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

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

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.

- 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

for Ty C. Schreiner, L.Hg.
Vice President

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

Analyte	Sample Designation (Boring ID - feet bgs)												MTCA Method C Industrial Soil Cleanup Level[a]
	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	
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

Analyte	Sample Designation (Boring ID - feet bgs)										MTCA Method C Industrial Soil Cleanup Level[a]
	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	
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

Analyte	Sample Designation (Boring ID - feet bgs)												MTCA Method C Industrial Soil Cleanup Level[a]
	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	
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

TABLE 1A

Summary 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

Analyte	Reconnaissance Groundwater Sample Designation													Proposed Cleanup Level[a]
	B37 RGW	B37A RGW	B38 RGW	B39 RGW	B39A RGW	B40 RGW	B41 RGW	B42 RGW	B43 RGW	B44 RGW	B45 RGW	B46 RGW	B47 RGW	
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/l = micrograms per liter

TABLE 3

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

Analyte	Groundwater Sample Designation																		Proposed Cleanup Level[b]
	MW-8(R)[a]		MW-10		MW-11		MW-14		MW-15		MW-16		MW-17		MW-18		MW-19		
	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	
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/l)[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]

Analyte	Groundwater Sample Designation																		Proposed Cleanup Level[b]
	MW-20		MW-21		MW-22		MW-23		MW-24		MW-25		MW-26		MW-27		MW-28(R)[a]		
	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	
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)[i]																			
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

Analyte	Groundwater Sample Designation																Proposed Cleanup Level[(b)]
	MW-29		MW-30		MW-31		MW-100 (MW-31 dup)		MW-32		MW-33		MW-34		MW-35		
	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered	unfiltered	filtered			
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/l)[(l)]																	
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.
(l) 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

Well Number	Top of Well Casing Elevation (feet)[a]	Depth to Groundwater at Low-Tide (feet)	Groundwater Elevation Low-Tide (feet)	Depth to Groundwater at High-Tide (feet)	Groundwater Elevation 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

Well Designation	Previous Designation[a]	Date of Installation	Casing Diameter/ Construction	Nominal Borehole Diameter	Top of PVC Casing Elevation (feet)[b]	Total Well Depth (feet)	Length of Screen (feet)	Slot Size (inch)
On-Property Wells								
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 Wells								
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.

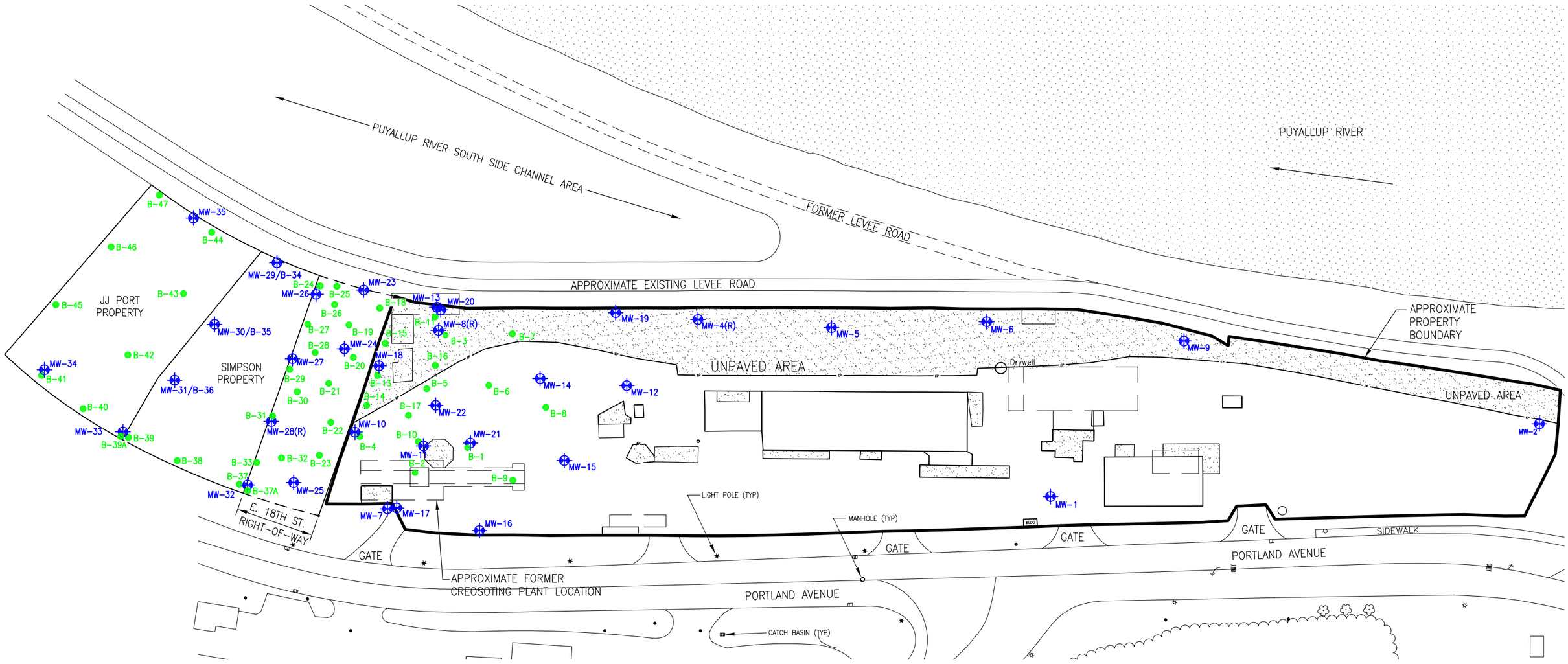
(e) MW-4 was originally installed on 26 August 1992 by Pacific Groundwater Group. MW-4(R) was replaced (R) 9 May 2000 by Kennedy/Jenks Consultants.

(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



LEGEND:

B-1	SOIL BORING LOCATION
MW-26	MONITORING WELL LOCATION
	UNPAVED AREA
	APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)

NOTES:

1. BORING AND WELL LOCATIONS ARE BASED ON SITE SURVEY BY EARTH TECH, INC. ON 28 MARCH 2000, 13 MARCH 2003, 31 DECEMBER 2003, 14 APRIL 2004, 21 APRIL 2005, 29 MARCH 2006, AND 11 APRIL 2008.

N

0 50 100

SCALE: 1=100

Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

MONITORING WELL AND BORING LOCATION MAP

996098.00\2008 DATA SUMMARY\FIG_01

FIGURE 1

PUYALLUP RIVER SOUTH SIDE CHANNEL AREA

FORMER LEVEE ROAD

PUYALLUP RIVER

APPROXIMATE EXISTING LEVEE ROAD

APPROXIMATE PROPERTY BOUNDARY

JJ PORT PROPERTY

SIMPSON PROPERTY

UNPAVED AREA

UNPAVED AREA

Drywell

0.1

??

MW-35 (<0.02)
MW-29/B-34 (0.085)
MW-26 (0.020)
MW-23 (0.060)
MW-13
MW-20 (0.15)
MW-8(R) (0.22)
MW-19 (<0.02)
MW-4(R)
MW-5
MW-6
MW-9
MW-24 (0.097)
MW-18 (0.15)
MW-27 (0.0072)
MW-30/B-35 (0.011)
MW-31/B-36 (0.28)
MW-34 (<0.02)
MW-14 (0.0074)
MW-12
MW-22 (0.16)
MW-21 (0.75)
MW-33 (0.0035)
MW-28(R) (0.28)
MW-10 (0.24)
MW-11 (0.23)
MW-15 (0.0050)
MW-1
MW-2
MW-32 (<0.02)
MW-25 (<0.02)
MW-7
MW-17 (0.0053)
MW-16 (<0.02)

B-47, B-46, B-44, B-45, B-43, B-42, B-41, B-40, B-39, B-39A, B-38, B-37, B-37A, B-33, B-32, B-31, B-30, B-29, B-28, B-27, B-26, B-25, B-24, B-23, B-22, B-21, B-20, B-19, B-18, B-17, B-16, B-15, B-14, B-13, B-11, B-10, B-8, B-7, B-6, B-5, B-4, B-3, B-2, B-1, B-9

E. 18TH ST. RIGHT-OF-WAY

GATE

GATE

GATE

GATE

LIGHT POLE (TYP)

MANHOLE (TYP)

BLDG

SIDEWALK

PORTLAND AVENUE

PORTLAND AVENUE

APPROXIMATE FORMER CREOSOTING PLANT LOCATION

CATCH BASIN (TYP)

LEGEND:

- B-1 — SOIL BORING LOCATION
- MW-26 — MONITORING WELL LOCATION
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)

(0.085) TOTAL CPAH CONCENTRATION IN MICROGRAMS PER LITER (µg/l)

0.1 TOTAL CPAH CONCENTRATION CONTOUR (APPROXIMATE) IN µg/l

CPAH – CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS

µg/l – MICROGRAMS PER LITER

NOTES:

1. BORING AND WELL LOCATIONS ARE BASED ON SITE SURVEY BY EARTH TECH, INC. ON 28 MARCH 2000, 13 MARCH 2003, 31 DECEMBER 2003, 14 APRIL 2004, 21 APRIL 2005, 29 MARCH 2006, AND 11 APRIL 2008.

N

0 50 100

SCALE: 1=100

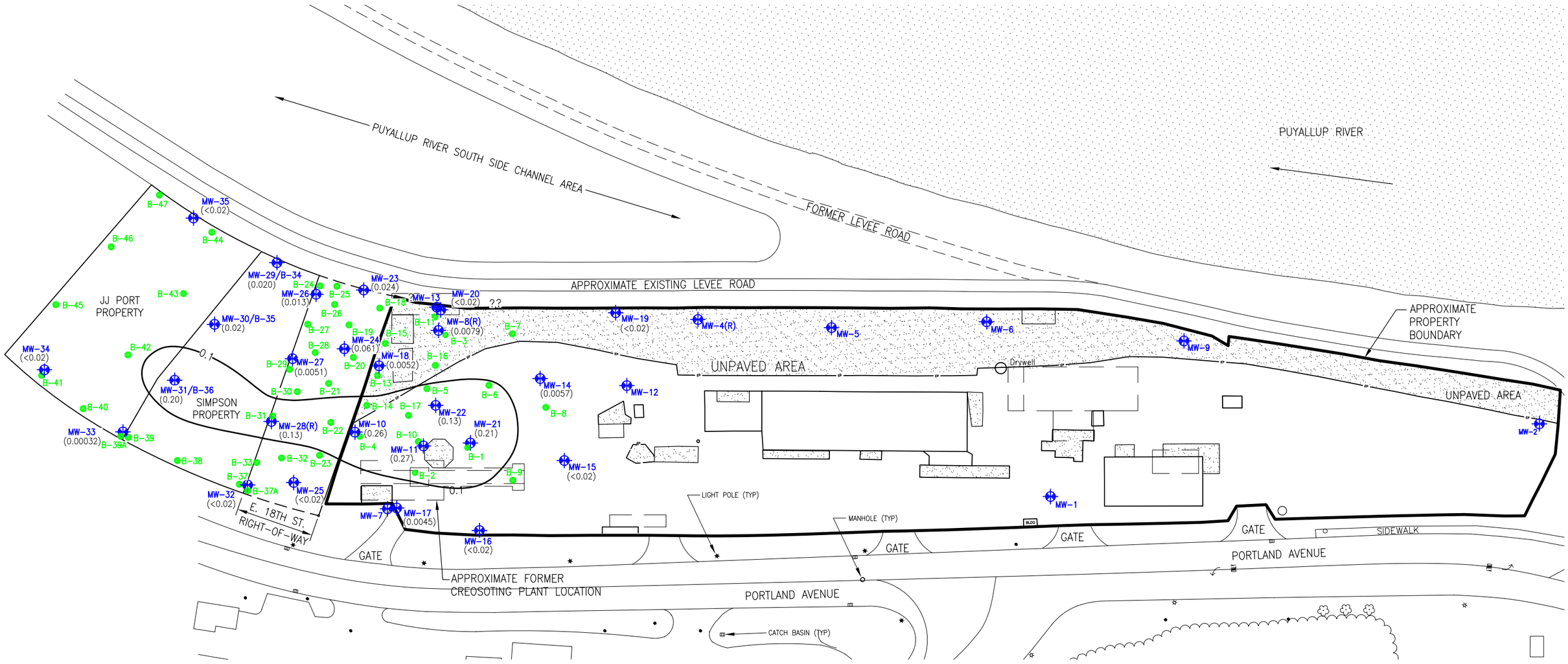
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

TOTAL CPAH GROUNDWATER CONCENTRATION MAP - MARCH 2008

996098.00\2008 DATA SUMMARY\FIG_02A

FIGURE 2A



LEGEND:

- B-1 — SOIL BORING LOCATION
- MW-26 — MONITORING WELL LOCATION
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)

(0.085) DISSOLVED (FILTERED) CPAH CONCENTRATION IN MICROGRAMS PER LITER (µg/l)

0.1 DISSOLVED CPAH CONCENTRATION CONTOUR (APPROXIMATE) IN µg/l

CPAH – CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS

µg/l – MICROGRAMS PER LITER

NOTES:

1. BORING AND WELL LOCATIONS ARE BASED ON SITE SURVEY BY EARTH TECH, INC. ON 28 MARCH 2000, 13 MARCH 2003, 31 DECEMBER 2003, 14 APRIL 2004, 21 APRIL 2005, 29 MARCH 2006, AND 11 APRIL 2008.

N

0 50 100

SCALE: 1=100

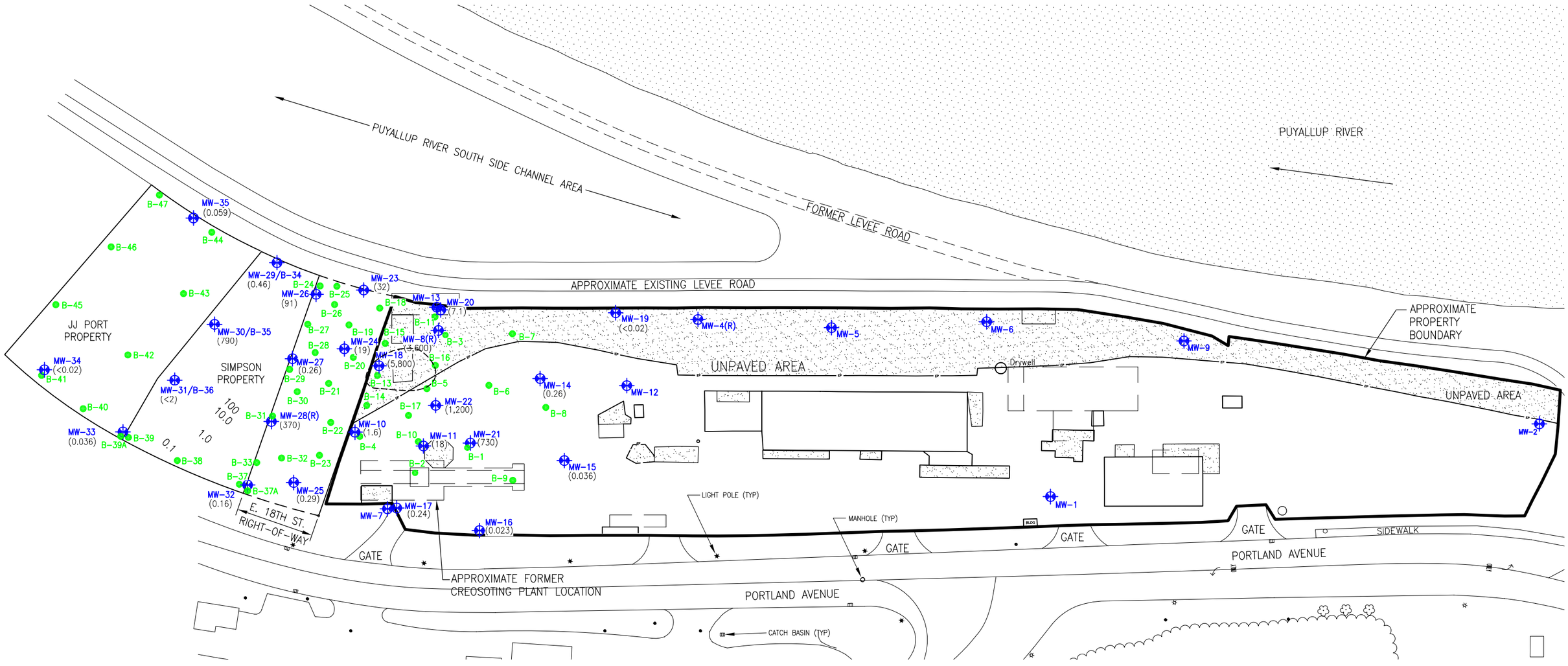
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

DISSOLVED CPAH GROUNDWATER CONCENTRATION MAP - MARCH 2008

996098.00\2008 DATA SUMMARY\FIG_02B

FIGURE 2B



LEGEND:

- B-1 — SOIL BORING LOCATION
- MW-26 — MONITORING WELL LOCATION
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)
- (730) — NAPHTHALENE CONCENTRATION IN MICROGRAMS PER LITER (µg/l)
- 4,940 — MTCA METHOD B SURFACE WATER CLEANUP LEVEL CONTOUR (APPROXIMATE) IN µg/l
- µg/l – MICROGRAMS PER LITER

NOTES:

1. BORING AND WELL LOCATIONS ARE BASED ON SITE SURVEY BY EARTH TECH, INC. ON 28 MARCH 2000, 13 MARCH 2003, 31 DECEMBER 2003, 14 APRIL 2004, 21 APRIL 2005, 29 MARCH 2006, AND 11 APRIL 2008.

N

0 50 100

SCALE: 1=100

Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

NAPHTHALENE GROUNDWATER CONCENTRATION MAP - MARCH 2008

996098.00\2008 DATA SUMMARY\FIG_03

FIGURE 3

LEGEND:

- B-18 — SOIL BORING LOCATION
- MW-12 — MONITORING WELL LOCATION
- APPROXIMATE FIRST SILT/CLAY LAYER ELEVATION CONTOUR (CONTOUR INTERVAL=2 FEET) (DASHED WHERE UNCERTAIN) (NGVD 29)
- −12.3 — APPROXIMATE FIRST SILT/CLAY LAYER ELEVATION (NGVD 29)
- A — A' — GENERALIZED GEOLOGIC SECTION LOCATION
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)

JJ PORT PROPERTY

SIMPSON PROPERTY

FORMER TACOMA METALS SITE

E. 18TH ST. RIGHT-OF-WAY

GATE

PORTLAND AVENUE

SCALE: 1=40

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.
2. NGVD 29 = NATIONAL GEODETIC VERTICAL DATUM 1929.
3. * – ELEVATION UNCERTAIN.

Kennedy/Jenks Consultants

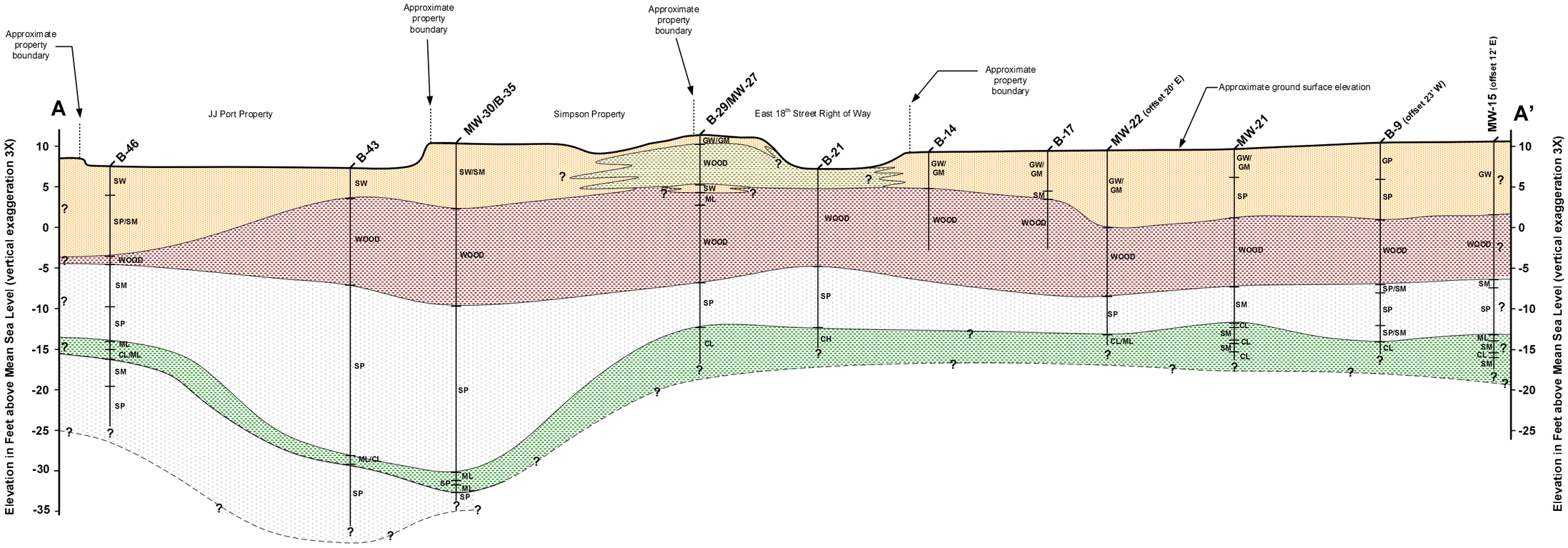
FORMER TACOMA METALS FACILITY
TACOMA, WA

APPROXIMATE TOPOGRAPHY OF FIRST ENCOUNTERED SILT/CLAY LAYER

996098.00\2008 DATA SUMMARY\FIG_04dwg

FIGURE 4

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.

0 20 40
Approximate Horizontal Scale in Feet

0 5 10
Approximate Vertical Scale in Feet

Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

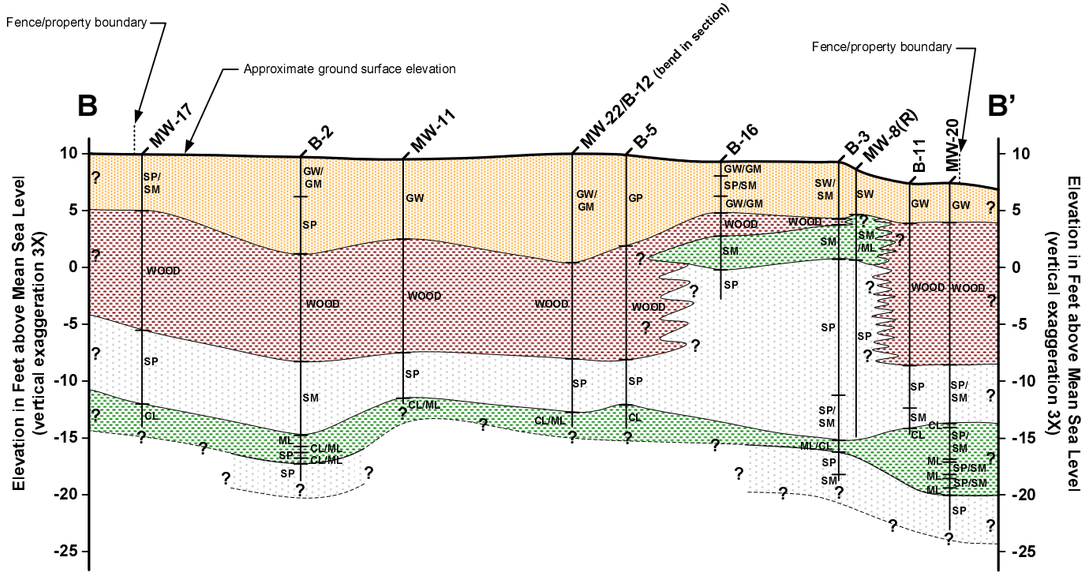
GENERALIZED GEOLOGIC CROSS SECTION A-A'

996098.00/2008/FIGURE5.VSD

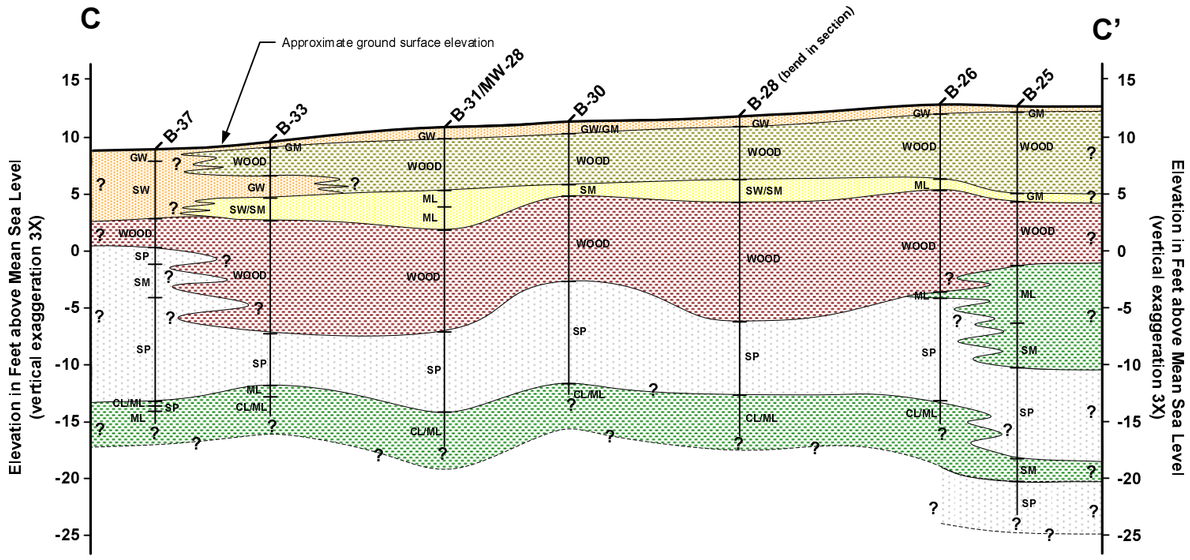
FIGURE 5

Generalized West-East Geologic Cross Sections

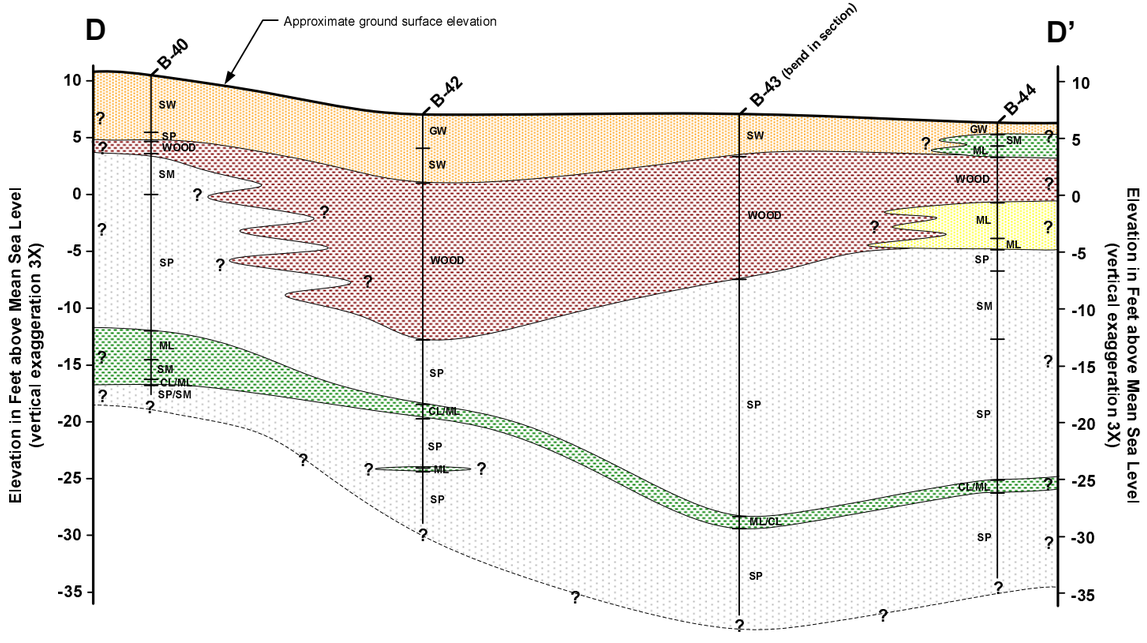
Cross Section B-B'



Cross Section C-C'



Cross Section D-D'

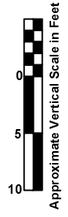


LEGEND:

- 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.



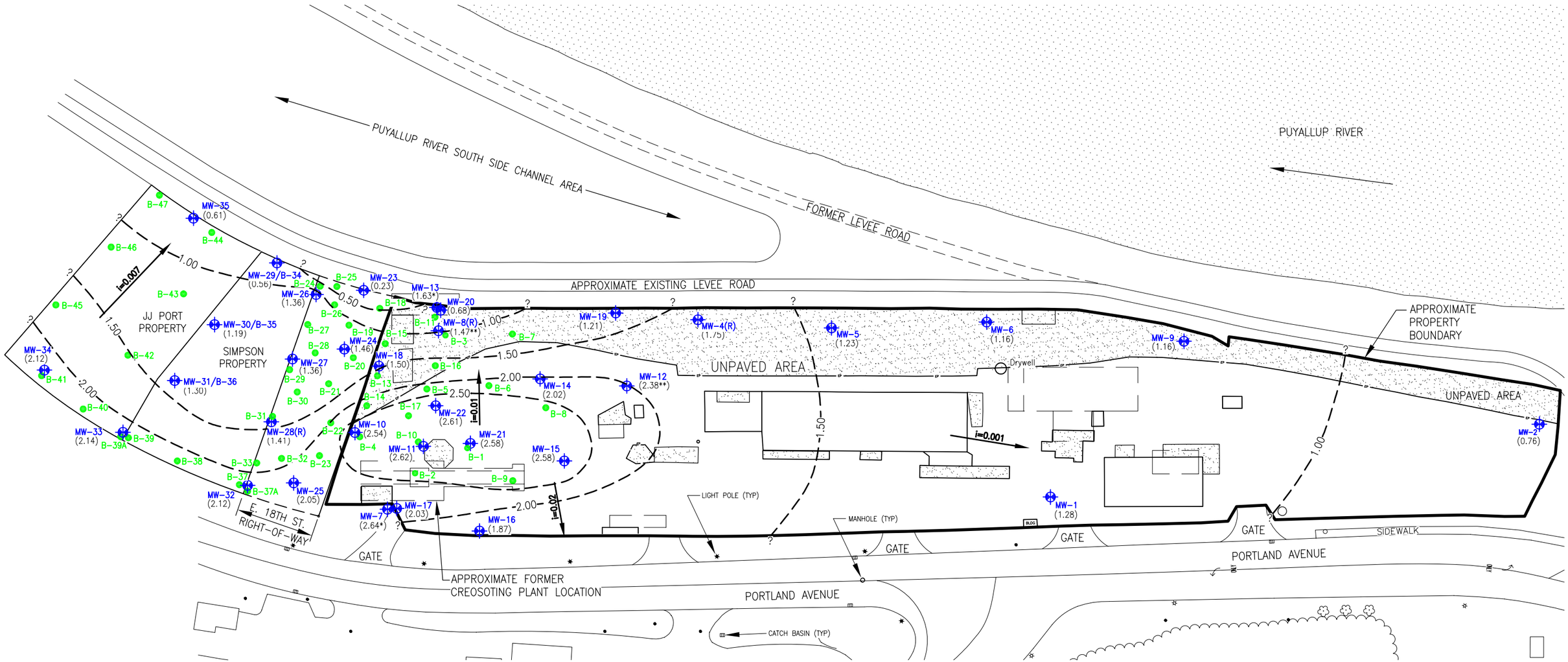
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

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

996098.00/2008/FIGURE6.VSD

FIGURE 6



LEGEND:

- B-1 — SOIL BORING LOCATION
- MW-26 — MONITORING WELL LOCATION
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)
- (1.32) — GROUDWATER ELEVATION IN MONITORING WELLS (FEET NGVD)
- 2.50 — POTENTIOMETRIC SURFACE CONTOURS (FEET NGVD) CONTOUR INTERVAL IS 0.50 FEET.
- i=0.004 — APPROXIMATE GROUNDWATER GRADIENT DIRECTION AND MAGINTUDE (FEET PER FOOT)

NOTES:

1. BORING AND WELL LOCATIONS ARE BASED ON SITE SURVEY BY EARTH TECH, INC. ON 28 MARCH 2000, 13 MARCH 2003, 31 DECEMBER 2003, 14 APRIL 2004, 21 APRIL 2005, 29 MARCH 2006, AND 11 APRIL 2008.
2. ALL LOCATIONS ARE APPROXIMATE.
3. WATER LEVELS MEASURED ON 11 APRIL 2008 DURING LOW TIDAL CONDITIONS.
4. * WATER LEVELS IN WELLS NOT INCLUDED IN POTENTIOMETRIC CONTOUR MAP BASED ON SCREENED INTERVALS PRIMARILY IN THE WOOD DEBRIS MATERIAL.
5. ** WATER LEVELS IN WELLS NOT INCLUDED IN POTENTIOMETRIC CONTOUR MAP BASED ON THE PRESENCE OF LNAPL.

N

0 50 100
SCALE: 1=100

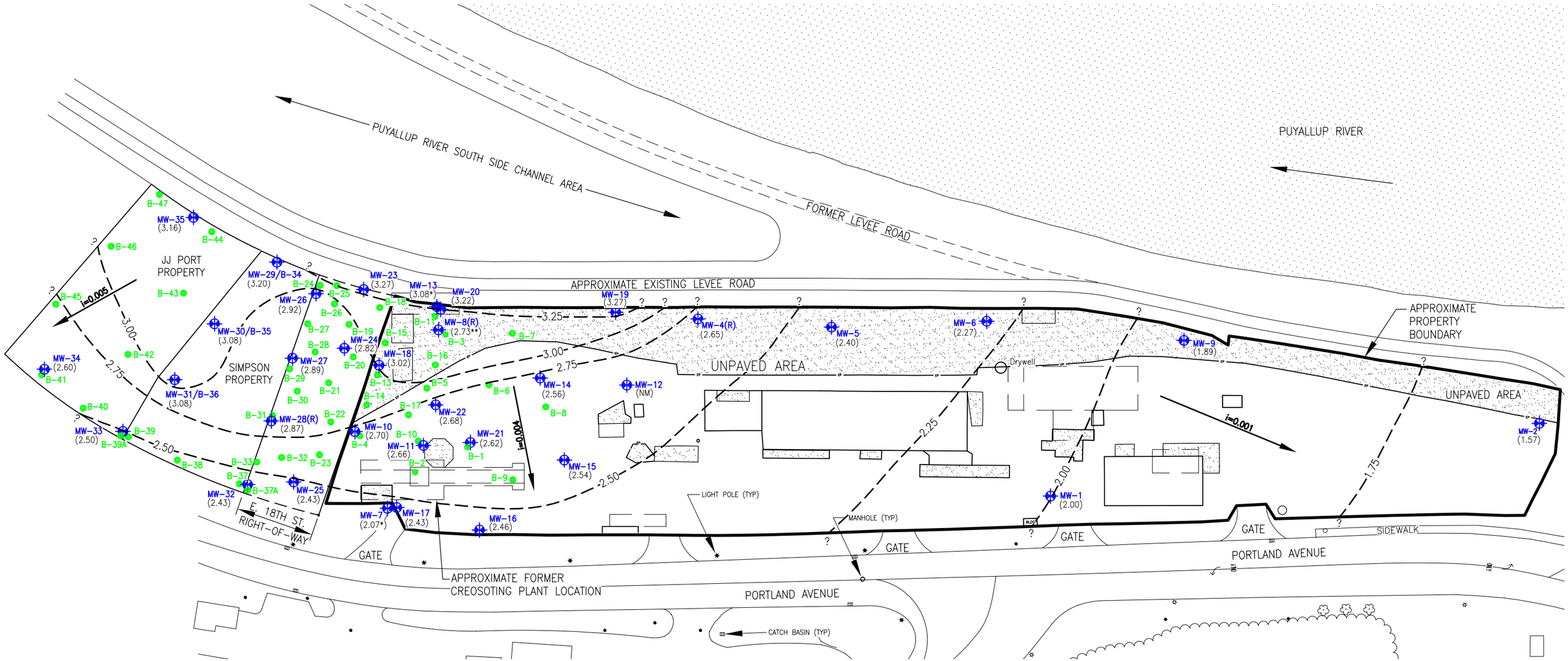
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

POTENTIOMETRIC SURFACE CONTOUR MAP
LOW TIDE - 11 APRIL 2008

996098.00\2008 DATA SUMMARY\FIG_07

FIGURE 7



LEGEND:

- B-1 — SOIL BORING LOCATION
- MW-26 — MONITORING WELL LOCATION
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)
- (1.32) — GROUDWATER ELEVATION IN MONITORING WELLS (FEET NGVD)
- 2.50 — POTENTIOMETRIC SURFACE CONTOURS (FEET NGVD) CONTOUR INTERVAL IS 0.25 FEET.
- i=0.004 — APPROXIMATE GROUNDWATER GRADIENT DIRECTION AND MAGINTUDE (FEET PER FOOT)

NOTES:

1. BORING AND WELL LOCATIONS ARE BASED ON SITE SURVEY BY EARTH TECH, INC. ON 28 MARCH 2000, 13 MARCH 2003, 31 DECEMBER 2003, 14 APRIL 2004, 21 APRIL 2005, 29 MARCH 2006, AND 11 APRIL 2008.
2. ALL LOCATIONS ARE APPROXIMATE.
3. WATER LEVELS MEASURED ON 11 APRIL 2008 DURING LOW TIDAL CONDITIONS.
4. * WATER LEVELS IN WELLS NOT INCLUDED IN POTENTIOMETRIC CONTOUR MAP BASED ON SCREENED INTERVALS PRIMARILY IN THE WOOD DEBRIS MATERIAL.
5. ** WATER LEVELS IN WELLS NOT INCLUDED IN POTENTIOMETRIC CONTOUR MAP BASED ON THE PRESENCE OF LNAPL.
6. NM INDICATES THAT THE WATER LEVEL WAS NOT MEASURED.

N

0 50 100
SCALE: 1=100

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

FIGURE 8

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
2. 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 over-pumping 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

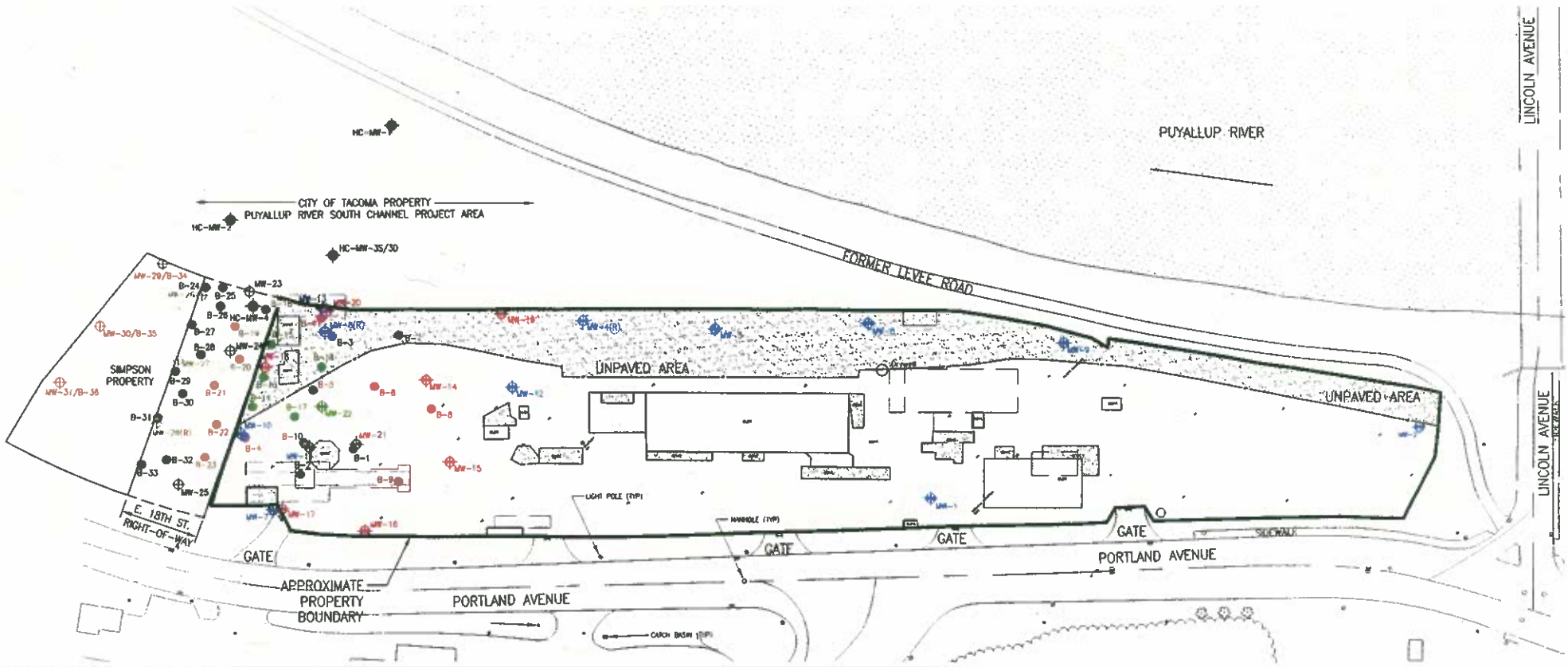
Dean K. Malte, L.G.
Project Geologist

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

Attachments

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

Figures



LEGEND:

- OFF-PROPERTY MONITORING WELL AND SOIL BORING LOCATION (FEBRUARY 2006)
- OFF-PROPERTY MONITORING WELL LOCATION (MARCH 2005)
- OFF-PROPERTY GEOPROBE BORING LOCATION (MARCH 2005)
- OFF-PROPERTY MONITORING WELL LOCATION (MARCH 2004)
- OFF-PROPERTY GEOPROBE BORING LOCATION (MARCH 2004)
- MONITORING WELL LOCATION (REMEDIAL INVESTIGATION 2000-2001)
- MONITORING WELL LOCATION (JUNE - AUGUST 2002 INVESTIGATION)
- MONITORING WELL LOCATION (FEBRUARY - MARCH 2003 INVESTIGATION)
- MONITORING WELL LOCATION (NOVEMBER - DECEMBER 2003 INVESTIGATION)
- FORMER OFF-PROPERTY MONITORING WELL LOCATION INSTALLED BY HART-CROWSER (JUNE 2003)
- HOLLOW-STEM AUGER BORING LOCATION (JUNE - AUGUST 2002 INVESTIGATION)
- GEOPROBE BORING LOCATION (FEBRUARY - MARCH 2003 INVESTIGATION)
- GEOPROBE BORING LOCATION (NOVEMBER - DECEMBER 2003 INVESTIGATION)
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)

NOTES:

1. BORING AND WELL LOCATIONS ARE BASED ON SITE SURVEY BY EARTH TECH, INC. ON 28 MARCH 2000, 13 MARCH 2003, 31 DECEMBER 2003, 14 APRIL 2004, 21 APRIL 2005, AND 29 MARCH 2006.

N

0 50 100
SCALE: 1 = 100

Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

MONITORING WELL AND BORING LOCATION MAP - FEBRUARY 2006

996098.00/2006/FIG_1

FIGURE 1

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.

N E S W

0 50 100

Approximate Scale in Feet

Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

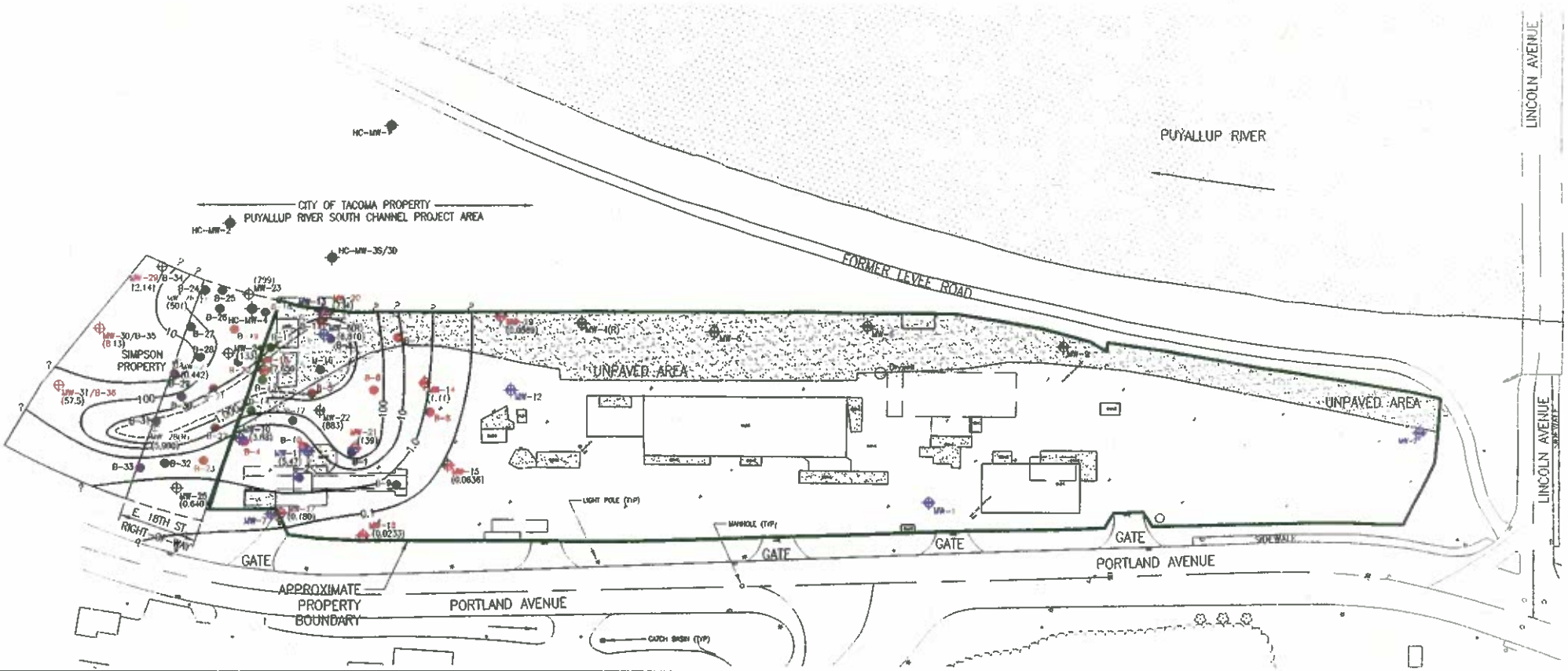
POTENTIAL SOIL BORING AND WELL LOCATION MAP

996098.00/FIGURE2.VSD

FIGURE 2

Attachment A

Draft Concentration Contour Maps and
Draft Elevation Contour Map



LEGEND:

- OFF-PROPERTY MONITORING WELL AND SOIL BORING LOCATION (FEBRUARY 2006)
- OFF-PROPERTY MONITORING WELL LOCATION (MARCH 2005)
- B-24 OFF-PROPERTY GEOPROBE BORING LOCATION (MARCH 2005)
- MW-23 OFF-PROPERTY MONITORING WELL LOCATION (MARCH 2004)
- OFF-PROPERTY GEOPROBE BORING LOCATION (MARCH 2004)
- MW-12 MONITORING WELL LOCATION (REMEDIAL INVESTIGATION 2000-2001)
- MW-13 MONITORING WELL LOCATION (JUNE - AUGUST 2002 INVESTIGATION)
- MONITORING WELL LOCATION (FEBRUARY - MARCH 2003 INVESTIGATION)
- MONITORING WELL LOCATION (NOVEMBER - DECEMBER 2003 INVESTIGATION)
- HC-MW-4 FORMER OFF-PROPERTY MONITORING WELL LOCATION INSTALLED BY HART-CROWSER (JUNE 2003)
- B-1 HOLLOW-STEM AUGER BORING LOCATION (JUNE - AUGUST 2002 INVESTIGATION)
- GEOPROBE BORING LOCATION (FEBRUARY - MARCH 2003 INVESTIGATION)
- GEOPROBE BORING LOCATION (NOVEMBER - DECEMBER 2003 INVESTIGATION)
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)
- (799) NAPHTHALENE CONCENTRATION IN MICROGRAMS PER LITER (µg/l)
- 10 NAPHTHALENE CONCENTRATION CONTOUR (APPROXIMATE) IN µg/l
- 4,940 MTCA METHOD B SURFACE WATER CLEANUP LEVEL CONTOUR (APPROXIMATE) IN µg/l

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.

