***************************************					
DEPTH OF PURGE INTAKE (FT)		0	15								
DEPTH TO WATER (PURGE (FT)	DURING	lo-	.31			10.	52				`
NUMBER OF CASING VOLUMES REMOVED	3							- 3			
DEWATERED?		/	V								

Ground	water P	urge a	nd Sar	nple Fo	rm	Date:	3/11	<u>/08</u> Ker	nedy/Jer	iks Consultants
	NAME:				18/2	WELL PERSO	NUMBER	MW- DKN	26 n	
I IML J		\	215			ON				
SAMPLI	SAMPLED (1	-1): ENT: <u> </u>	2/75	HIX	San					
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	21	Cle	or	Y	PAH	
	7	1	in the second se	Principal Science (Advisory Company)	21	William Annual Value Annual Val		and the same of th	(A) H	
		A	V	Officeronal property and high party of the state of the s	1/26	en en en en en en en en en en en en en e		edaji "A Çilar di Çilar e konsuma.		
	3	V	Less Less Less Less	- Commence	130m1				6+	
1	TER DISPO DISCHARGE	1		1	C	OMMENTS: _				
	AL METHOD ESIGNATION									
<u> </u>					ES OR NO -	IF NO. AD	D COMM	ENTS):		
					STY LID, C			<u> </u>	NO	
INSIDE O	F WELL HEA	AD AND (OUTER CA	SING DRY	?: (YE8	NO				
WELL CAS	ING OK?:	YES	NO							
COMMENTS	*						· · · · · · · · · · · · · · · · · · ·	<u> </u>		
-	······································									
GENERAL: WEATHE	R CONDITIO	ONS:	Clo-	9-4		:				
TEMPER.	ATURE (SPE	ECIFY °C	OR °F)	: <u>45</u>						
PROBLE	MS ENCOUN	TERED DI	JRING PU	RGING OR	SAMPLING?	<u> </u>				
	File:									

Groundwater Purge and Sample Form Date: 3/12/08 Kennedy/Jenks Consultants PROJECT NAME: Tocoma Metall WELL NUMBER: MW-27 PERSONNEL: DKM PROJECT NUMBER: MEASURING POINT DESCRIPTION: WATER LEVEL MEASUREMENT METHOD: _______ PURGE METHOD: Perstelte PURGE DEPTH (FT) TIME START PURGE: 1045 TIME END PURGE: TIME SAMPLED: 1220 COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN (FT) WATER (FT) COLUMN (FT) (GAL) BEFORE X Z.87 PURGING) 0.16 0.64 1.44 TIME 1105 1145 1205 1212 1175 VOLUME PURGED (GAL) PURGE RATE (GPM) TEMPERATURE (°C) 13.41 13.50 13.39 13.77 13.51 c=17 pН 4.06 1-84 2.89 SPECIFIC CONDUCTIVITY (micromhos) (uncorrected) cm WI 880 877 281 DISSOLVED OXYGEN (mg/L) 0.57 0.07 50.0 5110 0-00 eH(MV)Pt-AgC1 ref. このりつ 114.3 1913 193-7 158.6 1795 TURBIDITY/COLOR Clear ODOR V. gw DEPTH OF PURGE = 14 INTAKE (FT) DEPTH TO WATER DURING PURGE (FT) 8.14 506

DEWATERED?