N

0 50 100
SCALE: 1=100

DRAFT

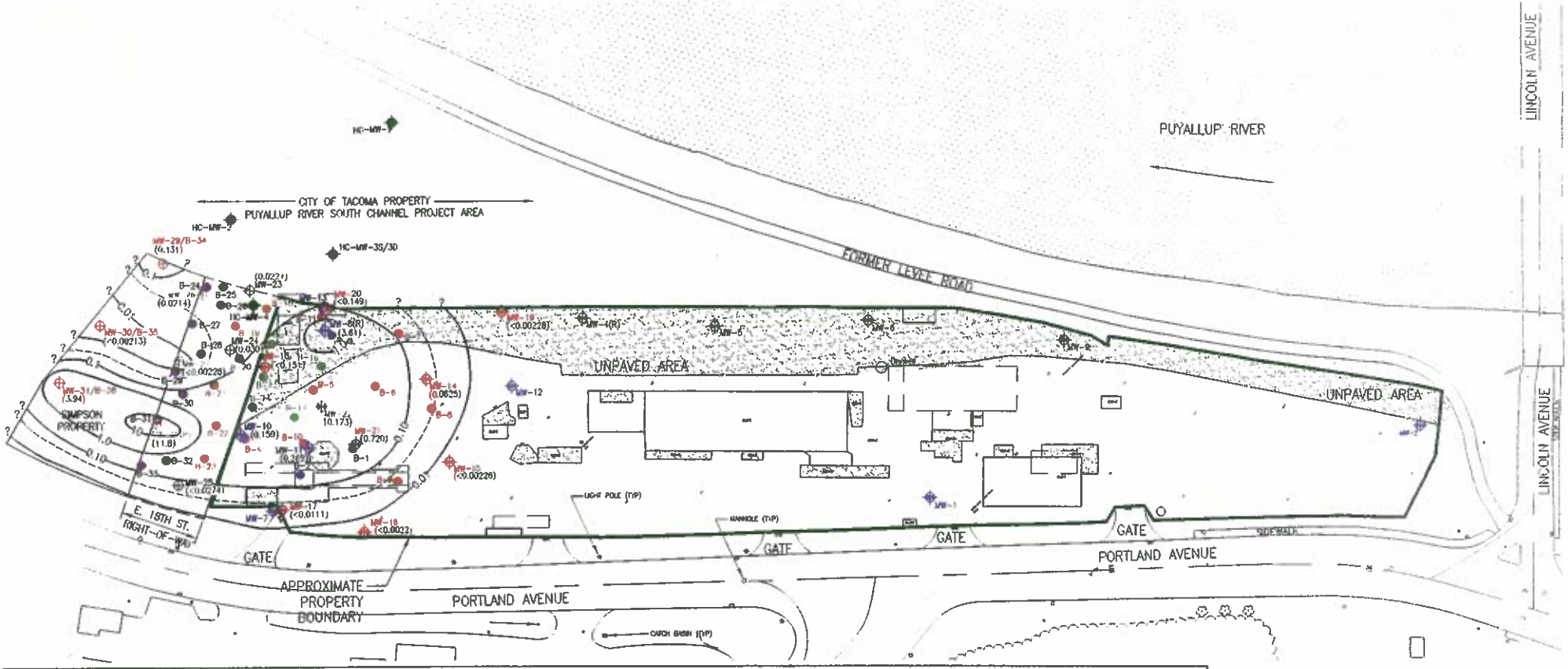
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

NAPHTHALENE GROUNDWATER CONCENTRATION MAP - FEBRUARY 2006

996098.00\2006 DATA SUMMARY\FIG_3

FIGURE 3



LEGEND:

- OFF-PROPERTY MONITORING WELL AND SOIL BORING LOCATION (FEBRUARY 2006)
- OFF-PROPERTY MONITORING WELL LOCATION (MARCH 2005)
- OFF-PROPERTY GEOPROBE BORING LOCATION (MARCH 2005)
- OFF-PROPERTY MONITORING WELL LOCATION (MARCH 2004)
- OFF-PROPERTY GEOPROBE BORING LOCATION (MARCH 2004)
- MONITORING WELL LOCATION (REMEDIAL INVESTIGATION 2000-2001)
- MONITORING WELL LOCATION (JUNE - AUGUST 2002 INVESTIGATION)
- MONITORING WELL LOCATION (FEBRUARY - MARCH 2003 INVESTIGATION)
- MONITORING WELL LOCATION (NOVEMBER - DECEMBER 2003 INVESTIGATION)
- HC-MW-4: FORMER OFF-PROPERTY MONITORING WELL LOCATION INSTALLED BY HART-CROWSER (JUNE 2003)
- B-1: HOLLOW-STEM AUGER BORING LOCATION (JUNE - AUGUST 2002 INVESTIGATION)
- B-4: GEOPROBE BORING LOCATION (FEBRUARY - MARCH 2003 INVESTIGATION)
- H-1: GEOPROBE BORING LOCATION (NOVEMBER - DECEMBER 2003 INVESTIGATION)
- UNPAVED AREA
- APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS)
- (0.720): TOTAL CPAH CONCENTRATION IN MICROGRAMS PER LITER (µg/l)
- 1.0: TOTAL CPAH CONCENTRATION CONTOUR (APPROXIMATE) IN µg/l
- 0.02: SURFACE WATER CLEANUP LEVEL CONTOUR (APPROXIMATE) IN µg/l BASED ON ECOLOGY PQL FOR TOTAL CPAHS

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.

0 50 100
SCALE: 1=100

DRAFT

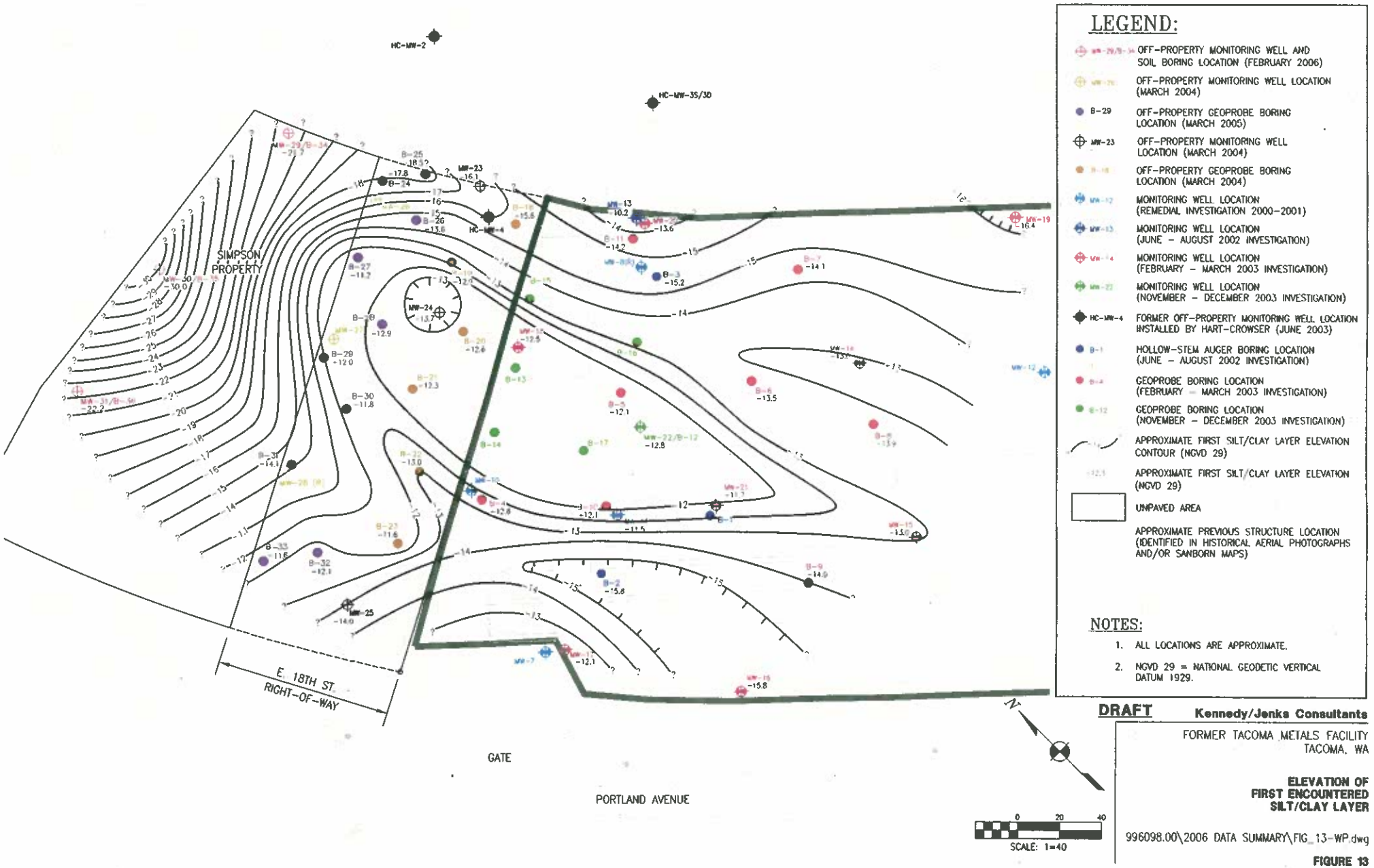
Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

CPAH GROUNDWATER CONCENTRATION MAP - FEBRUARY 2006

996098.00\2006 DATA SUMMARY\FIG_4

FIGURE 4



DRAFT **Kennedy/Jenks Consultants**

FORMER TACOMA METALS FACILITY
TACOMA, WA

ELEVATION OF FIRST ENCOUNTERED SILT/CLAY LAYER

996098.00\2006 DATA SUMMARY\FIG_13-WP.dwg

FIGURE 13

Attachment 2

Soil Boring and Monitoring Well Construction Logs

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Simpson Property	**Boring Name** B-37
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
	Project Name Tacoma Metals
	Project Number 996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite	FROM 0 TO 24 FT.
GROUT: N/A	FROM N/A TO N/A FT.
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 24.0 ft. bgs
DATE STARTED: 10/29/07	DATE COMPLETED: 10/29/07
INITIAL WATER DEPTH (FT): 9.5	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	3.5					0		GW	**Well-graded GRAVEL with sand** Brown, gravel and sand fill, moist, no odor, no sheen.
								SW	**Well-graded SAND with gravel** Layered green-gray/dark gray/tan, abrupt contacts between different colored layers, sand with 20-30% gravel overall (locally variable), some silt locally, moderately dense, moist, no odor, no sheen.
SH	3		5	B37-5-6					
								Wood	**WOOD DEBRIS** Dark brown to red-brown, wood material with 5-10% silty matrix, moist, no odor, no sheen.
SH	2.5		10			0		SP	**Poorly graded SAND** Dark gray, poorly graded medium sand, moderately dense, moist to wet at ~9.5 feet bgs, no odor, no sheen.
								SM	**Silty SAND** Gray/brown, silty fine sand, some woody material locally, moderately dense, wet, no odor, no sheen.
SH	2.5		15	B37-14-15		0		SP	**Poorly graded SAND** Dark gray, poorly graded medium to coarse sand, local small (<1/2 inch) silt nodules in lower ~3 feet, moderately dense, wet, possible faint creosote odor 16-20 feet, otherwise no odor, no sheen.
SH	3								
SH	3		20	B37-21-22		0		CL/ ML	**Silty CLAY** Gray, silty clay, moderately stiff, moderately high plasticity, wet, no odor, no sheen.
								SP	**Poorly graded SAND** Gray, poorly graded medium sand, moderately dense, wet, no odor, no sheen.
								ML	**Sandy SILT** Gray, sandy silt, moderately stiff, low plasticity, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B37-RGW screen set 18-22 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: City of Tacoma Right of Way		**Boring Name**	B-37A
DRILLING COMPANY: Cascade	DRILLER: Eli	**Project Name**	Tacoma Metals
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch	**Project Number**	996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 24.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 1/25/08	DATE COMPLETED: 1/25/08
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): 10	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: RCZ	
SEAL: Bentonite	FROM 0 TO 24 FT.	SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	3					0		GP	**Poorly graded GRAVEL with sand** Brown, gravely fill material, moderately dense, no odor, no sheen.
								SP	**Poorly graded SAND with gravel** Gray, poorly graded medium-fine sand with 5-10% gravel, moderately dense, no odor, no sheen.
			5					SP/ SM	**Poorly graded SAND with silt** Brown, sand with 30% silt, some organic debris and wood chip material, soft, no odor, no sheen.
SH	2.5					0		SW	**Well-graded SAND with gravel** Dark gray, sand with 50% gravel, moderately dense, no odor, no sheen.
								SW/ SM	**Well-graded SAND with silt** Dark gray to brown, sand with 30% silt, moderately dense, moist, no odor, no sheen.
								Wood	**WOOD DEBRIS** Dark brown to red-brown, wood material with 5-10% silty matrix, moist, no odor, no sheen.
SH	2.3		10			0		GW/ GM	**Well-graded GRAVEL with silt and sand** Dark gray, well graded gravel with 10% fine sand and 20% silt, moderately dense, wet, no odor, no sheen.
								SP	**Poorly graded SAND** Gray, poorly graded medium sand, 5% fine to medium gravel in upper 2 feet, grading to fine sand by 20-21 feet, moderately dense, wet, no odor, no sheen.
SH	1.3		15						
SH	0.5					0			
			20						
SH	3					0		CL/ ML	**Silty CLAY** Gray, silty clay, moderately stiff, medium-low pasticity, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B37A-RGW screen set 18-22 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Simpson Property	**Boring Name:** B-38
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite	FROM 0 TO 28 FT.
GROUT: N/A	FROM N/A TO N/A FT.
Project Name: Tacoma Metals	
Project Number: 996098*00	
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 28.0 ft. bgs
DATE STARTED: 10/29/07	DATE COMPLETED: 10/29/07
INITIAL WATER DEPTH (FT): 9	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE_____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	3							GW	**Well-graded GRAVEL with sand** Tan, gravelly fill material, moderately dense, slightly moist, no odor, no sheen.
SH	3		5	B38-5-6				SP/ SM	**Poorly graded SAND with silt** Dark gray, sand with 10-15% silt and 5-10% gravel, moderately dense, moist, no odor, no sheen.
SH	2.8		10			0		SM	**Silty SAND** Gray, very fine sand with 30-40% silt, moderately dense, moist, no odor, no sheen.
SH	3.2		15	B38-14.5-15.5		0		SP	**Poorly graded SAND** Gray, poorly graded medium sand, local small (<1/2") silt nodules in lower ~5 feet, moderately dense, wet, possible slight creosote odor ~15-20 feet bgs, no odor otherwise, no sheen.
SH	2.5					0			
SH	3.5		20	B38-22.5-23.5		0			@ ~23 feet bgs 1/2" thick layer of gray/brown silty clay
SH	4		25					CL/ ML	**Silty CLAY** Gray, silty clay, some fine sand locally, moderately stiff, high plasticity, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B38-RGW screen set 20-24 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Simpson Property	**Boring Name** B-39
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
	Project Name Tacoma Metals
	Project Number 996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite	FROM 0 TO 28 FT.
GROUT: N/A	FROM N/A TO N/A FT.
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 28.0 ft. bgs
DATE STARTED: 10/29/07	DATE COMPLETED: 10/29/07
INITIAL WATER DEPTH (FT): 10	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL OETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	2							GW	**Well-graded GRAVEL with sand** Brown to gray/brown, gravelly fill, moderately dense, no odor, no sheen.
								SM	**Silty SAND** Brown/red, silty fine sand with 10-20% wood chip material, soft, moist, no odor, no sheen.
								Wood	**WOOD DEBRIS**
SH	3.5		5	B39-5.5-6.5		0		SM	Brown/gray, wood debris with <5% silt/sand matrix material, moist, creosote odor, no sheen.
								SM	**Silty SAND** Dark gray, silty sand with some wood debris, moderately dense, moist, possible slight creosote odor, medium sheen.
SH	3		10	B39-10-11		0			**Silty SAND** Tan/gray, fine sand with >40% silt, moderately dense, moist, no odor, no sheen.
SH	0								**Poorly graded SAND** Dark gray, poorly graded medium sand, coarser sand with some fine gravel in lower ~3 feet, moderately dense, wet, no odor, medium to heavy sheen ~21-22 feet bgs, no sheen otherwise.
			15					SP	
SH	3.5								
			20						
SH	4			B39-21-22		0			
				B39-23-24		0		ML/ CL	**Clayey SILT** Gray, clayey silt, moderately stiff, wet, no odor, no sheen.
								SP/ SM	**Poorly graded SAND with silt** Gray, fine sand with 10-15% silt overall, layered texture with interbedded poorly graded sand to silty fine sand, moderately dense, wet, no odor, no sheen.
			25						
SH	4							CL/ ML	**Silty CLAY** Gray, silty clay, moderately stiff, high plasticity, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B39-RGW screen set 19-23 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property		**Boring Name**	B-39A
DRILLING COMPANY: Cascade	DRILLER: Eli	**Project Name**	Tacoma Metals
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch	**Project Number**	996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 28.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 1/25/08	DATE COMPLETED: 1/25/08
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): 10	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: RCZ	
SEAL: Bentonite	FROM 0 TO 28 FT.	SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	3							GW	**Well-graded GRAVEL with sand** Dark orange/brown, gravelly fill with 30-40% sand, moderately dense, no odor, no sheen.
								SW/SM	**Well-graded SAND with silt** Dark orange/brown, silty fine sand with 10-20% wood chip material and 10% gravel, moderately dense, moist, no odor, no sheen.
						0		SW/SM	
SH	3		5			0		SW/SM	**Well-graded SAND with silt** Tan/gray, silty fine sand with 5-10% gravel, moderately dense, moist, no odor, no sheen.
								Wood	**Well-graded SAND with silt** Dark orange/brown, fine sand with 10% silt, moderately dense, moist, no odor, no sheen.
SH	2.5		10			0		SM	**WOOD DEBRIS** Brown/red, wood debris with up to 50% silt/sand matrix material, moist, no odor, no sheen.
									Silty SAND Tan/gray, fine sand with 30-40% silt, moderately dense, moist, no odor, no sheen.
SH	2.5		15			0		SP	**Poorly graded SAND** Dark gray, poorly graded medium sand, coarsening downwards to medium/coarse sand, some gravel at 24 feet, moderately dense, wet, no odor, no sheen.
SH	3					0			
SH	2		20						
SH	3.5		25			0		ML/CL	**Clayey SILT** Gray, clayey silt with 5% fine sand, moderately stiff, high plasticity, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B39A-RGW screen set 22.5-26.5 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property		**Boring Name**	B-40
DRILLING COMPANY: Cascade	DRILLER: Kasey	**Project Name**	Tacoma Metals
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch	**Project Number**	996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 28.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 10/29/07	DATE COMPLETED: 10/29/07
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): 9	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: DKM	
SEAL: Bentonite	FROM 0 TO 28 FT.	SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLDWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
									Asphalt surface and base gravel fill.
SH	3.5					0		SW	**Well-graded SAND with gravel** Tan/orange/brown, sand with 30-35% fine to medium gravel, some silt, moderately dense, moist, no odor, no sheen.
SH	3		5	B40-6.5-7.5				SP	**Poorly graded SAND**
								Wood	Brown, poorly graded medium sand with 5-10% gravel, moderately dense, moist, no odor, no sheen.
								SM	**WOOD DEBRIS** Dark orange/brown, wood chip material, <5% matrix material, moist, no odor, no sheen.
SH	3.5		10			0			**Silty SAND** Tan/gray, fine sand with 30-40% silt overall (locally variable), moderately dense, moist to wet at ~9' bgs, no odor, no sheen.
SH	3.5		15	B40-14-15				SP	**Poorly graded SAND** Dark gray, poorly graded sand, mostly medium sand at top, grading downward to medium/coarse sand mixture, local small (<1") silt nodules ~17-20 feet bgs, moderately dense, wet, no odor, no sheen.
SH	3					0			
SH	3.5		20	B40-21.5-22.5		0			
								ML	**Sandy SILT** Gray, silt with ~30% fine sand, moderately stiff, low plasticity, wet, no odor, no sheen.
SH	3.5		25					SM	**Silty SAND** Brown/gray, fine sand with 15-20% silt, moderately dense, wet, no odor, no sheen.
								CL/ ML	**Silty CLAY** Gray/tan, silty clay, moderately stiff, moderately high plasticity, wet, no odor, no sheen.
								SP/ SM	**Poorly graded SAND with silt** Gray, poorly graded medium to fine sand with 10-15% silt, moderately dense, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B40-RGW screen set 19-23 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	**Boring Name** B-41
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
	Project Name Tacoma Metals
	Project Number 996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite	FROM 0 TO 28 FT.
GROUT: N/A	FROM N/A TO N/A FT.
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 28.0 ft. bgs
DATE STARTED: 10/30/07	DATE COMPLETED: 10/30/07
INITIAL WATER DEPTH (FT): 9.5	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
									Asphalt surface and base gravel fill.
SH	2					0		SM	**Silty SAND with gravel** Tan, fine to medium sand with 20-25% silt and 5-15% gravel, moderately dense, moist, no odor, no sheen.
SH	3.5		5	B41-7-8		0		SP OH CL/ML	**Poorly graded SAND** Brown, poorly graded medium to coarse sand, ~5% fine gravel, moderately dense, moist, no odor, no sheen. **Organic SILT** Dark brown to dark gray, silt with abundant organic material including woody debris, soft, moist, no odor, no sheen.
SH	3		10	B41-11-12		0		ML SP	**Silty CLAY** Tan to tan-brown, silty clay, moderately stiff, high plasticity, moist, no odor, no sheen. **Sandy SILT** Gray/brown, silt with 30-40% fine sand overall, layered texture with interbedded clayey silt, silt, and sandy silt, wet, no odor, no sheen. **Poorly graded SAND** Dark gray, poorly graded sand, mostly medium sand at top coarsening slightly downward, local small (<1/2") silt nodules ~16-20 feet bgs, moderately dense, wet, no odor, no sheen.
SH	3		15			0			
SH	3					0			
SH	3.5		20	B41-21.5-22.5		0		SM	**Silty SAND** Gray, fine sand with 20-25% silt, moderately dense, wet, no odor, no sheen.
SH	3.5		25	B41-24.5-25.5				SP CL SP	**Poorly graded SAND** Gray, poorly graded fine sand, moderately dense, wet, no odor, no sheen. **Lean CLAY** Olive/gray, clay, moderately stiff, moderately high plasticity, wet, no odor, no sheen **Poorly graded SAND** Gray, poorly graded fine sand, moderately dense, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B41-RGW screen set 21-25 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

SHEET 1 OF 1

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property		**Boring Name**	B-42
DRILLING COMPANY: Cascade	DRILLER: Kasey	**Project Name**	Tacoma Metals
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch	**Project Number**	996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 36.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 10/30/07	DATE COMPLETED: 10/30/07
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): 9	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: DKM	
SEAL: Bentonite	FROM 0 TO 36 FT.	SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	2					0		GW	**Well-graded GRAVEL with sand** Brown to gray, gravelly fill with >40% sand, moderately dense, moist, no odor, no sheen.
SH	2		5	B42-5-6		4.9		SW	**Well-graded SAND with gravel** Granular fill material including charcoal and rock fragments, moderately loose, no odor, no sheen.
SH	2		10			0		Wood	**WOOD DEBRIS** Brown to red/brown, wood debris with 5-10% silty matrix, moist to wet at ~9 feet bgs, slight creosote odor, light sheen below ~12 feet bgs.
SH	1.5		15						
SH	2					0			
SH	2.5		20	B42-22-23		0		SP	**Poorly graded SAND** Gray, poorly graded fine to medium sand, some fibrous to blocky wood debris locally, moderately dense, wet, no odor, no sheen.
SH	3		25	B42-24.5-25.5		0		CL/ ML	**Silty CLAY** Tan/gray, silty clay, moderately stiff, medium plasticity, wet, no odor, no sheen.
SH	3		30	B42-30-31		0		SP	**Poorly graded SAND** Gray, poorly graded sand, mostly medium sand, moderately dense, wet, possible very faint creosote odor, no sheen.
SH	4		35					ML / SP	**Sandy SILT** Tan/gray, silt with 30-40% fine to very fine sand, moderately stiff, wet, no odor, no sheen. **Poorly graded SAND** Gray, poorly graded medium to coarse sand, up to 15% silt at ~33-34 feet bgs, otherwise <5% silt, moderately dense, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B42-RGW screen set 22-26 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property		**Boring Name**	B-43
DRILLING COMPANY: Cascade	DRILLER: Kasey	**Project Name**	Tacoma Metals
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch	**Project Number**	996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 44.0 ft. bgs
BLANK CASING: N/A	FROM N/A TO N/A FT.	DATE STARTED: 10/30/07	DATE COMPLETED: 10/30/07
SLOTTED CASING: N/A	FROM N/A TO N/A FT.	INITIAL WATER DEPTH (FT): 10	
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.	LOGGED BY: DKM	
SEAL: Bentonite	FROM 0 TO 44 FT.	SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: N/A	FROM N/A TO N/A FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	2.5					0.5		SW	**Well-graded SAND with gravel** Gray/orange/dark gray, Sand and gravel (20-30%) fill material, cinders, rock fragments, some silt, moist, no odor, no sheen.
SH	2.5		5	B43-6-7		0			**WOOD DEBRIS** Brown, wood material with 5-10% gray silty matrix material, matrix varies locally from <5% up to ~20%, moist to wet at ~10 feet bgs, no odor, no sheen.
SH	1.5		10			0		Wood	
SH	2.5		15	B43-14.5-15.5		0			**Poorly graded SAND** Gray, poorly graded sand, mostly medium sand at top grading to fine sand at bottom, some woody material in upper ~5 feet, moderately dense, wet, slight to moderate creosote odor ~27-33 feet bgs, otherwise no odor, no sheen.
SH	3		20						
SH	3.5					0			
SH	3.5		25			0		SP	
SH	3.5		30	B43-28.5-29.5		0			
SH	3.5		35	B43-34.5-35.5		0			
SH	3.5					0		ML/CL	**Clayey SILT** Gray, clayey silt, moderately stiff, medium plasticity, wet, no odor, no sheen.
SH	3		40					SP	**Poorly graded SAND** Gray, poorly graded sand, medium to coarse sand at top grading to mostly medium sand by ~39 feet bgs, local small (<1") silty fine sand layers or nodules below ~38 feet bgs, moderately dense, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B43-RGW screen set 26-30 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	**Boring Name** B-44
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
Project Name Tacoma Metals	
Project Number 996098*00	
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite	FROM 0 TO 40 FT.
GROUT: N/A	FROM N/A TO N/A FT.
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 40.0 ft. bgs
DATE STARTED: 10/31/07	DATE COMPLETED: 10/31/07
INITIAL WATER DEPTH (FT): 8	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	3			B44-2-3				GW	**Well-graded GRAVEL**
								SM	Well graded gravel fill material, no odor, no sheen.
								ML	**Silty SAND**
									Tan to gray, silty fine sand fill, moist, no odor, no sheen.
SH	3		5				Wood		**SILT**
									Dark brown, silt, abundant fine wood material, moderately soft, moist, no odor, no sheen.
									WOOD DEBRIS
SH	2		10				ML	ML	Brown/red-brown, wood debris with 10-15% silty matrix overall, matrix locally variable <5% up to 20%, moist, no odor, no sheen.
									Sandy SILT with gravel
								SP	Dark gray, silt/sand mixture with some gravel, very loose/soft, moist to wet at ~8 feet bgs, no odor, no sheen.
SH	2.5		15	B44-14-15					**SILT**
									Gray, silt, soft, low placticity, wet, no odor, no sheen.
									Poorly graded SAND
								SM	Gray, poorly graded medium sand, moderately dense, wet, no odor, no sheen.
SH	2					0			**Silty SAND**
									Gray, fine sand with 30-40% silt overall, interbedded poorly graded sand with silt, silty sand, and sandy silt, lower contact is sharp but depth is approximate, moderately dense, wet, no odor, no sheen.
SH	2.5		20			0			**Poorly graded SAND**
									Gray, poorly graded sand, fine to medium sand at top, grading gradually to medium/coarse sand by ~30 feet bgs, moderately dense, wet, slight creosote odor and light sheen at ~24-26 feet bgs and below ~30 feet bgs, no odor and no sheen otherwise.
SH	2.5		25	B44-25.5-26.5		0		SP	
SH	2		30	B44-31.5-32.5		0			
								CL/ ML	Silty **CLAY**
SH	3					0			Dark brown, silty clay, moderately stiff, high plasticity, wet, no odor, no sheen.
			35						**Poorly graded SAND**
SH	3					0		SP	Gray, poorly graded sand, fine to medium sand at top grading to medium/coarse sand by ~37 feet bgs, moderately dense, wet, no odor, no sheen.
			40						

NOTES

1. Reconnaissance groundwater sample B44-RGW screen set 28-32 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 7/1/08

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	**Boring Name** B-45
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
	Project Name Tacoma Metals
	Project Number 996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite Chips	FROM 0 TO 28 FT.
GROUT: N/A	FROM N/A TO N/A FT.
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 28.0 ft. bgs
DATE STARTED: 10/30/07	DATE COMPLETED: 10/30/07
INITIAL WATER DEPTH (FT): 8	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE ____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	2.5					0		GW	**Well-graded GRAVEL with sand** Tan, gravelly fill with 40-45% sand, moderately dense, no odor, no sheen.
								SW	**Well-graded SAND** Dark gray, granular material with cinders, charcoal, and pumice-like fragments, no odor, no sheen.
SH	2.5		5	B45-6-7		0		CL/ ML	**Silty CLAY** Orange/gray to gray, silty clay, moderately stiff, medium plasticity, moist, no odor, no sheen.
SH	3.5		10	B45-11-12		0		SP	**Poorly graded SAND** Dark Gray, poorly graded medium sand, grading to medium/coarse sand mixure by ~15 feet bgs, moderately dense, wet, no odor, no sheen.
SH	2		15			0			
SH	2.5					0			@ ~17.5 feet bgs, ~1.5 inch silt layer or nodule
SH	3.5		20	B45-21-22				CL/ ML	**Silty CLAY** Tan/light brown, silty clay, moderately stiff, moderately high plasticity, wet, no odor, no sheen.
SH	3.5		25			0		SP/ SM	**Poorly graded SAND with silt** Gray, poorly graded fine sand with 10-15% silt, moderately dense, wet, no odor, no sheen.
								SP	**Poorly graded SAND** Gray, poorly graded medium to fine sand, moderately dense, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B45-RGW screen set 18-22 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	**Boring Name** B-46
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
	Project Name Tacoma Metals
	Project Number 996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite	FROM 0 TO 32 FT.
GROUT: N/A	FROM N/A TO N/A FT.
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 32.0 ft. bgs
DATE STARTED: 10/31/07	DATE COMPLETED: 10/31/07
INITIAL WATER DEPTH (FT): 8	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE_____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	3					0		SW	**Well-graded SAND with gravel** Brown, sandy fill with 10-20% gravel, some silt, moderately dense, moist, no odor, no sheen.
SH	3		5	B46-6-7		0		SP/ SM	**Poorly graded SAND with silt** Brown, fine sand with 10-20% silt, moderately dense, moist to wet at ~9 feet bgs, no odor, no sheen.
SH	3.5		10			0		Wood	**WOOD DEBRIS** Dark brown to orange-brown, wood debris, 5-10% sandy matrix material, wet, no odor, no sheen.
SH	4			B46-13-14				SM	**Silty SAND** Dark gray, fine sand with 20-30% silt, moderately dense, wet, no odor, no sheen.
SH	3		15			0		SP	**Poorly graded SAND** Gray, poorly graded medium sand, local small (<1/2") silt nodules, moderately dense, wet, no odor, no sheen.
SH	3.5		20	B46-21-22		0		ML	**Sandy SILT** Gray, silt with ~40% fine sand, moderately stiff, wet, no odor, no sheen.
								CL/ ML	
SH	4		25			0		SM	**Silty CLAY** Tan to gray, layered, silty clay, moderately stiff, moderately high plasticity, wet, no odor, no sheen.
									Silty SAND Gray, fine sand with 30-40% silt, moderately dense, wet, no odor, no sheen.
SH	3.5		30					SP	**Poorly graded SAND** Gray, poorly graded medium sand, moderately dense, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B46-RGW screen set 17-21 feet bgs.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	**Boring Name** B-47
DRILLING COMPANY: Cascade	DRILLER: Kasey
DRILLING METHOD(S): GeoProbe	DRILL BIT(S) SIZE: 2-inch
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: N/A	FROM N/A TO N/A FT.
SLOTTED CASING: N/A	FROM N/A TO N/A FT.
SIZE AND TYPE OF FILTER PACK: N/A	FROM N/A TO N/A FT.
SEAL: Bentonite	FROM 0 TO 36 FT.
GROUT: N/A	FROM N/A TO N/A FT.
Project Name Tacoma Metals	
Project Number 996098*00	
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 36.0 ft. bgs
DATE STARTED: 10/31/07	DATE COMPLETED: 10/31/07
INITIAL WATER DEPTH (FT): 8	
LOGGED BY: DKM	
SAMPLING METHODS: MacroCore with PVC Liner	WELL COMPLETION: ☐ SURFACE HOUSING ☐ STAND PIPE _____ FT.

SAMPLES TYPE	RECOV (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	BACKFILL DETAILS	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
SH	3					0		SW/SM	**Well-graded SAND with silt and gravel** Brown to dark brown, gravelly fill with 40-45% sand and 5-10% silt, moderately dense, moist, no odor, no sheen.
SH	1.8		5	B47-6-7		0		GM	**Silty GRAVEL with sand** Gravelly fill with 30-40% sand and 10-15% silt, moderately dense, moist, no odor, no sheen.
SH	4		10			0		ML/CL SP SM	**Clayey SILT** Gray, clayey silt, moderately soft, medium plasticity, wet, no odor, no sheen.
SH	3			B47-13-t4				ML CL	**Poorly graded SAND** Gray, poorly graded medium sand, moderately dense, wet, no odor, no sheen.
SH	0		15			0		SM	**Silty SAND** Gray, fine sand with 20-30% silt, moderately dense, wet, no odor, no sheen.
									Sandy SILT Gray, silt with 30-40% fine to very fine sand, moderately stiff, wet, no odor, no sheen.
SH	1.5		20			0		GP/GM	**Lean CLAY** Olive gray, clay, some fine root material, moderately stiff, high plasticity, wet, no odor, no sheen.
									Silty SAND Gray/brown, fine sand with 35-45% silt, layered texture, moderately dense, wet, no odor, no sheen.
SH	2.5		25			0			**Poorly graded GRAVEL with silt and sand** Gray-green to dark gray, angular medium gravel-sized rock material with up to 15% silt/sand matrix material, generally poor sample recovery, ~6 inches of white fractured rock material with no matrix at top of unit, dense, wet, no odor, no sheen.
SH	3.3		30	B47-30.5-31.5		0		SP	**Poorly graded SAND** Gray, poorly graded medium sand, some coarse sand, moderately dense, wet, no odor, no sheen.
SH	3.5		35			0		ML/CL SP ML/CL SP	**Clayey SILT** Tan/brown, clayey silt, moderately stiff, medium plasticity, wet, no odor, no sheen. **Poorly graded SAND** Gray, poorly graded medium to coarse sand, no odor, no sheen. **Sandy clayey SILT** Gray, interbedded clayey silt and poorly graded medium to coarse sand with silt, layers typically 1/2 to 1 inch thick with abrupt contacts, wet, no odor, no sheen. **Poorly graded SAND** Gray, poorly graded sand, coarse to medium sand at top grading to fine/medium sand by ~35.5 feet bgs, some silt below ~35.5 feet, moderately dense, wet, no odor, no sheen.

NOTES

1. Reconnaissance groundwater sample B47-RGW screen set 28-32 feet bgs.

KJ PNW_LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: 18th Street Right of Way		**Well Name**	MW-32
DRILLING COMPANY: Cascade	DRILLER: Scott	**Project Name**	Tacoma Metals
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9-inch	**Project Number**	996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 24.5 ft. bgs
BLANK CASING: 2-inch Schedule 40 PVC Pipe	FROM 0 TO 14.15 FT. / 24.15 TO 24.5	DATE STARTED: 2/29/08	DATE COMPLETED: 2/29/08
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010 inch slots	FROM 14.15 TO 24.15 FT.	INITIAL WATER DEPTH (FT): 8	
SIZE AND TYPE OF FILTER PACK: Lapis Lustrr #2/12 Monterey Sand	FROM 12 TO 24.5 FT.	LOGGED BY: DKM	
SEAL: Pure Gold Bentonite Chips	FROM 1 TO 12 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE ____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			0				GP	**Poorly graded GRAVEL with sand** Brown, gravelly fill material, moderately dense, no odor, no sheen.
							SP	**Poorly graded SAND with gravel** Gray, poorly graded medium-fine sand with 5-10% gravel, moderately dense, no odor, no sheen.
							SP/ SM	**Poorly graded SAND with silt** Brown, sand with 30% silt, some organic debris and wood chip material, soft, no odor, no sheen.
			5				SW	**Well-graded SAND with gravel** Dark gray, sand with 50% gravel, moderately dense, no odor, no sheen.
							SW/ SM	**Well-graded SAND with silt** Dark gray to brown, sand with 30% silt, moderately dense, moist, no odor, no sheen.
							Wood	**WOOD DEBRIS** Dark brown to red-brown, wood material with 5-10% silty matrix, moist, no odor, no sheen.
			10				GW/ GM	**Well-graded GRAVEL with silt and sand** Dark gray, well graded gravel with 10% fine sand and 20% silt, moderately dense, wet, no odor, no sheen.
							SP	**Poorly graded SAND** Gray, poorly graded medium sand, 5% fine to medium gravel in upper 2 feet, grading to fine sand by 20-21 feet, moderately dense, wet, no odor, no sheen.
			15					
SS	1.5	7 8 8	20					
SS	.5	5 8 8					SP/ SM	**Poorly graded SAND with silt** Gray, poorly graded fine to medium sand with ~15% silt, moderately dense, wet, no odor, no sheen.
SS	1.5	3 3 3					CL/ ML	**Silty CLAY** Gray, silty clay, moderately stiff, medium-low plasticity, wet, no odor, no sheen.

NOTES

1. Lithology for upper 20 feet is based on B-37A.

KJ PNW_LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

SHEET 1 OF 1

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	**Well Name:** MW-33
DRILLING COMPANY: Cascade	DRILLER: Scott
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9-inch
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: 2-inch Schedule 40 PVC Pipe	FROM 0 TO 14.15 FT. / FROM 24.15 TO 24.5 FT.
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010 inch slots	FROM 14.15 TO 24.15 FT.
SIZE AND TYPE OF FILTER PACK: Lapis Lustrr #2/12 Monterey Sand	FROM 12 TO 24.5 FT.
SEAL: Pure Gold Bentonite Chips	FROM 1 TO 12 FT.
GROUT: Concrete	FROM 0 TO 1 FT.
Project Name: Tacoma Metals	
Project Number: 996098*00	
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 24.5 ft. bgs
DATE STARTED: 2/28/08	DATE COMPLETED: 2/28/08
INITIAL WATER DEPTH (FT): 9	
LOGGED BY: DKM	
SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE ____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			0				GW	**Well-graded GRAVEL with sand** Dark orange/brown, gravelly fill with 30-40% sand, moderately dense, no odor, no sheen.
							SW/SM	**Well-graded SAND with silt** Dark orange/brown, silty fine sand with 10-20% wood chip material and 10% gravel, moderately dense, moist, no odor, no sheen.
			5				SW/SM	**Well-graded SAND with silt** Tan/gray, silty fine sand with 5-10% gravel, moderately dense, moist, no odor, no sheen.
							Wood	**Well-graded SAND with silt** Dark orange/brown, fine sand with 10% silt, moderately dense, moist, no odor, no sheen.
							SM	**WOOD DEBRIS** Brown/red, wood debris with up to 50% silt/sand matrix material, moist, no odor, no sheen.
			10					**Silty SAND** Tan/gray, fine sand with 30-40% silt, moderately dense, moist, no odor, no sheen.
								Poorly graded SAND Dark gray, poorly graded medium sand, coarsening downwards to medium/coarse sand, some fine gravel at 20-24 feet bgs, moderately dense, wet, no odor, no sheen.
			15				SP	
SS	1.5	8 12 15	20					
SS	1	8 15 16						
SS	1.5	10 6 4					ML/CL	**Clayey SILT** Gray, clayey silt, moderately stiff, moderate plasticity, wet, no odor, no sheen.

NOTES

1. Lithology for upper 20 feet is based on B-39A.

KJ PNW_LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (B-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	
DRILLING COMPANY: Cascade	DRILLER: Scott
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9-inch
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: 2-inch Schedule 40 PVC Pipe	FROM 0 TO 25.5 FT. 15.5 TO 25.6
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010 inch slots	FROM 15.5 TO 25.5 FT.
SIZE AND TYPE OF FILTER PACK: Lapis Lustrr #2/12 Monterey Sand	FROM 13.5 TO 25.6 FT.
SEAL: Pure Gold Bentonite Chips	FROM 1 TO 25.6 FT. 13.5 TO 26
GROUT: Concrete	FROM 0 TO 1 FT.

Well Name	MW-34
Project Name	Tacoma Metals
Project Number	996098*00
ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 26.0 ft. bgs
DATE STARTED: 2/28/08	DATE COMPLETED: 2/28/08
INITIAL WATER DEPTH (FT): 9	
LOGGED BY: DKM	
SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE_____ FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
								Asphalt surface and base gravel fill.
							SM	**Silty SAND with gravel** Tan, fine to medium sand with 20-25% silt and 5-15% gravel, moderately dense, moist, no odor, no sheen.
			5				SP	**Poorly graded SAND** Brown, poorly graded medium to coarse sand, ~5% fine gravel, moderately dense, moist, no odor, no sheen.
							OH	**Organic SILT** Dark brown to dark gray, silt with abundant organic material including woody debris, soft, moist, no odor, no sheen.
							CL/ ML	**Silty CLAY** Tan to tan-brown, silty clay, moderately stiff, high plasticity, moist, no odor, no sheen.
			10				ML	**Sandy SILT** Gray/brown, silt with 30-40% fine sand overall, layered texture with interbedded clayey silt, silt, and sandy silt, wet, no odor, no sheen.
							SP	**Poorly graded SAND** Dark gray, poorly graded sand, mostly medium sand at top coarsening slightly downward, local small (<1/2") silt nodules ~16-20 feet bgs, moderately dense, wet, no odor, no sheen.
			15					
			20					
SS	1.5	9 13 15						
SS	1.5	13 15 18						
SS	1.5	10 15 18					SM	**Silty SAND** Gray, fine sand with 20-25% silt, moderately dense, wet, no odor, no sheen.
SS	1.5	10 12 15	25				SP	**Poorly graded SAND** Gray, poorly graded fine sand, moderately dense, wet, no odor, no sheen.
							ML/ CL	**Clayey SILT** Gray, clayey silt, moderately stiff, moderately high plasticity, wet, no odor, no sheen
							SP/ SM	**Poorly graded SAND with silt** Gray, poorly graded fine sand with some silt, moderately dense, wet, no odor, no sheen.

NOTES

1. Lithology for upper 20 feet is based on B-41.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: JJ Port Property	**Well Name** MW-35
DRILLING COMPANY: Cascade	DRILLER: Scott — **Project Name** Tacoma Metals
DRILLING METHOD(S): HSA	DRILL BIT(S) SIZE: 9-inch — **Project Number** 996098*00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.
BLANK CASING: 2-inch Schedule 40 PVC Pipe	FROM 0 TO 40.5 FT. / 50.4 TO 50.5
SLOTTED CASING: 2-inch Schedule 40 PVC Pipe, 0.010 inch slots	FROM 40.5 TO 50.4 FT.
SIZE AND TYPE OF FILTER PACK: Lapis Lustrr #2/12 Monterey Sand	FROM 38.5 TO 50.5 FT.
SEAL: Pure Gold Bentonite Chips	FROM 2 / 50.5 TO 38.5 FT. / 51
GROUT: Concrete	FROM 0 TO 2 FT.

ELEVATION AND DATUM: ground surface	TOTAL DEPTH: 51.0 ft. bgs
DATE STARTED: 2/28/08	DATE COMPLETED: 2/28/08
INITIAL WATER DEPTH (FT): 8	
LOGGED BY: DKM	
SAMPLING METHODS: Split Spoon	WELL COMPLETION: ☐ SURFACE HOUSING ■ STAND PIPE 2.5 FT.

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
							GW	**Well-graded GRAVEL** Well graded gravel fill material, no odor, no sheen.
							SM	**Silty SAND** Tan to gray, silty fine sand fill, moist, no odor, no sheen.
							ML	**SILT** Dark brown, silt, abundant fine wood material, moderately soft, moist, no odor, no sheen.
								WOOD DEBRIS Brown/red-brown, wood debris with 10-15% silty matrix (locally variable <5% up to 20%), moist to wet, no odor, no sheen.
SS	1.5	1 1 2	5				Wood	
SS	1.5	2 3 3	10					
							SP	**Poorly graded SAND** Gray, poorly graded medium sand, moderately dense, wet, no odor, no sheen.
SS	1.5	2 3 3	15				SM	**Silty SAND** Gray, fine sand with 30-40% silt overall, interbedded poorly graded sand with silt, silty sand, and sandy silt, moderately dense, wet, no odor, no sheen.
SS	1	3 3 3	20					**Poorly graded SAND** Gray, poorly graded sand, typically medium to coarse sand, locally some silt and gravel, moderately dense, wet, no odor, no sheen.
SS	.5	50	25				SP	
SS	.5	50						
SS	.5	50						Dark gray coarse sand, some medium sand.

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) |3-88) (8-90)

Project Name Tacoma Metals **Project Number** 996098*00 **Well Name** MW-35

SAMPLES TYPE	RECOV (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
								Poorly graded SAND
SS	1	18 23 25	30					Gray, poorly graded sand, typically medium to coarse sand, locally some silt and gravel, moderately dense, wet, no odor, no sheen. ***(Continued)***
SS	1.5	15 19 20						
SS	1.5	15 18 23						
SS	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					SP	
SS	1.5	18 23 24	40					Locally 5-10% silt in small nodules.
SS	1.5	12 15 18						
SS	1.5	15 18 20						
SS	1.5	18 26 30	45					Gravelly sand (fine gravel) 44-47 feet bgs
SS	1.5	18 27 30						
SS	1.5	15 22 29						
SS	1.5	18 26 15	50					
SS	.5	18					ML SP	**Sandy SILT** 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.

NOTES

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

KJ PNW LOGS B37 TO B47 2007.GPJ KJ PNW.GDT 5/7/08

F-40.1
(6-87) (3-88) (8-90)

Attachment 3

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

FRIEDMAN & BRUYA, INC.

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

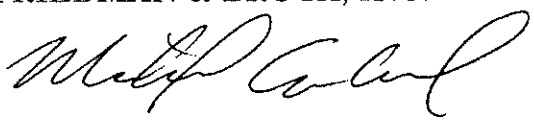
Dear Mr. Malte:

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

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.

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (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

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

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

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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-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 710384-03	<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 710384-11	<50	<250	88

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

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 710384-13	<50	<250	91
Method Blank	<50	<250	93

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B38-5-6	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-01 1/5
Date Analyzed:	11/01/07	Data File:	110122.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B38-14.5-15.5	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-02 1/5
Date Analyzed:	11/01/07	Data File:	110113.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B38-22.5-23.5	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-03 1/5
Date Analyzed:	11/01/07	Data File:	110117.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B37-5-6	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-04 1/5
Date Analyzed:	11/04/07	Data File:	110353.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

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

Compounds:	Concentration 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B37-14-15	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-05 1/5
Date Analyzed:	11/01/07	Data File:	110114.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

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

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	0.080
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

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

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

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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B39-5.5-6.5	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-07 1/5
Date Analyzed:	11/01/07	Data File:	110125.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B39-10-11	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-08 1/5
Date Analyzed:	11/01/07	Data File:	110118.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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

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

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	0.080
Acenaphthene	0.38
Fluorene	0.39
Phenanthrene	1.8
Anthracene	2.3 ve
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

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 1/50
Date Analyzed:	11/04/07	Data File:	110352.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B40-6.5-7.5	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-11 1/5
Date Analyzed:	11/01/07	Data File:	110119.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B40-14-15	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-12 1/5
Date Analyzed:	11/01/07	Data File:	110120.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B40-21.5-22.5	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710384
Date Extracted:	10/30/07	Lab ID:	710384-13 1/5
Date Analyzed:	11/01/07	Data File:	110121.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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 710384
Date Extracted:	10/30/07	Lab ID:	071702mb2 1/5
Date Analyzed:	11/01/07	Data File:	110110.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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)

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

Laboratory Code: Laboratory Control Sample

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

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

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	104	101	69-125	3

Laboratory Code: Laboratory Control Sample Silica Gel

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

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

710384

SAMPLE CHAIN OF CUSTODY ME 10/30/07

VSI/DO3

Page # 1 of 2

Send Report To Dean Malte
Company Kennedy/Jenks
Address 32001 32nd Ave S, Ste. 100
City, State, ZIP Federal Way WA 98001
Phone # 253 874 0555 Fax # 253 952 3435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals

PO #

REMARKS Soil samples

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel (NWTPH-Dx)	TPH-Gasoline (NWTPH-Gx)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAHs 8270 SIM				HOLD		Notes
B38-5-6	01 A-C	10/29/07	815	Soil	3	X	X					X						TPH-G -- Gas only (no BTEX)
B38-14.5-15.5	02 A-C		835			X	X					X						
B38-22.5-23.5	03 A-C		930			X	X					X						
B37-5-6	04 A-C		1020			X	X					X						
B37-14-15	05 A-C		1035			X	X					X						
B37-21-22	06 A-C		1050			X	X					X						
B39-5.5-6.5	07 A-C		1140			X	X					X						
B39-10-11	08 A-C		1155			X	X					X						
B39-21-22	09 A-C		1215			X	X					X						
B39-23-24	10 A-C	↓	1225	↓	↓											X		

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

FORMS\COC\COC.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Dean Malte	KJC	10/30/07	740
Received by:		Michael Erdahl	FLBruya	↓	↓
Relinquished by:					
Received by:			Samples received at 2 °C		

710384

SAMPLE CHAIN OF CUSTODY

ME 10/30/07

VS1/DO3

Page # 2 of 2

Send Report To Dean Malte

Company Kennedy/Jenks

Address 32001 32nd Ave S, Ste 100

City, State, ZIP Federal Way WA 98001

Phone # 253 874 0555 Fax # 253-952-3435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals

PO #

REMARKS (125 ml jar) Soil Sample)

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Dispose after 30 days
- [ ] Return samples
- [x] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel (125 ml)	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH by 8270 SIM					Notes
B40-6.5-7.5	11 A-C	10/29/07	1310	Soil	3	X	X					X					TPH-G -- Gas Only (no BTEX)
B40-14-15	12 A-C	↓	1325	↓	↓	X	X					X					
B40-21.5-22.5	13 A-C	↓	1340	↓	↓	X	X					X					

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

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	KJC	10/30/07	740
Received by:	Michael Enchill	FCBinc	1	1
Relinquished by:				
Received by:		Samples	at 2 °C	

FRIEDMAN & BRUYA, INC.

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

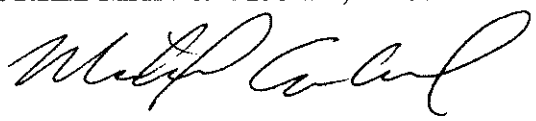
Dear Mr. Malte:

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

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.

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (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

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-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 710401-04	<50	<250	100
B42-5-6 710401-05	<50	<250	98
B42-22-23 710401-06	<50	<250	98
B42-24.5-25.5 710401-07	<50	<250	98
B43-6-7 710401-09	130	<250	104
B43-14.5-15.5 710401-10	<50	<250	98
B43-28.5-29.5 710401-11	<50	<250	96

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
B43-34.5-35.5 710401-12	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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B41-7-8	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-01 1/5
Date Analyzed:	11/04/07	Data File:	110330.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B41-11-12	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-02 1/5
Date Analyzed:	11/04/07	Data File:	110331.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	98	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

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:	Lower Limit:	Upper Limit:
Anthracene-d10	100	50	150
Benzo(a)anthracene-d12	104	50	150

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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B42-22-23	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-06 1/5
Date Analyzed:	11/04/07	Data File:	110333.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B42-24.5-25.5	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-07 1/5
Date Analyzed:	11/04/07	Data File:	110334.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

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

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

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

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.028
Acenaphthylene	<0.01
Acenaphthene	0.015
Fluorene	0.017
Phenanthrene	0.11
Anthracene	0.014
Fluoranthene	0.026
Pyrene	0.027
Benz(a)anthracene	0.024
Chrysene	0.036
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	<0.01
Benzo(g,h,i)perylene	<0.01

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

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

Compounds:	Concentration 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
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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B43-28.5-29.5	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-11 1/5
Date Analyzed:	11/04/07	Data File:	110341.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B43-34.5-35.5	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-12 1/5
Date Analyzed:	11/04/07	Data File:	110345.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B45-6-7	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-13 1/5
Date Analyzed:	11/04/07	Data File:	110342.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B45-11-12	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-14 1/5
Date Analyzed:	11/05/07	Data File:	110520.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B45-21-22	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710401
Date Extracted:	10/31/07	Lab ID:	710401-15 1/5
Date Analyzed:	11/05/07	Data File:	110523.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	93	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

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:	Lower Limit:	Upper Limit:
Anthracene-d10	91	50	150
Benzo(a)anthracene-d12	88	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

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:	11/01/07	Lab ID:	071733 mb2 1/5
Date Analyzed:	11/03/07	Data File:	110317.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	113	61-153

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

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

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (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)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance 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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (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)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance 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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

710401

SAMPLE CHAIN OF CUSTODY ME 10-31-07 D04 / V81

Send Report To Dean Malte
Company Kennedy/Jenks
Address 32001 32nd Ave S, Ste. 100
City, State, ZIP Federal Way WA 98001
Phone # 253 874 0555 Fax # 253 952 3435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals

PO #

REMARKS (gasoline) (BTEX) So.1 samples

Page # ____ of ____

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel (NWTPH-Dx)	TPH-Gasoline (NWTPH-Gx)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH 8270 SIM				Hold		Notes
B41-7-8	01A-C	10/30/07	800	So.1	3	X	X					X						
B41-11-12	02A-C		810			X	X					X						
B41-21.5-22.5	03A-C		840													X		
B41-24.5-25.5	04A-C		845			X	X					X						
B42-5-6	05A-C		940			X	X					X						
B42-22-23	06A-C		1000			X	X					X						
B42-24.5-25.5	07A-C		1010			X	X					X						
B42-30-31	08A-C		1030													X		
B43-6-7	09A-C		1130			X	X					X						
B43-14.5-15.5	10A-C		1145			X	X					X						

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	KJC	10/31/07	740
Received by:	Michael Erdahl	FCBru	"	"
Relinquished by:				
Received by:		Samples received at	1	°C

FORMS\COC\COC.DOC

710401

SAMPLE CHAIN OF CUSTODY ME 10-31-07

D04/V81

Page # ____ of ____

Send Report To Dean Malfe

Company Kennedy/Jenks

Address 32001 32nd Ave S, Ste 100

City, State, ZIP Federal Way WA 98001

Phone #2539740555 Fax #2539523435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals

PO #

REMARKS (w/ silica gel) (NO BTEX) Soil Samples

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☐ RUSH ____
- Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel (w/ silica gel)	TPH-Gasoline (NO BTEX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH by 8270 SIM			HOLD			Notes
B43-28.5-29.5	11A-C	10/30/07	1205	50:1	3	X	X					X						⊗-per DM 11/1/07 MS
B43-34.5-35.5	12A-C		1215			⊗	⊗					⊗			X			
B45-6-7	13A-C		1350			X	X					X						
B45-11-12	14A-C		1400			X	X					X						
B45-21-22	15A-C	↓	1415	↓	↓	X	X					X						

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malfe	KJC	10/31/07	740
Received by:	Michael Erdahl	FB	"	"
Relinquished by:				
Received by:				

Samples received at 1 °C

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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

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.

Laboratory ID	Kennedy-Jenks
711011-01	B44-2-3
711011-02	B44-14-15
711011-03	B44-25.5-26.5
711011-04	B44-31.5-32.5
711011-05	B47-6-7
711011-06	B47-13-14
711011-07	B47-30.5-31.5
711011-08	B46-6-7
711011-09	B46-13-14
711011-10	B46-21-22

All quality control requirements were acceptable.

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 711011-07	<2	101
B46-6-7 711011-08	<2	95
B46-13-14 711011-09	<2	97
B46-21-22 711011-10	<2	90
Method Blank	<2	88

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 (C_{10}-C_{25})	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 711011-04	<50	<250	92
B47-6-7 711011-05	78	<250	86
B47-13-14 711011-06	<50	<250	91
B47-30.5-31.5 711011-07	<50	<250	86
B46-6-7 711011-08	<50	<250	95
B46-13-14 711011-09	100	<250	95
B46-21-22 711011-10	<50	<250	95
Method Blank	<50	<250	94

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B44-2-3	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711011
Date Extracted:	11/02/07	Lab ID:	711011-01 1/5
Date Analyzed:	11/05/07	Data File:	110531.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B44-14-15	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711011
Date Extracted:	11/02/07	Lab ID:	711011-02 1/5
Date Analyzed:	11/05/07	Data File:	110514.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B44-31.5-32.5	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711011
Date Extracted:	11/02/07	Lab ID:	711011-04 1/5
Date Analyzed:	11/05/07	Data File:	110515.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

FRIEDMAN & BRUYA, INC.

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

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

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.038
Acenaphthylene	0.046
Acenaphthene	<0.01
Fluorene	0.016
Phenanthrene	0.15
Anthracene	0.080
Fluoranthene	0.27
Pyrene	0.47
Benz(a)anthracene	0.37
Chrysene	0.73
Benzo(a)pyrene	0.62
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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B47-13-14	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711011
Date Extracted:	11/02/07	Lab ID:	711011-06 1/5
Date Analyzed:	11/05/07	Data File:	110525.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B47-30.5-31.5	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711011
Date Extracted:	11/02/07	Lab ID:	711011-07 1/5
Date Analyzed:	11/05/07	Data File:	110516.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B46-6-7	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711011
Date Extracted:	11/02/07	Lab ID:	711011-08 1/5
Date Analyzed:	11/05/07	Data File:	110517.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B46-13-14	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711011
Date Extracted:	11/02/07	Lab ID:	711011-09 1/5
Date Analyzed:	11/05/07	Data File:	110526.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

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

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.022
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.085
Anthracene	<0.01
Fluoranthene	0.049
Pyrene	0.045
Benz(a)anthracene	0.011
Chrysene	0.024
Benzo(a)pyrene	0.014
Benzo(b)fluoranthene	0.019
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.011
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

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 Analyzed:	11/05/07	Data File:	110524.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

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

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 711011
Date Extracted:	11/02/07	Lab ID:	071756-mb 1/5
Date Analyzed:	11/05/07	Data File:	110506.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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)

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

Laboratory Code: Laboratory Control Sample

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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	82	70-127

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (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)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance 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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

711011

SAMPLE CHAIN OF CUSTODY ME 11-01-07.

VSL / A04

Page # _____ of _____

Send Report To Dean Malte
Company Kennedy/Jenks
Address 32001 32nd Ave S, Ste 100
City, State, ZIP Federal Way WA 98001
Phone # 253 8740555 Fax # 2539523435

SAMPLERS *(signature)*

PROJECT NAME/NO. Tacoma Metals

PO #

REMARKS Soil Samples (Diesel/Gasoline/BTEX)

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Dispose after 30 days
- [ ] Return samples
- [x] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel (w/ silica gel)	TPH-Gasoline (NWTPH-Gx)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH 8270 SIM		TPH			Notes
B44-2-3	-01 A-C	10/31/07	805	Soil	3	X	X					X					
B44-14-15	-02 A-C		815			X	X					X					
B44-25.5-26.5	-03 A-C		835											X			
B44-31.5-32.5	-04 A-C		900			X	X					X					
B47-6-7	-05 A-C		1015			X	X					X					
B47-13-14	-06 A-C		1025			X	X					X					
B47-30.5-31.5	-07 A-C		1055			X	X					X					
B46-6-7	-08 A-C		1155			X	X					X					
B46-13-14	-09 A-C		1210			X	X					X					
B46-21-22	-10 A-C	↓	1235	↓	↓	X	X					X					Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	KJC	11/1/07	925
Received by: Ela Sundquist	Ela Sundquist	FNBI	↓	↓
Relinquished by: Melissa Lis	Melissa Lis	F & BI (NP)		
Received by:				

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

FORMS\COC\COC.DOC

Attachment 4

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

FRIEDMAN & BRUYA, INC.

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

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.

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 (% Recovery) (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

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})	Motor Oil Range (C_{25}-C_{36})	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

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

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

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

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 Extracted:	10/30/07	Lab ID:	710383-01 1/10
Date Analyzed:	11/01/07	Data File:	110111.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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

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 rr
Date Analyzed:	11/01/07	Data File:	110112.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B39-RGW	Client:	Kennedy-Jenks
Date Received:	10/30/07	Project:	Tacoma Metals, F&BI 710383
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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	50	150
Benzo(a)anthracene-d12	101	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	4.2
Acenaphthylene	<0.1
Acenaphthene	5.5
Fluorene	3.1
Phenanthrene	8.9
Anthracene	1.6
Fluoranthene	2.8
Pyrene	1.9
Benz(a)anthracene	0.20
Chrysene	0.28
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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

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

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

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

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 710383
Date Extracted:	10/30/07	Lab ID:	071707mb2
Date Analyzed:	10/30/07	Data File:	103011.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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)

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

Laboratory Code: Laboratory Control Sample

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

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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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.

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.

710383

SAMPLE CHAIN OF CUSTODY

ME 10/30/07

V2/DQ4

Page # 1 of 1

Send Report To Dean Malte

Company Kennedy/Jenks Consultants

Address 32001 32nd Ave S, Ste. 100

City, State, ZIP Federal Way WA 98001

Phone # 253 874 0555 Fax # 253 952 3435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals

PO #

REMARKS (2) Silica gel (Water Sample)

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Dispose after 30 days
- [ ] Return samples
- [x] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel (2)	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH 8270 SIM						Notes
B38-RGW	01 A-F	10/29/07	945	Water	6	X	X					X						TPH-G -- Gas Only (no BTEX)
B37-RGW	02 A-F	↓	1110	↓	↓	X	X					X						
B39-RGW	03 A-F		1240			X	X					X						
B40-RGW	04 A-F	↓	1355	↓	↓	X	X					X						

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	KSC	10/30/07	740
Received by:	Michael Erchl	FHBM	L	L
Relinquished by:				
Received by:		Samples received at 3	°C	

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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

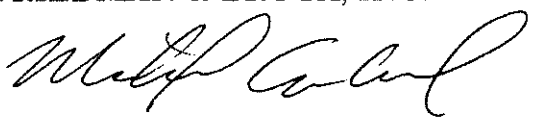
Dear Mr. Malte:

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

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.

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 (% Recovery) (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

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 (C_{10}-C_{25})	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

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

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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B42-RGW	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710407
Date Extracted:	11/01/07	Lab ID:	710407-02
Date Analyzed:	11/04/07	Data File:	110346.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B43-RGW	Client:	Kennedy-Jenks
Date Received:	10/31/07	Project:	Tacoma Metals, F&BI 710407
Date Extracted:	11/01/07	Lab ID:	710407-03
Date Analyzed:	11/04/07	Data File:	110347.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

Compounds:	Concentration 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

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	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

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 710407
Date Extracted:	11/01/07	Lab ID:	071742mb rr
Date Analyzed:	11/05/07	Data File:	110518.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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)

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

Laboratory Code: Laboratory Control Sample

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

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

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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

710407

SAMPLE CHAIN OF CUSTODY ME 10-31-07

D04 / V3

Page # 1 of 1

Send Report To: Dean Malte
Company: Kennedy / Jenks
Address: 32001 32nd Ave S, Ste 100
City, State, ZIP: Federal Way WA 98001
Phone #: 253 8740555 Fax #: 2539523435

SAMPLERS (signature)

PROJECT NAME/NO.: Tacoma Metals

PO #:

REMARKS: Water Samples

TURNAROUND TIME
- Standard (2 Weeks)
- RUSH
- Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel (w/ Silica Gel)	TPH-Gasoline (NO BTEX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH 8270 SIM						Notes
B41-RGW	01A-F	10/30/07	900	Water	6	X	X					X						
B42-RGW	02A-F		1100			X	X					X						
B43-RGW	03A-F		1300			X	X					X						
B45-RGW	04A-F	↓	1445	↓	↓	X	X					X						

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	KJC	10/31/07	740
Received by:	Michael Erdahl	FB	1	1
Relinquished by:				
Received by:		Samples received at 2 °C		

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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

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.

Laboratory ID	Kennedy-Jenks
711010-01	B44-RGW
711010-02	B47-RGW
711010-03	B46-RGW

All quality control requirements were acceptable.

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 (% Recovery) (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

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 (C_{10}-C_{25})	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

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

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

Compounds:	Concentration ug/L (ppb)
Naphthalene	1.3
Acenaphthylene	<0.1
Acenaphthene	12 ve
Fluorene	2.3
Phenanthrene	0.50
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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B44-RGW	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711010
Date Extracted:	11/01/07	Lab ID:	711010-01 1/10
Date Analyzed:	11/05/07	Data File:	110519.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	107	50	150
Benzo(a)anthracene-d12	94	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	2.0
Acenaphthylene	<1
Acenaphthene	13
Fluorene	2.1
Phenanthrene	<1
Anthracene	<1
Fluoranthene	<1
Pyrene	<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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

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

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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B46-RGW	Client:	Kennedy-Jenks
Date Received:	11/01/07	Project:	Tacoma Metals, F&BI 711010
Date Extracted:	11/01/07	Lab ID:	711010-03
Date Analyzed:	11/04/07	Data File:	110348.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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 711010
Date Extracted:	11/01/07	Lab ID:	071742mb rr
Date Analyzed:	11/05/07	Data File:	110518.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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)

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

Laboratory Code: Laboratory Control Sample

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

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

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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

711010

SAMPLE CHAIN OF CUSTODY

ME 11-01-07

A04/V2

Page # 1 of 1

Send Report To: Dean Malte
Company: Kennedy/Jenks
Address: 32001 32nd Ave S, Ste 100
City, State, ZIP: Federal Way WA 98001
Phone #: 2538740555 Fax #: 2539523435

SAMPLERS (signature)

PROJECT NAME/NO.: Tacoma Metals

PO #:

REMARKS: 5 water samples

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Dispose after 30 days
- [ ] Return samples
- [x] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel (w/ silica gel)	TPH-Gasoline (w/o BTEX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH 8270 SIM				HOLD		Notes
B44-RGW	-01 A-F	10/31/07	920	Water	6	X	X					X						
B47-RGW	-02 A-F	↓	1130	↓	↓	X	X					X						
B46-RGW	-03 A-F	↓	1300	↓	↓	X	X					X						

Samples received at 2 °C

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

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	KJC	11/1/07	925
Received by: Ella Sundquist	Ella Sundquist	FBI	11/1/07	☆
Relinquished by: (ND)	Melissa Vo	FEBI		
Received by:				

FRIEDMAN & BRUYA, INC.

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

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.

Laboratory ID	Kennedy-Jenks
801262-01	B-37A
801262-02	B-39A

All quality control requirements were acceptable.

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	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
B-37A 801262-01	<100	103
B-39A 801262-02	<100	103
Method Blank	<100	100

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	Diesel Range (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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	B-37A	Client:	Kennedy-Jenks
Date Received:	01/28/08	Project:	Tacoma Metals, F&BI 801262
Date Extracted:	01/29/08	Lab ID:	801262-01
Date Analyzed:	01/30/08	Data File:	013008.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

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

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

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

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 801262
Date Extracted:	01/29/08	Lab ID:	08-139 mb
Date Analyzed:	01/30/08	Data File:	013007.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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)

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

Laboratory Code: Laboratory Control Sample

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

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

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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	5	83	77	68-101	7
Acenaphthylene	ug/L (ppb)	5	83	77	70-109	7
Acenaphthene	ug/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

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.

801262

SAMPLE CHAIN OF CUSTODY

ME 4/28/08 B304 V1

Page # 1 of 1

Send Report To Dean Maltz

Company Kennedy/Jenks

Address 32001 32nd Ave S, Ste 100

City, State, ZIP Federal Way WA 98001

Phone # 253 874 0555 Fax # 253 952 5435

SAMPLERS (signature) DKM

PROJECT NAME/NO. Tacoma Metals

PO #

REMARKS TPH-Dx with Silica Gel
TPH-G without BTEX

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH 8270 SIM						Notes
B-37A	01 A-F	1/25/08	930	W	6	X	X					X						
B-39A	02 A-F	1/25/08	1115	W	6	X	X					X						
													Samples			d at	3 °C	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Linda Norton	Linda Norton	Kennedy Jenks	1/28/08	10:10 am
Received by: E. Sandquist	E. Sandquist	FAB		
Relinquished by:				
Received by:				

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

Attachment 5

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

FRIEDMAN & BRUYA, INC.

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

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.

Laboratory ID	Kennedy-Jenks
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.

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

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	Diesel Range (C_{10}-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

Analysis For Semivolatile Compounds By EPA Method 8270C 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:	803047-01
Date Analyzed:	03/11/08	Data File:	031112.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C 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

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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:	803047-02
Date Analyzed:	03/11/08	Data File:	031113.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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:	803047-03
Date Analyzed:	03/11/08	Data File:	031116.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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 J
Acenaphthene	62 ve, J
Fluorene	49 ve, J
Phenanthrene	44 ve, J
Anthracene	8.1 ve, J
Fluoranthene	12 ve, J
Pyrene	8.4 ve, J
Benz(a)anthracene	0.64 J
Chrysene	0.51 J
Benzo(a)pyrene	0.20 J
Benzo(b)fluoranthene	0.25 J
Benzo(k)fluoranthene	0.084 J
Indeno(1,2,3-cd)pyrene	0.057 J
Dibenz(a,h)anthracene	<0.02 J
Benzo(g,h,i)perylene	0.056 J

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:	803047-03 1/10
Date Analyzed:	03/11/08	Data File:	031115.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	803047-03 1/100
Date Analyzed:	03/21/08	Data File:	032117.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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

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

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	239 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

Note: The sample was filtered prior to extraction.

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:	803047-04
Date Analyzed:	03/11/08	Data File:	031114.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	803047-04 1/10
Date Analyzed:	03/11/08	Data File:	031119.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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

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

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

Note: The sample was filtered prior to extraction.

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:	803047-05
Date Analyzed:	03/11/08	Data File:	031111.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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

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

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

Note: The sample was filtered prior to extraction.

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:	803047-06
Date Analyzed:	03/11/08	Data File:	031110.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	74	50	150
Benzo(a)anthracene-d12	79	50	129

Compounds:	Concentration 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

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:	803047-06 1/10
Date Analyzed:	03/12/08	Data File:	031208.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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

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

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	84	50	129

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

Note: The sample was filtered prior to extraction.

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:	080361mb
Date Analyzed:	03/10/08	Data File:	031014.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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
Date Analyzed:	03/12/08	Data File:	031207.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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)

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

Laboratory Code: Laboratory Control Sample

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

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

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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

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.

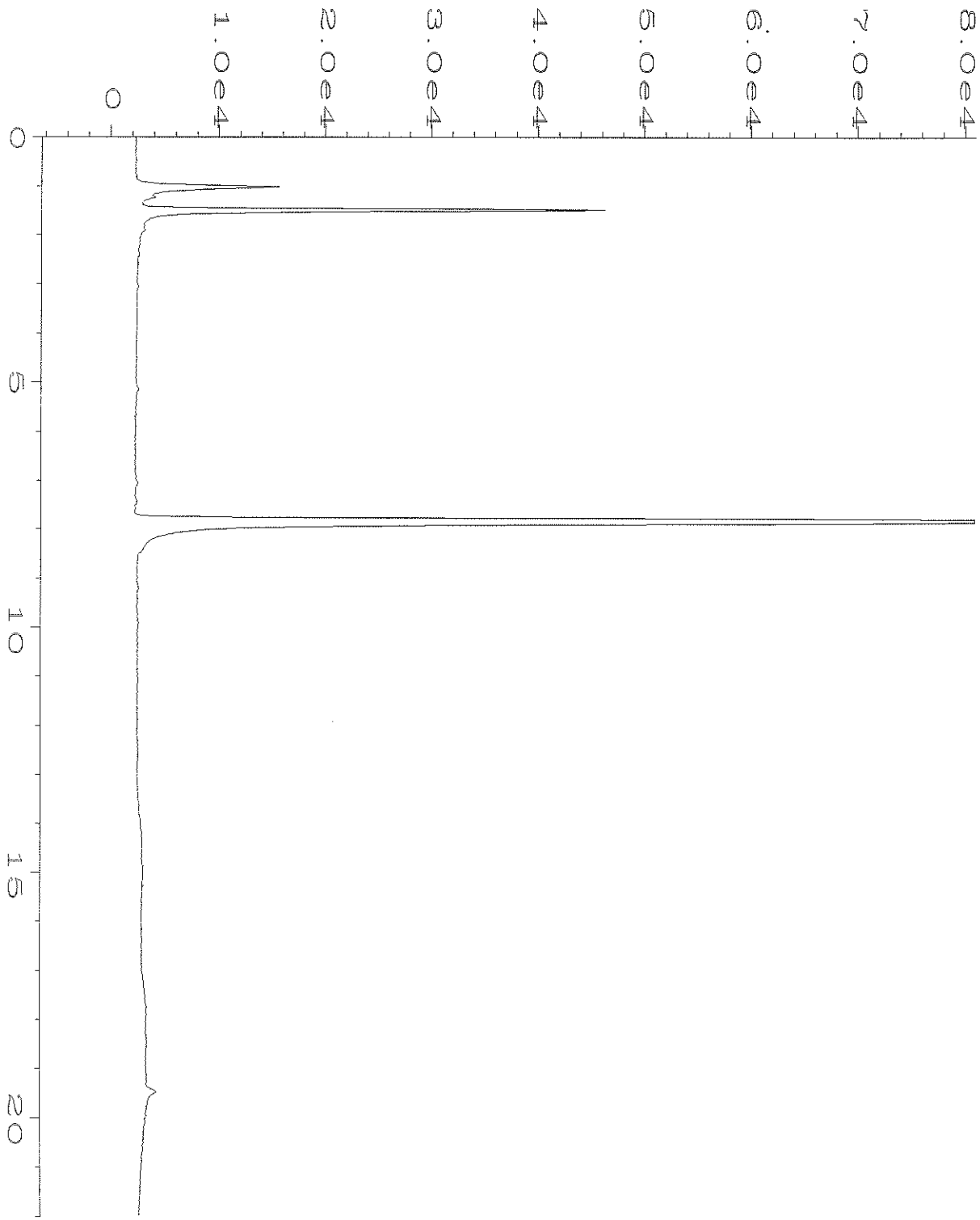
pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

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.

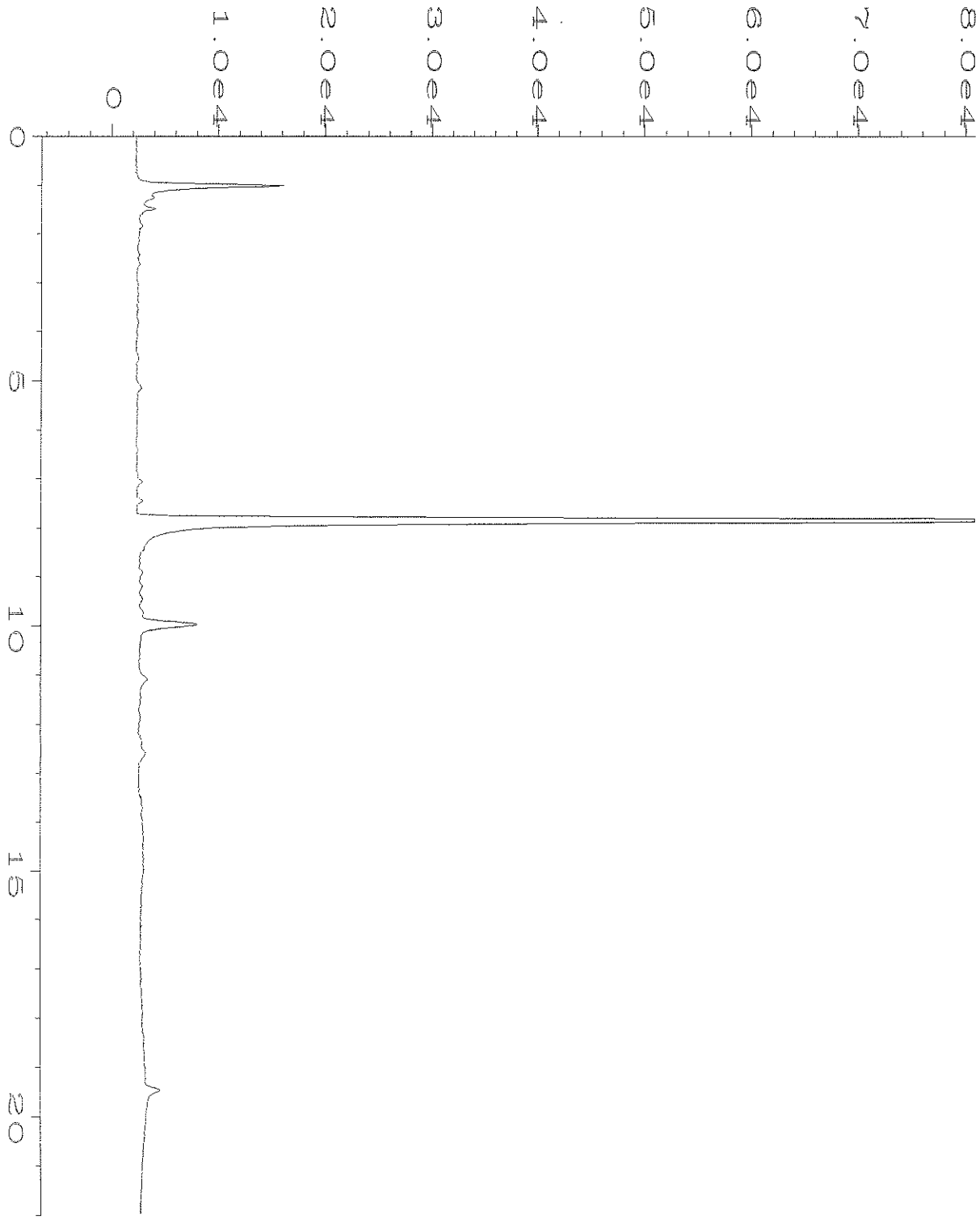
x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.



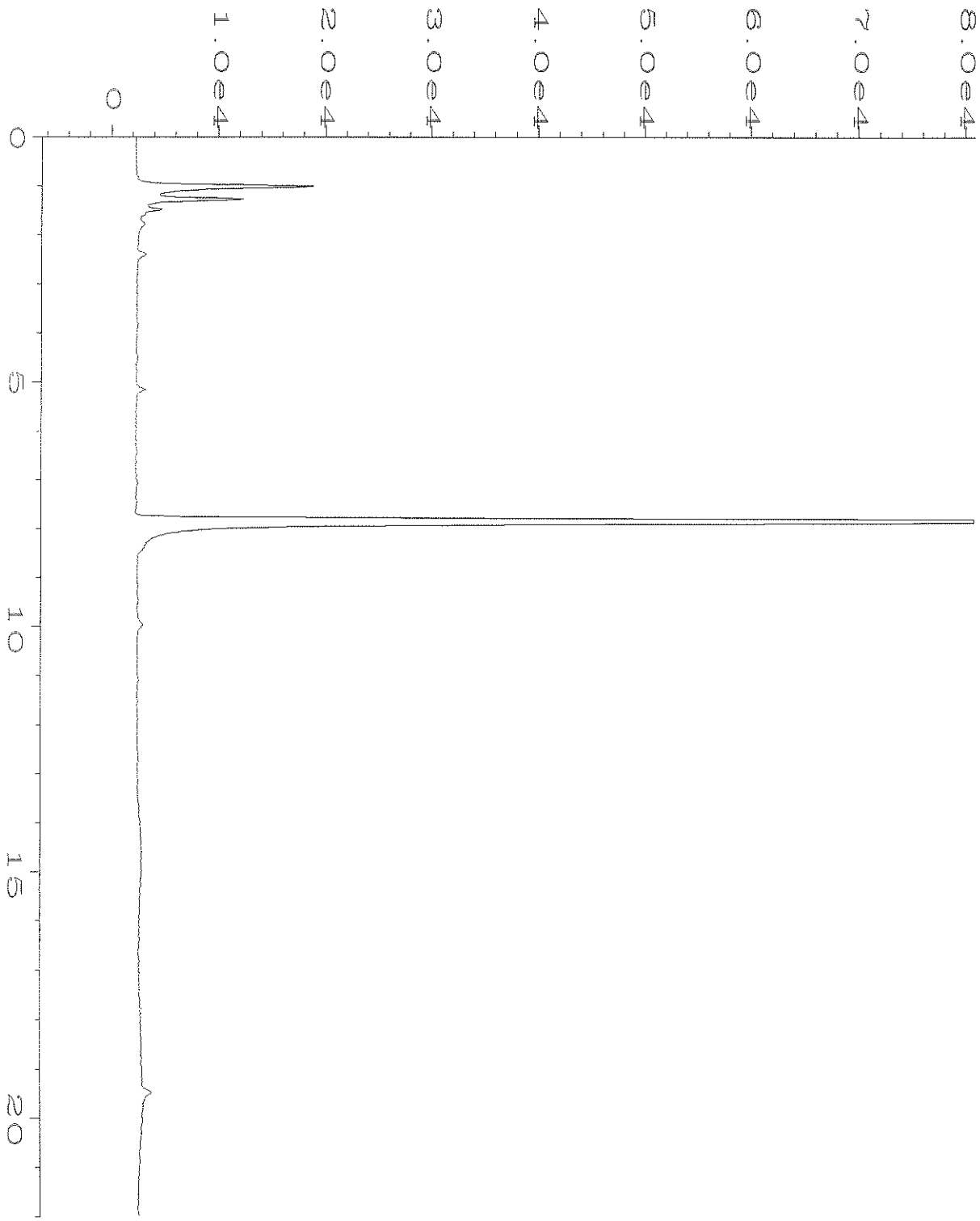
Data File Name : E:\GC2\03-06-08\004F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 08-00345 mb2
Run Time Bar Code:
Acquired on : 06 Mar 08 01:41 PM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 4
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



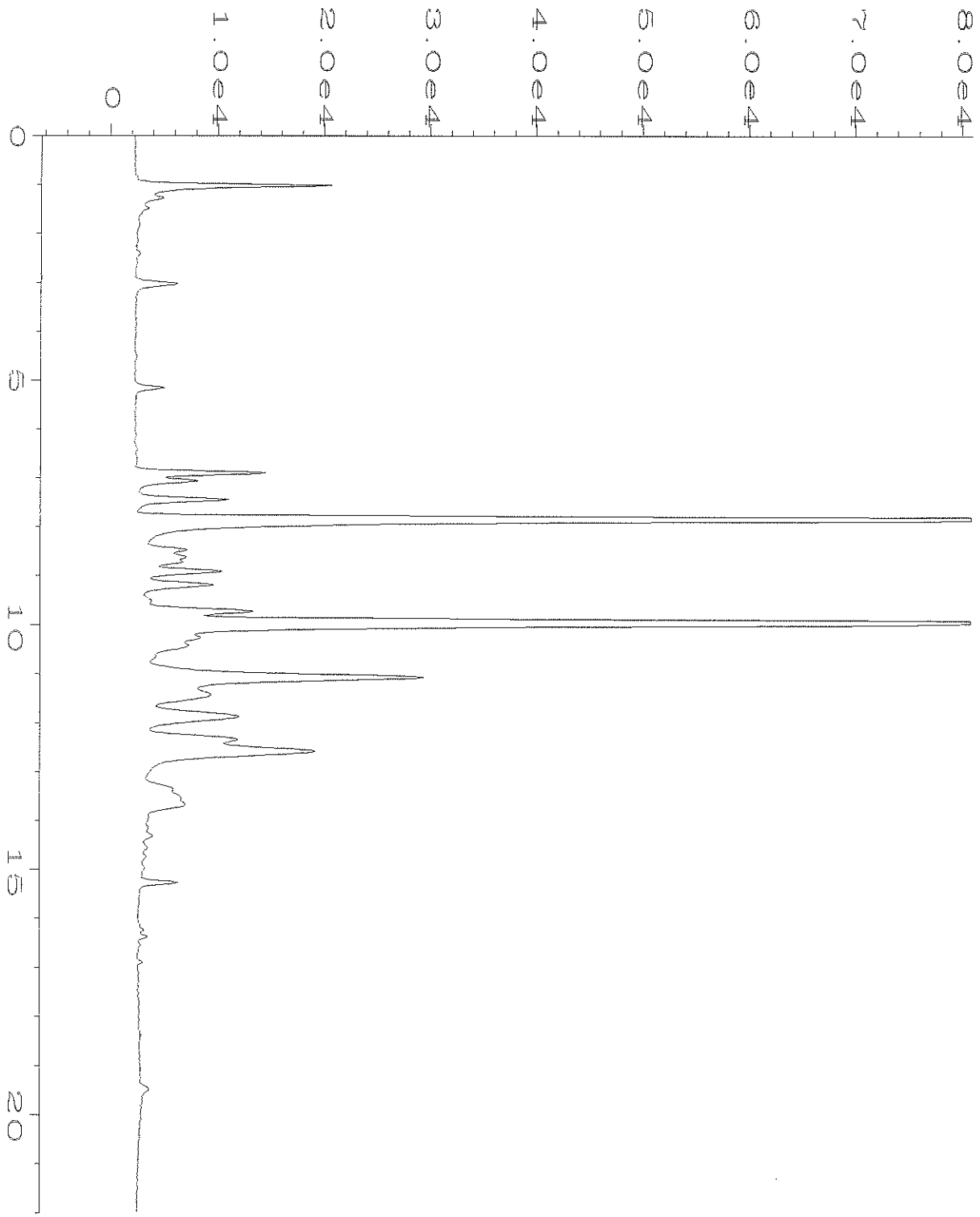
Data File Name : E:\GC2\03-06-08\005F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803047-01
Run Time Bar Code:
Acquired on : 06 Mar 08 02:21 PM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



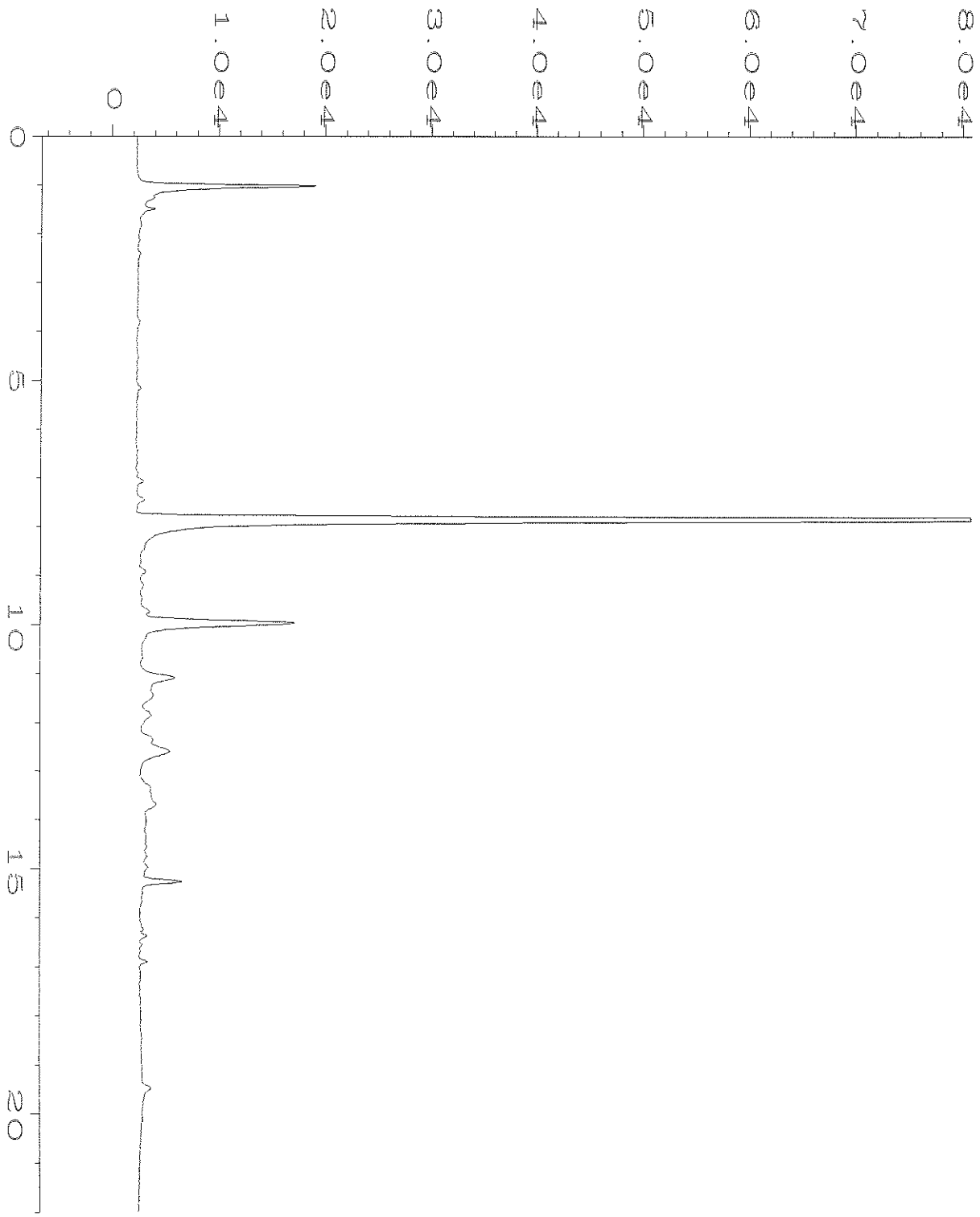
Data File Name : E:\GC2\03-06-08\006F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803047-02
Run Time Bar Code:
Acquired on : 06 Mar 08 02:52 PM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



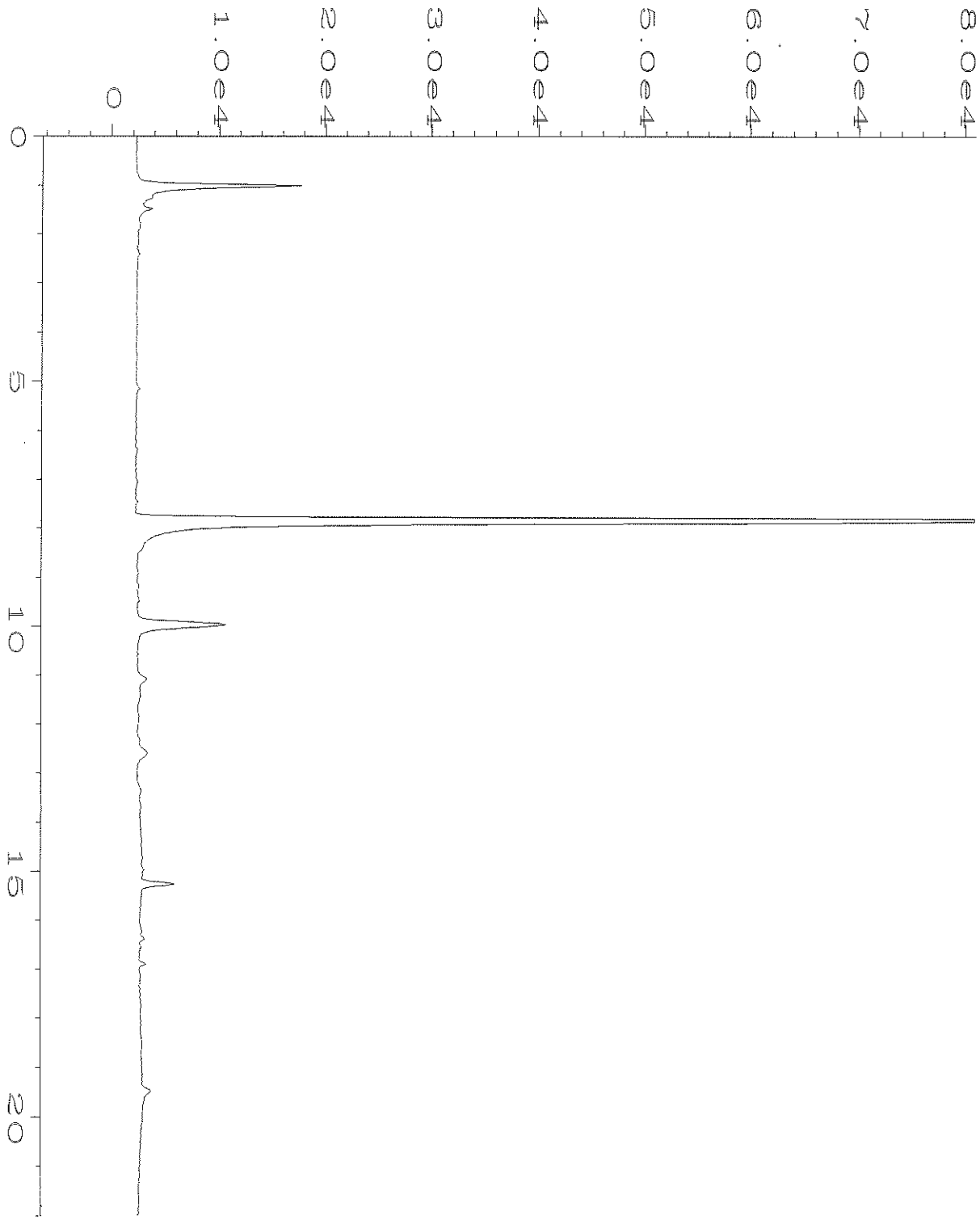
Data File Name : E:\GC2\03-06-08\007F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803047-03
Run Time Bar Code:
Acquired on : 06 Mar 08 03:23 PM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 7
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