NUMBER OF CASING VOLUMES REMOVED

PROJECT I	NAME:	100	ws/	Metal)			2: MW-2	2				
PROJECT	NUMBER:					PERSO	NNEL:	DKM					
SAMPLE D	ATA: AMPLED:	[2]	20										
DEPTH :	SAMPLED (I	FT): <u>~~</u>	14										
SAMPLI	NG EQUIPM	ent: <u>(</u>	<u> </u>	414	<u>. C</u>	<u> </u>							
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS			
	2	A	N	\mathcal{N}	15	c)	s	V	PAH				
	2	A	والانتشاف 400 شدا الرابط وأندونها	The American Security	75	Security of Parties and Parties		C 200 CO CO CO CO CO CO CO CO CO CO CO CO CO	PAH				
	979 (Billion by Street Control	A	Common assessment	ega mining kiri ga mang kiri ga m	Fel	Sienaciana		***************************************	0×				
	3 VOD HEI V 170mg V GX												
DISPOSA	AL METHOD	: <u>Dr</u>	ving?	<u> </u>	co								
WELL HEAD	CONDITIO	ONS CHEC	CKLIST (CIRCLE Y	ES OR NO -	IF NO, ADI	COMM	ENTS):					
WELL SEC	JRITY DEV	CES OK	(BOLLAR	OS, CHRI	STY LID, C	ASING LID /	AND LO	CK)?: YES	NO				
INSIDE O	WELL HEA	AD AND (OUTER CAS	SING DRY	?: YES	NO		~					
WELL CAS	ING OK?:	()yEs	МО										
COMMENTS						······································							
GENERAL: WEATHEI	R CONDITIO	ONS:	Clare	1/									
	ATURE (SPI			14 6	ror-								
PROBLE	AS ENCOUN	rered di	URING PU	RGING OR	SAMPLING?	10)	· · · · · · · · · · · · · · · · · · ·					
cc: Proj Job Otho	File:	ger:				<u>-</u>							

Date: 3/12/08

Groundwater Purge and Sample Form

Date: 3/13/6 Kennedy/Jenks Consultants **Groundwater Purge and Sample Form** WELL NUMBER: MW-25 (R PROJECT NAME: TECCIMA Metals PERSONNEL: PROJECT NUMBER: MEASURING POINT DESCRIPTION: TOC STATIC WATER LEVEL (FT): WATER LEVEL MEASUREMENT METHOD: (50) (50)PURGE METHOD: PERSON TAIL TO PURGE DEPTH (FT) TIME START PURGE: 1030 TIME END PURGE: TIME SAMPLED: COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN WATER (FT) (FT) COLUMN (FT) (GAL) BEFORE Χ 23,94 Z.68 16,75 PURGING) 0.16 0.64 1.44 TIME 1050 1110 ()30 1145 VOLUME PURGED (GAL) PURGE RATE (GPM) TEMPERATURE (°C) 13.24 75-[] 13.25 13.18 pН 3.62 CELL SP.S 5.86 5.64 2-87 SPECIFIC 152 493 B496 CONDUCTIVITY (micromhos) (uncorrected) cm 491 491 DISSOLVED OXYGEN (mg/L) 500 001 10.0 0.01 50.0 eH(MV)Pt-AgC1 ref. 1,805 7.00.3 284.51 7-875 258.3 TURBIDITY/COLOR Cleur arid-Strong ODOR DEPTH OF PURGE 212 INTAKE (FT) DEPTH TO WATER DURING PURGE (FT)

DEWATERED?

NUMBER OF CASING

N

VOLUMES REMOVED

= 3

Ground	water P	urge a	nd San	nple Fo	orm	Date:	3/3	08 Ken	nedy/Jen	ks Consultants
	NAME:							mw. DKM		united the state of the state o
SAMPLE D	ATA:									
				,,, , , , , , , , , , , , , , , , , ,	co	MMENTS:				
DEPTH :	SAMPLED (i	FT):	<u> 16</u>							
SAMPLI	NG EQUIPM	ENT: <u>f</u>	ens	t lat.						
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	2	A	N	N	21	cle	20	4	PAH	
	2	A	elemiji elementekan kirakira kari	**************************************	21	And the second section of the second		Para (O p. H. Cilmana Marina) de la para	MAG	
		A	Santanas en en en en en en en en en en en en en	SHE PYCHNOLOUGHANDOLDA	15/	op		and the second s	O×	
	3	VOP	delinen. Rodaj delajoja-ere degistarion.	Annear services	120m1	V		4	Gx	
	TER DISPOS DISCHARGE AL METHOD			ì	C0	OMMENTS: _		4		
	AL METHOD: ESIGNATION						26			
WELL HEAD	CONDITIO	NS CHEC	KLIST (CIRCLE Y	es or no –	IF NO, AD	COMM	ENTS):		
WELL SEC	JRITY DEVI	CES OK	(BOLLARI	OS, CHRI	STY LID, C	ASING LID	AND LO	CK)?: YES	NO	
INSIDE OF	F WELL HEA	AD AND C	OUTER CAS	SING DRY	?: (YES	NO				
WELL CAS	ING OK?:	(YES)	NO							
COMMENTS										
					· · · · · · · · · · · · · · · · · · ·					
GENERAL: WEATHER	R CONDITIO	ONS:	Rair	`						
TEMPER/	ATURE (SPE	CIFY °C	OR °F):	4	5					
			•		SAMPLING?					
cc: Proj Job Othe	File:	jer:				-				