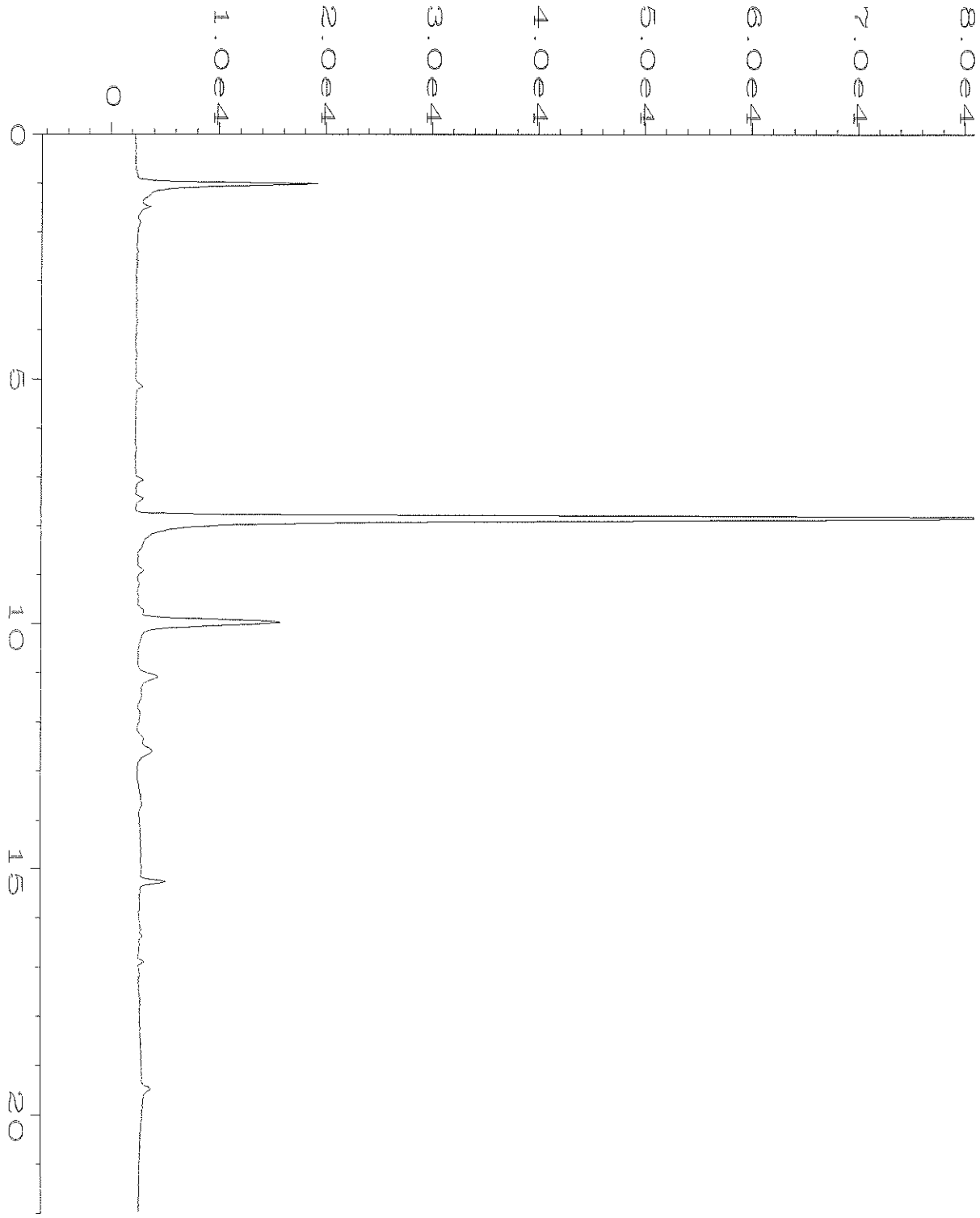
Data File Name : E:\GC2\03-06-08\008F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803047-04
Run Time Bar Code:
Acquired on : 06 Mar 08 03:54 PM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 8
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



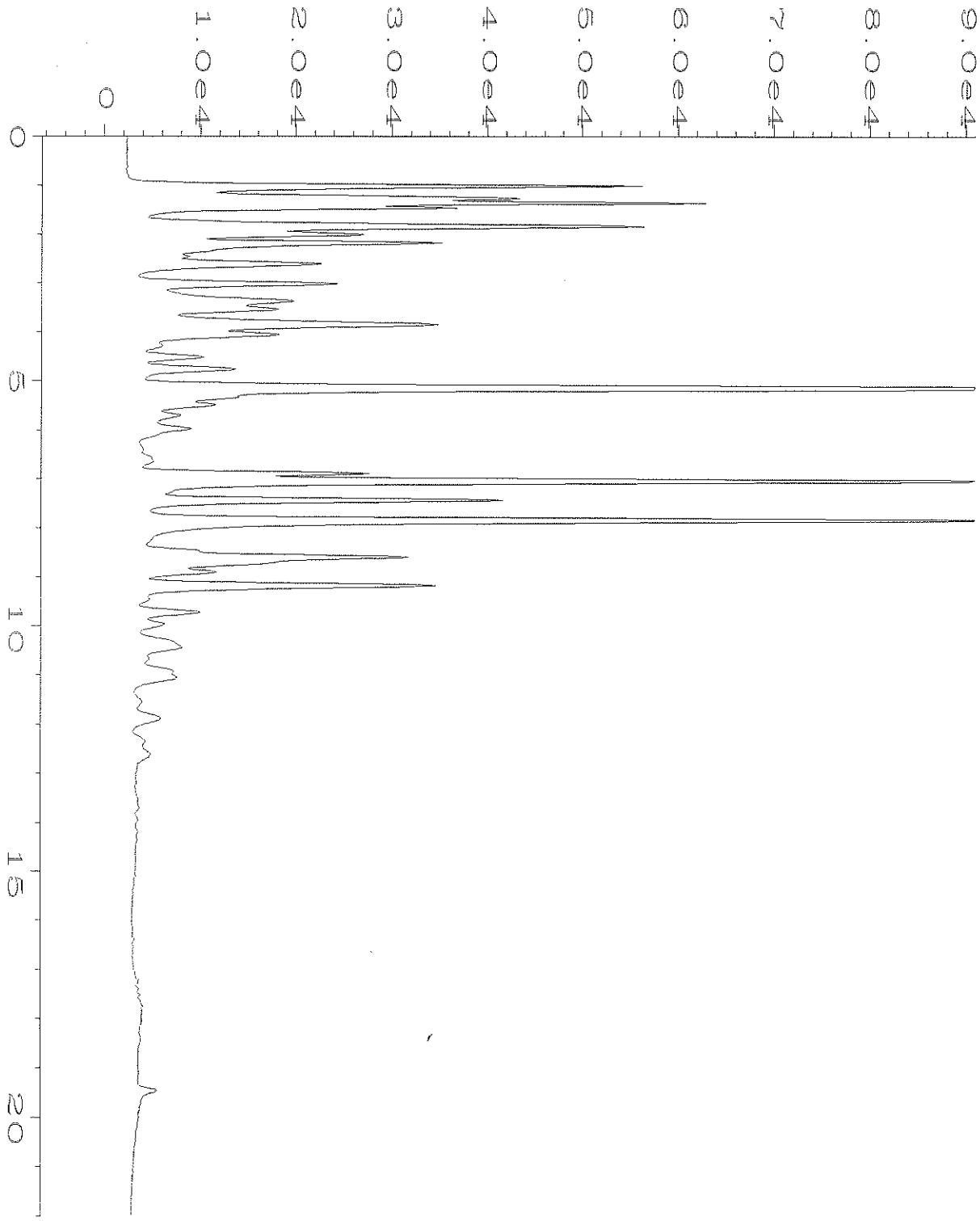
Data File Name : E:\GC2\03-06-08\009F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803047-05
Run Time Bar Code:
Acquired on : 06 Mar 08 04:25 PM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 9
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



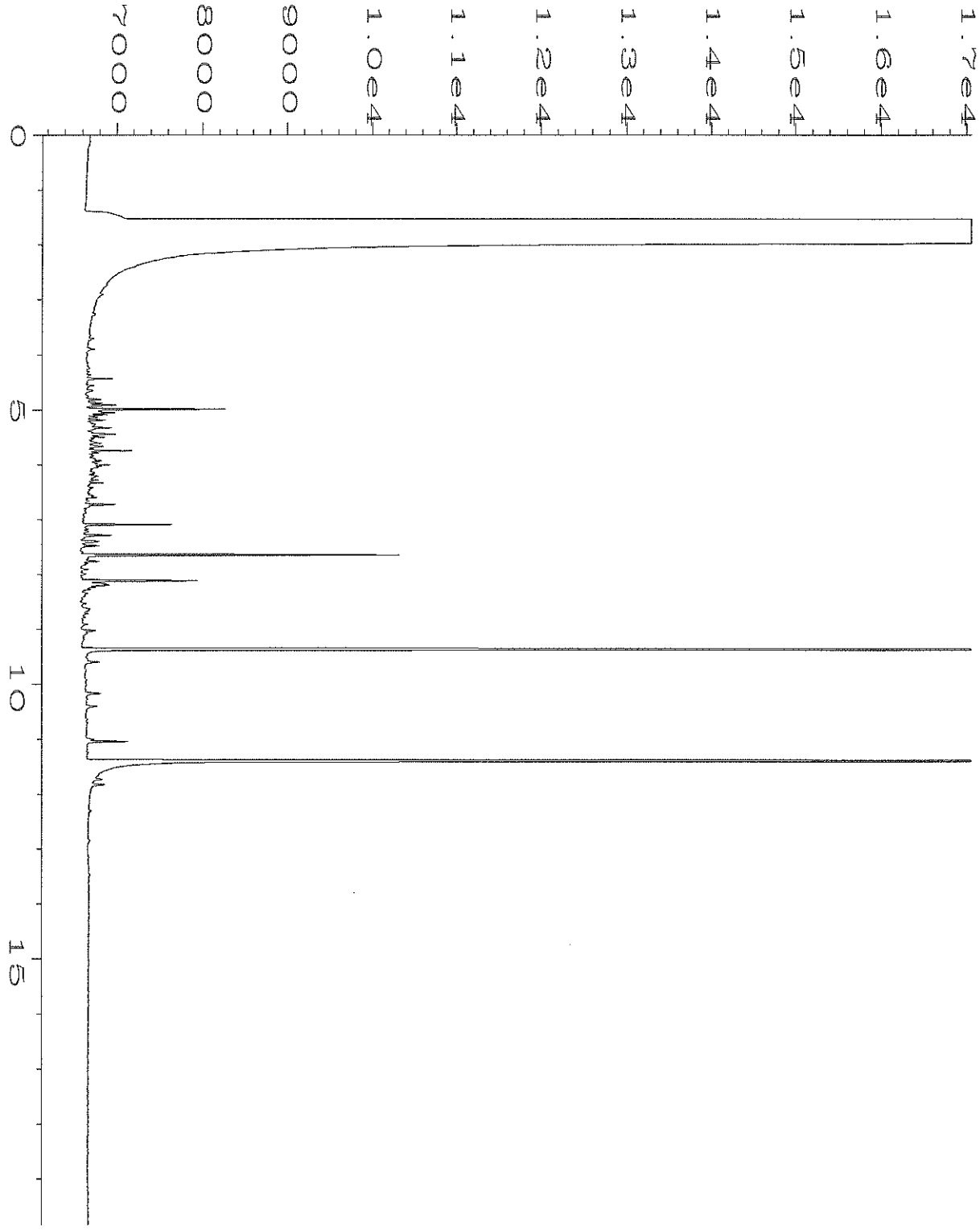
Data File Name : E:\GC2\03-06-08\010F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 703047-06
Run Time Bar Code:
Acquired on : 06 Mar 08 04:56 PM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 10
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



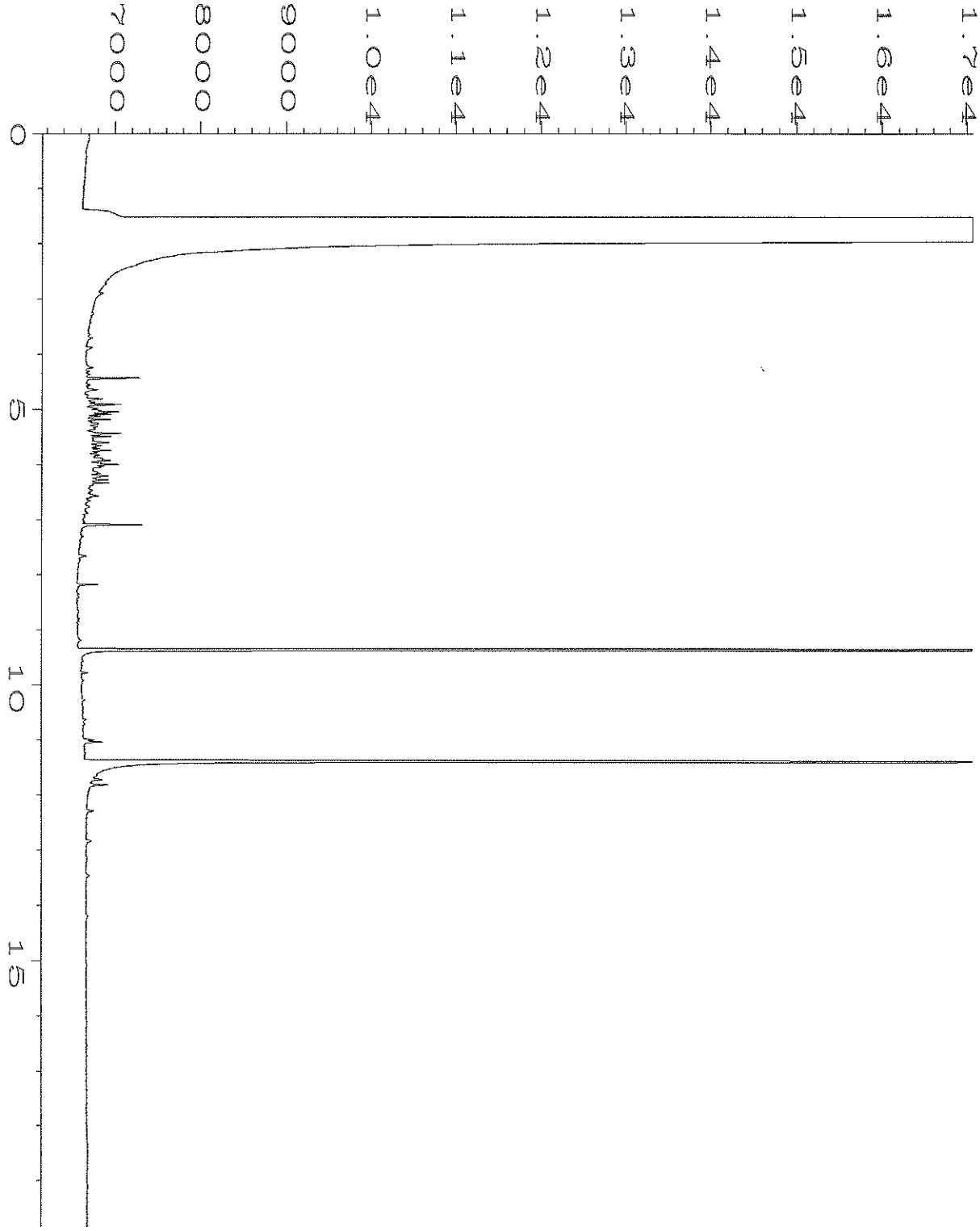
Data File Name : E:\GC2\03-06-08\001F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 500 gas 27-78
Run Time Bar Code:
Acquired on : 06 Mar 08 08:45 AM
Report Created on: 20 Mar 08 02:10 PM

Page Number : 1
Vial Number : 1
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH



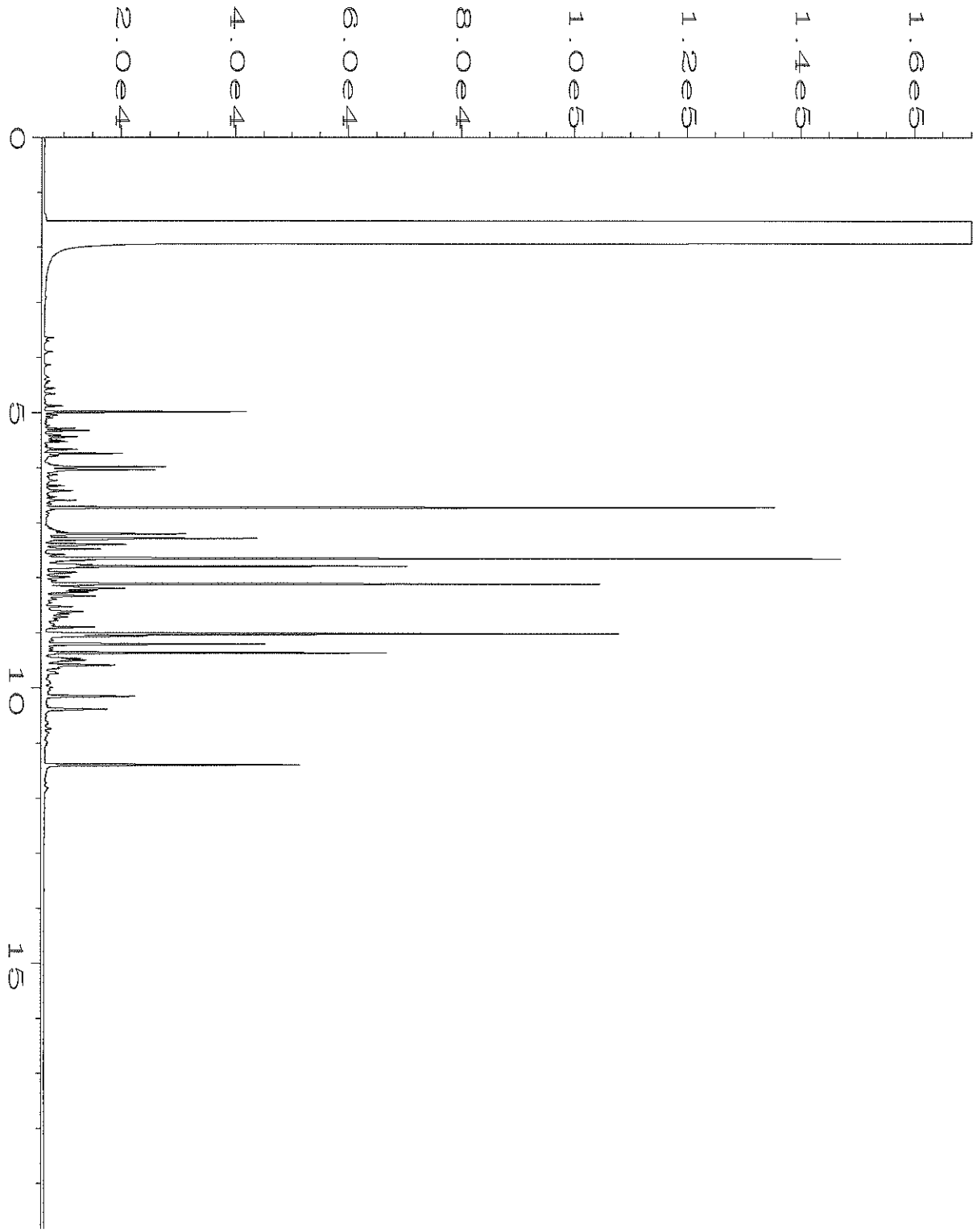
Data File Name : C:\HPCHEM\1\DATA\03-14-08\011F0601.D
Operator : ay
Instrument : GC1
Sample Name : 803047-01 SG dm 02/17/08
Run Time Bar Code:
Acquired on : 14 Mar 08 02:35 PM
Report Created on: 17 Mar 08 02:19 PM

Page Number : 1
Vial Number : 11
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : END.MTH

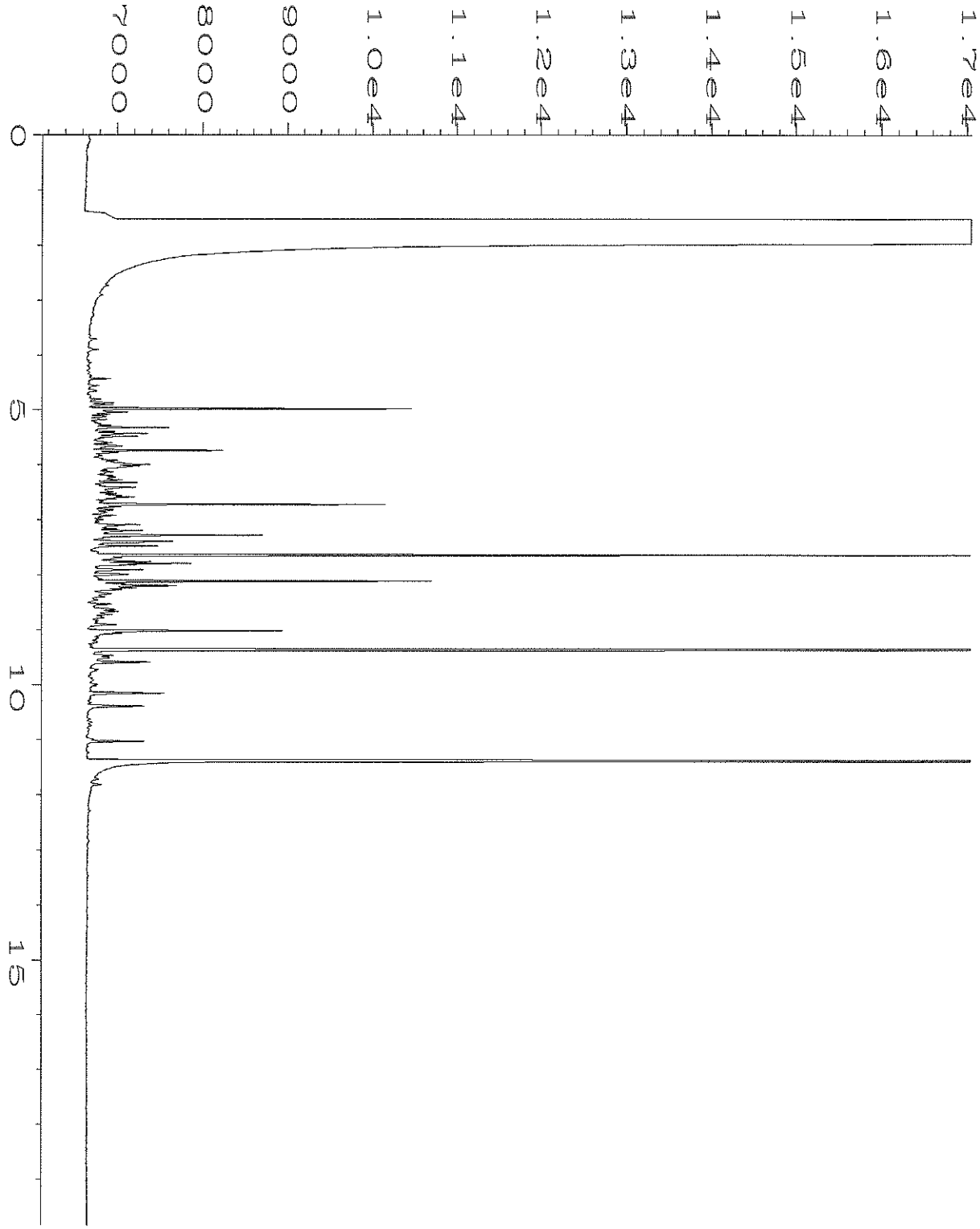


Data File Name : C:\HPCHEM\1\DATA\03-14-08\012F0601.D
Operator : ay
Instrument : GC1
Sample Name : 803047-02
Run Time Bar Code:
Acquired on : 14 Mar 08 03:01 PM
Report Created on: 17 Mar 08 02:19 PM

Page Number : 1
Vial Number : 12
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : END.MTH

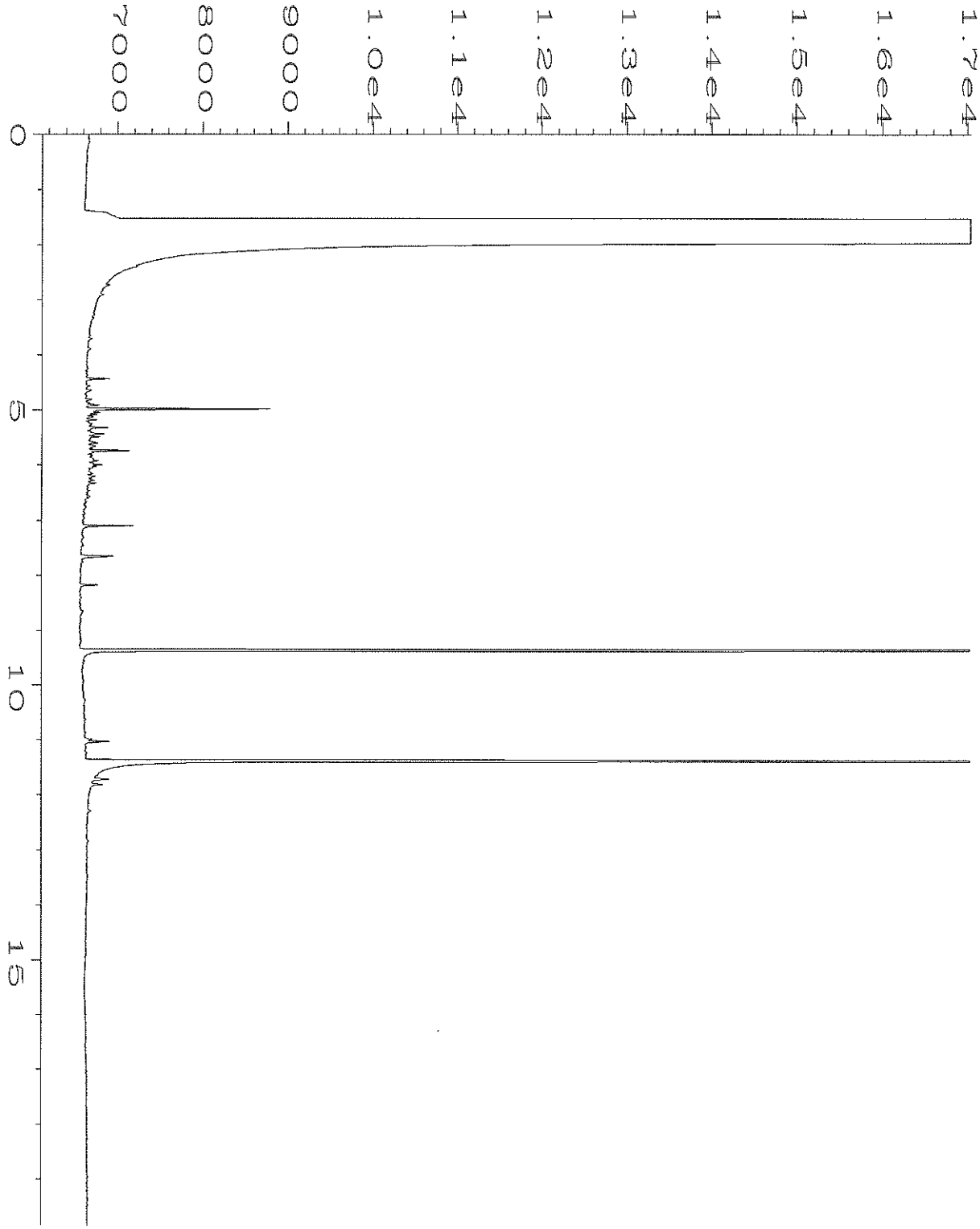


Data File Name	: C:\HPCHEM\1\DATA\03-14-08\013F0601.D		
Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 13
Sample Name	: 803047-03 sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
Acquired on	: 14 Mar 08 03:27 PM	Instrument Method	: TPHD.MTH
Report Created on	: 17 Mar 08 02:19 PM	Analysis Method	: END.MTH



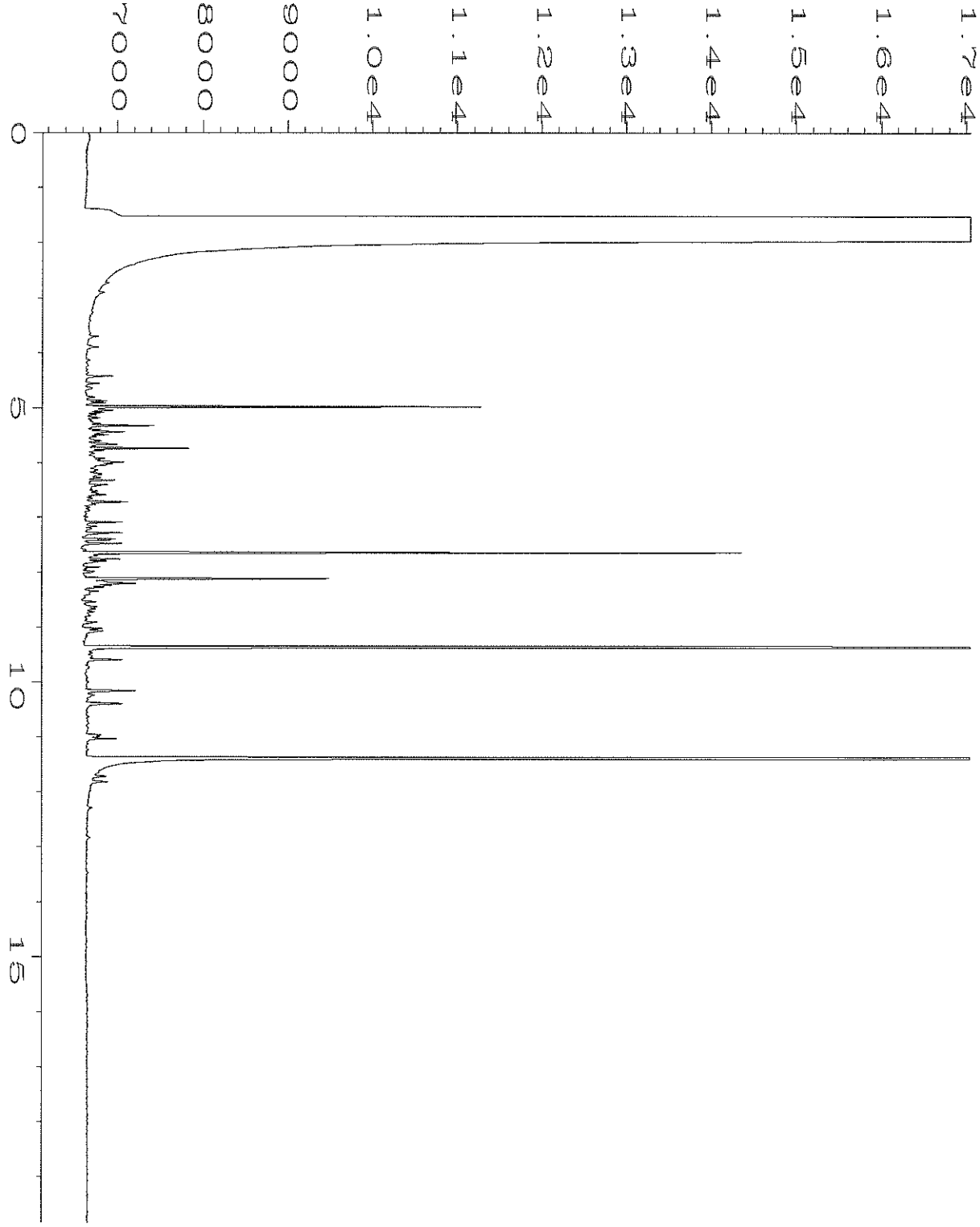
Data File Name : C:\HPCHEM\1\DATA\03-14-08\014F0601.D
Operator : ay
Instrument : GC1
Sample Name : 803047-04 sg
Run Time Bar Code:
Acquired on : 14 Mar 08 03:53 PM
Report Created on: 17 Mar 08 02:20 PM

Page Number : 1
Vial Number : 14
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : END.MTH



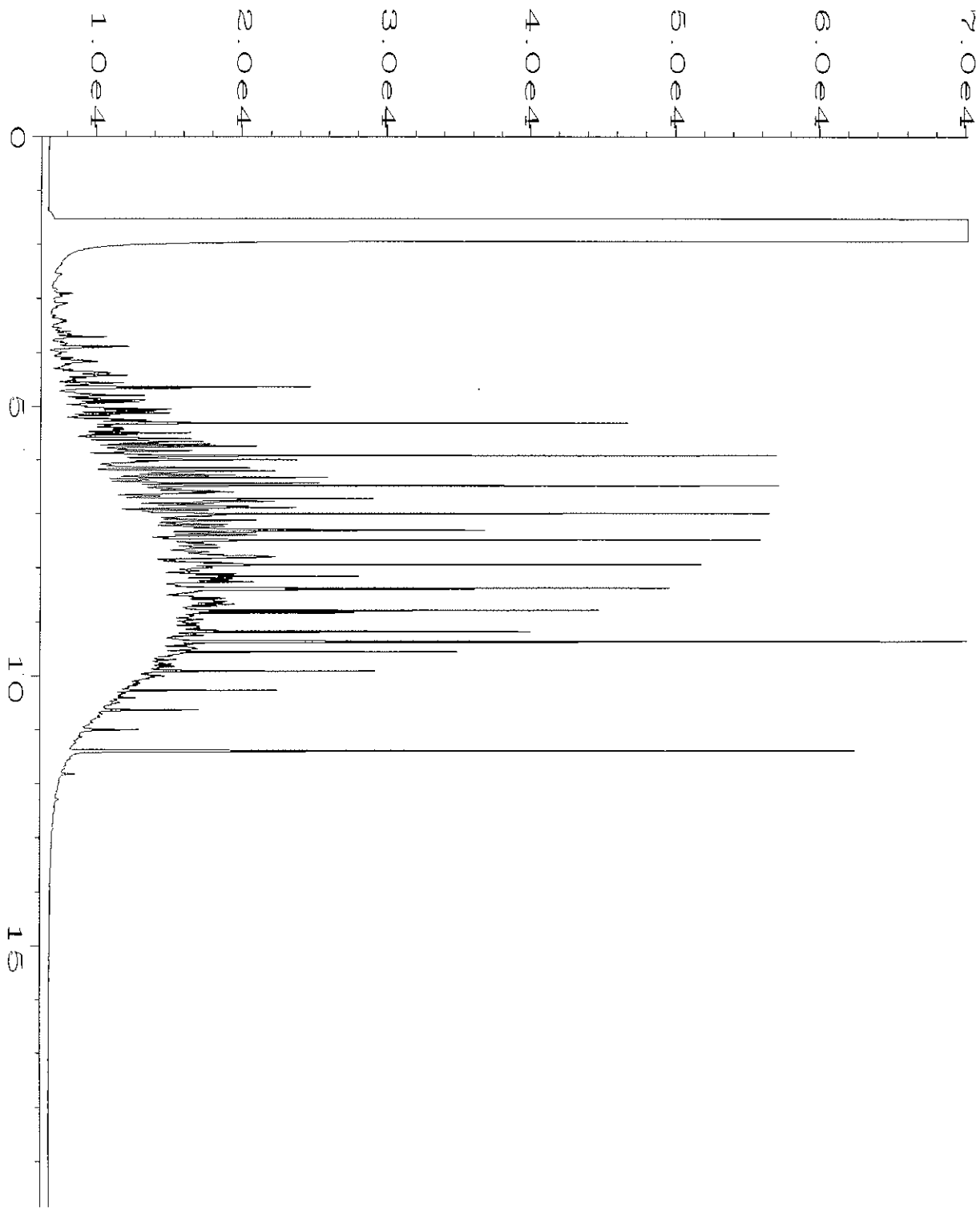
Data File Name : C:\HPCHEM\1\DATA\03-14-08\015F0601.D
Operator : ay
Instrument : GC1
Sample Name : 803047-05 sg
Run Time Bar Code:
Acquired on : 14 Mar 08 04:20 PM
Report Created on: 17 Mar 08 02:20 PM

Page Number : 1
Vial Number : 15
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : END.MTH



Data File Name : C:\HPCHEM\1\DATA\03-14-08\016F0901.D

Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 16
Sample Name	: 803047-06 sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 9
Acquired on	: 14 Mar 08 05:39 PM	Instrument Method	: TPHD.MTH
Report Created on	: 17 Mar 08 02:20 PM	Analysis Method	: END.MTH



Data File Name	: E:\GC1\03-14-08\004F0201.D		
Operator	: ay	Page Number	: 1
Instrument	: GC1	Vial Number	: 4
Sample Name	: 26-185F 500 WADF	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 14 Mar 08 10:41 AM	Instrument Method	: TPHD.MTH
Report Created on	: 20 Mar 08 02:09 PM	Analysis Method	: DEFAULT.MTH

803047

SAMPLE CHAIN OF CUSTODY

ME 03/06/08

Page # 1 of 1 V2/A05

Send Report To Dean Malte
Company Kennedy/Jenks
Address 32001 32nd Ave S, Ste-100
City, State, ZIP Federal Way WA 98001
Phone #2538740555 Fax #2539523435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals 996098.00

PO # on-site

REMARKS * Use lowest reporting Limit
** filter with glass fiber filter before analysis

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel w/ Silica Gel	TPH-Gasoline (NWTPH-Gx)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH (Total) *	PAH (Filtered) **				Notes
MW-15	01 A-H	3/4/08	1000	W	8	X	X					X	X				
MW-19	02 A-H	"	1150	"	"	X	X					X	X				
MW-11	03 A-H	"	1515	"	"	X	X					X	X				Hot
MW-14	04 A-H	3/5/08	1015	W	8	X	X					X	X				
MW-16	05 A-H	"	1210	"	"	X	X					X	X				
MW-17	06 A-H	"	1345	"	"	X	X					X	X				

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Linda Norton	Linda Norton	Kennedy Jenks	3/6/08	805 am
Received by:		Michael Eddy	FEBinc	↓	↓
Relinquished by:					
Received by:			Samples received at	2 °C	

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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

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.

Laboratory ID	Kennedy-Jenks
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.

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-Gx

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

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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-23	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-01
Date Analyzed:	03/19/08	Data File:	031838.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-23	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-01 1/100
Date Analyzed:	03/19/08	Data File:	031921.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	346 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-23	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/18/08	Lab ID:	803125-01f
Date Analyzed:	03/20/08	Data File:	032012.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	371 ds	50	150
Benzo(a)anthracene-d12	108	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-26	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-02
Date Analyzed:	03/19/08	Data File:	031832.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-26	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-02 1/500
Date Analyzed:	03/19/08	Data File:	031925.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	0 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-26	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/18/08	Lab ID:	803125-02f
Date Analyzed:	03/20/08	Data File:	032013.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-26	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
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:	YA

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

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-03
Date Analyzed:	03/18/08	Data File:	031829.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-03 1/100
Date Analyzed:	03/24/08	Data File:	032406.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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 996098.00 PO Off Site
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

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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 996098.00 PO Off Site
Date Extracted:	03/18/08	Lab ID:	803125-03f 1/100
Date Analyzed:	03/24/08	Data File:	032405.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	341 ds	50	150
Benzo(a)anthracene-d12	144 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

Note: The sample was filtered prior to extraction.

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:	03/17/08	Lab ID:	803125-04
Date Analyzed:	03/18/08	Data File:	031826.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	83	50	150
Benzo(a)anthracene-d12	96	50	129

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,i)perylene	<0.02

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:	03/17/08	Lab ID:	803125-04 1/20
Date Analyzed:	03/19/08	Data File:	031927.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	03/17/08	Lab ID:	803125-04f
Date Analyzed:	03/20/08	Data File:	031937.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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 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

Note: The sample was filtered prior to extraction.

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

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-27	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-05
Date Analyzed:	03/18/08	Data File:	031827.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

Compounds:	Concentration 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-27	Client:	Kennedy-Jenks
Date Received:	03/13/08	Project:	Tacoma Metals 996098.00 PO Off Site
Date Extracted:	03/17/08	Lab ID:	803125-05 1/100
Date Analyzed:	03/23/08	Data File:	032308.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	401 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-27	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
Date Analyzed:	03/19/08	Data File:	031929.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-27	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
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	25
Fluorene	9.0
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

Note: The sample was filtered prior to extraction.

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:	03/17/08	Lab ID:	803125-06
Date Analyzed:	03/19/08	Data File:	031835.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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 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

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:	03/17/08	Lab ID:	803125-06 1/100
Date Analyzed:	03/23/08	Data File:	032310.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	403 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

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	50	150
Benzo(a)anthracene-d12	108	50	129

Compounds:	Concentration ug/L (ppb)
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

Note: The sample was filtered prior to extraction.

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
Date Analyzed:	03/23/08	Data File:	032309.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	407 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

Note: The sample was filtered prior to extraction.

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
Date Extracted:	03/17/08	Lab ID:	803125-07
Date Analyzed:	03/19/08	Data File:	031836.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	102	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.16
Acenaphthylene	<0.02
Acenaphthene	11 ve
Fluorene	0.026
Phenanthrene	0.034
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

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
Date Extracted:	03/17/08	Lab ID:	803125-07 1/10
Date Analyzed:	03/23/08	Data File:	032312.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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
Date Extracted:	03/18/08	Lab ID:	803125-07f
Date Analyzed:	03/20/08	Data File:	032011.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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
Date Extracted:	03/18/08	Lab ID:	803125-07f 1/10
Date Analyzed:	03/23/08	Data File:	032311.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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 Analyzed:	03/18/08	Data File:	031822.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	50	150
Benzo(a)anthracene-d12	91	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

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
Date Analyzed:	03/19/08	Data File:	031908.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93	50	150
Benzo(a)anthracene-d12	110	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

Note: The sample was filtered prior to extraction.

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	ug/L (ppb)	3,100	3,100	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	102	69-134

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	91	91	67-141	0

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

Note: The samples were filtered prior to extraction.

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.

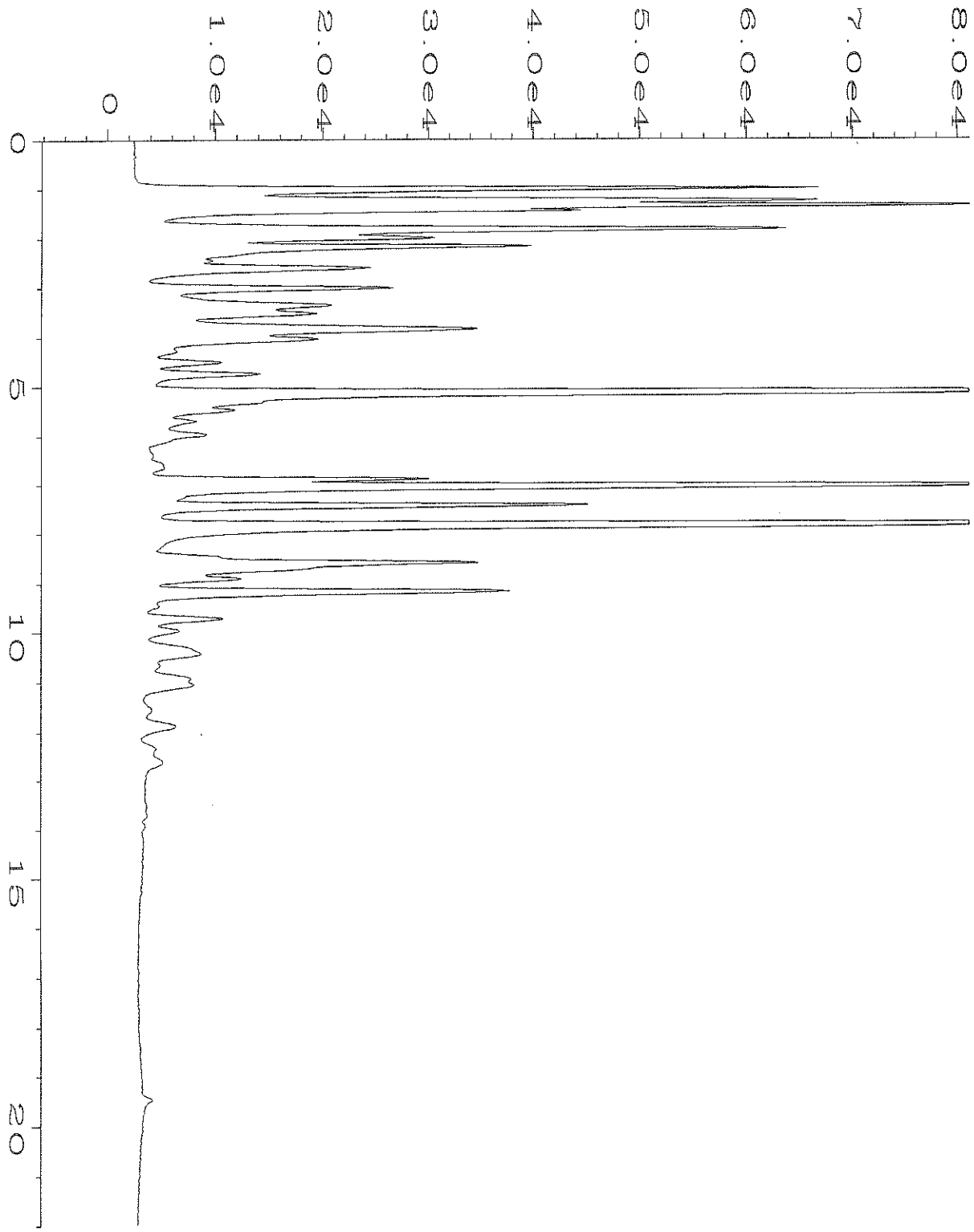
pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

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.