Date: 3/11/08 Kennedy/Jenks Consultants Groundwater Purge and Sample Form WELL NUMBER: NW-29 PROJECT NAME: Tacoma Metals PROJECT NUMBER: PERSONNEL: STATIC WATER LEVEL (FT): MEASURING POINT DESCRIPTION: WATER LEVEL MEASUREMENT METHOD: Solins PURGE METHOD: Peristation PURGE DEPTH (FT) 220 TIME START PURGE: 1330 TIME END PURGE: TIME SAMPLED: 1520 COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN (FT) WATER (FT) COLUMN (FT) (GAL) BEFORE X 31.74 21.68 PURGING) 10-0 h 0.16 0.64 1.44 TIME 1430 1450 1410 **VOLUME PURGED (GAL)** U PURGE RATE (GPM) TEMPERATURE (°C) 13.70 14.00 14.12 3.78 1475 рΗ 6.96 6.81 6.39 6.9 D **SPECIFIC** 1253 CONDUCTIVITY (micromhos) (uncorrected) cm 1241 1545 1241 1248 DISSOLVED OXYGEN (mg/L) 0-01 0-02 0.01 0-01 1).11 eH(MV)Pt-AgC1 ref. 130 n 128-1 134-1 1308 TURBIDITY/COLOR Clew ODOR DEPTH OF PURGE > Z() INTAKE (FT) DEPTH TO WATER DURING 10.39 PURGE (FT) NUMBER OF CASING **VOLUMES REMOVED**

DEWATERED?

4/2/16

Ground	water P	urge a	nd San	nple Fo	rm	Date:	3/11	₽% Ken	nedy/Jenl	ks Consultant:
PROJECT	NAME:	T 40	000	Me	tali	WELL	NUMBER	R: MW	-29	
SAMPLE D	ATA: AMPLED:	1.5	0 5 Z		CC	MMENTS:				
	SAMPLED (
SAMPLI	NG EQUIPME	ENT:	Perns	414	· C	_				
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER	PRESER- VATIVE	FIELD	VOLUME FILLED	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2		N	Ň	7	cle	~~	¥	PAK	
	2	A	energy (sell growing cross constants	Monte control and control control	20	engels and challeng A. Le smill to the Person		(Major Boundarilly to the production of the state of the	(AH (A-33)	
	_{Д. П} ревором на с ¹³⁵	A	The second secon	**************************************	Oliva-C	edzojanovielosta zaspycznej sa pod		Pro-Bird Brownia dan Kriston	Ox	
	3	Control of the Contro	La Company of the Com		IMM	***************************************		Comments of the Comments of th	GK	
DISPOSA	TER DISPOS DISCHARGE AL METHODS ESIGNATION	(GAL):	(D >vn w1{	0	co	DMMENTS: _				
					ES OR NO -			ENTS): CK)?: YES	NO	
INSIDE O	WELL HEA	ND AND (OUTER CAS	SING DRY	?: YES	NO				
WELL CAS	ING OK?:	YES	NO NO							
COMMENTS										
	R CONDITIO									
TEMPERA	ATURE (SPE	CIFY °(OR °F)	· _ 4/	<u> </u>					
PROBLE	AS ENCOUNT	TERED DU	JRING PUI	RGING OR	SAMPLING?	<u> </u>				
cc: Proj Job Otho	File:	jer:								