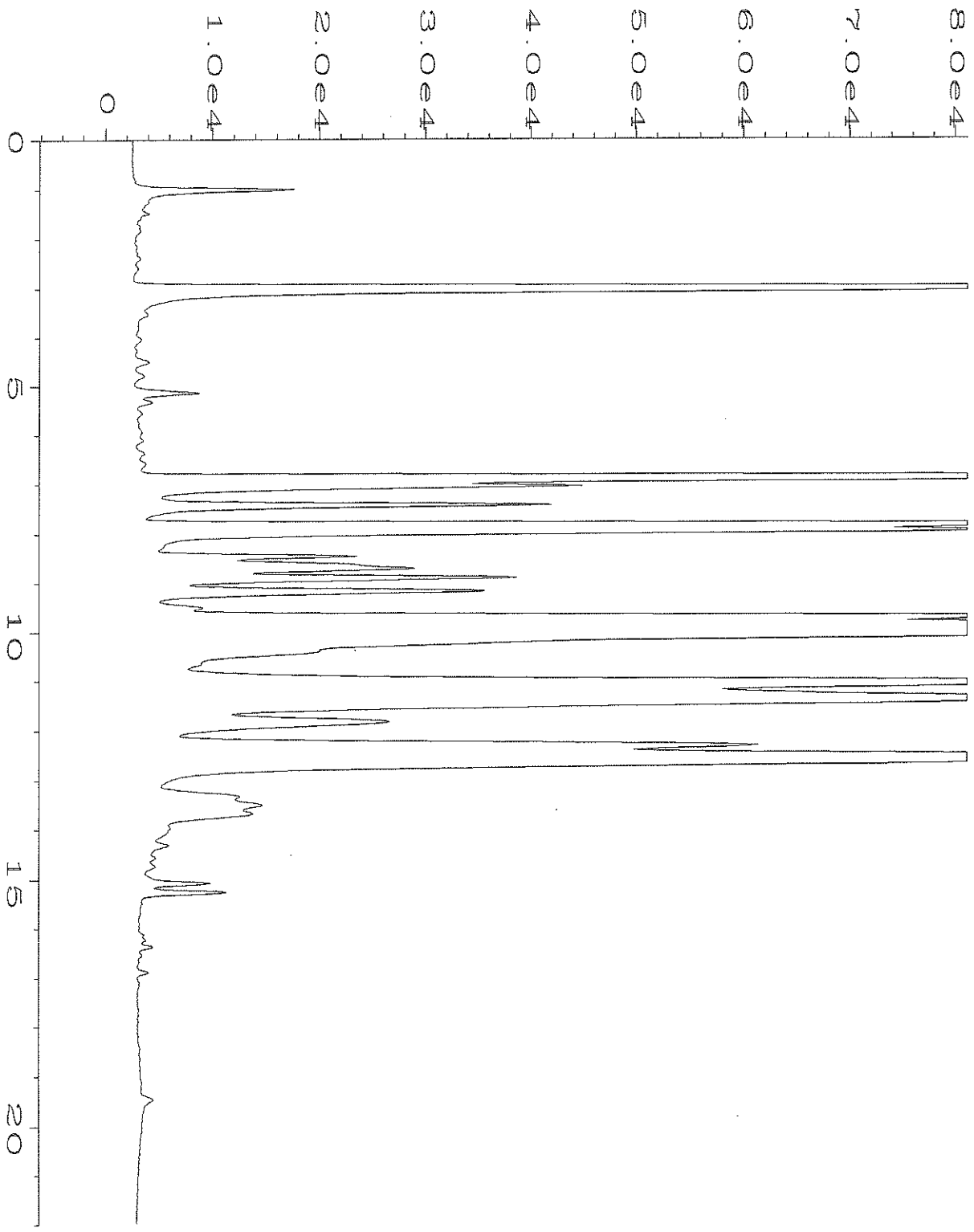
x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.



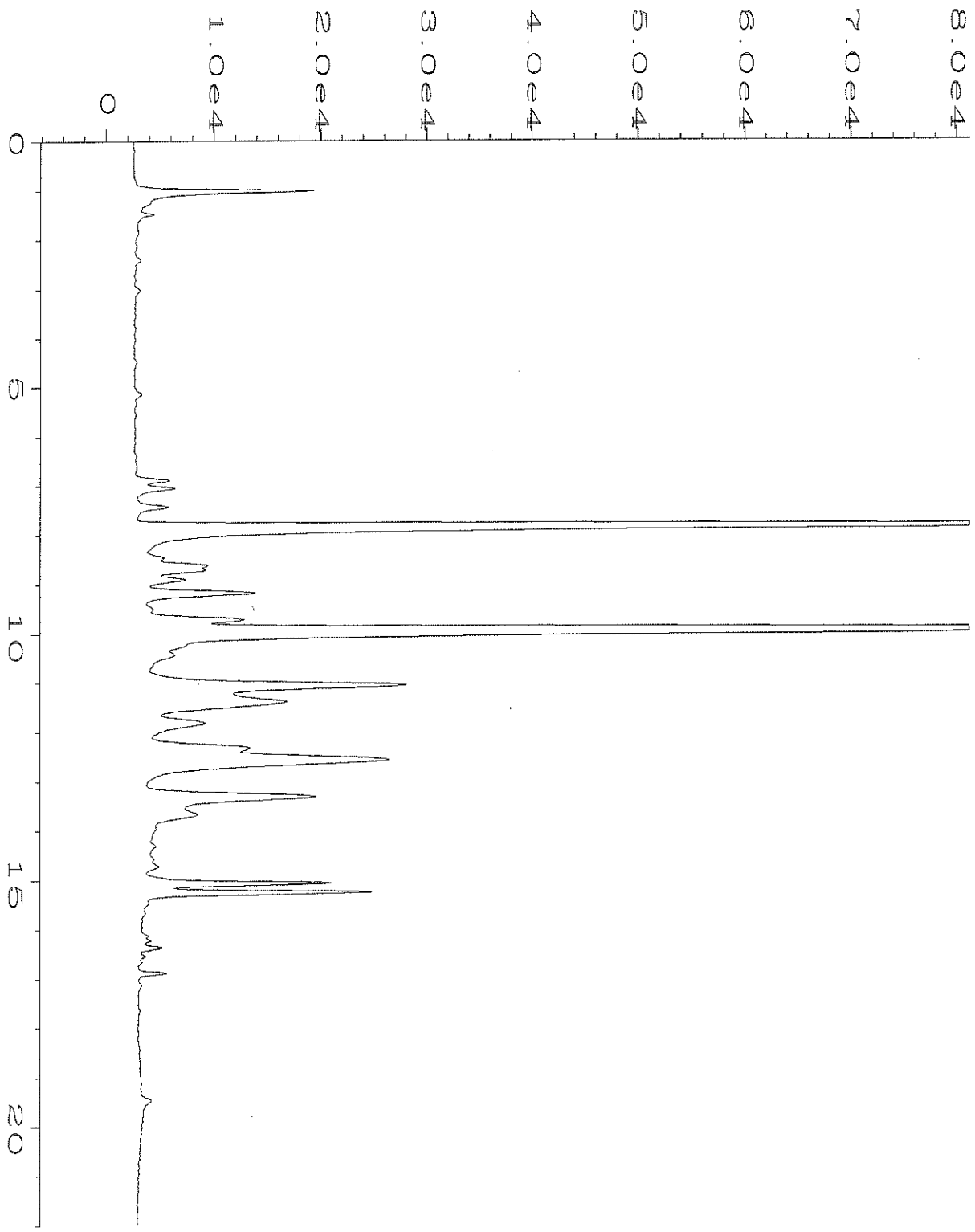
Data File Name : C:\HPCHEM\2\DATA\03-14-08\034F0101.D
Operator : EL
Instrument : GC #2
Sample Name : ~~25 btex 27 144~~
Run Time Bar Code: 1000 gas 27-145
Acquired on : 15 Mar 08 02:18 AM
Report Created on: 20 Mar 08 02:14 PM

Page Number : 1
Vial Number : 34
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



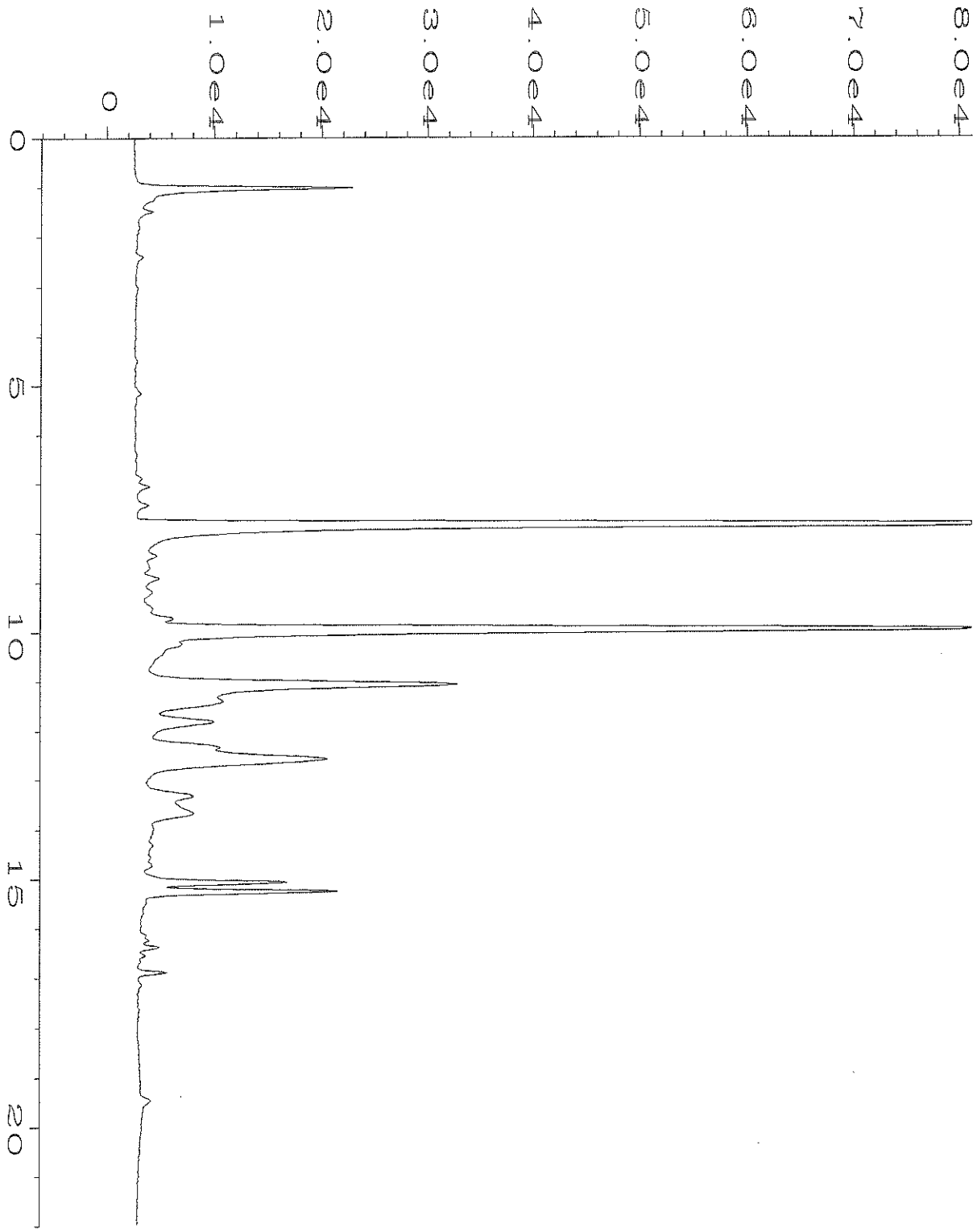
Data File Name : C:\HPCHEM\2\DATA\03-14-08\042F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803125-01 ~~DU~~
Run Time Bar Code:
Acquired on : 15 Mar 08 06:26 AM
Report Created on: 20 Mar 08 02:15 PM

Page Number : 1
Vial Number : 42
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



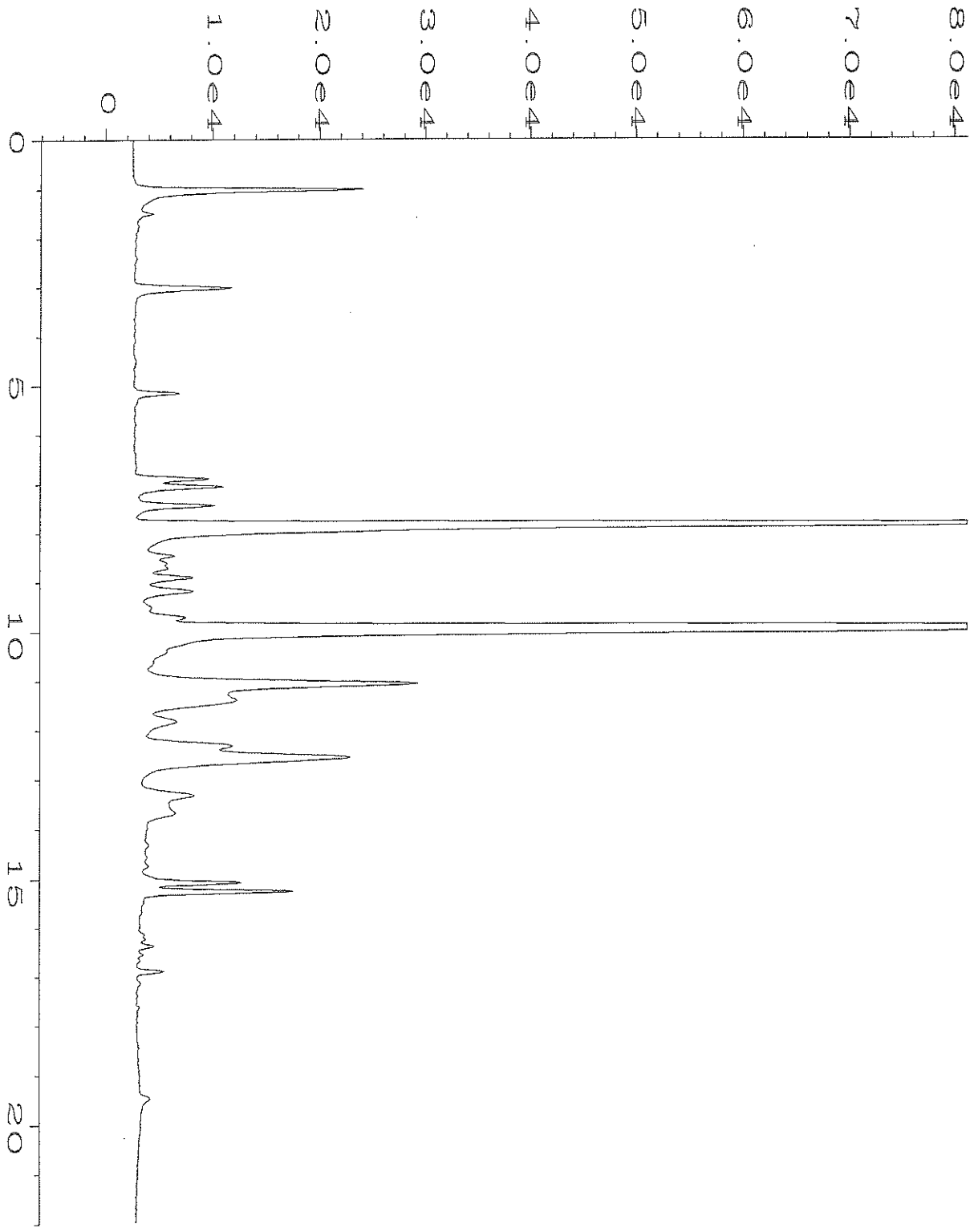
Data File Name : C:\HPCHEM\2\DATA\03-14-08\044F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803125-~~03~~02
Run Time Bar Code:
Acquired on : 15 Mar 08 07:28 AM
Report Created on: 20 Mar 08 02:16 PM

Page Number : 1
Vial Number : 44
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



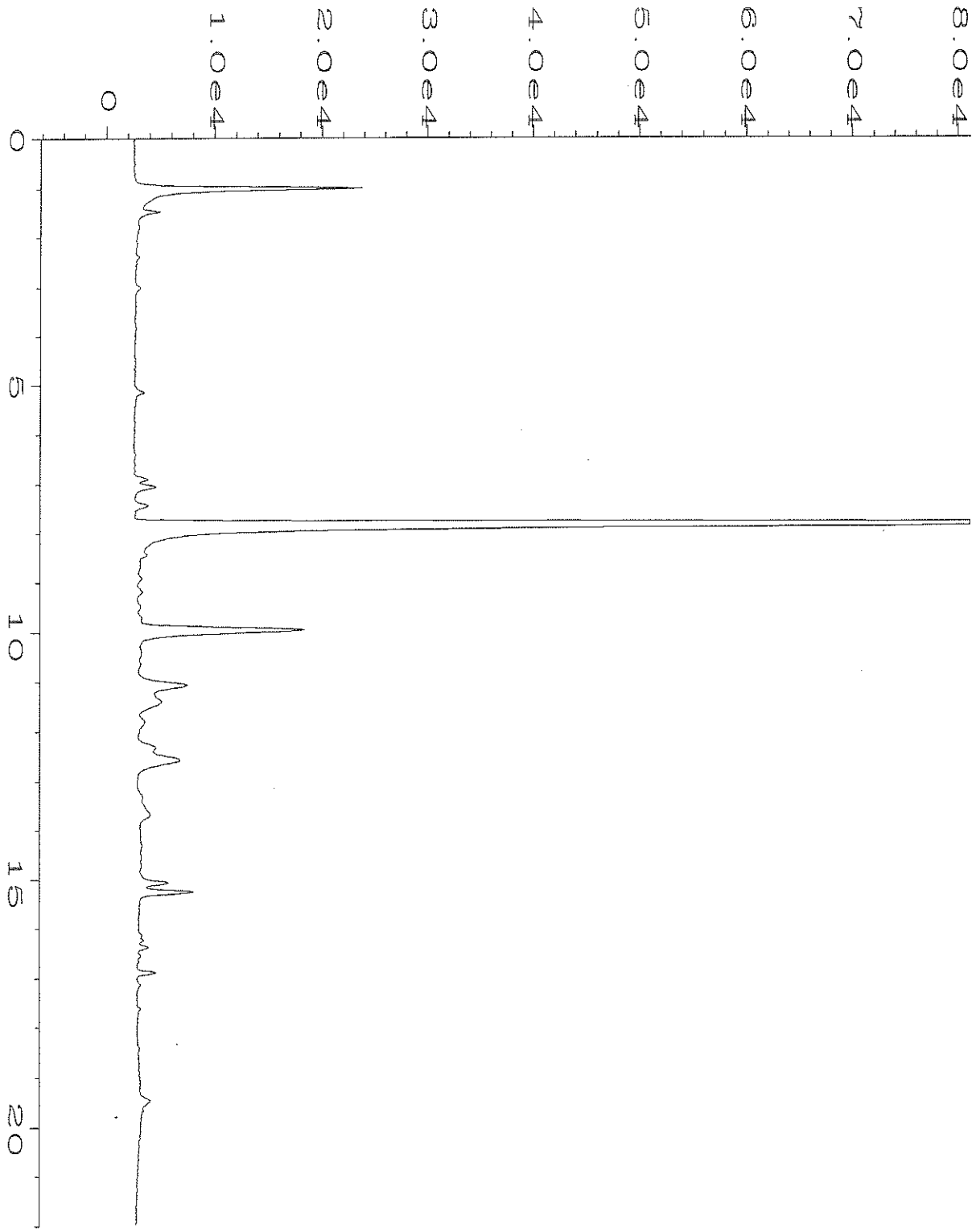
Data File Name : C:\HPCHEM\2\DATA\03-14-08\045F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803125-~~04~~03
Run Time Bar Code:
Acquired on : 15 Mar 08 07:59 AM
Report Created on: 20 Mar 08 02:17 PM

Page Number : 1
Vial Number : 45
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



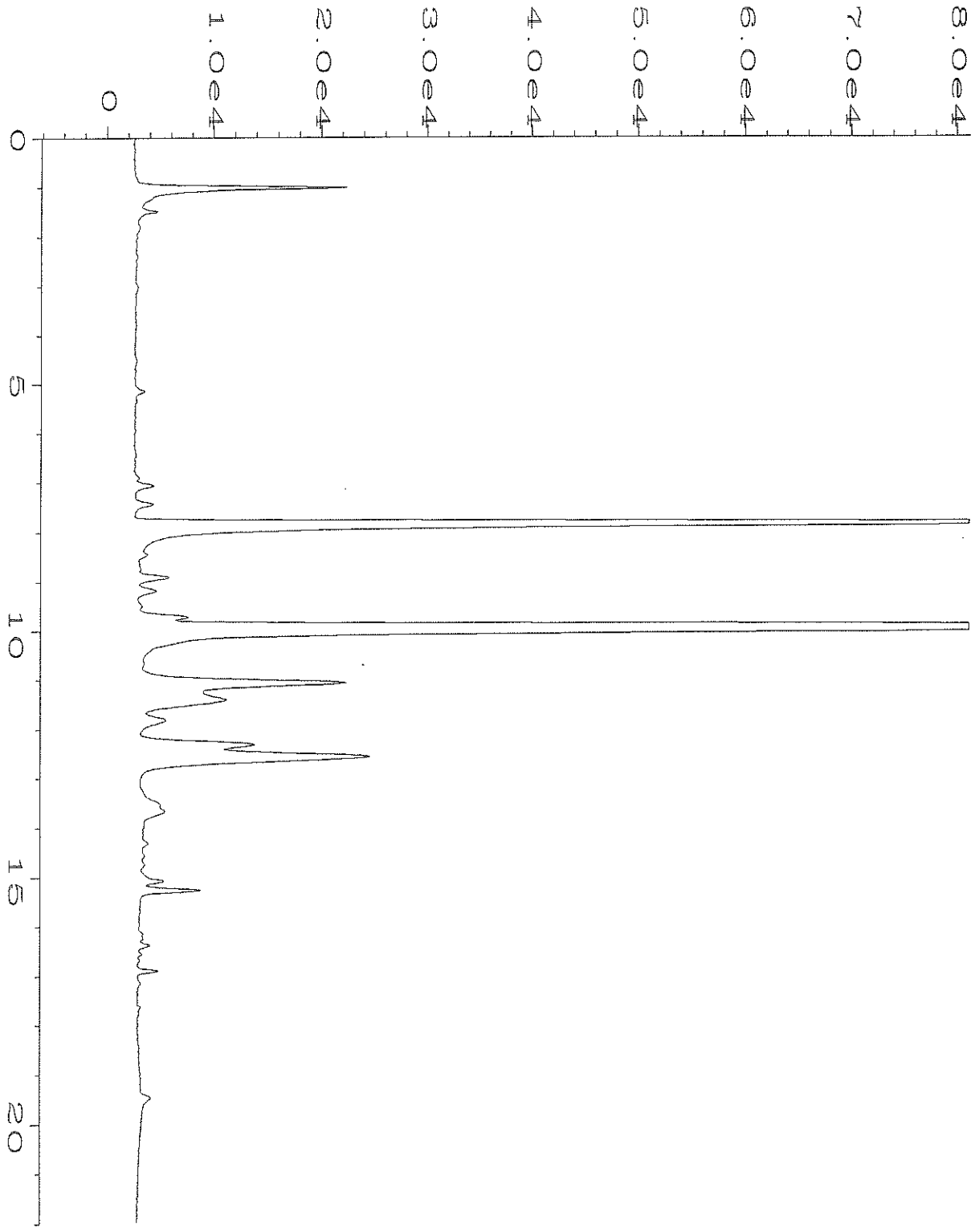
Data File Name : C:\HPCHEM\2\DATA\03-14-08\046F0101.D
Operator : EL
Instrument : GC #2
Sample Name : ~~BLANK~~ 803125-04
Run Time Bar Code:
Acquired on : 15 Mar 08 08:30 AM
Report Created on: 20 Mar 08 02:17 PM

Page Number : 1
Vial Number : 46
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



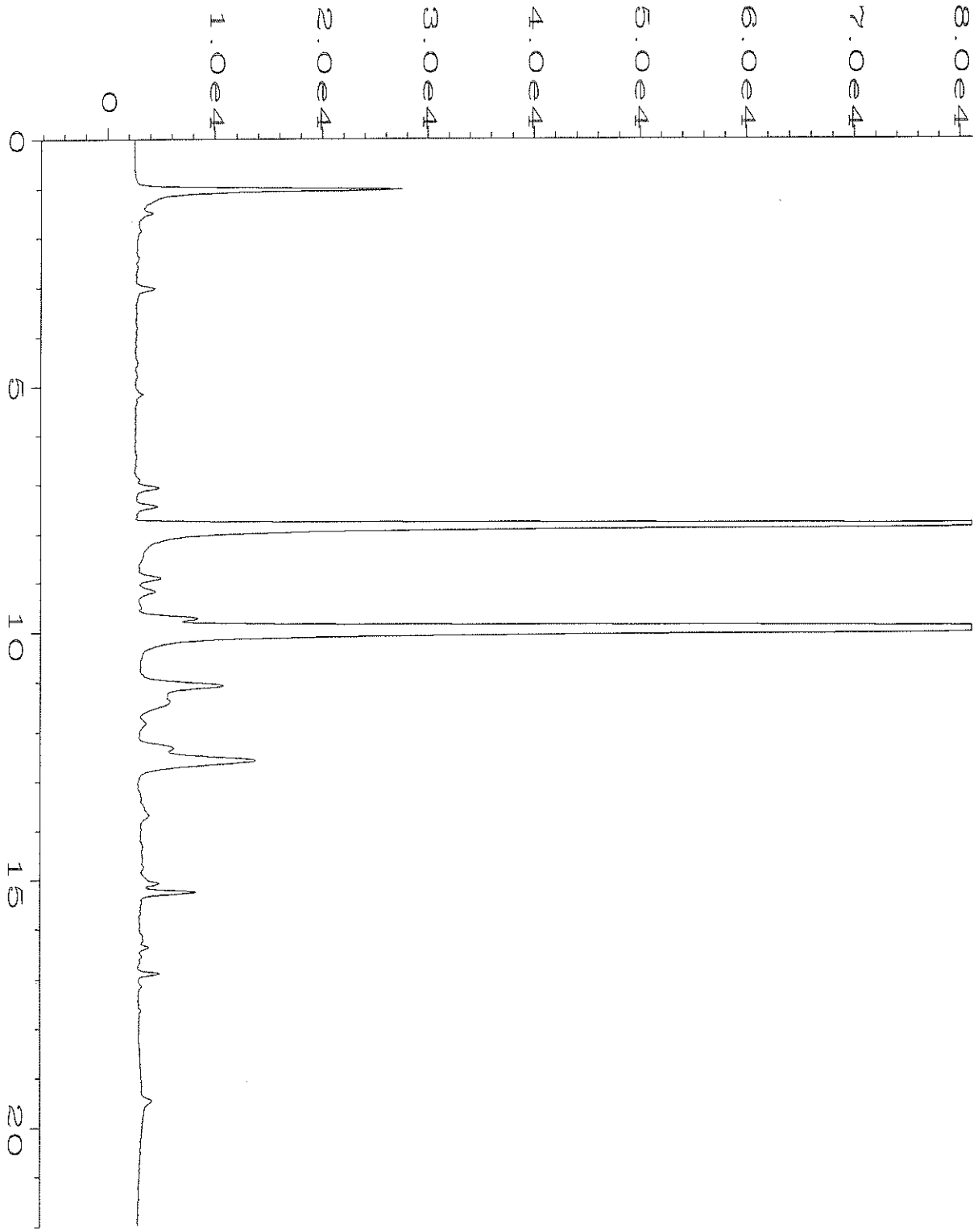
Data File Name : C:\HPCHEM\2\DATA\03-14-08\050F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803125-~~06~~ 05
Run Time Bar Code:
Acquired on : 15 Mar 08 10:34 AM
Report Created on: 20 Mar 08 02:17 PM

Page Number : 1
Vial Number : 50
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



Data File Name : C:\HPCHEM\2\DATA\03-14-08\051F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803125-0706
Run Time Bar Code:
Acquired on : 15 Mar 08 11:05 AM
Report Created on: 20 Mar 08 02:17 PM

Page Number : 1
Vial Number : 51
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



Data File Name : C:\HPCHEM\2\DATA\03-14-08\052F0101.D
Operator : EL
Instrument : GC #2
Sample Name : ~~803119-01~~ 803125-07
Run Time Bar Code:
Acquired on : 15 Mar 08 11:36 AM
Report Created on: 20 Mar 08 02:18 PM

Page Number : 1
Vial Number : 52
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH

803125

SAMPLE CHAIN OF CUSTODY

ME 03-13-08 V2/A05

Page # 1 of 1

Send Report To Dean Maltz

Company Kennedy/Jenks

Address 32001 32nd Ave S, Ste-100

City, State, ZIP Federal Way WA 98001

Phone #2538940555 Fax #2539523434

SAMPLERS *(signature)*

PROJECT NAME/NO. Tacoma Metals 996098.00

PO # OFF-site

REMARKS * use lowest reporting limits ** Filter with glass Fiber Filter prior to analysis.

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel (W/ Silica Gel)	TPH-Gasoline (NWTPH-GX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH (total) *	PAH (filtered) **				Notes
MW-23	01A-th	3/11/08	1100	W	8	X	X					X	X				Hot?
MW-26	02A-th		1255			X	X					X	X				
MW-29	03A-th		1520			X	X					X	X				
MW-24	04A-th	3/12/08	1030	W	8	X	X					X	X				
MW-27	05A-th		1220			X	X					X	X				
MW-25	06A-th		1400			X	X					X	X				
MW-32	07A-th		1600			X	X					X	X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Constance Andersen				
Received by:	Michael Erdahl	FGBinc	3/13/08	7:50AM
Relinquished by:				
Received by:		2 Coolers Samples received at 0°		

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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

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.

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

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 (C_{25}-C_{36})	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

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:	03/17/08	Lab ID:	803158-01
Date Analyzed:	03/19/08	Data File:	031833.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	49 vo	50	150
Benzo(a)anthracene-d12	96	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.70 js
Acenaphthylene	1.0 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

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:	03/17/08	Lab ID:	803158-01 1/100
Date Analyzed:	03/23/08	Data File:	032314.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	356 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

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
Date Analyzed:	03/20/08	Data File:	031935.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	54	50	150
Benzo(a)anthracene-d12	114	50	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

Note: The sample was filtered prior to extraction.

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 Analyzed:	03/23/08	Data File:	032313.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	365 ds	50	150
Benzo(a)anthracene-d12	120	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<2
Acenaphthylene	<2
Acenaphthene	170
Fluorene	90
Phenanthrene	110
Anthracene	12
Fluoranthene	19
Pyrene	13
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

Note: The sample was filtered prior to extraction.

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
Date Analyzed:	03/18/08	Data File:	031830.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	48 vo	50	150
Benzo(a)anthracene-d12	103	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.74 js
Acenaphthylene	1.1 js
Acenaphthene	110 ve, js
Fluorene	67 ve, js
Phenanthrene	57 ve, js
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

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	379 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

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:	03/18/08	Lab ID:	803158-02f
Date Analyzed:	03/20/08	Data File:	032010.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	57	50	150
Benzo(a)anthracene-d12	111	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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:	03/18/08	Lab ID:	803158-02f 1/100
Date Analyzed:	03/23/08	Data File:	032315.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-28(R)	Client:	Kennedy-Jenks
Date Received:	03/17/08	Project:	Tacoma Metals 996098.00 PO Off-Site
Date Extracted:	03/17/08	Lab ID:	803158-03
Date Analyzed:	03/19/08	Data File:	031837.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	52 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 ve, J
Phenanthrene	70 ve
Anthracene	8.5 ve
Fluoranthene	18 ve
Pyrene	12 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-28(R)	Client:	Kennedy-Jenks
Date Received:	03/17/08	Project:	Tacoma Metals 996098.00 PO Off-Site
Date Extracted:	03/17/08	Lab ID:	803158-03 1/100
Date Analyzed:	03/23/08	Data File:	032318.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	347 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-28(R)	Client:	Kennedy-Jenks
Date Received:	03/17/08	Project:	Tacoma Metals 996098.00 PO Off-Site
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)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	54	50	150
Benzo(a)anthracene-d12	111	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	71 ve
Acenaphthylene	1.4
Acenaphthene	96 ve
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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-28(R)	Client:	Kennedy-Jenks
Date Received:	03/17/08	Project:	Tacoma Metals 996098.00 PO Off-Site
Date Extracted:	03/18/08	Lab ID:	803158-03f 1/100
Date Analyzed:	03/23/08	Data File:	032317.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	362 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

Note: The sample was filtered prior to extraction.

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:	03/17/08	Lab ID:	803158-04
Date Analyzed:	03/19/08	Data File:	031831.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	03/18/08	Lab ID:	803158-04f
Date Analyzed:	03/20/08	Data File:	032009.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	100	50	150
Benzo(a)anthracene-d12	116	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-34	Client:	Kennedy-Jenks
Date Received:	03/17/08	Project:	Tacoma Metals 996098.00 PO Off-Site
Date Extracted:	03/17/08	Lab ID:	803158-05
Date Analyzed:	03/19/08	Data File:	031834.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Analysis For Semivolatile Compounds By EPA Method 8270C SIM

Client Sample ID:	MW-34	Client:	Kennedy-Jenks
Date Received:	03/17/08	Project:	Tacoma Metals 996098.00 PO Off-Site
Date Extracted:	03/18/08	Lab ID:	803158-05f
Date Analyzed:	03/20/08	Data File:	031933.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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:	03/17/08	Lab ID:	803158-06
Date Analyzed:	03/18/08	Data File:	031828.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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
Date Analyzed:	03/20/08	Data File:	031934.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	93	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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 Analyzed:	03/18/08	Data File:	031822.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	50	150
Benzo(a)anthracene-d12	91	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

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
Date Analyzed:	03/19/08	Data File:	031908.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93	50	150
Benzo(a)anthracene-d12	110	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

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	ug/L (ppb)	200	210	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	81	69-134

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	91	90	73-142	1

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

Note: The samples were filtered prior to extraction.

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.

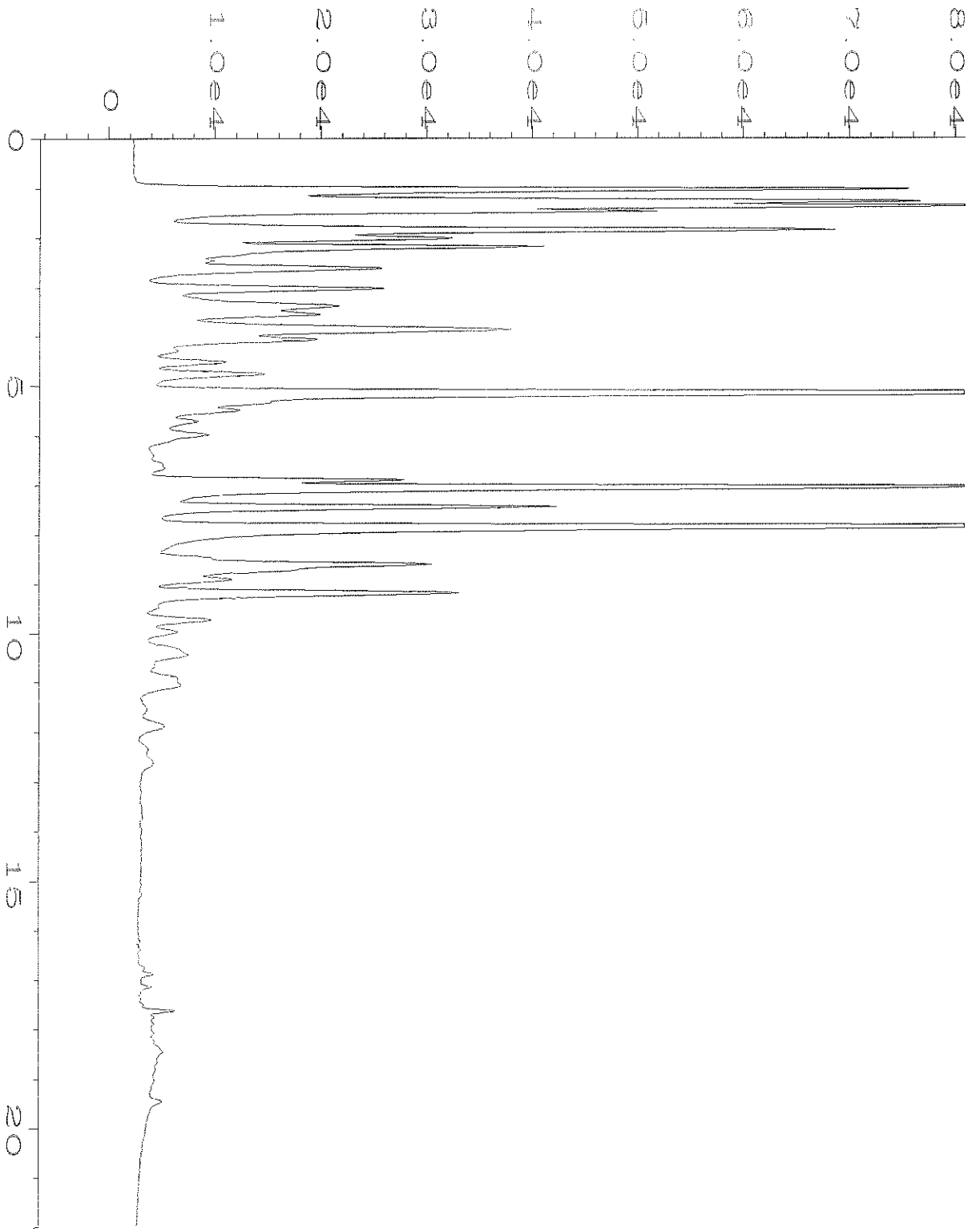
pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

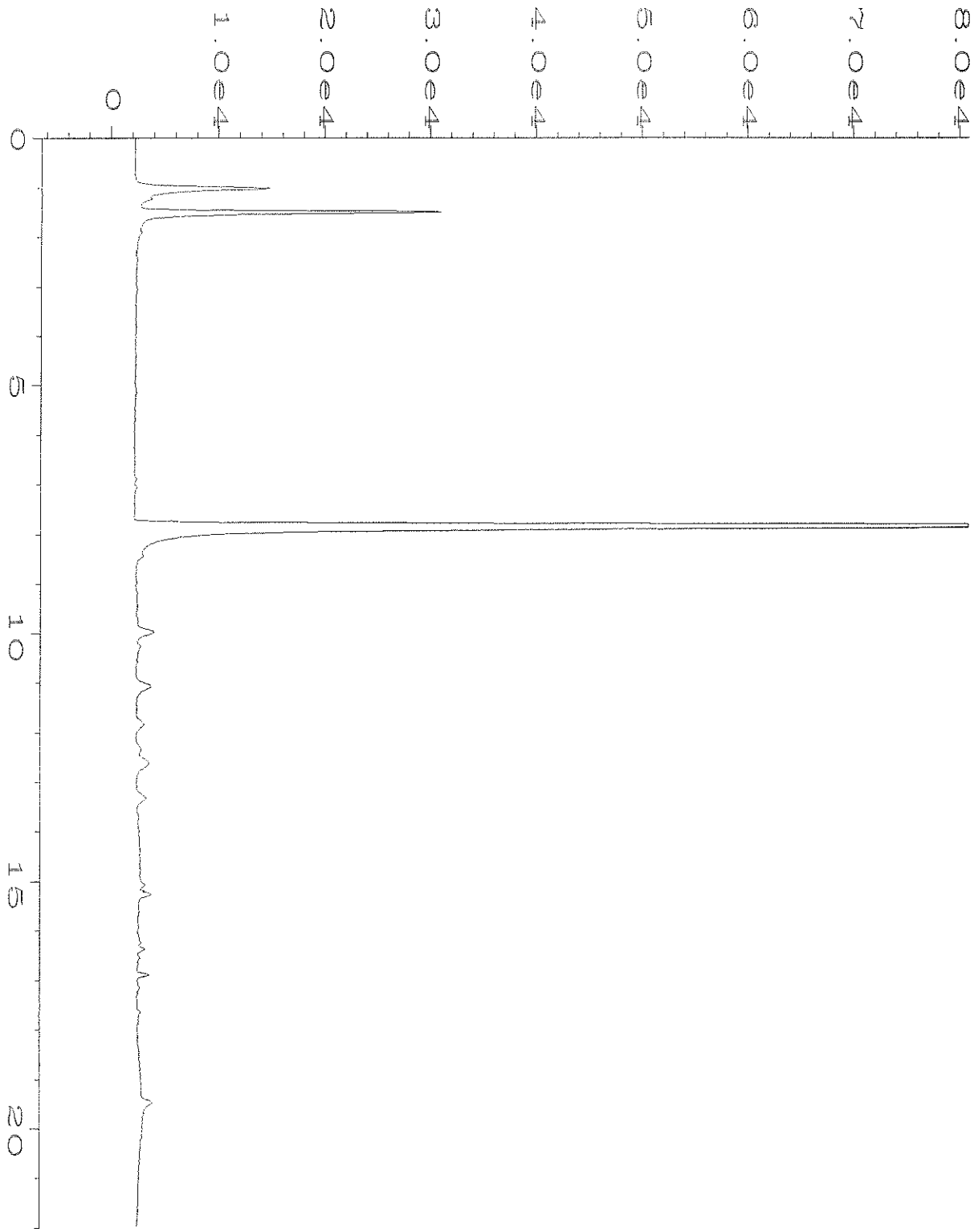
vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

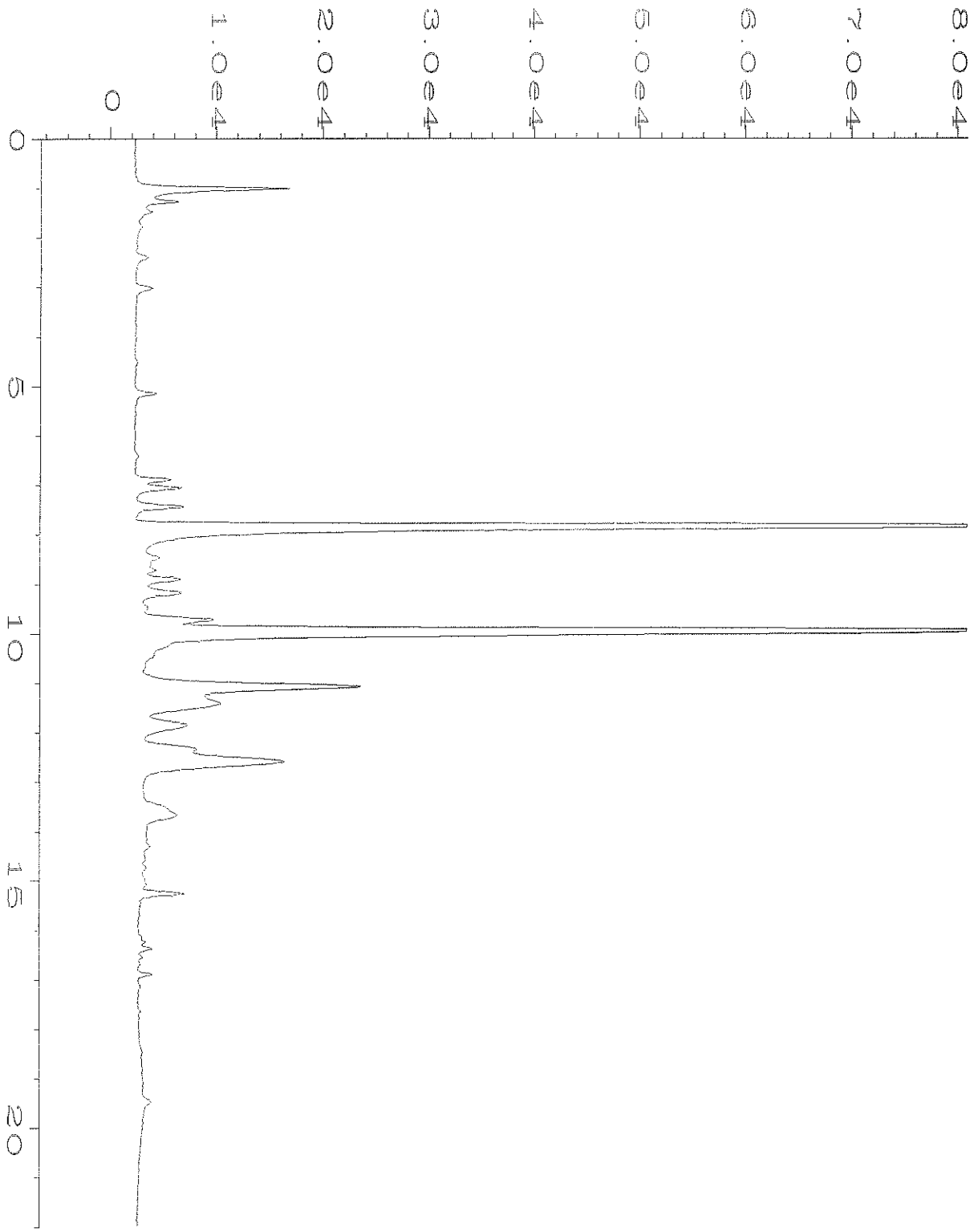
y - The pattern of peaks present is not indicative of motor oil.



Data File Name	: C:\HPCHEM\2\DATA\03-17-08\001F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 1
Sample Name	: 500 gas 27-145	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 17 Mar 08 09:44 AM	Instrument Method	: BTEXG.MTH
Report Created on	: 18 Mar 08 10:55 AM	Analysis Method	: BTEXG.MTH

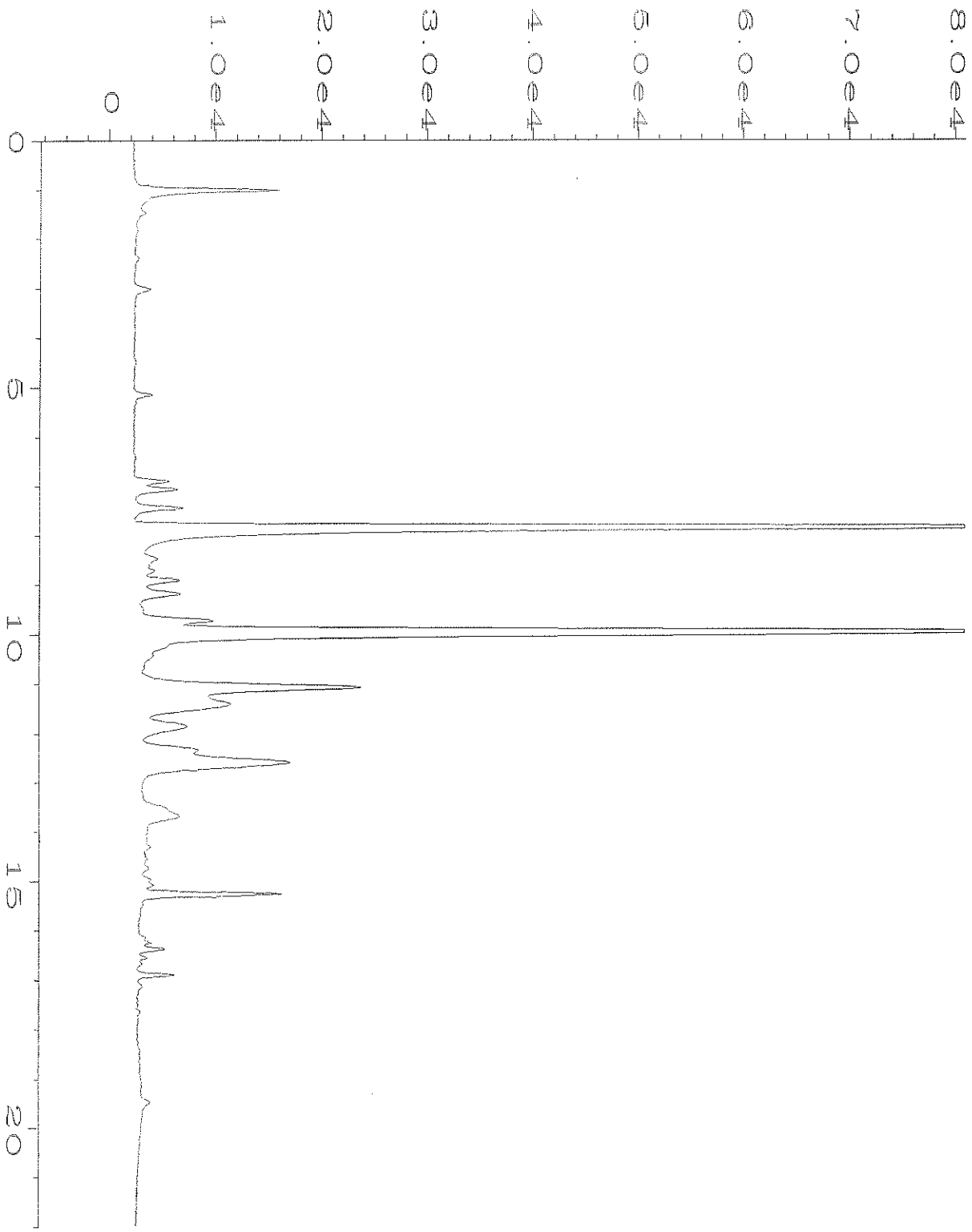


Data File Name	: C:\HPCHEM\2\DATA\03-17-08\033F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 33
Sample Name	: 08-00419 mb	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 18 Mar 08 03:24 AM	Instrument Method	: BTEXG.MTH
Report Created on	: 18 Mar 08 10:55 AM	Analysis Method	: BTEXG.MTH

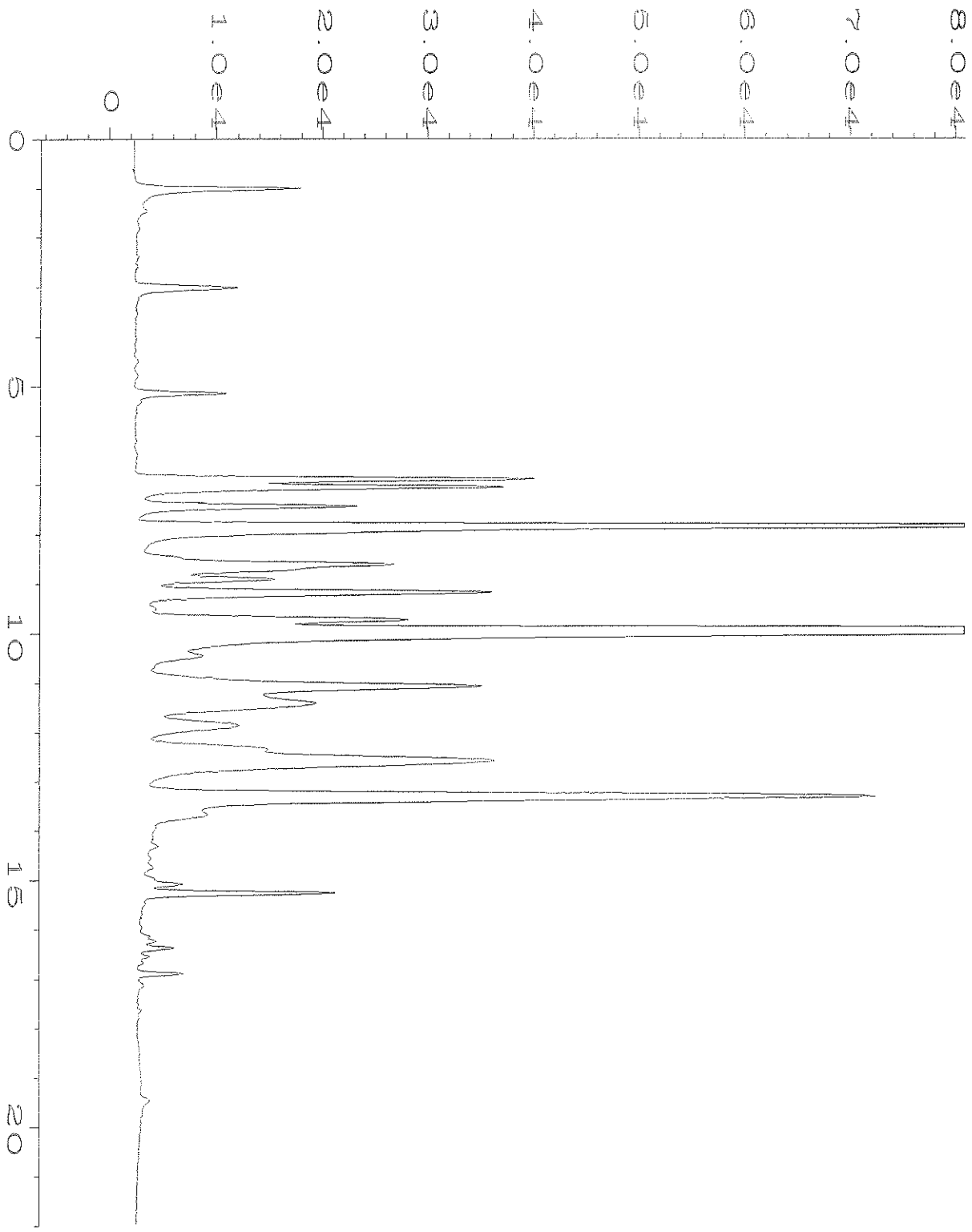


Data File Name : C:\HPCHEM\2\DATA\03-17-08\006F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803158-01
Run Time Bar Code:
Acquired on : 17 Mar 08 01:24 PM
Report Created on: 18 Mar 08 10:55 AM

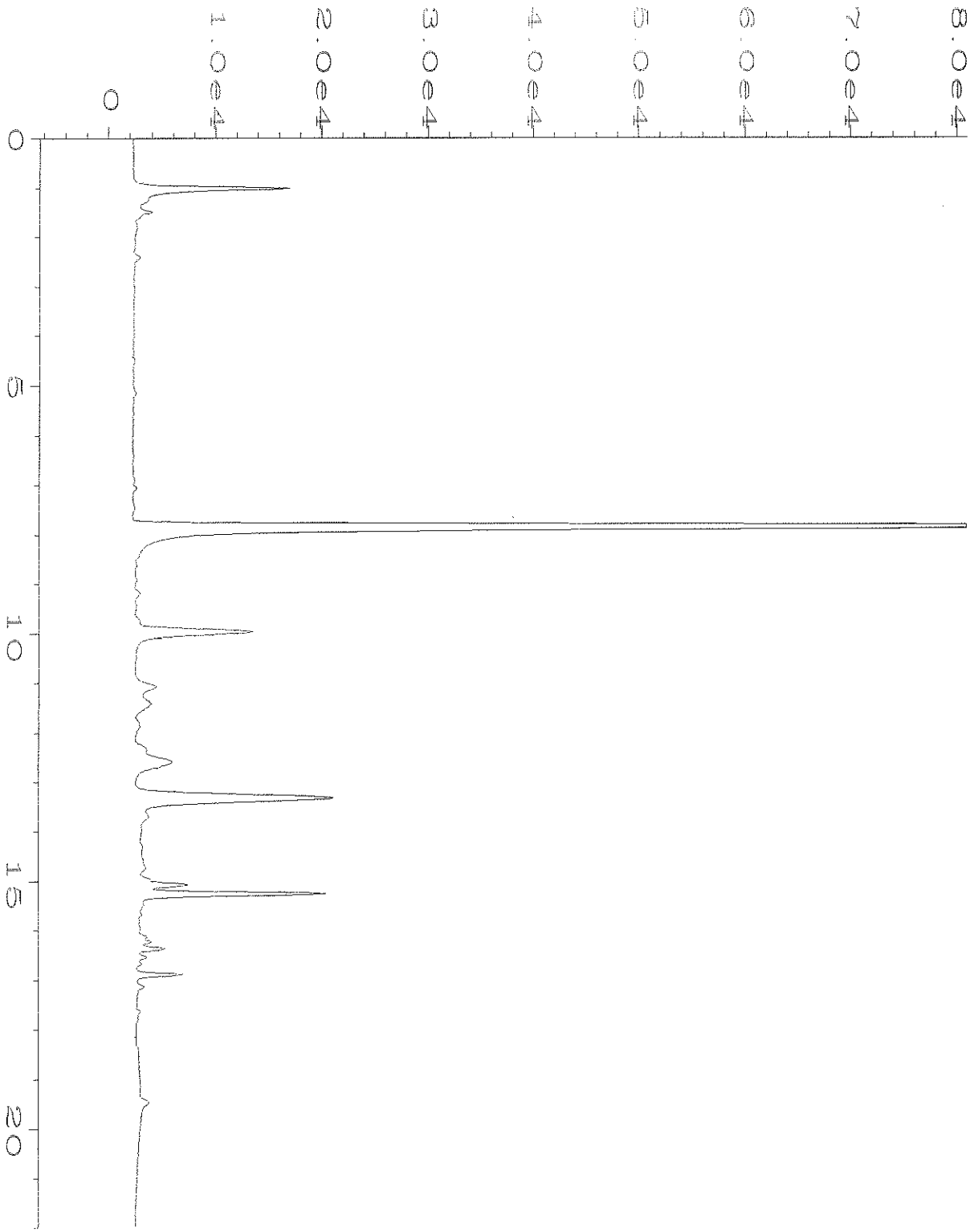
Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



Data File Name	: C:\HPCHEM\2\DATA\03-17-08\008F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 8
Sample Name	: 803158-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 17 Mar 08 02:27 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 18 Mar 08 10:56 AM	Analysis Method	: BTEXG.MTH

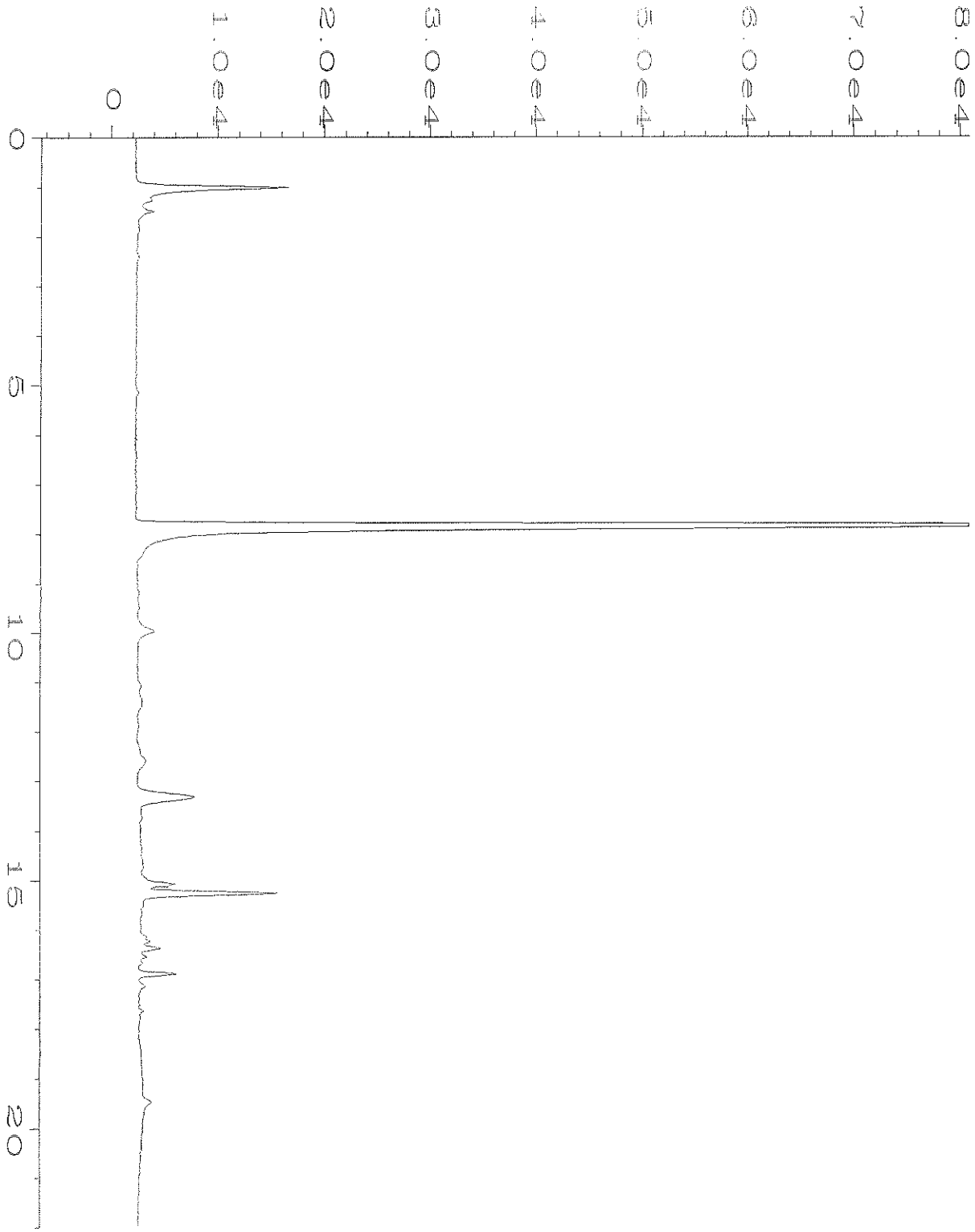


Data File Name	: C:\HPCHEM\2\DATA\03-17-08\009F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 9
Sample Name	: 803158-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 17 Mar 08 02:58 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 18 Mar 08 10:56 AM	Analysis Method	: BTEXG.MTH

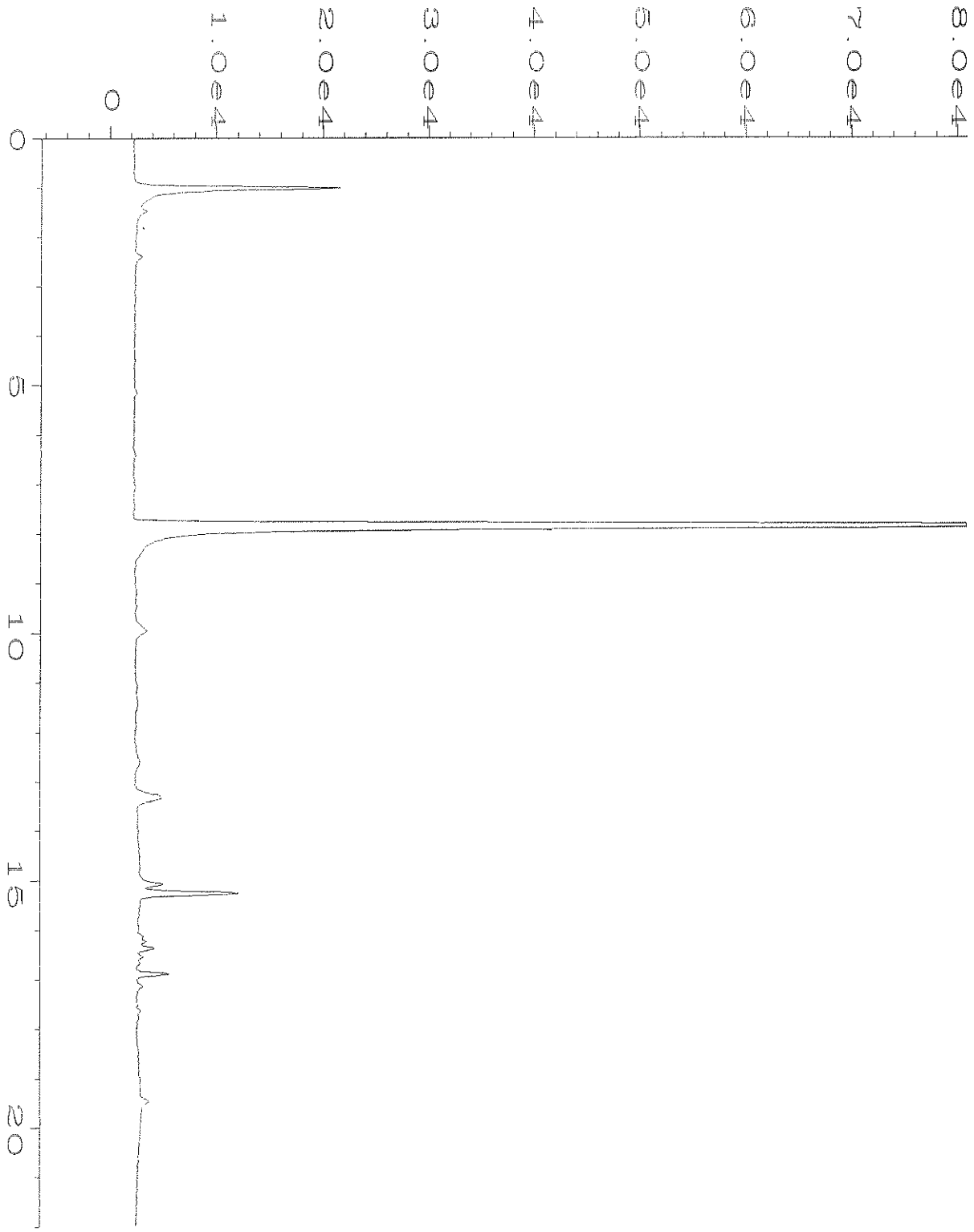


Data File Name : C:\HPCHEM\2\DATA\03-17-08\010F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803158-04
Run Time Bar Code:
Acquired on : 17 Mar 08 03:30 PM
Report Created on: 18 Mar 08 10:56 AM

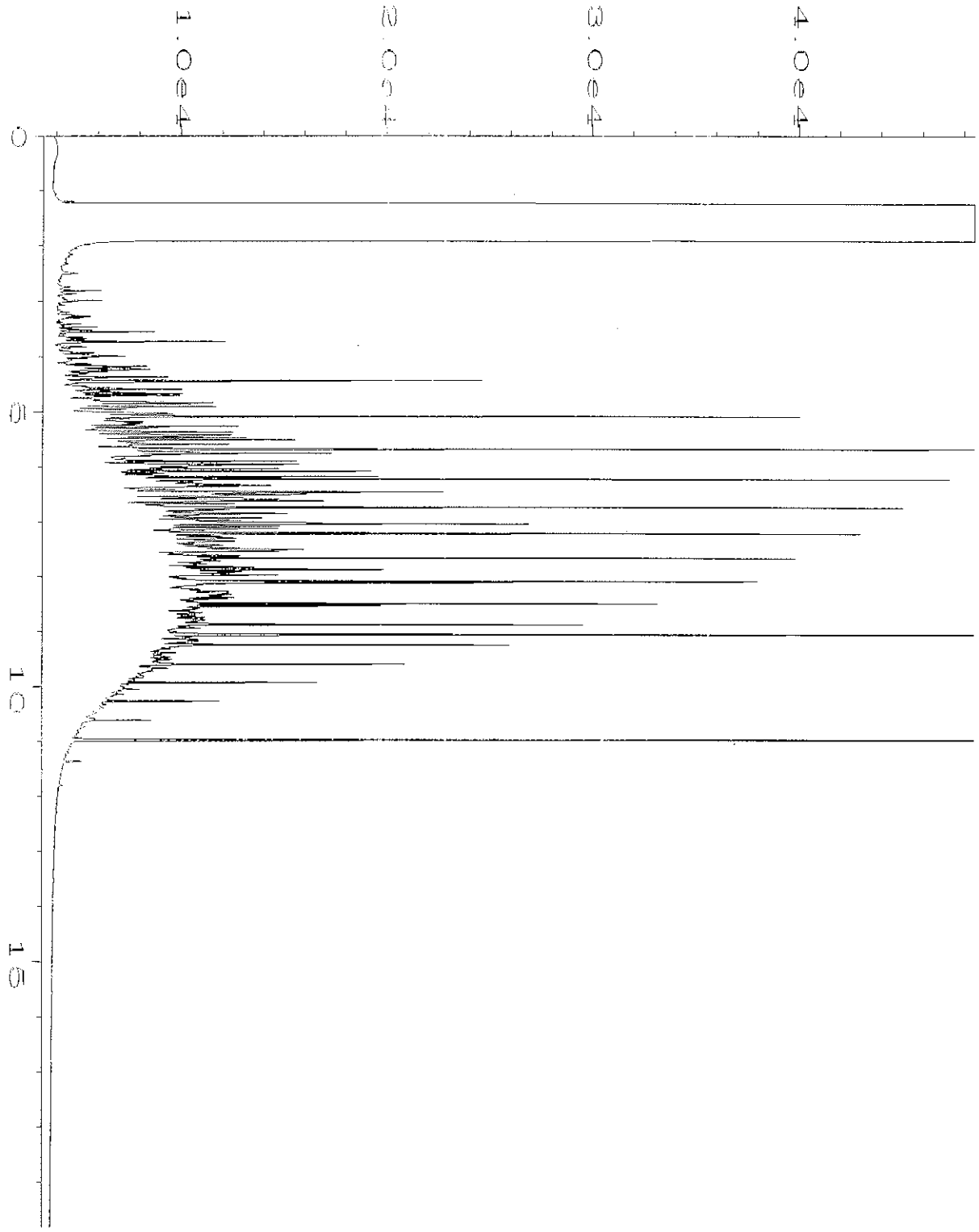
Page Number : 1
Vial Number : 10
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : BTEXG.MTH



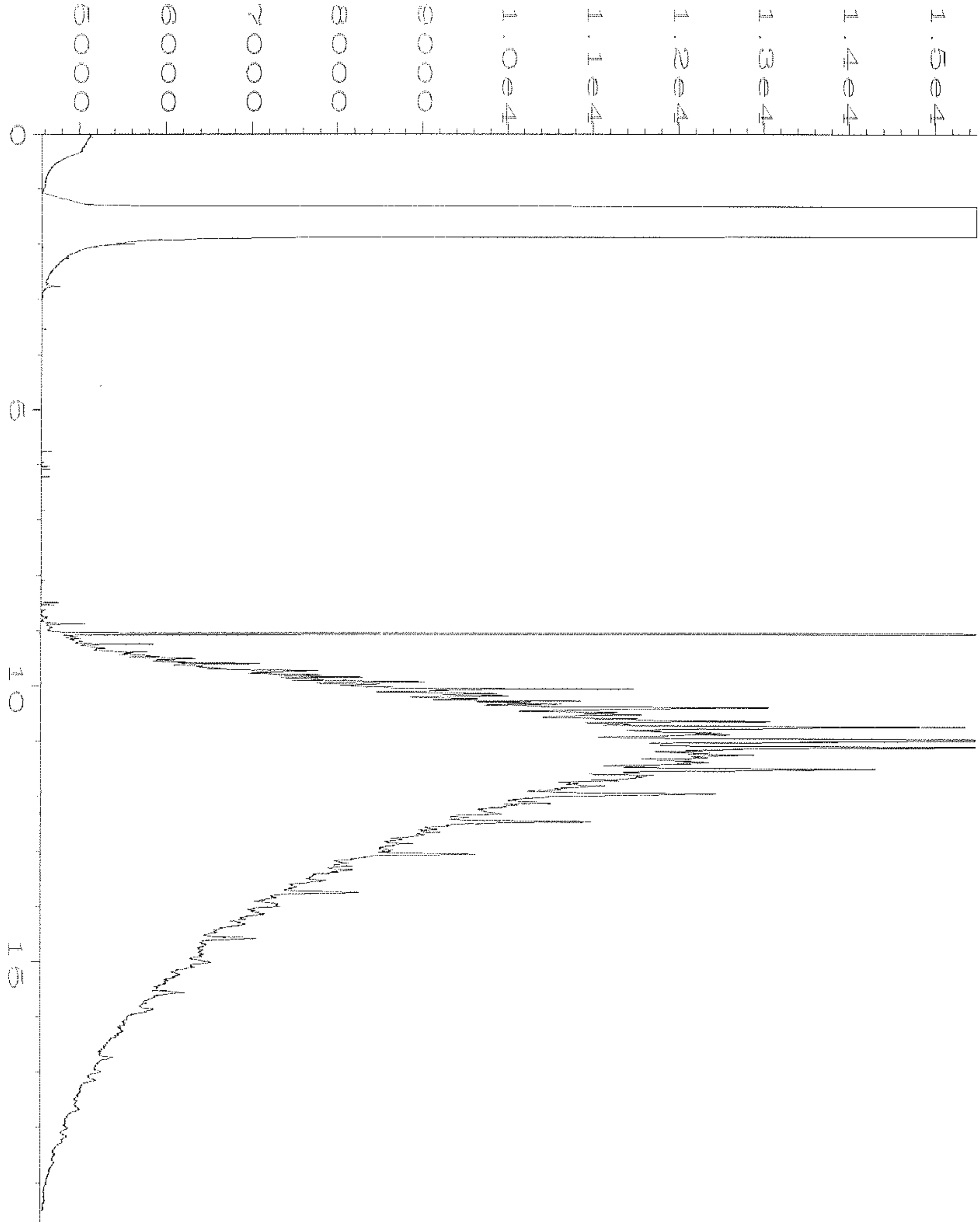
Data File Name	: C:\HPCHEM\2\DATA\03-17-08\011F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 11
Sample Name	: 803158-05	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 17 Mar 08 04:01 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 18 Mar 08 10:57 AM	Analysis Method	: BTEXG.MTH



Data File Name	: C:\HPCHEM\2\DATA\03-17-08\012F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 12
Sample Name	: 803158-06	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 17 Mar 08 04:32 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 18 Mar 08 10:57 AM	Analysis Method	: BTEXG.MTH

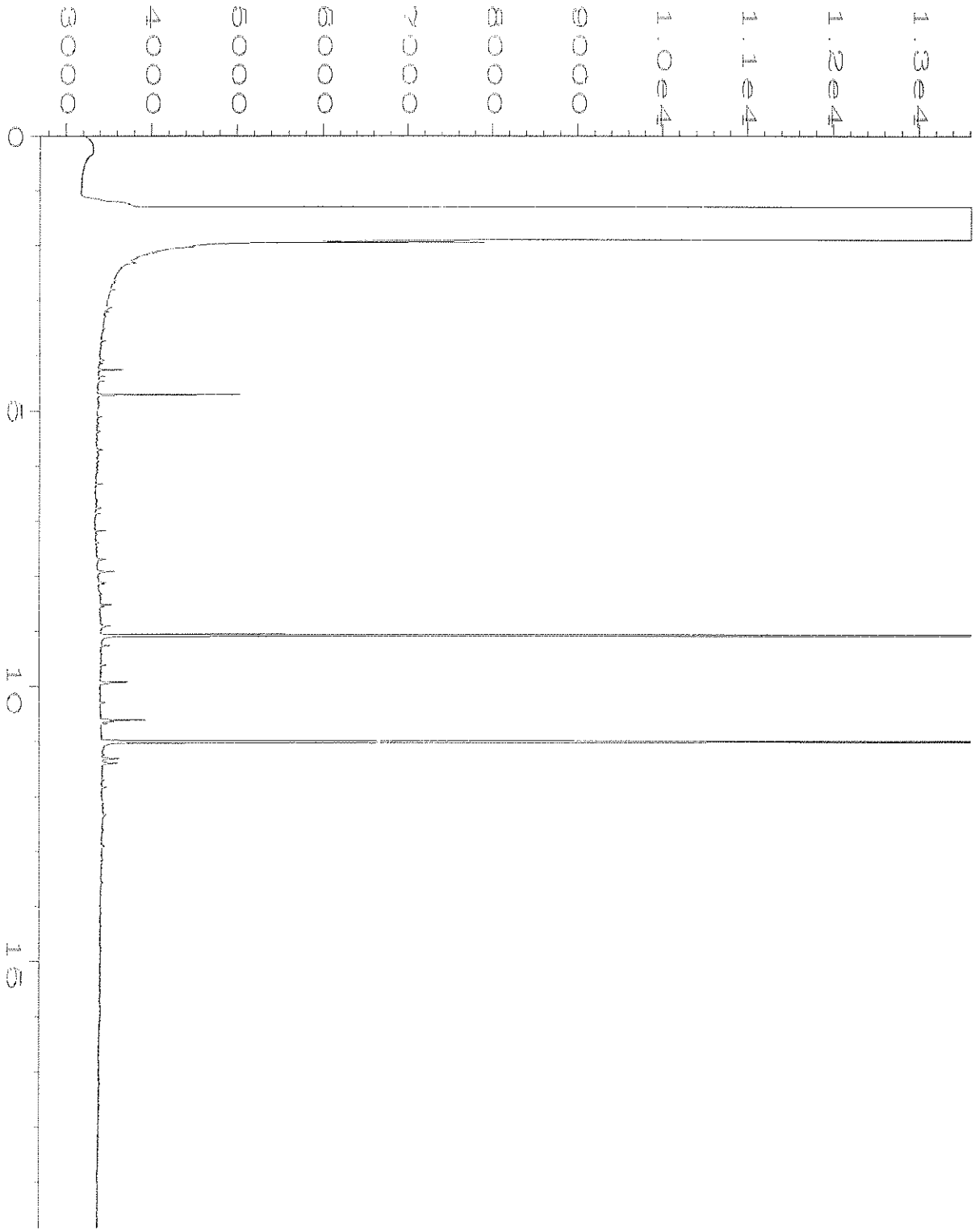


Data File Name	: C:\HPCHEM\6\DATA\03-24-08\004F0301.D		
Operator	: ay	Page Number	: 1
Instrument	: GC #6	Vial Number	: 4
Sample Name	: 500 WADF 26-185F	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 3
Acquired on	: 24 Mar 08 08:31 AM	Instrument Method	: TPHD.MTH
Report Created on	: 25 Mar 08 07:34 AM	Analysis Method	: TPHD.MTH



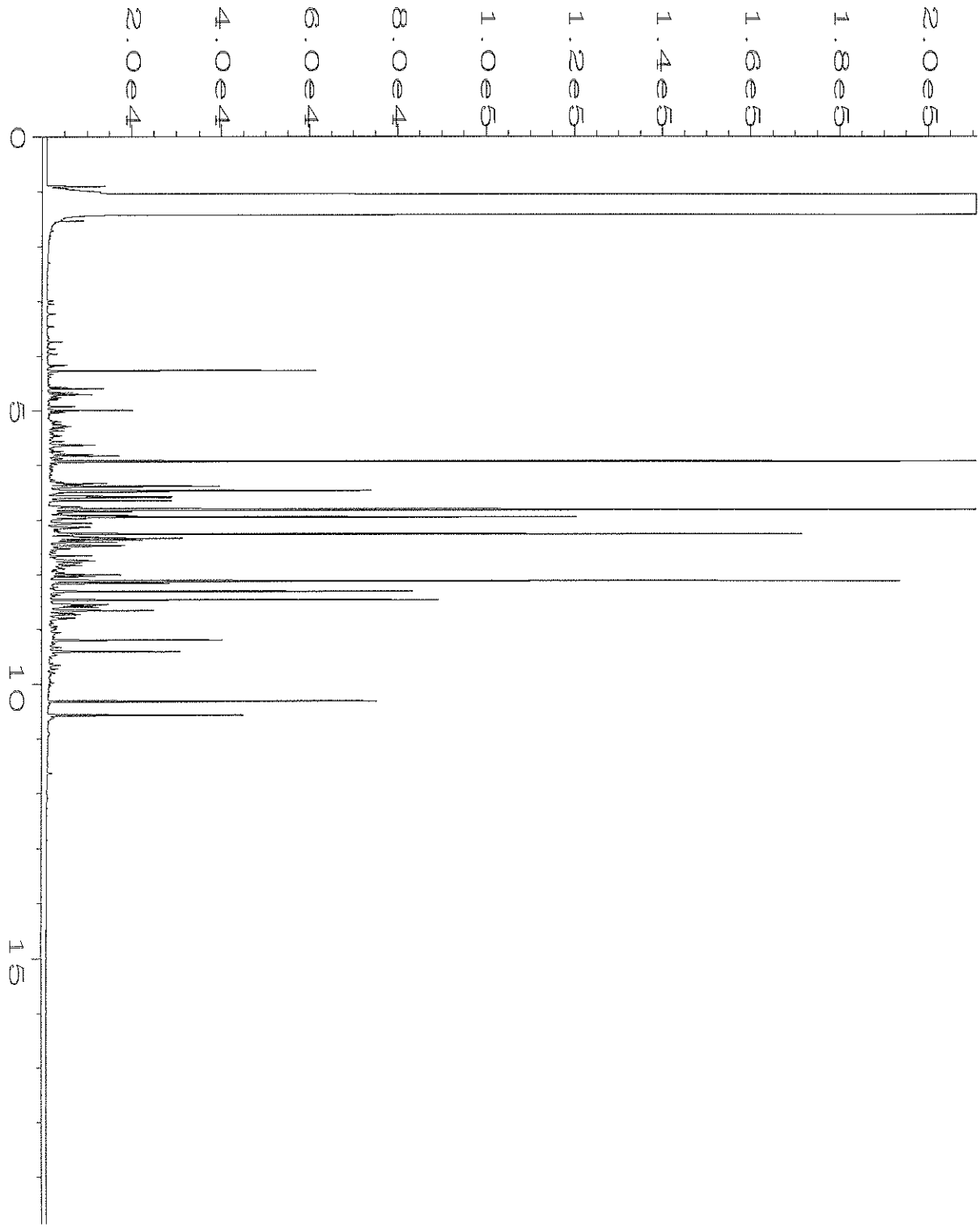
Data File Name   : C:\HPCHEM\6\DATA\03-24-08\002F0201.D
Operator   : ay
Instrument   : GC #6
Sample Name   : 500 MO 26-69D
Run Time Bar Code:
Acquired on   : 24 Mar 08   08:06 AM
Report Created on: 25 Mar 08   07:34 AM

Page Number   : 1
Vial Number   : 2
Injection Number : 1
Sequence Line   : 2
Instrument Method: TPHD.MTH
Analysis Method   : TPHD.MTH



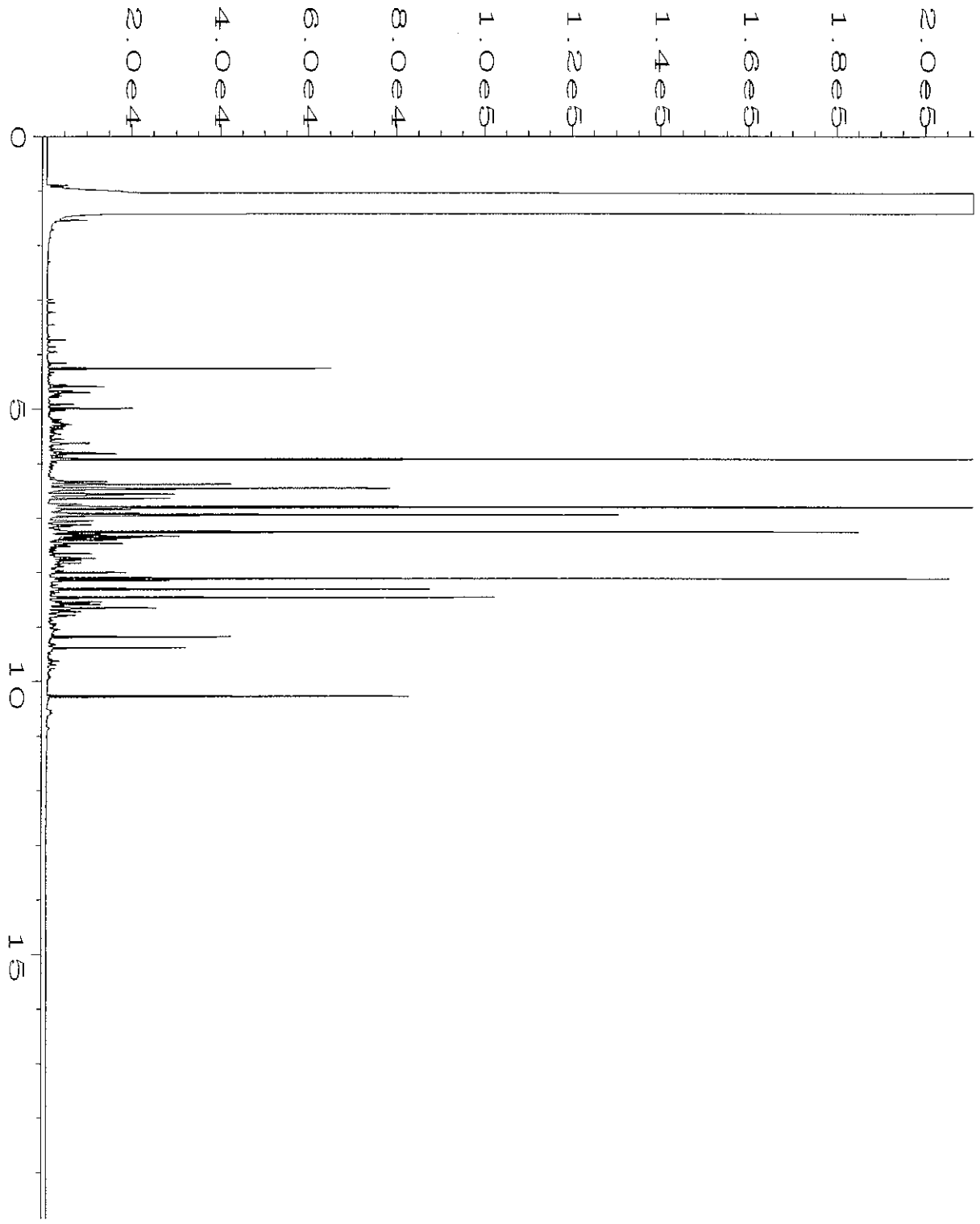
Data File Name : C:\HPCHEM\6\DATA\03-24-08\006F0601.D
Operator : ay
Instrument : GC #6
Sample Name : 08-0411 mb2Sg
Run Time Bar Code:
Acquired on : 24 Mar 08 12:25 PM
Report Created on: 25 Mar 08 07:35 AM

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 6
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH

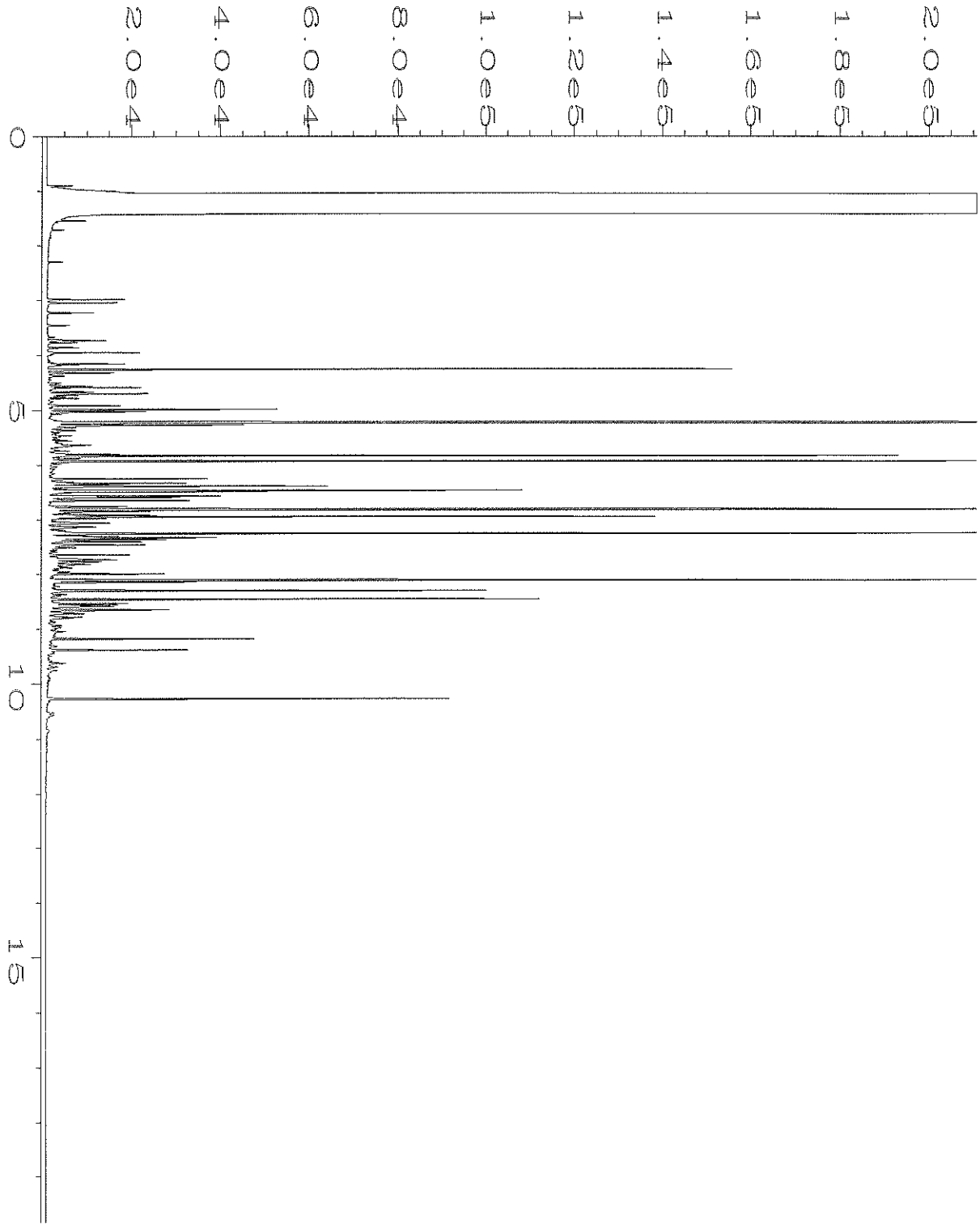


Data File Name : C:\HPCHEM\4\DATA\03-25-08\013F0401.D
Operator : ay
Instrument : GC#4
Sample Name : 803158-01 sg rr
Run Time Bar Code:
Acquired on : 25 Mar 08 05:05 PM
Report Created on: 26 Mar 08 12:46 PM

Page Number : 1
Vial Number : 13
Injection Number : 1
Sequence Line : 4
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH

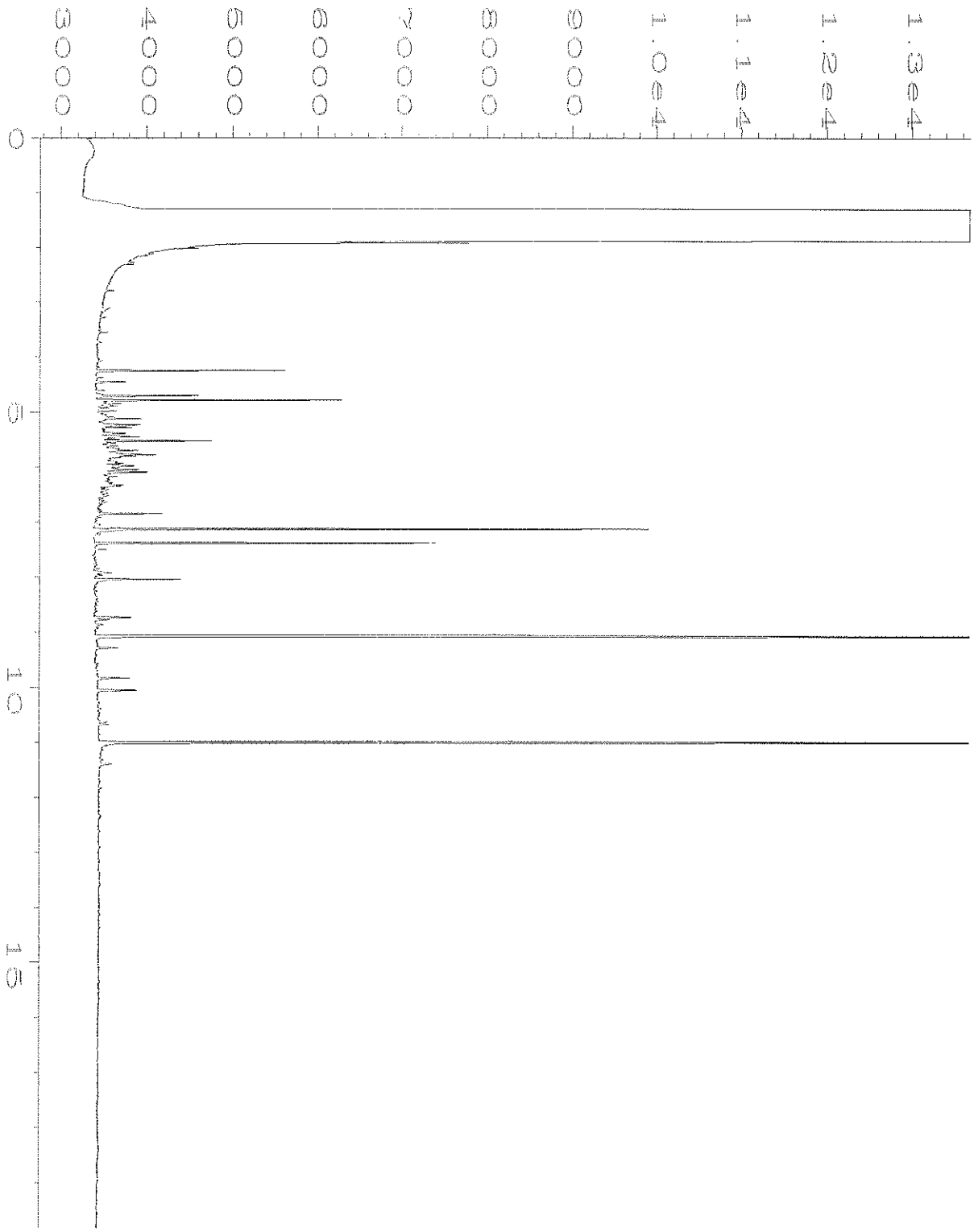


Data File Name	: C:\HPCHEM\4\DATA\03-25-08\014F0401.D		
Operator	: ay	Page Number	: 1
Instrument	: GC#4	Vial Number	: 14
Sample Name	: 803158-02 sg rr	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 4
Acquired on	: 25 Mar 08 05:28 PM	Instrument Method	: TPHD.MTH
Report Created on	: 26 Mar 08 12:47 PM	Analysis Method	: TPHD.MTH