Date: <u>3/7/0%</u> Kennedy/Jenks Consultants Groundwater Purge and Sample Form WELL NUMBER: __MW-3 O PROJECT NAME: Tacoma Metals PROJECT NUMBER: _ PERSONNEL: STATIC WATER LEVEL (FT): 5.61 MEASURING POINT DESCRIPTION: PURGE METHOD: Perstallic WATER LEVEL MEASUREMENT METHOD: __________ PURGE DEPTH (FT) = 22 TIME START PURGE: 1130 TIME END PURGE: TIME SAMPLED: 1415 COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN (FT) WATER (FT) COLUMN (FT) (GAL) BEFORE Х 40.60 8.61 PURGING) 0.16 0.64 1.44 TIME 330 1400 1410 1250 1210 VOLUME PURGED (GAL) PURGE RATE (GPM) 14.03 TEMPERATURE (°C) 14,06 14-04 13.87 17.98 рH 6-41 6.41 SPECIFIC 1014 1066 CONDUCTIVITY (micromhos) (uncorrected) cm 1235 1015 DISSOLVED OXYGEN (mg/L) 50.0 0.01 10.0V J.DI 40.6 eH(MV)Pt-AgC1 ref. 10Z 48.5 485 TURBIDITY/COLOR ODOR DEPTH OF PURGE INTAKE (FT) DEPTH TO WATER DURING PURGE (FT)

DEWATERED?

NUMBER OF CASING VOLUMES REMOVED

37

Ground	water P	urge a	nd Sar	nple Fo	rm	Date:	5/7,	<u>/ᢧ</u> ⊗ Ken	nedy/Je	nks Consultants
					17els			: MW- DKM		
CAMDIED	A T A .				······································					
	SAMPLED (I					AWILKID				
	SAMPLED (1			1211	C			4		
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	~	1	70	rle	UC	Ų	PAH	
	7	A	Apparatus (ampire de de l'infrason de l'infr	الانكنازة المستمومة المالية	71	White the standing of the stan		apparen indicato de porta estado	PAH Vist	
	Billion and and an and an an an an an an an an an an an an an	A	www.coasim	i de de la companya d	Vel.	e para e		And the state of t	Dx	
	3	VOA	Beautifur Beautifur Longitur Longitur Water Martin	\downarrow	120 m l				EX	
DISPOS	TER DISPOS DISCHARGE AL METHOD ESIGNATION	<u> d</u>	VY/IW	100	C	DMMENTS: _				
					ES OR NO -	TE NO ADI	n comm	FNTS).		
					STY LID, C				МО	
INSIDE O	F WELL HEA	AD AND	OUTER CA	SING DRY	?: YES	(NO)				
WELL CAS	ING OK?:	YES	NO							
COMMENTS	;						· · · · · · · · · · · · · · · · · · ·			
GENERAL: WEATHE	R CONDITIO	ONS:	PIRE	CG)		:				
TEMPER.	ATURE (SP	ECIFY °	C OR °F)	:	0	· · · · · · · · · · · · · · · · · · ·	 .			
PROBLE	MS ENCOUN	TERED DI	JRING PU	RGING OR	SAMPLING?	1)	<u> </u>	· · · · · · · · · · · · · · · · · · ·		
cc: Pro Job Oth	File:	ger:				<u>-</u>				

Date: 3/13/03 Kennedy/Jenks Consultants Groundwater Purge and Sample Form PROJECT NAME: TELDING MC+als WELL NUMBER: MW-31 PERSONNEL: DKM PROJECT NUMBER: STATIC WATER LEVEL (FT): _________ MEASURING POINT DESCRIPTION: TO C WATER LEVEL MEASUREMENT METHOD: 50 11 2 + PURGE METHOD: Peristalte PURGE DEPTH (FT) TIME END PURGE: TIME SAMPLED: 950 / 1000 (0 0) COMMENTS: Dup MW-100 Collected Here WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN COLUMN (FT) (FT) WATER (FT) 2 6 (GAL) BEFORE 32.47 4.25 26.57 5.90 PURGING) 0.16 0.64 1.44 TIME 855 915 935 945 815 **VOLUME PURGED (GAL)** PURGE RATE (GPM) 13 12 TEMPERATURE (°C) 3.21 925 13.17 13.26 13.25 \$6.23 рΗ 7.36 6-27 6.02 6.24 SPECIFIC 1160 1136 CONDUCTIVITY (micromhos) 1171 (uncorrected) DISSOLVED OXYGEN (mg/L) 0.03 D.07 0.04 12.01 eH(MV)Pt-AgC1 ref. 9.542 245.8 245.4 746 P.855 TURBIDITY/COLOR -leco ODOR mrd /w DEPTH OF PURGE 150 INTAKE (FT) DEPTH TO WATER DURING PURGE (FT)

6.71

DEWATERED?