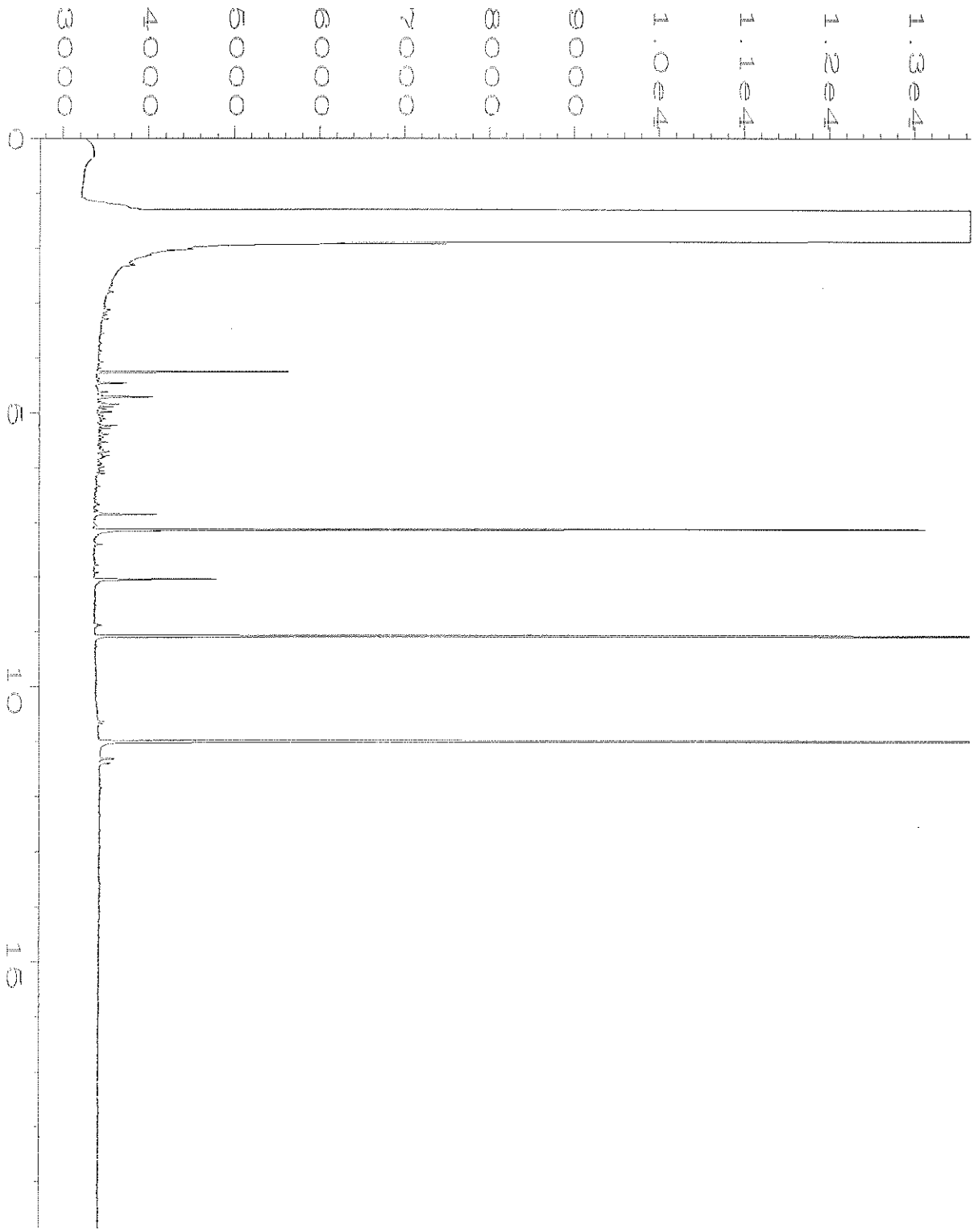


Data File Name : C:\HPCHEM\4\DATA\03-25-08\015F0401.D
Operator : ay
Instrument : GC#4
Sample Name : 803158-03 sg rr
Run Time Bar Code:
Acquired on : 25 Mar 08 05:54 PM
Report Created on: 26 Mar 08 12:46 PM

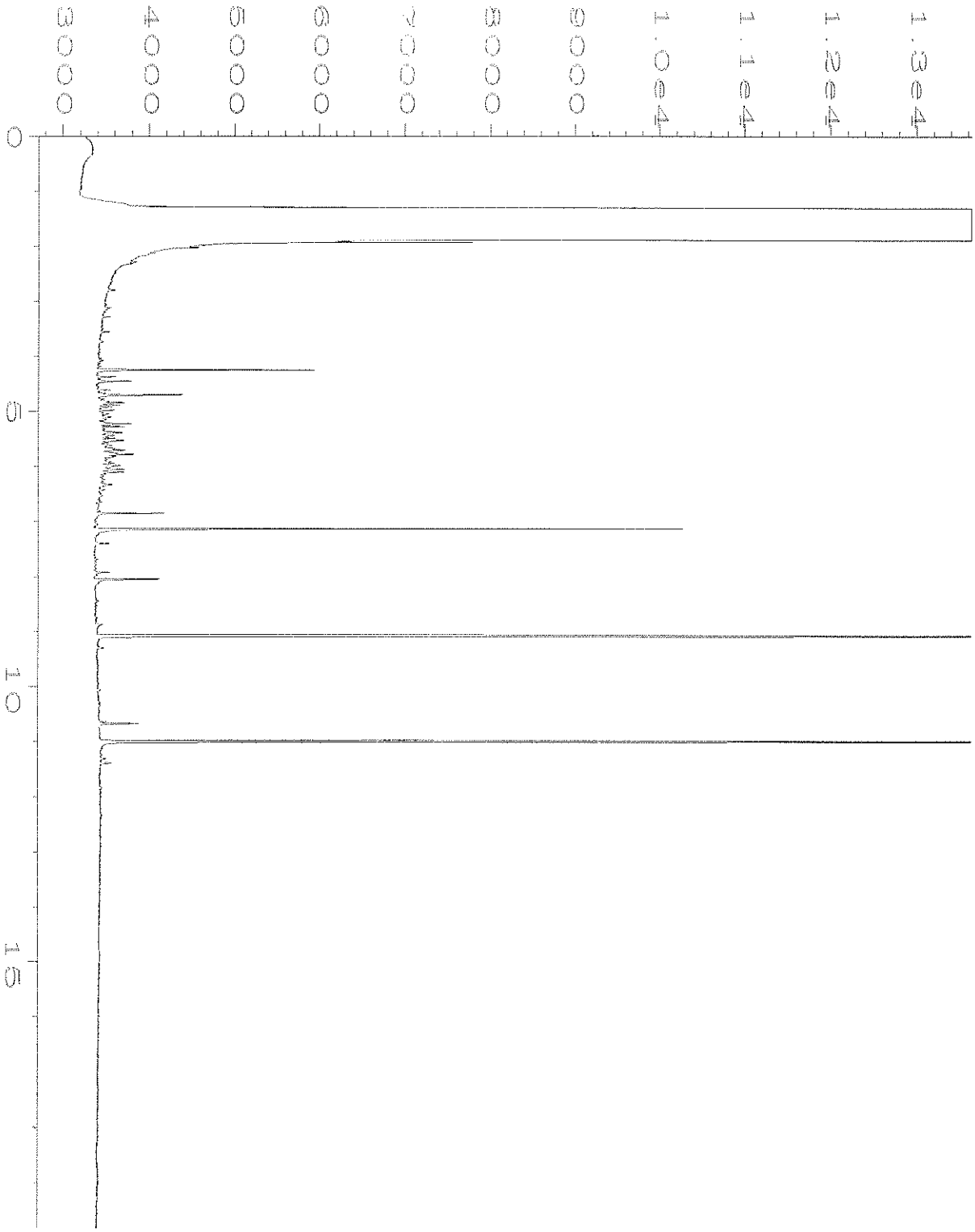
Page Number : 1
Vial Number : 15
Injection Number : 1
Sequence Line : 4
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



Data File Name	: C:\HPCHEM\6\DATA\03-24-08\010F0501.D		
Operator	: ay	Page Number	: 1
Instrument	: GC #6	Vial Number	: 10
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	: ay	Page Number	: 1
Instrument	: GC #6	Vial Number	: 11
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



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.MTH
Report Created on	: 25 Mar 08 07:36 AM	Analysis Method	: TPHD.MTH

803158

SAMPLE CHAIN OF CUSTODY

ME 3/17/08

804/43

Page # 1 of 1

Send Report To: Dean Malte

Company: Kennedy/Jenks

Address: 32001 32nd Ave S, Ste. 100

City, State, ZIP: Federal Way WA 98001

Phone #: 253 874 0555 Fax #: 253 952 3435

SAMPLERS (signature)

PROJECT NAME/NO.: Tacoma Metals 996098.00

PO #: OFF-SITE

REMARKS: * Use lowest reporting limits ** Filter with glass fiber filter prior to analysis

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel w/ Silica Gel	TPH-Gasoline w/ BTEX	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH (Total) *	PAH (Filtered) **					Notes
MW-31	01 A-H	3/13/08	950	W	8	X	X					X	X					Hot
MW-100	02 A-H		1000			X	X					X	X					Hot
MW-28(R)	03 A-H		1155			X	X					X	X					Hot
MW-33	04 A-H		1350			X	X					X	X					
MW-34	05 A-H		1600			X	X					X	X					
MW-35	06 A-H	3/14/08	1230	W	8	X	X					X	X					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	K/J	3/17/08	740
Received by:	Michael Erdahl	PES	"	"
Relinquished by:				
Received by:		Samples received at 2 °C		

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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 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

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.

Laboratory ID	Kennedy-Jenks
803081-01	MW-30

All quality control requirements were acceptable.

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 (% Recovery) (Limit 51-134)
MW-30 803081-01	2,600	99
Method Blank	<100	112

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

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:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	58 J	50	150
Benzo(a)anthracene-d12	91 J	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	260 ve
Acenaphthylene	2.1 J
Acenaphthene	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 J
Chrysene	<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

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 1/500
Date Analyzed:	03/24/08	Data File:	032408.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

Compounds:	Concentration 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

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:	80308101f
Date Analyzed:	03/24/08	Data File:	032409.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	101	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	230 ve, J
Acenaphthylene	1.5 J
Acenaphthene	150 ve, J
Fluorene	79 ve, J
Phenanthrene	29 ve, J
Anthracene	2.6 J
Fluoranthene	2.1 J
Pyrene	1.5 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.

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:	03/24/08	Data File:	032407.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

Compounds:	Concentration 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.

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:	080361mb
Date Analyzed:	03/10/08	Data File:	031014.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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
Date Analyzed:	03/12/08	Data File:	031207.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	ug/L (ppb)	550	510	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	102	69-134

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	89	96	67-141	8

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

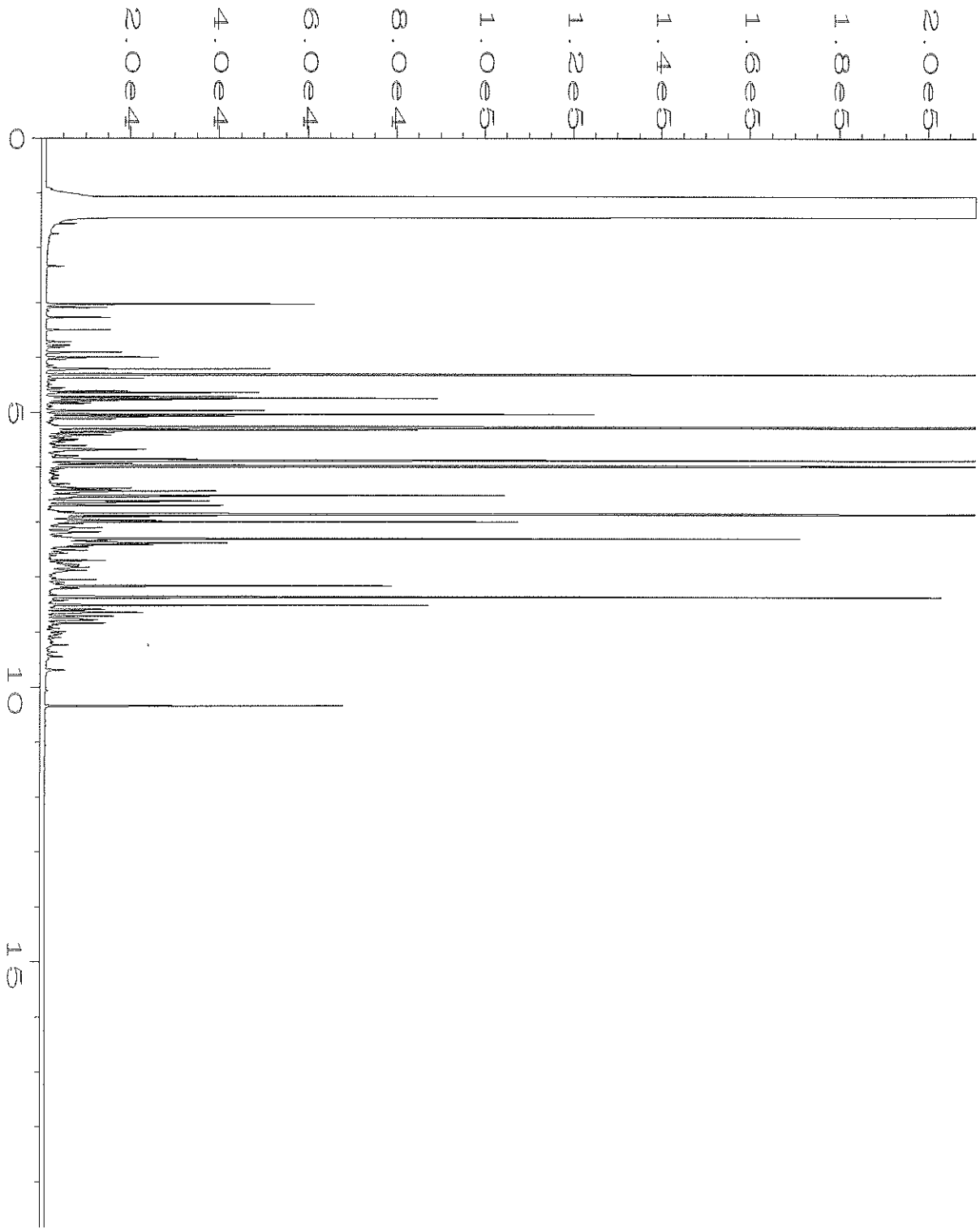
pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

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.

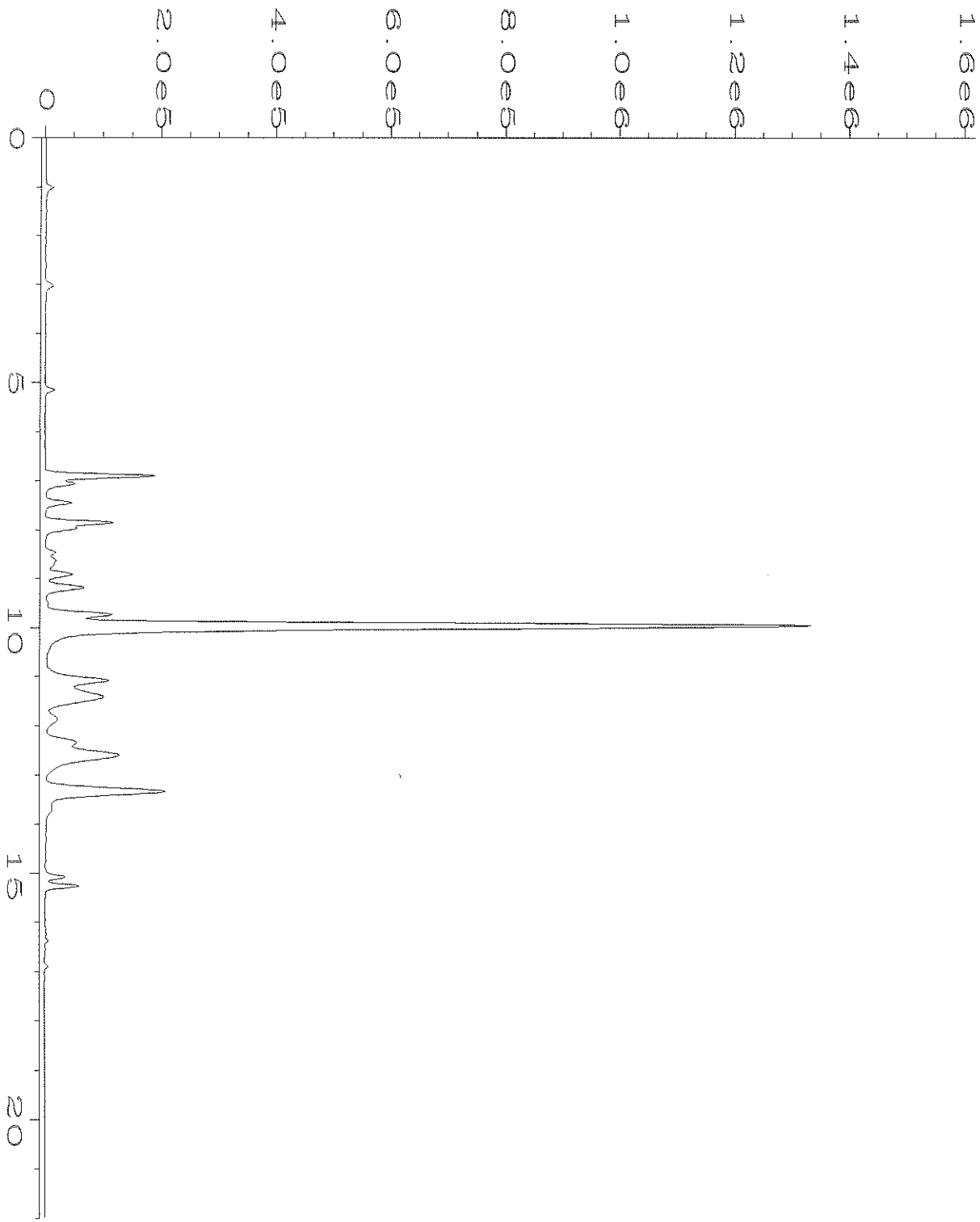
x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.



Data File Name : C:\HPCHEM\4\DATA\03-14-08\012F0501.D
Operator : ay
Instrument : GC#4
Sample Name : 803081-01 sg
Run Time Bar Code:
Acquired on : 14 Mar 08 03:21 PM
Report Created on: 17 Mar 08 02:27 PM

Page Number : 1
Vial Number : 12
Injection Number : 1
Sequence Line : 5
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



Data File Name : E:\GC2\03-10-08\026F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803081-01
Run Time Bar Code:
Acquired on : 10 Mar 08 10:28 PM
Report Created on: 26 Mar 08 12:22 PM

Page Number : 1
Vial Number : 26
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH

803081

SAMPLE CHAIN OF CUSTODY

ME 03/10/08

AOS/V2

Page # 1 of

Send Report To: Dean Malte
Company: Kennedy/Jenks
Address: 32001 32nd Ave S, Ste. 100
City, State, ZIP: Federal Way WA 98001
Phone #: 253 874 0555 Fax #: 253 952 3435

SAMPLERS (signature)

PROJECT NAME/NO.: Tacoma Metals 996098.00

PO #: OFF-SITE

REMARKS: *use lowest reporting limit **Filter with glass Fiber Filter prior to analysis

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel w/silicagel	TPH-Gasoline (NWTPH-GX/BTEX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH (Total)*	PAH (Filtered)**				Notes
						ANALYSES REQUESTED											
MW-30	01 A-H	3/7/08	1415	W	8	X	X					X	X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	K/J	3/10/08	
Received by:	Mochnick Echl	F&B	1	7:45 AM
Relinquished by:				
Received by:		Samples received at 2 °C		

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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
NAA0408R.DOC

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.

Laboratory ID	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.

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:	803081-01 1/10
Date Analyzed:	03/11/08	Data File:	031124.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	87	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	370 ve
Acenaphthylene	1.8
Acenaphthene	250 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

FRIEDMAN & BRUYA, INC.

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	104	50	150
Benzo(a)anthracene-d12	107	50	129

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.

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.

A**1** – 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.

803081

SAMPLE CHAIN OF CUSTODY

ME 03/10/08

AOS/VOA

Page # 1 of

Send Report To Dean Malte

Company Kennedy/Jenks

Address 32001 32nd Ave S, Ste-100

City, State, ZIP Federal Way WA 98001

Phone # 253 874 0555 Fax # 253 952 3435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals 996098.00

PO # OFF-SITE

REMARKS

*use lowest reporting limit

**Filter with glass Fiber filter prior to analysis

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☒ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel w/silica gel	TPH-Gasoline (w/BTEX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH (Total)*	PAH (Filtered)**					Notes
						ANALYSES REQUESTED												
MW-30	01 A-H	3/7/08	1415	W	8	X	X					X	X					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	K/J	3/10/08	
Received by:	Mechanic E-ch hl	FEDEX	1	7:45 AM
Relinquished by:				
Received by:		Samples received at 2 °C		

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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

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.

Laboratory ID	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

All quality control requirements were acceptable.

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 (% Recovery) (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

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

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 J	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	6.9 ve, J
Acenaphthylene	1.1 J
Acenaphthene	100 ve, J
Fluorene	75 ve, J
Phenanthrene	46 ve, J
Anthracene	3.1 J
Fluoranthene	2.0 J
Pyrene	0.88 J
Benz(a)anthracene	<0.02 J
Chrysene	<0.02 J
Benzo(a)pyrene	<0.02 J
Benzo(b)fluoranthene	<0.02 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

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 1/10
Date Analyzed:	03/11/08	Data File:	031121.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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 1/100
Date Analyzed:	03/14/08	Data File:	031334.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	296 ds	50	150
Benzo(a)anthracene-d12	73	50	129

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

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	60	50	150
Benzo(a)anthracene-d12	101	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	103	50	150
Benzo(a)anthracene-d12	97	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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

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

Note: The sample was filtered prior to extraction.

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:	803080-02
Date Analyzed:	03/14/08	Data File:	031418.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 J	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	300 ve, J
Acenaphthylene	4.6 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 J
Benz(a)anthracene	0.51, J
Chrysene	0.55 J
Benzo(a)pyrene	0.19 J
Benzo(b)fluoranthene	0.24 J
Benzo(k)fluoranthene	0.097 J
Indeno(1,2,3-cd)pyrene	0.063 J
Dibenz(a,h)anthracene	<0.02 J
Benzo(g,h,i)perylene	0.048 J

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:	803080-02 1/50
Date Analyzed:	03/11/08	Data File:	031125.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	175 ds	50	150
Benzo(a)anthracene-d12	77	50	129

Compounds:	Concentration 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

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:	803080-02 1/1000
Date Analyzed:	03/13/08	Data File:	031323.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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

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:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	65	50	150
Benzo(a)anthracene-d12	100	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	190 ve
Acenaphthylene	3.5
Acenaphthene	74 ve
Fluorene	48 ve
Phenanthrene	27 ve
Anthracene	3.0
Fluoranthene	3.5
Pyrene	2.1
Benz(a)anthracene	0.072
Chrysene	0.072
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.

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

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 1/50
Date Analyzed:	03/12/08	Data File:	031218.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	180 ds	50	150
Benzo(a)anthracene-d12	90	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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 1/1000
Date Analyzed:	03/13/08	Data File:	031322.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

Note: The sample was filtered prior to extraction.

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
Date Analyzed:	03/14/08	Data File:	031419.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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 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 J
Benz(a)anthracene	0.096 J
Chrysene	0.075 J
Benzo(a)pyrene	<0.02 J
Benzo(b)fluoranthene	0.022 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

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 1/50
Date Analyzed:	03/11/08	Data File:	031126.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	175 ds	50	150
Benzo(a)anthracene-d12	88	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	2,500 ve
Acenaphthylene	1.4
Acenaphthene	170
Fluorene	84
Phenanthrene	88
Anthracene	9.3
Fluoranthene	7.7
Pyrene	4.2
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

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 1/5000
Date Analyzed:	03/18/08	Data File:	031823.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	57	50	150
Benzo(a)anthracene-d12	105	50	129

Compounds:	Concentration 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

Note: The sample was filtered prior to extraction.

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 1/50
Date Analyzed:	03/12/08	Data File:	031219.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	172 ds	50	150
Benzo(a)anthracene-d12	3138 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

Note: The sample was filtered prior to extraction.

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
Date Analyzed:	03/13/08	Data File:	031324.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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:	803080-04
Date Analyzed:	03/11/08	Data File:	031120.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	803080-04 1/50
Date Analyzed:	03/14/08	Data File:	031333.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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 ve
Fluorene	15 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

Note: The sample was filtered prior to extraction.

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 1/50
Date Analyzed:	03/18/08	Data File:	031825.D
Matrix:	Water	Instrument:	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

Note: The sample was filtered prior to extraction.

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:	803080-05
Date Analyzed:	03/11/08	Data File:	031127.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	48 J,vo	50	150
Benzo(a)anthracene-d12	85	50	129

Compounds:	Concentration 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

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:	803080-05 1/10
Date Analyzed:	03/11/08	Data File:	031122.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	803080-05 1/500
Date Analyzed:	03/14/08	Data File:	031327.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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

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
Date Analyzed:	03/14/08	Data File:	031415.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	84	50	129

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

Note: The sample was filtered prior to extraction.

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:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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:	803080-06
Date Analyzed:	03/11/08	Data File:	031128.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	44 J, vo	50	150
Benzo(a)anthracene-d12	82 J	50	129

Compounds:	Concentration 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 J
Benzo(k)fluoranthene	0.25 J
Indeno(1,2,3-cd)pyrene	0.18 J
Dibenz(a,h)anthracene	0.055 J
Benzo(g,h,i)perylene	0.16 J

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:	803080-06 1/10
Date Analyzed:	03/11/08	Data File:	031123.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

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:	803080-06 1/500
Date Analyzed:	03/14/08	Data File:	031329.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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
Date Analyzed:	03/24/08	Data File:	032413.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	44 J, vo	50	150
Benzo(a)anthracene-d12	90 J	50	129

Compounds:	Concentration 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 J
Chrysene	0.56 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

Note: The sample was filtered prior to extraction.

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 1/10
Date Analyzed:	03/13/08	Data File:	031221.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	50	150
Benzo(a)anthracene-d12	78	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	300 ve
Acenaphthylene	1.1
Acenaphthene	130 ve
Fluorene	86 ve
Phenanthrene	92 ve
Anthracene	9.5
Fluoranthene	14
Pyrene	9.5
Benz(a)anthracene	0.52
Chrysene	0.39
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.

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:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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:	080361mb
Date Analyzed:	03/10/08	Data File:	031014.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

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

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:	080363mbf
Date Analyzed:	03/12/08	Data File:	031207.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper 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

Note: The sample was filtered prior to extraction.

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)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	ug/L (ppb)	550	510	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	102	69-134

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	89	96	67-141	8

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (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

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.

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.

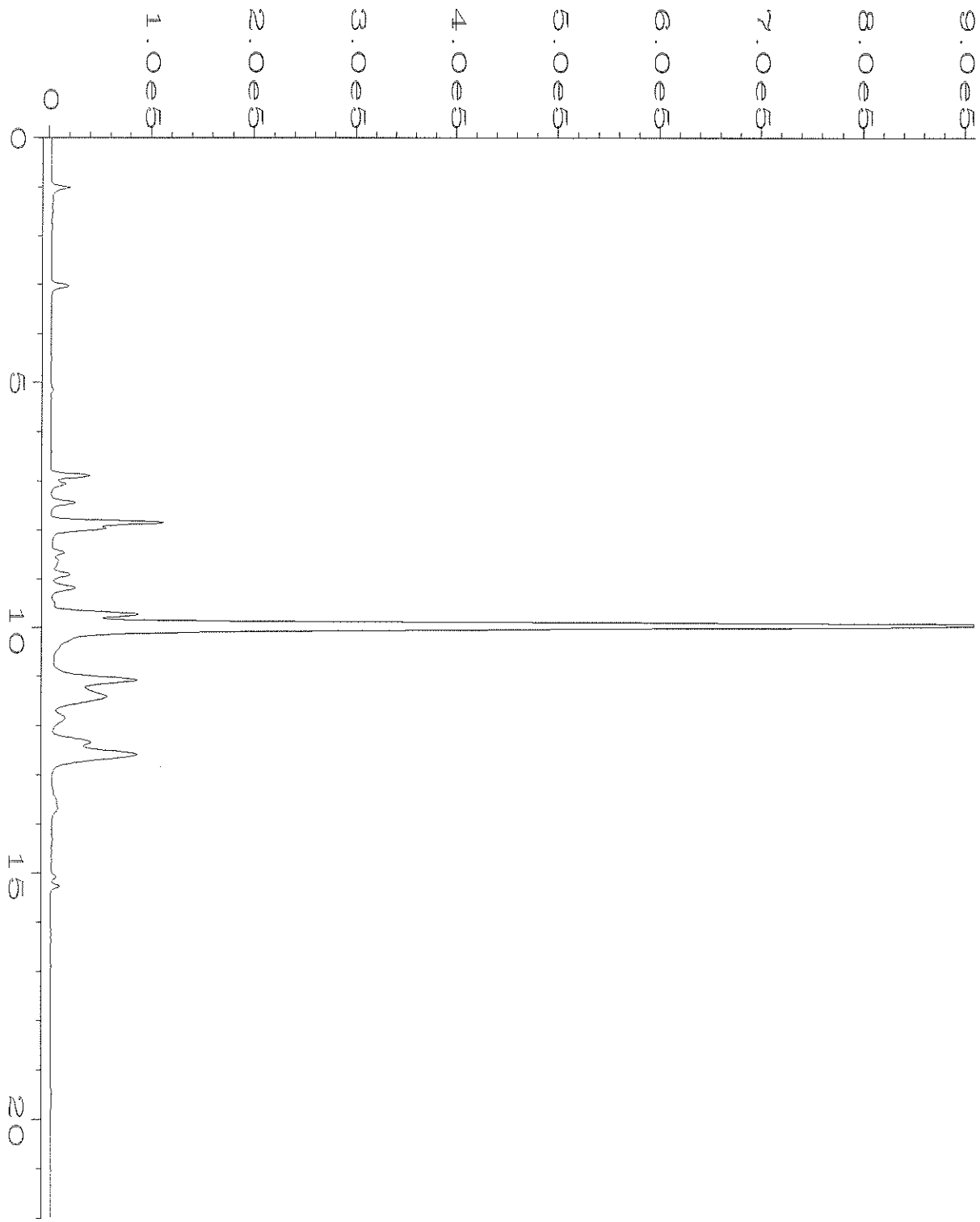
pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

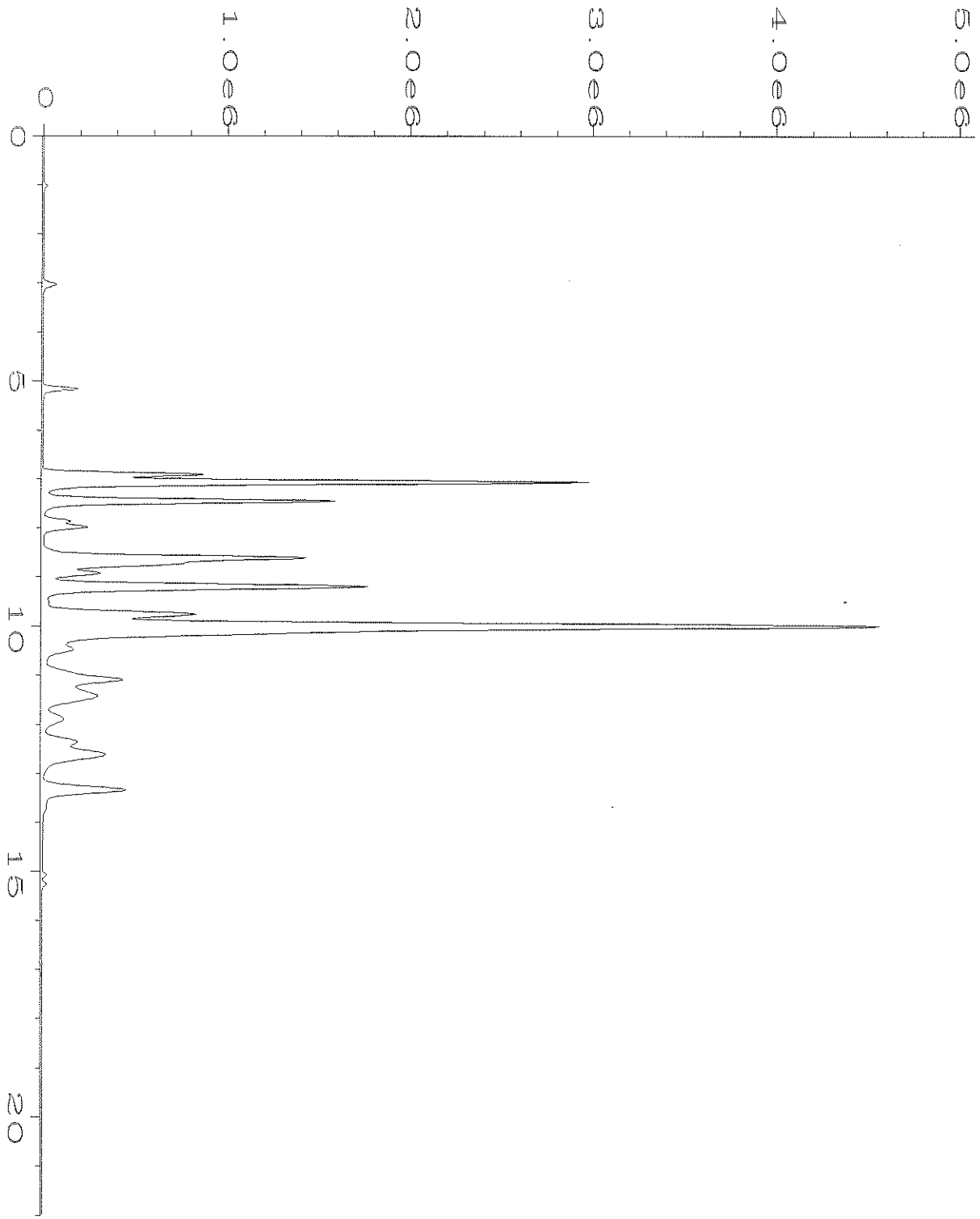
vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

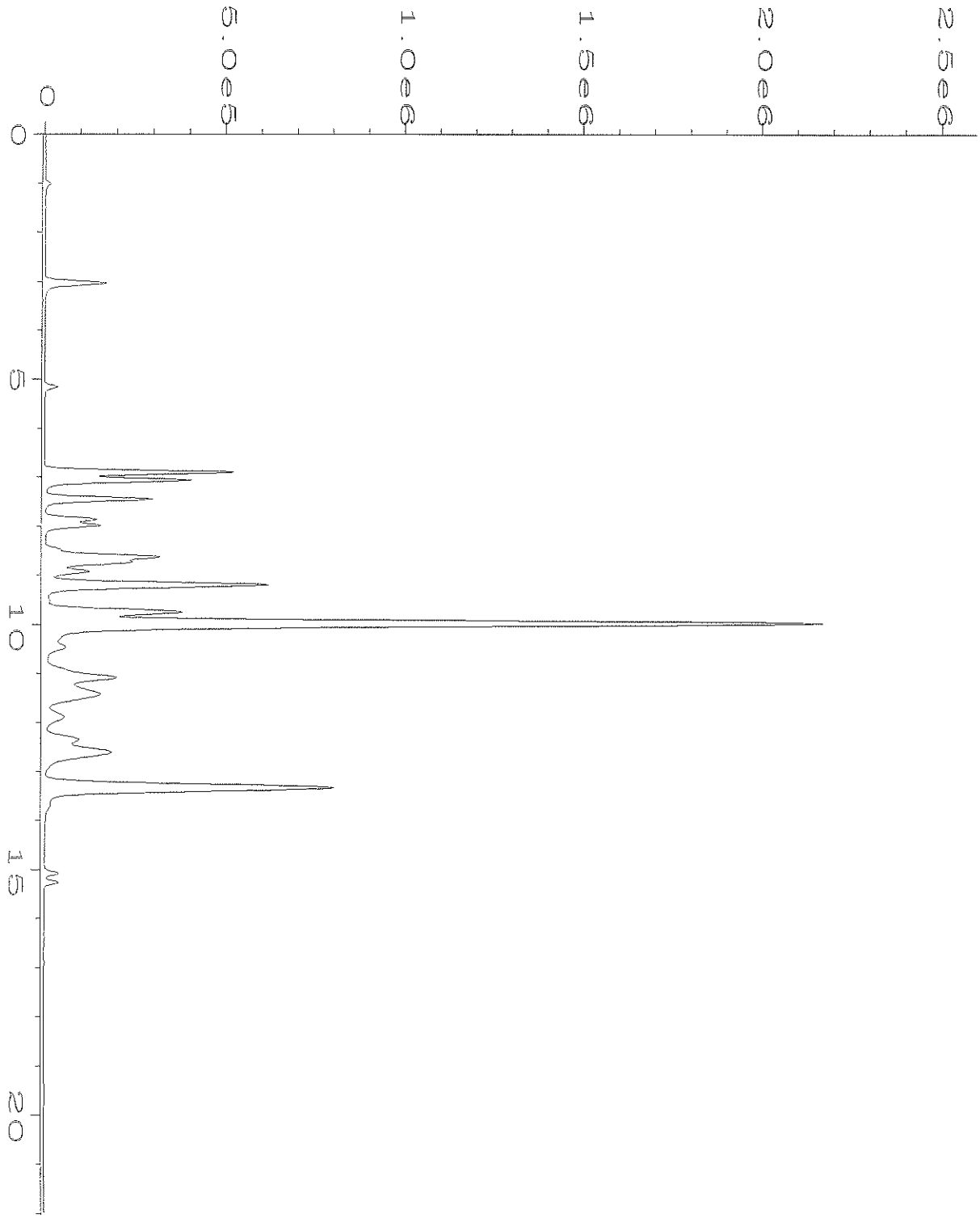
y - The pattern of peaks present is not indicative of motor oil.



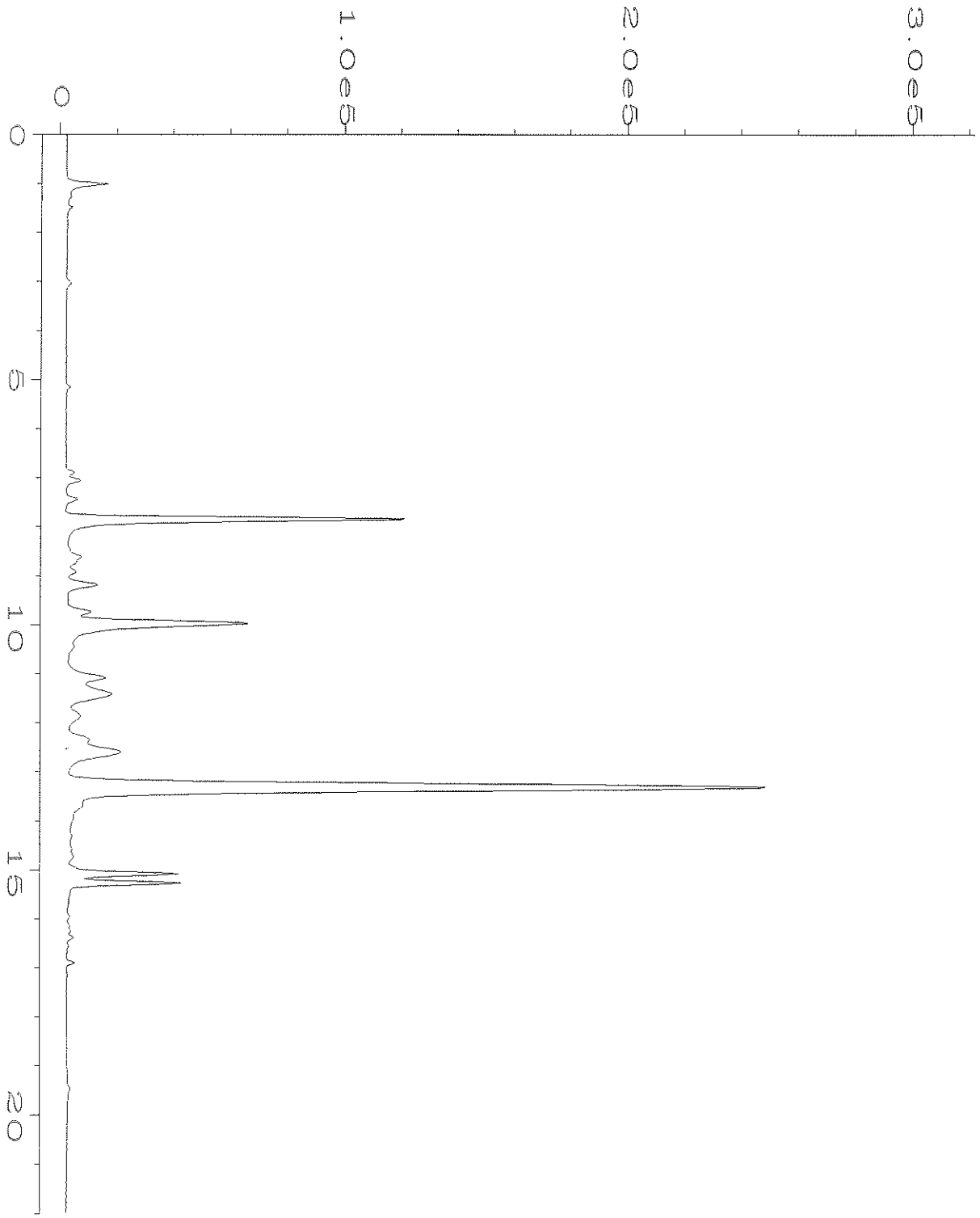
Data File Name	: E:\GC2\03-10-08\020F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 20
Sample Name	: 803080-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 10 Mar 08 07:22 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 26 Mar 08 12:23 PM	Analysis Method	: DEFAULT.MTH



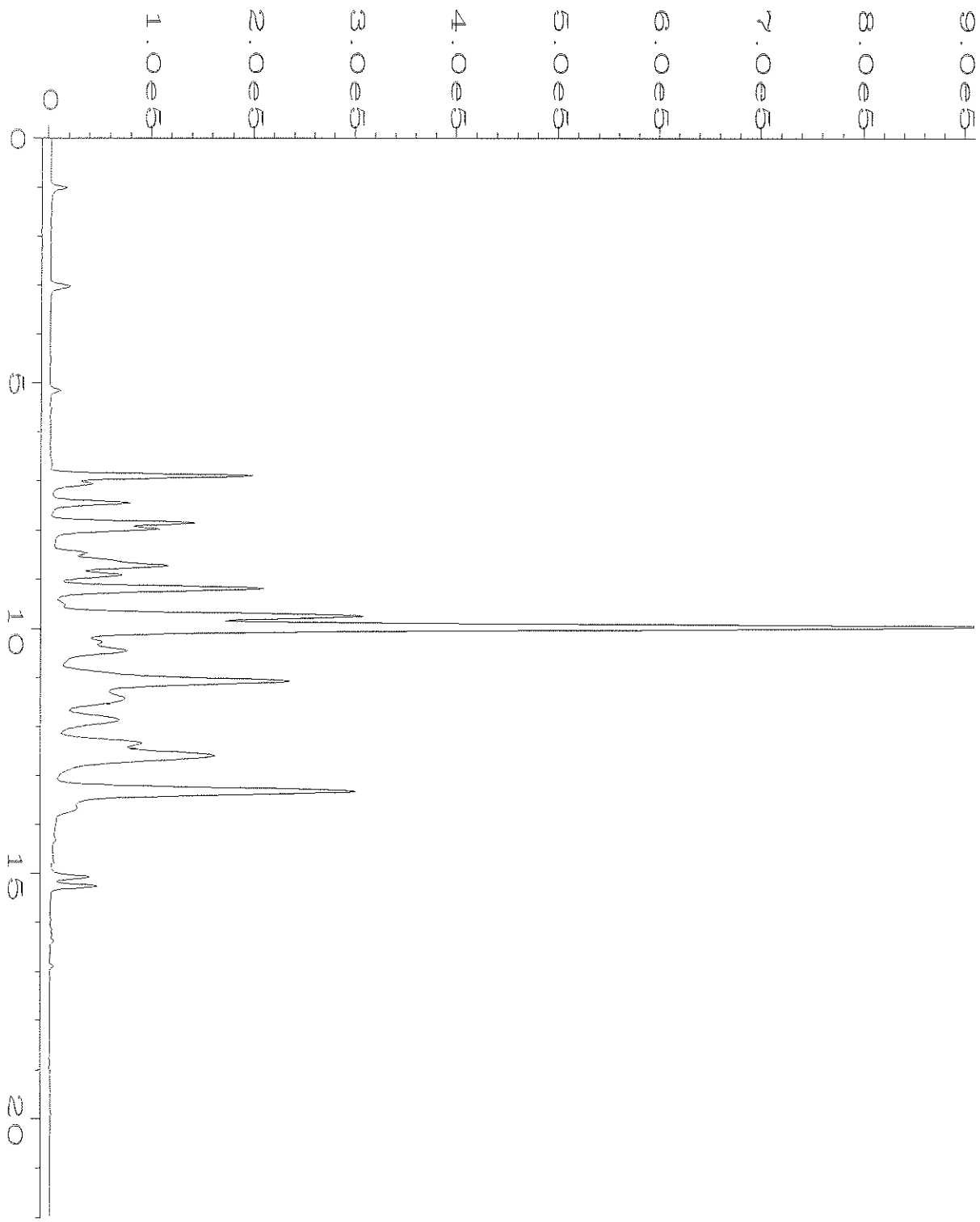
Data File Name	: E:\GC2\03-10-08\021F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 21
Sample Name	: 803080-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 10 Mar 08 07:53 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 26 Mar 08 12:23 PM	Analysis Method	: DEFAULT.MTH



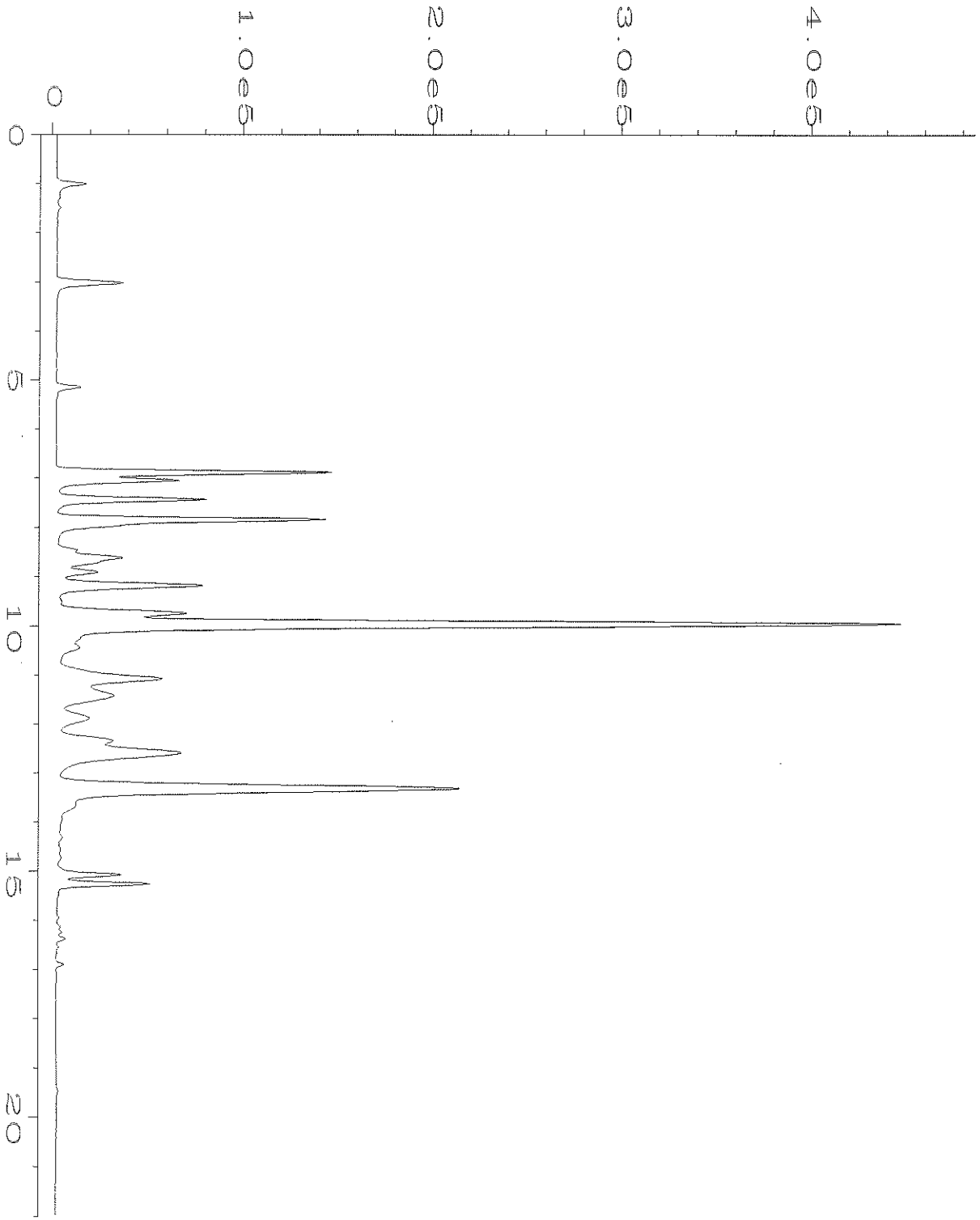
Data File Name	: E:\GC2\03-10-08\022F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 22
Sample Name	: 803080-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 10 Mar 08 08:24 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 26 Mar 08 12:23 PM	Analysis Method	: DEFAULT.MTH