NUMBER OF CASING **VOLUMES REMOVED**

Ground	water P	urge a	nd Sar	nple Fo	rm	Date:	3/13	108 Ker	nedy/Je	nks Consultants
					tals			R: MW		
***							D.	p MW-1	00 Co	1 lected
DEPTH :	SAMPLED (I	T):	Per-	レブリ	<u> </u>					
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR		ANALYSIS REQUEST (METHOD)	COMMENTS
	4	A	N	N	46	cle	OST	V	PAH	
	4	A			46	and the state of t			PAH (diss)	
	7	A	- Average of the second		16	** 6.5Nuse; page 1970 M************************************			Dx	
	ર્ષ	NOV	Hes		ZYDMI	₩ ¥			GX	
	TER DISPO DISCHARGE AL METHOD	_			Co	DMMENTS: _				
DRUM DI	ES IGNATIO	(S)/VOI	LUME PER	(GAL):_						
WELL HEAT	CONDITION CONDITION	ONS CHE	CKLIST (CIRCLE Y	ES OR NO -	IF NO, AD	D COMM	ENTS):		
					STY LID, C	<i>a</i> ~	AND LO	CK)?: (E)	NO	
	F WELL HEA	سيجيد	OUTER CA	SING DRY	?: YES	(NO)				
}	ING OK?:	V								
	-									
GENERAL: WEATHER	R CONDITIO	ons:	2ain							
1	ATURE (SPI			: 45	5					
					SAMPLING?	NO		orranina sa marana di mana di m	·	
	ject Manaq File:					-				

Other: ____

Date: 3/12/08

PROJECT NAME: _	To	Com	<u>~ ,</u>	Metal	S WELL	NUMBE	R:	NW	-3(<u> </u>	
PROJECT NUMBER:					PERS	DNNEL:	$\overline{\mathcal{D}}$	KM			
STATIC WATER LE								DESCRIPTION) C	
WATER LEVEL MEA				olinst				erstal			
TIME START PURG	E: 143	<u> </u>			PURG	E DEPTI	H (FT)	212			
TIME END PURGE:											
TIME SAMPLED: _	1600	2									
COMMENTS:											
****							·				
WELL VOLUME CALCULATION (FILL IN	TOTAL D	1		DEPTH TO ATER (FT)	WATER COLUMN (F	T)		ULTIPLIER F NG DIAMETER 4		C.A	ASING VOLUME (GAL)
BEFORE PURGING)	24.			5.76	- 17,70	₹ X	0.16	0.64	1.44	-	2.83
TIME		145	<u> </u>	1510	1530	\<	i 50	1355			
VOLUME PURGED (C	GAL)	2		4	6		50	8.5			
PURGE RATE (GPM)							U	- 0 .)	_		
TEMPERATURE (°C))	13.8		14.01	13-98	14.	OV	13.59	:		
pH		1)1		NA	NA	·)A	NA			
SPECIFIC CONDUCTIVITY (mi (uncorrected)	cromhos)		,	861	861	8	58	18			
DISSOLVED OXYGEN	(mg/L)	6.5\		0.01	201	0-0) (0-01		`	
eH(MV)Pt-AgC1 re	of. γ.	326	-	3 286	332-6		2.6	328.4			
TURBIDITY/COLOR		Ne	W					CALL COLOR DE COLOR D			
ODOR		\sim		_ market the same of the same				and the second second			
DEPTH OF PURGE INTAKE (FT)		<u> </u>		**Comment of the Comment of the Comm		S-STREET STREET	r Search Salv to the Link beautiful for the			*****	
DEPTH TO WATER D PURGE (FT)	URING	,		6.91							
NUMBER DF CASING VOLUMES REMOVED								<u>^</u> 3			
DEWATERED?		$ \wedge $									

Ground	water P	urge a	nd San	nple Fo	rm	Date:	3/1	108 Ke	nnedy/Jenl	cs Consultant
					Acls			R: <u>MN</u> DKM		
PROJECT	NUMBER:					PERS	JUNET:			
SAMPLE DA	<u>ATA</u> : AMPLED:	160	50		co	OMMENTS:				
DEPTH S	SAMPLED (I	FT): ENT:(2005	111	\ C					
SAMPLE NO.	NO. OF CONTAIN- ERS	CON-		FIELD FILTRA- TION	VOLUME FILLED (ml or L)	1	1	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	Z	A	<i>N</i>	2	25	Cle	01	7	PAH	
	2	A		**************************************	75				PAH	
		A	1	and the second s	1/26	The state of the s			D×	
	3	VOA	Hrg	-	170 m l	1		J	G×	
DISPOSA	TER DISPO DISCHARGE AL METHOD ESIGNATIO	: <u>D</u>	r yww	ned	co	OMMENTS: _				
					ES OD NO	TE NO AD	COMM	ENTS).		
		•			ES OR NO -					
INSIDE O	F WELL HEA	AD AND	OUTER CAS		STY LID, CA	NO NO	AND LO	CK)?: YES	NO	
	ING OK?:		NO			****				
					:					
GENERAL: WEATHEI	R CONDITIO	ONS:	Clou	dy						
	ATURE (SP		•		>					
					SAMPLING?	NO				
cc: Pro Job Oth	File:	ger:				<u>-</u>				

Date: 3/13/6% **Groundwater Purge and Sample Form** Kennedy/Jenks Consultants PROJECT NAME: TARONG Metals WELL NUMBER: MW-33 PERSONNEL: DKW PROJECT NUMBER: STATIC WATER LEVEL (FT): _____6.41 MEASURING POINT DESCRIPTION: _______ WATER LEVEL MEASUREMENT METHOD: _______ PURGE METHOD: Perstalto TIME START PURGE: 1215 PURGE DEPTH (FT) 217 TIME END PURGE: TIME SAMPLED: 1350 COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN (FT) WATER (FT) COLUMN (FT) (GAL) BEFORE Χ 24.5 6.41 8.00 PURGING) 0.64 0.16 1.44 TIME 1235 1255 1335 1315 1345 VOLUME PURGED (GAL) Z 5 PURGE RATE (GPM) TEMPERATURE (°C) 1379 13.78 13-82 13.W 13.71 pН Cc 7. 4.25 4.93 SPECIFIC 709 1416 PU 8 733 CONDUCTIVITY (micromhos) (uncorrected) cm 746 10.01 DISSOLVED OXYGEN (mg/L) V.01 0.01 0-111 17-01 eH(MV)Pt-AgC1 ref. 236.0 235.5 2673 750.3 290.0 TURBIDITY/COLOR cleur ODOR DEPTH OF PURGE 5/< INTAKE (FT) DEPTH TO WATER DURING

6.46

6.44

PURGE (FT)

DEWATERED?

NUMBER OF CASING VOLUMES REMOVED

Ground	water P	urge a	nd San	nple Fo	rm	Date:	7/15	<u>/0 % </u>	nedy/Jen	iks Consultants
PROJECT I	NAME:	10	omo	M	etali	WELL PERSO	NUMBER	OKM	-33	
SAMPLE DA	AMPLED: _		350)	co	DMMENTS:				
DEPTH :	SAMPLED (I	T):	212	-		_				
SAMPLI	NG EQUIPME	ENT: <u> </u>	P1 / 2	7×17	<u> </u>					
SAMPLE NO.	NO. OF CONTAIN- ERS		PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?		COMMENTS
	2	A	N	N	71	clea	70	?	PAH	
	2	A	миния муниция в	** Management and the state of	26	And the second section of the section of the sectio		Militari Eddinalis Prosporazione	(gize) BAH	
		A	Carrenance	A Comment of the Park of the Comment	le C	White Public of the processing to the public of the public		Stead of the control	DX	
	3	(Juki	Managar Managar Seringgaran Anggarahan	The second secon	Pom	J.		V	GX	
DISPOSA	TER DISPOS DISCHARGE AL METHOD	der	MMOC	1.						
WELL HEAD	CONDITIO	ONS CHEC	CKLIST (IRCLE Y	ES OR NO -	IF NO, AD		~	NO	
	F WELL HE/		OUTER CAS	SING DRY	?: (YES)	МО				
WELL CAS	ING OK?:	(YES)	NO							
COMMENTS										
GENERAL: WEATHER	R CONDITIO	ONS:	Pan			:				
TEMPERA	ATURE (SPE	ECIFY °C	OR °F)	50						
PROBLEM	AS ENCOUN"	rered di	JRING PUI	RGING OR	SAMPLING?	<u>NO</u>				
cc: Proj Job Othe	File:	ger:				-				

Date: 3/13/6% Kennedy/Jenks Consultants Groundwater Purge and Sample Form PROJECT NAME: Tacoms Metals WELL NUMBER: MW-34 PERSONNEL: DKM PROJECT NUMBER: MEASURING POINT DESCRIPTION: TOC STATIC WATER LEVEL (FT): PURGE METHOD: Perstaltic WATER LEVEL MEASUREMENT METHOD: __Solins+ TIME START PURGE: 1420 PURGE DEPTH (FT) 213 TIME END PURGE: 4 TIME SAMPLED: 1600 COMMENTS: WELL VOLUME MULTIPLIER FOR CALCULATION TOTAL DEPTH DEPTH TO WATER CASING DIAMETER (IN) CASING VOLUME (FILL IN (FT) WATER (FT) COLUMN (FT) (GAL) BEFORE 25.5 5,00 PURGING) 18,75 0.16 0.64 1.44 TIME 1440 1550 1500 1520 VOLUME PURGED (GAL) PURGE RATE (GPM) (426 TEMPERATURE (°C) 14.35 14.29 14.78 рΗ 7.57 7.10 SPECIFIC 1044 100 8 CONDUCTIVITY (micromhos) (uncorrected) cm 1046 1/207 1061 DISSOLVED OXYGEN (mg/L) 6.01 19.0 ().01 0.01 10.0 eH(MV)Pt-AgC1 ref. 238.8 739.3 1.175 740.0 TURBIDITY/COLOR clear ODOR DEPTH OF PURGE 513 INTAKE (FT) DEPTH TO WATER DURING PURGE (FT)

692

DEWATERED?

NUMBER OF CASING VOLUMES REMOVED

PROJECT	ROJECT NUMBER:												
							NNEL:	DKM					
CAMPLE D	ATA.												
1	SAMPLED (I	-											
	NG EQUIPME			klh									
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER TYPE	PRESER- VATIVE	FIELD FILTRA- TION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS			
	Z	A	N	1	21	clea	:6	7	PAH				
	120 D D D D D D D D D D D D D D D D D D D												
) A 1 1/2 () Dx												
	3 VOA HC1 V 120m1 V GX												
DISPOSA	AL METHOD:	<u>d</u>	VWW	164	cc	••••							
WELL HEAI	D CONDITIO	ONS CHE	CKLIST (CIRCLE Y	ES OR NO -	IF NO, ADD							
	URITY DEVI				عتتسر	ASING LID #	AND LO	CK)?: YES	NO				
	ING OK?:		NO										
COMMENTS													
			······································			- Victoria de la constanta de la constanta de							
GENERAL: WEATHER	R CONDITIO	ONS:	PRIV	A Recorded To the Control of the Con									
TEMPER/	ATURE (SPE	CIFY °	COR°F):	50)								
PROBLE	MS ENCOUNT	TERED DI	JRING PU	RGING OR	SAMPLING?	<u>No</u>							
cc: Proj Job Oth	File:	jer:				-							

Date: 3/13/6% Kennedy/Jenks Consultants

Date: 3/14/6% Kennedy/Jenks Consultants **Groundwater Purge and Sample Form** PROJECT NAME: Troma Metals WELL NUMBER: MW-35 PERSONNEL: _ DKM PROJECT NUMBER: _____ STATIC WATER LEVEL (FT): 4,41 MEASURING POINT DESCRIPTION: 70 PURGE METHOD: PEVISTALL WATER LEVEL MEASUREMENT METHOD: 50 ms PURGE DEPTH (FT) 240 TOC TIME START PURGE: 530 TIME END PURGE: ____ TIME SAMPLED: 1230 COMMENTS: WELL VOLUME MULTIPLIER FOR TOTAL DEPTH CALCULATION DEPTH TO WATER CASING DIAMETER (IN) WATER (FT) (FILL IN (FT) COLUMN (FT) (GAL) BEFORE Х 7.61 = 52 TOC 4.41 PURGING) 0.16 0.64 1.44 TIME 1220 1210 1100 1150 620 1010 VOLUME PURGED (GAL) PURGE RATE (GPM) 20 55 10 5 TEMPERATURE (°C) 13.09

3round	water P	urge a	nd San	nple Fo	rm	Date:	2/10	<u>}/0</u> % Ken	nedy/Jenl	ks Consulta
					tals		NUMBEF	: Mh)- DKM	35	
SAMPLE DA	ATA:						<u> </u>			
	SAMPLED:				Ct	WWEN12:		<u> </u>		
SAMPLI	NG EQUIPME	ENT:	cris	4012		•				
SAMPLE NO.	NO. OF CONTAIN- ERS	CON- TAINER		FIELD	VOLUME	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUS- TODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	Z	A	例	1	26	Ne	ac	Y.	PAH	
	2	A	N	A VERROTTER SOCIALISTS AND ALCOHOL	21	ar our designation of the production of the prod		William Income in the second	PAH	
	**************************************	A	N	of the diverse of market, burningspless	161			The aggregation of the state of	Dx	
	3	Vola	Stanger Longer Hander		120mi	V			GX	
URGE WAT	TER DISPOS DISCHARGE	SAL NOTE	<u>s:</u>	:3	C(OMMENTS: _				
DISPOSA	AL METHOD:		DWAR	10 d						
DRUM DE	SIGNATION	1(S)/VOL	LUME PER	(GAL):_						
ELL HEAD	CONDITIO	ONS CHEC	KLIST (CIRCLE Y	ES OR NO -	IF NO, AD	D COMM	ENTS):		
ELL SECU	JRITY DEVI	CES OK	(BOLLARI	S, CHRI	STY LID, CA	ASING LID	AND LO	CK)?: YES	NO	
NSIDE OF	WELL HEA	AD AND C	OUTER CAS	SING DRY	?: (YES	NO				
ELL CASI	NG OK?:	YES	NO							
OMMENTS:					·					
ENERAL: WEATHER	CONDITIO	ONS:	Clove) y						
	TURE (SPE		O 1 -	\ .						
					SAMPLING?	1)0				
	File:									

Attachment 7

DNAPL Monitoring 26 June 2008

DNAPL MONITORING FORM Former Tacoma Metals Facility

Comments										
Thickness of DNAPL (ft)	0	0	0	0	0	0	0	0	0	LNAPL <0.01ft.
Depth to Bottom of Well (ft.bsd) (a)	23.90	25.95	26.50	22.75	25.18	26.83	29.59	21.67	23.01	WN
Depth to DNAPL (ft.bsd) (a)	N	N	Q	QN	Q Q	QN	N Q	ON O	N	LNAPL Present
Depth to water (ft.bsd) ^(a)	8.61	8.27	7.95	7.02	9.80	9.31	8.25	7.25	7.15	9.10
Date	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08
Well No.	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-8(R) (Check LNAPL)

DNAPL MONITORING FORM Former Tacoma Metals Facility

Comments									
Thickness of DNAPL (ft)	0	0	0	0	0	0.64	0	0	0
Depth to Bottom of Well (ft.bsd) (a)	31.71	25.10	26.09	27.95	25.99	23.93	31.80	41.10	32.50
Depth to DNAPL (ft.bsd) (a)	ND	ND	ND	ND	ND	23.29	ND	ND	QN
Depth to water (ft.bsd) ^(a)	12.59	8.70	9.36	10.69	9.24	8.43	9.25	8.05	7.34
Date	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08	6/26/08
Well No.	MW-23 (Off-Property)	MW-24 (Off-Property)	MW-25 (Off-Property)	MW-26 (Off-Property)	MW-27 (Off-Property)	MW-28(R) (Off Property)	MW-29 (Off-Property)	MW-30 (Off-Property)	MW-31 (Off-Property)

DNAPL MONITORING FORM Former Tacoma Metals Facility

Comments				
Thickness of DNAPL (ft)	0	0	0	0
Depth to Bottom of Well (ft.bsd) (a)	25.50	24.60	26.05	52.01
Depth to DNAPL (ft.bsd) (a)	QN	ND	ND	ND
Depth to water (ft.bsd) ^(a)	7.32	7.26	7.63	6.02
Date	6/26/08	6/26/08	6/26/08	6/26/08
Well No.	MW-32 (Off-Property)	MW-33 (Off-Property)	MW-34 (Off-Property)	MW-35 (Off-Property)

Notes:
(a) All measurements taken to surveyed datum on PVC well casing. ft.bsd = feet below surveyed datum