Data File Name	: E:\GC2\03-10-08\023F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 23
Sample Name	: 803080-04	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 10 Mar 08 08:55 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 26 Mar 08 12:23 PM	Analysis Method	: DEFAULT.MTH

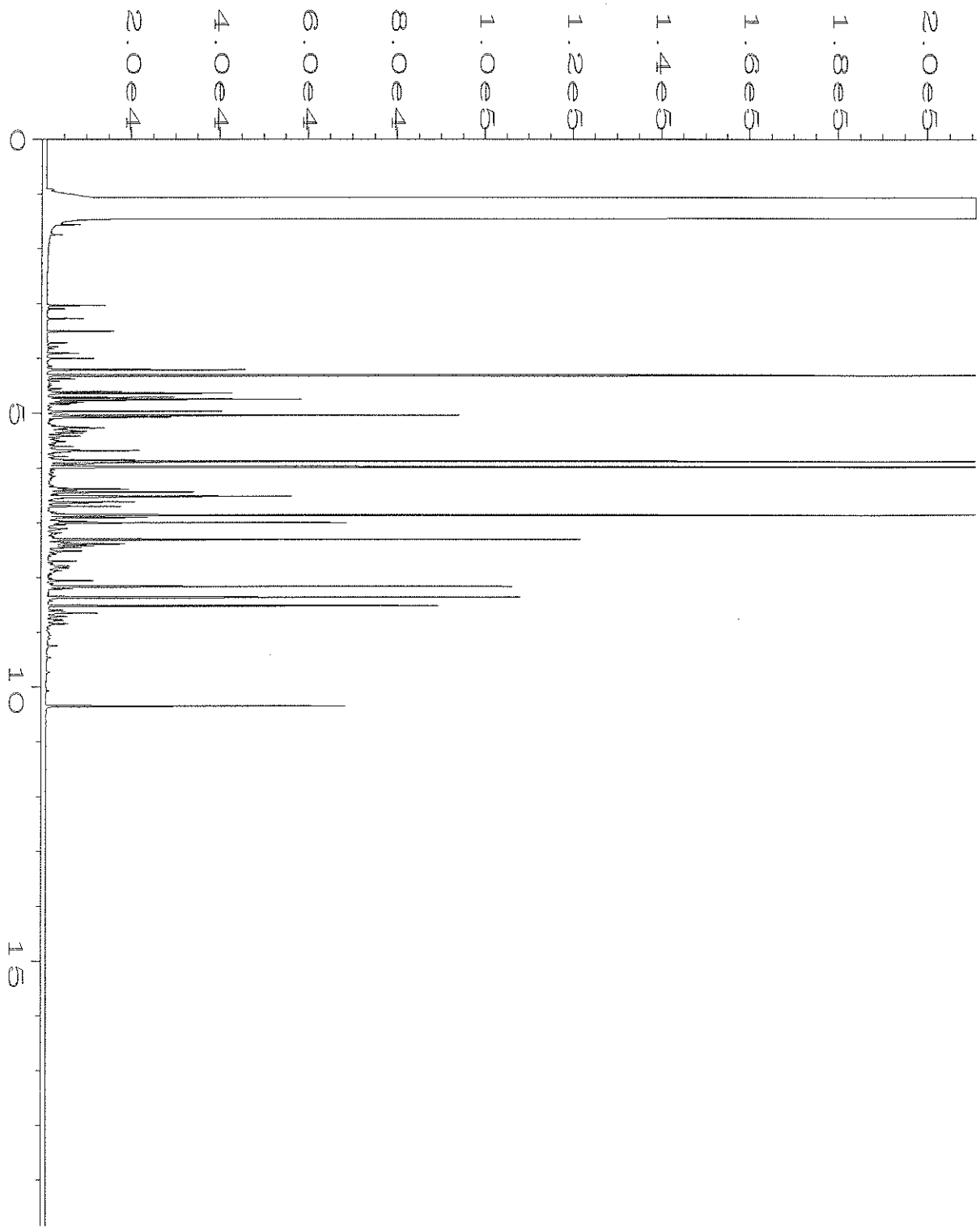


Data File Name	: E:\GC2\03-10-08\024F0101.D		
Operator	: EL	Page Number	: 1
Instrument	: GC #2	Vial Number	: 24
Sample Name	: 803080-05	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 10 Mar 08 09:26 PM	Instrument Method	: BTEXG.MTH
Report Created on	: 26 Mar 08 12:23 PM	Analysis Method	: DEFAULT.MTH



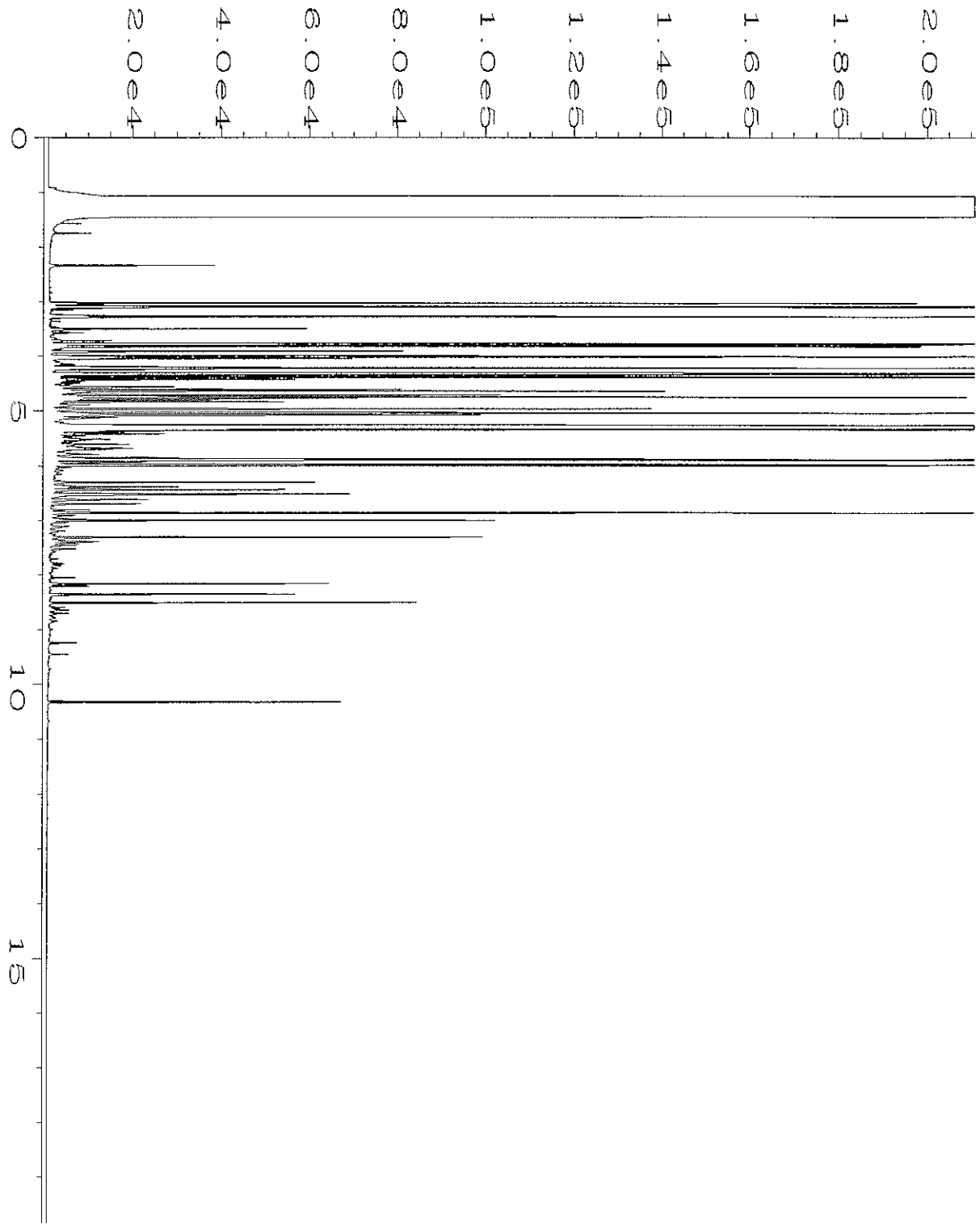
Data File Name : E:\GC2\03-10-08\025F0101.D
Operator : EL
Instrument : GC #2
Sample Name : 803080-06
Run Time Bar Code:
Acquired on : 10 Mar 08 09:57 PM
Report Created on: 26 Mar 08 12:23 PM

Page Number : 1
Vial Number : 25
Injection Number : 1
Sequence Line : 1
Instrument Method: BTEXG.MTH
Analysis Method : DEFAULT.MTH

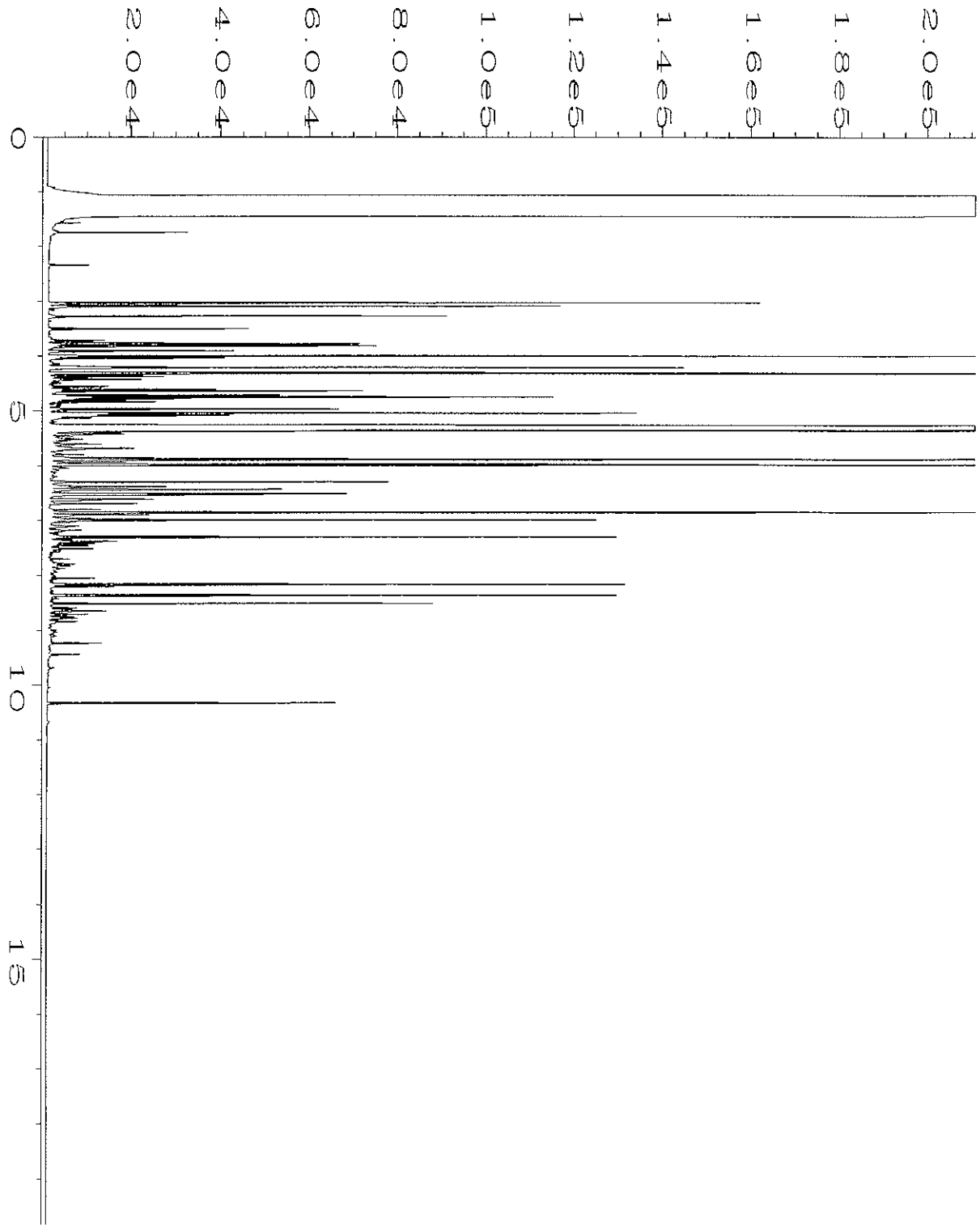


Data File Name : C:\HPCHEM\4\DATA\03-14-08\006F0501.D
Operator : ay
Instrument : GC#4
Sample Name : 803080-01 sg
Run Time Bar Code:
Acquired on : 14 Mar 08 12:38 PM
Report Created on: 17 Mar 08 02:26 PM

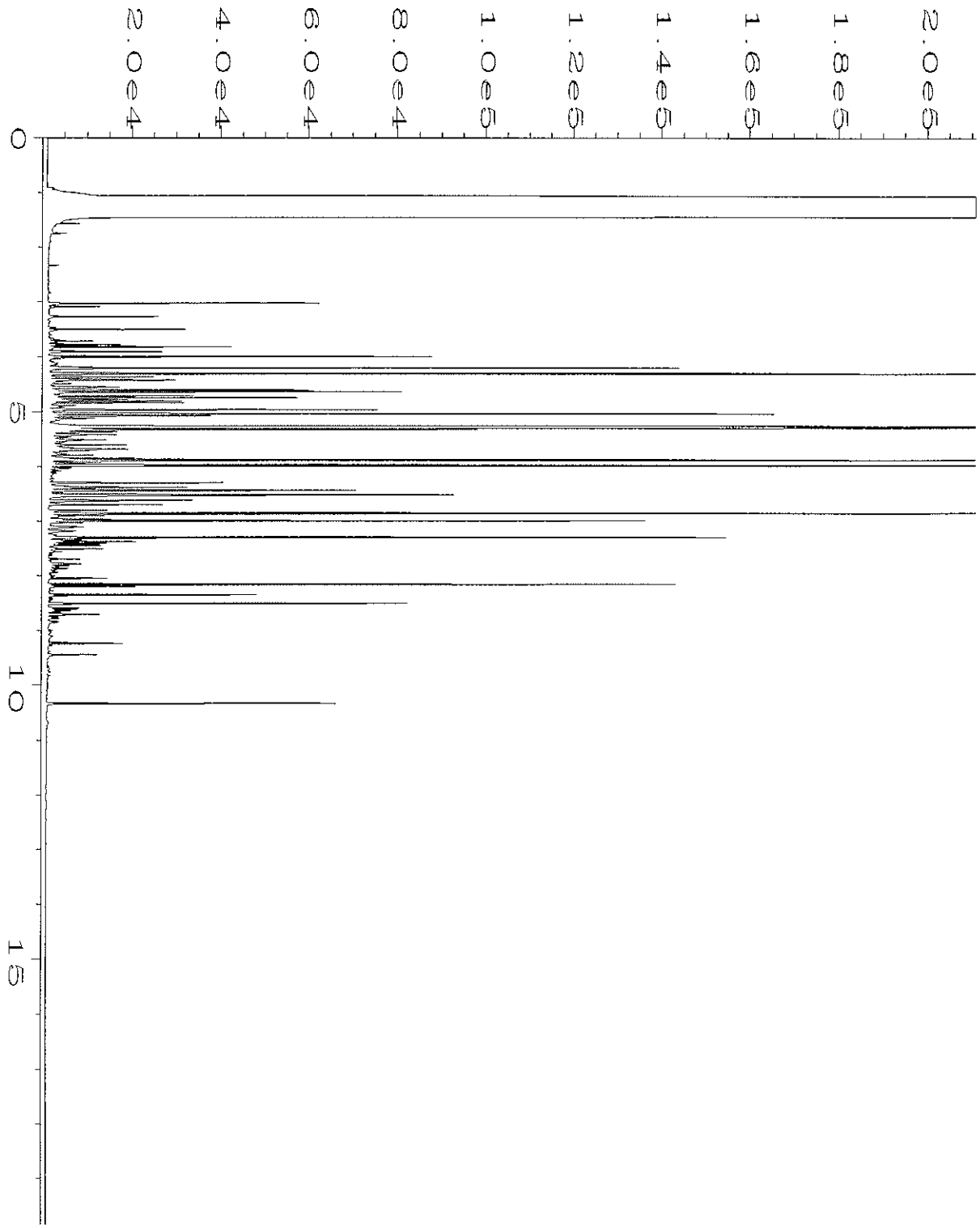
Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 5
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



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

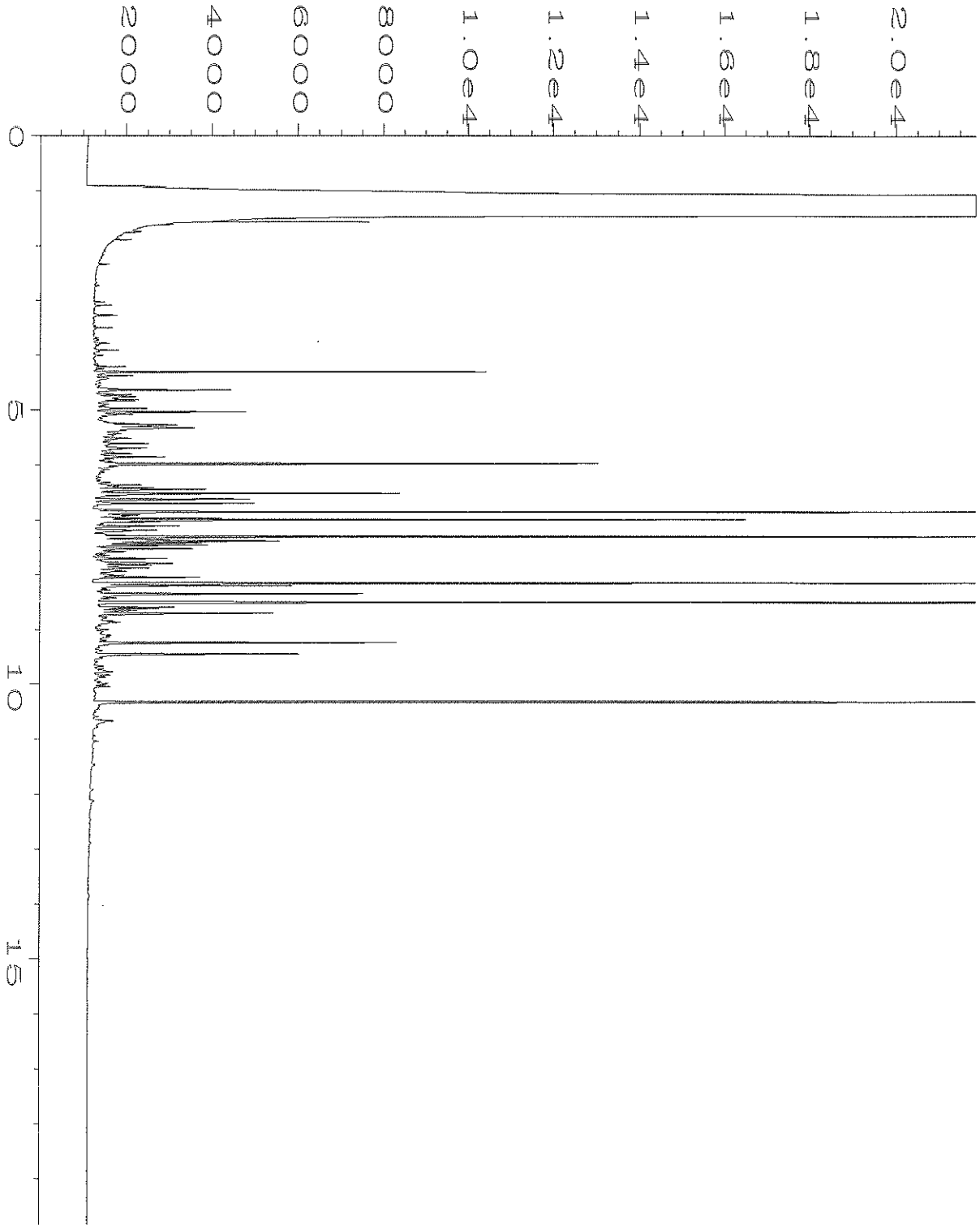


Data File Name	: C:\HPCHEM\4\DATA\03-14-08\008F0501.D		
Operator	: ay	Page Number	: 1
Instrument	: GC#4	Vial Number	: 8
Sample Name	: 803080-03 sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 14 Mar 08 01:27 PM	Instrument Method	: TPHD.MTH
Report Created on	: 17 Mar 08 02:25 PM	Analysis Method	: TPHD.MTH

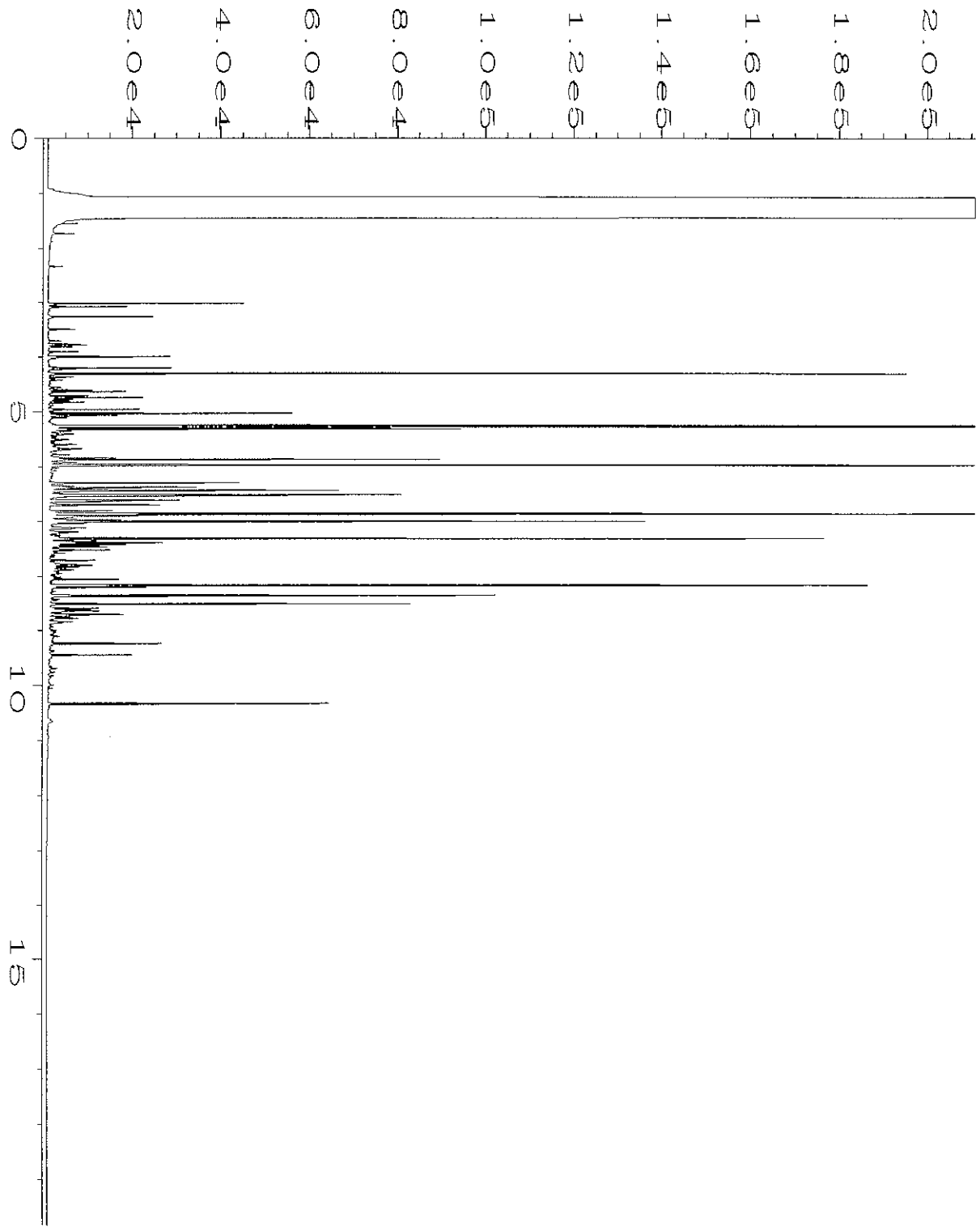


Data File Name : C:\HPCHEM\4\DATA\03-14-08\009F0501.D
Operator : ay
Instrument : GC#4
Sample Name : 803080-04 sg
Run Time Bar Code:
Acquired on : 14 Mar 08 01:53 PM
Report Created on: 17 Mar 08 02:29 PM

Page Number : 1
Vial Number : 9
Injection Number : 1
Sequence Line : 5
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH



Data File Name	: C:\HPCHEM\4\DATA\03-14-08\010F0501.D		
Operator	: ay	Page Number	: 1
Instrument	: GC#4	Vial Number	: 10
Sample Name	: 803080-05 sg	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 : C:\HPCHEM\4\DATA\03-14-08\011F0501.D
Operator : ay
Instrument : GC#4
Sample Name : 803080-06 sg
Run Time Bar Code:
Acquired on : 14 Mar 08 02:47 PM
Report Created on: 17 Mar 08 02:27 PM

Page Number : 1
Vial Number : 11
Injection Number : 1
Sequence Line : 5
Instrument Method: TPHD.MTH
Analysis Method : TPHD.MTH

803080

SAMPLE CHAIN OF CUSTODY

ME 03/10/08

1 A05 / 1 V2

Page # _____ of _____

Send Report To Dean Malte

Company Kennedy/Jenks

Address 32001 32nd Ave S, Ste-100

City, State, ZIP Federal Way WA 98001

Phone #2538740555 Fax #2539523435

SAMPLERS *(signature)*

PROJECT NAME/NO. Tacoma Metals 996098.00

PO # On-Site

REMARKS

* use lowest reporting limit
** Filter with glass fiber filter before analysis

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH _____

Rush charges authorized by: _____

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel w/ Silica Gel	TPH-Gasoline (NWTPH-BTEX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH (Total)*	PAH (Filtered)**				Notes
MW-20	01 A-H	3/6/08	1030	W	8	X	X					X	X				
MW-8(R)	02 A-H		1235			X	X					X	X				Hot
MW-18	03 A-H		1410			X	X					X	X				Hot?
MW-10	04 A-H		1545			X	X					X	X				Hot?
MW-22	05 A-H	3/7/08	925	W	8	X	X					X	X				Hot?
MW-21	06 A-H		1100			X	X					X	X				Hot?

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	K/J	3/10/08	
Received by:	Michael Heidel	FBI	3/11	7:45 AM
Relinquished by:				
Received by:		Samples received at 2 °C		

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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

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.

Laboratory ID	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.

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:	803080-02 1/10
Date Analyzed:	04/01/08	Data File:	040104.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	50	150
Benzo(a)anthracene-d12	86	50	129

Compounds:	Concentration 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

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:	Lower Limit:	Upper Limit:
Anthracene-d10	102 J	50	150
Benzo(a)anthracene-d12	84	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	1,300 ve, J
Acenaphthylene	2.0 J
Acenaphthene	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

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.

803080

SAMPLE CHAIN OF CUSTODY

ME 03/10/08

1 A05 / 1 V2

Page # _____ of _____

Send Report To Dean Malte

Company Kennedy/Jenks

Address 32001 32nd Ave S, Ste-100

City, State, ZIP Federal Way WA 98001

Phone #2538740555 Fax #2539523435

SAMPLERS (signature)

PROJECT NAME/NO. Tacoma Metals 996098.00

PO # On-Site

REMARKS

*Use lowest reporting limit

**Filter with glass fiber filter before analysis

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH _____

Rush charges authorized by:

SAMPLE DISPOSAL

☒ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel w/ Silica gel	TPH-Gasoline (NWTPH-Gx BTEX)	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH (Total)*	PAH (Filtered)**				Notes
MW-20	01 A-H	3/6/08	1030	W	8	X	X					X	X				
MW-8(R)	02 A-H		1235			X	X					X	X				Hot
MW-18	03 A-H		1410			X	X					X	X				Hot?
MW-10	04 A-H		1545			X	X					X	X				Hot?
MW-22	05 A-H	3/7/08	925	W	8	X	X					X	X				Hot?
MW-21	06 A-H		1100			X	X					X	X				Hot?

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Dean Malte	K/J	3/10/08	
Received by:	Michael Kendall	FEDEX	1	7:45AM
Relinquished by:				
Received by:		Samples received at 2 °C		

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

FORMS\COC\COC.DOC

Attachment 6

Groundwater Sampling Field Forms

Groundwater Purge and Sample Form Date: 3/6/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-8(R)

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 9.17 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Heron PURGE METHOD: Peristaltic

TIME START PURGE: 1100 PURGE DEPTH (FT) ~12

TIME END PURGE: _____

TIME SAMPLED: 1235

TOS = 8.5' below TOC
15' screen = 22.5-8.5

COMMENTS: Can't put intake above screen - -
Purge ~2 vol @ very slow (~0.5 gpm) rate

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	23.6		9.17		14.43		0.16	0.64	1.44		2.30

TIME	1140	1200	1220	1230	1230		
VOLUME PURGED (GAL)	2	3	4	4.5	5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.01	12.72	13.92	13.99	13.96		
pH	6.50	6.52	6.53	6.53	6.53		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	1331	1363	1418	1433	1435		
DISSOLVED OXYGEN (mg/L)	1.61	1.31	0.87	0.72	0.60		
eH(MV)Pt-AgCl ref.	-60.8	-57.8	-58.9	-58.0	-57.9		
TURBIDITY/COLOR	Clear	~	~	~	~		
ODOR	mod	~	~	~	~		
DEPTH OF PURGE INTAKE (FT)	~12	~	~	~	~		
DEPTH TO WATER DURING PURGE (FT)	9.36		9.39				
NUMBER OF CASING VOLUMES REMOVED					~2		
DEWATERED?	N	~	~	~	~		

Groundwater Purge and Sample Form Date: 3/6/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-8(R)

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1235 COMMENTS: _____

DEPTH SAMPLED (FT): 12' _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	Clear		Y	PAH	
	2	A	"	"	2L	"		"	PAH (NIT)	
	1	A	"	"	1/2L	"		"	Dx	
	3	VOA	HCl	"	120ml	"		"	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 5 COMMENTS: _____

DISPOSAL METHOD: drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Clear

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? N

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/6/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-10

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 6.71 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1430 PURGE DEPTH (FT) ≈9

TIME END PURGE: _____

TIME SAMPLED: 1545

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	20		6.71		13.29		0.16	0.64	1.44		2.12

TIME	1450	1510	1530	1535	1540		
VOLUME PURGED (GAL)	2	4	6	6.5	7		
PURGE RATE (GPM)							
TEMPERATURE (°C)	12.10	11.88	11.97	12.01	12.01		
pH	5.82	5.99	5.99	6.00	6.00		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	336	345	349	348	349		
DISSOLVED OXYGEN (mg/L)	0.09	0.01	0.01	0.02	0.03		
eH(MV)Pt-AgCl ref.	-65.4	-72.1	-80.2	-82.2	-82.6		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	mod	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈9	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	7.16		7.14		7.16		
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/6/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-10

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1545 COMMENTS: _____

DEPTH SAMPLED (FT): ~9 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (8315)	
	1	A	↓	↓	1/2L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 7 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Clear

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/9/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-11

PROJECT NUMBER: _____ PERSONNEL: Dkem

STATIC WATER LEVEL (FT): _____ MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1220 PURGE DEPTH (FT) ≈9

TIME END PURGE: _____

TIME SAMPLED: 1515

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	20		6.89		13.11		0.16	(0.64)	1.44		8.39

TIME	1300	1340	1420	1500	1505	1510	
VOLUME PURGED (GAL)	4	8	12	16	16.5	17	17
PURGE RATE (GPM)							
TEMPERATURE (°C)	12.82	12.87	12.75	12.70	12.71	12.70	
pH	6.08	6.08	6.07	6.06	6.05	6.06	
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	396	389	387	383	382	381	
DISSOLVED OXYGEN (mg/L)	0.03	0.22	0.07	0.08	0.06	0.07	
eH(MV)Pt-AgCl ref.	-142.6	-169.0	-179.1	-187.4	-188.0	-188.0	
TURBIDITY/COLOR	Clear	→	→	→	→	→	
ODOR	Mod	→	→	→	→	→	
DEPTH OF PURGE INTAKE (FT)	≈9	→	→	→	→	→	
DEPTH TO WATER DURING PURGE (FT)	6.91	6.91			6.92		
NUMBER OF CASING VOLUMES REMOVED						≈2	
DEWATERED?	N	→	→	→	→	→	

Groundwater Purge and Sample Form Date: 3/4/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Jerome Metals WELL NUMBER: MW-11

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:

TIME SAMPLED: 1515 COMMENTS: _____

DEPTH SAMPLED (FT): ~9 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2	clear		Y	PAH	
	2	A	↓	↓	2	↓		↓	PAH diss.	
	1	A	↓	↓	.5	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (GAL): ~7 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:

WEATHER CONDITIONS: Clear

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? ND

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 1/5/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-14

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 7.37 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 845 PURGE DEPTH (FT) ≈12

TIME END PURGE: _____

TIME SAMPLED: 1015

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	23.95		7.37		16.58		0.16	0.64	1.44		2.65

TIME	905	925	945	1005	1010		
VOLUME PURGED (GAL)	2	4	6	8	8.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	14.34	14.48	14.54	14.55	14.57		
pH	6.13	6.11	6.11	6.11	6.11		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	773	749	733	729	728		
DISSOLVED OXYGEN (mg/L)	0.47	0.56	0.06	0.13	0.12		
eH(MV)Pt-AgCl ref.	-100.9	-118.0	-119.6	-118.3	-118.9		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N.S.H.	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈12	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	8.63	8.66	8.70		8.71		
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/5 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-14

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1015 COMMENTS: _____

DEPTH SAMPLED (FT): ≈12 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH 8155	
	1	A	↓	↓	.5L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 8.5 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: clear

TEMPERATURE (SPECIFY °C OR °F): 40

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NN

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/4/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tesoma Metals WELL NUMBER: MW-15

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 7.87 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 830 PURGE DEPTH (FT) ≈14 (above screen)

TIME END PURGE: 955

TIME SAMPLED: 1000

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	25.86		7.87		17.99		0.16	0.64	1.44		2.87

TIME	850	910	930	950	955		
VOLUME PURGED (GAL)	2	4	6	8	8.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.92	14.36	14.42	14.45	14.47		
pH	6.08	6.11	6.09	6.08	6.07		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	553	456	454	455	454		
DISSOLVED OXYGEN (mg/L)	1.36	0.21	0.11	0.09	0.06		
eH(MV)Pt-AgCl ref.	-82.1	-165.4	-154.1	-158.1	-158.3		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈14	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	8.25	8.30	8.31	8.32	8.33		
NUMBER OF CASING VOLUMES REMOVED	→	→	→	→	≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/4/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-15

PROJECT NUMBER: _____ PERSONNEL: DKm

SAMPLE DATA:

TIME SAMPLED: 1000 COMMENTS: _____

DEPTH SAMPLED (FT): ~14 _____

SAMPLING EQUIPMENT: Peristaltic _____

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 (METHDD)	COMMENTS
	2	A	N	N	2	Clear		Y	PAH	
	2	A	"	"	2	"			PAH Filtered	
	1	A	↓	"	.5	"			Dx	
	3	VOA	HCl	↓	120ml	↓			Gx	

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (GAL): 0.5 COMMENTS: _____

DISPOSAL METHOD: Drummed onsite _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: YES (NO)

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:

WEATHER CONDITIONS: clear

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/5/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-16

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 7.61 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1035 PURGE DEPTH (FT) =14'

TIME END PURGE: _____

TIME SAMPLED: 1210

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	26.51		7.61		18.9		0.16	0.64	1.44		3.02

TIME	1055	1115	1135	1155	1205		
VOLUME PURGED (GAL)	2	4	6	8	9		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.73	13.98	13.88	13.68	13.69		
pH	6.79	6.77	6.76	6.73	6.73		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	2654	2518	2436	2253	2251		
DISSOLVED OXYGEN (mg/L)	0.01	0.01	0.03	0.01	0.02		
eH(MV)Pt-AgCl ref.	-95.9	-99.6	-97.7	-101.9	-101.8		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	=14	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	7.65			7.66			
NUMBER OF CASING VOLUMES REMOVED					=3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/5/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-16

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1210 COMMENTS: _____

DEPTH SAMPLED (FT): ~14 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear		Y	PAH	
	2	A	N	↓	2L	↓		↓	PAH NIST	
	1	A	N	↓	½L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 9 COMMENTS: _____

DISPOSAL METHOD: drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Clear

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? No

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/5/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-17

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 7.41 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1220 PURGE DEPTH (FT) ≈11

TIME END PURGE: 1340

TIME SAMPLED: 1345

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	22.74		7.41		15.33		0.16	0.64	1.44		2.45

TIME	1240	1300	1320	1335	1340		
VOLUME PURGED (GAL)	2	4	6	7.5	8		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.47	13.63	13.66	13.90	13.88		
pH	6.063	6.03	6.03	6.09	6.09		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	410	408	426	460	463		
DISSOLVED OXYGEN (mg/L)	0.01	0.01	0.02	0.02	0.01		
eH(MV)Pt-AgCl ref.	-103.3	-134.8	-109.8	-130.9	-131.1		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈11	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	7.44		7.43		7.43		
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/5/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-17

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1345 COMMENTS: _____

DEPTH SAMPLED (FT): ~~1345~~ = 11

SAMPLING EQUIPMENT: Peristaltic

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH NDS	
	1	A	↓		½ L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 8 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: YES (NO)

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Clear

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/6/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-18

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 10.06 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1250 PURGE DEPTH (FT) ~13 TOC

TIME END PURGE: _____

TIME SAMPLED: 1410

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	25.17		10.06		15.09		0.16	0.64	1.44		2.41

TIME	1310	1330	1350	1400	1405		
VOLUME PURGED (GAL)	2	4	6	7	7.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.89	13.71	13.76	13.80	13.80		
pH	6.44	6.44	6.45	6.45	6.45		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	1126	1112	1155	1160	1164		
DISSOLVED OXYGEN (mg/L)	0.40	0.25	0.12	0.20	0.19		
eH(MV)Pt-AgCl ref.	-94.5	-105.7	-122.9	-124.6	-125.3		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	Mod/low	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	~13	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	10.02	9.95		9.92			
NUMBER OF CASING VOLUMES REMOVED							
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/6/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-18

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:

TIME SAMPLED: 1410 COMMENTS: _____

DEPTH SAMPLED (FT): ~13 ft

SAMPLING EQUIPMENT: Peristaltic

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear		Y	PAH	
	2	A	N		2L				PAH (8135)	
	1	A	N		½ L				Dx	
	3	VOA	HCl		120ml				Gx	

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (GAL): 9.5 COMMENTS: _____

DISPOSAL METHOD: drummed

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:

WEATHER CONDITIONS: partly

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/4/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-19

PROJECT NUMBER: PERSONNEL:

STATIC WATER LEVEL (FT): 8.46 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1020 PURGE DEPTH (FT) ≈12

TIME END PURGE:

TIME SAMPLED: 1150

COMMENTS:

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	26.79		8.46		18.33		0.16	0.64	1.44		2.93

TIME	1040	1100	1120	1140	1145		
VOLUME PURGED (GAL)	2	4	6	8	8.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	11.15	11.20	11.37	11.79	11.82		
pH	5.87	5.93	5.92	5.96	5.96		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	790	765	751	711	710		
DISSOLVED OXYGEN (mg/L)	0.05	0.03	0.02	0.01	0.01		
eH(MV)Pt-AgCl ref.	-137.8	-154.9	-146.4	-164.3	-164.6		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈12	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	9.39		9.41	9.45			
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/4/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-19

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:

TIME SAMPLED: 1150 COMMENTS: _____

DEPTH SAMPLED (FT): ~12 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2	clear		Y	PAH	
	2	A	↓	↓	2	↓		↓	PAH Diss.	
	1	A	↓	↓	.5	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (GAL): 8.5 COMMENTS: _____

DISPOSAL METHOD: Drummed onsite _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: YES (NO)

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:

WEATHER CONDITIONS: clear

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/6/06 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-20

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 8.36 MEASURING POINT DESCRIPTION: _____

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: _____

TIME START PURGE: 845 PURGE DEPTH (FT) ~20

TIME END PURGE: _____

TIME SAMPLED: 1030

TOS =

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	29.57		8.36		21.21		0.16	0.64	1.44		3.39

TIME	925	945	1005	1020	1025		
VOLUME PURGED (GAL)	4	6	8	9.5	10		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.18	13.45	13.54	13.54	13.56		
pH	7.16	7.12	7.10	7.10	7.09		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	3760	4400	4744	4858	4877		
DISSOLVED OXYGEN (mg/L)	0.20	0.08	0.02	0.01	0.02		
eH(MV)Pt-AgCl ref.	-77.5	-61.7	-54.5	-53.6	-53.4		
TURBIDITY/COLOR	clear	~	~	~	~		
ODOR	N	~	~	~	~		
DEPTH OF PURGE INTAKE (FT)	~20	~	~	~	~		
DEPTH TO WATER DURING PURGE (FT)	9.45			9.84			
NUMBER OF CASING VOLUMES REMOVED					~3		
DEWATERED?	N	~	~	~	~		

Groundwater Purge and Sample Form Date: 3/6/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-20

PROJECT NUMBER: _____ PERSONNEL: _____

SAMPLE DATA:
TIME SAMPLED: 1030 COMMENTS: _____

DEPTH SAMPLED (FT): ~20 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (diss)	
	1	A	↓	↓	½L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 10 COMMENTS: _____

DISPOSAL METHOD: drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: clear

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? N/A

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/7/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-21

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): _____ MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 940 PURGE DEPTH (FT) ≈10

TIME END PURGE: _____

TIME SAMPLED: 1100

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	21.87		6.97		14.90		0.16	0.64	1.44		2.35

TIME	1000	1020	1040	1050	1055		
VOLUME PURGED (GAL)	2	4	6	7	7.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	12.93	13.02	13.02	13.00	13.01		
pH	6.18	6.19	6.19	6.19	6.19		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	457	454	454	455	454		
DISSOLVED OXYGEN (mg/L)	0.04	0.05	0.01	0.01	0.01		
eH(MV)Pt-AgCl ref.	25.9	27.7	29.5	29.3	29.3		
TURBIDITY/COLOR	Clear	"	"	"	"		
ODOR	Med	"	"	"	"		
DEPTH OF PURGE INTAKE (FT)	≈10	"	"	"	"		
DEPTH TO WATER DURING PURGE (FT)	7.21			7.22			
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	"	"	"	"		

Groundwater Purge and Sample Form Date: 3/7/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-21

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:

TIME SAMPLED: 1100 COMMENTS: _____

DEPTH SAMPLED (FT): ≈10 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH 8155	
	1	A	↓	↓	1/2L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (GAL): ~~10~~ 7.5 COMMENTS: _____

DISPOSAL METHOD: Drum pw _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: YES (NO)

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:

WEATHER CONDITIONS: Overcast

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/7/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-22

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 7.02 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 820 PURGE DEPTH (FT): ~11

TIME END PURGE: _____

TIME SAMPLED: 925

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	23.00		7.02		15.98		0.16	0.64	1.44		2.55

TIME	820	840	900	915	920		
VOLUME PURGED (GAL)	2	4	6	7.5	8		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.57	13.68	13.80	13.79	13.79		
pH	6.17	6.16	6.16	6.15	6.15		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	556	557	553	552	552		
DISSOLVED OXYGEN (mg/L)	0.32	0.13	0.07	0.09	0.08		
eH(MV)Pt-AgCl ref.	11.0	11.2	13.5	16.5	17.0		
TURBIDITY/COLOR	Clear	~	~	~	~		
ODOR	low	~	~	~	~		
DEPTH OF PURGE INTAKE (FT)	~11	~	~	~	~		
DEPTH TO WATER DURING PURGE (FT)	7.06			7.07			
NUMBER OF CASING VOLUMES REMOVED					~3		
DEWATERED?	N	~	~	~	~		

Groundwater Purge and Sample Form Date: 3/7/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tesoro Metals WELL NUMBER: MW-22

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 925 COMMENTS: _____

DEPTH SAMPLED (FT): ~11 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	"	"	2L	"		"	PAH (8135)	
	1	A	↓	"	1/2L	"		"	DX	
	3	VOA	HCl	↓	120ml	↓		↓	GX	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 8 COMMENTS: _____

DISPOSAL METHOD: drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Cloudy

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? No

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/11/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-23

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 10.28 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 915 PURGE DEPTH (FT) =18

TIME END PURGE: _____

TIME SAMPLED: 1100

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	31.30		10.28		21.02		0.16	0.64	1.44		3.36

TIME	955	1015	1035	1050	1055		
VOLUME PURGED (GAL)	4	6	8	9.5	10		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.78	13.84	13.87	13.81	13.89		
pH 1 cal	9.18	9.08	9.16	9.20	9.21		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	2049	1969	1924	1917	1913		
DISSOLVED OXYGEN (mg/L)	0.68	0.34	0.15	0.16	0.14		
eH(MV)Pt-AgCl ref.	89.6	90.0	88.6	87.3	86.8		
TURBIDITY/COLOR	clear	~	~	~	~		
ODOR	Mod Low	~	~	~	~		
DEPTH OF PURGE INTAKE (FT)	=18	~	~	~	~		
DEPTH TO WATER DURING PURGE (FT)	~	10.97		11.69			
NUMBER OF CASING VOLUMES REMOVED							
DEWATERED?	N	~	~	~	~		

Groundwater Purge and Sample Form Date: 3/11/98 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-23

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:

TIME SAMPLED: 1100 COMMENTS: _____

DEPTH SAMPLED (FT): ≈18 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear				
	2	A	"	"	2L	"				
	1	A	"	"	1/2L	"				
	3	VOA	HCl	"	120ml	"				

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (GAL): 10 COMMENTS: _____

DISPOSAL METHOD: drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:

WEATHER CONDITIONS: Cloudy, rain

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/12/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-24

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 7.47 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 900 PURGE DEPTH (FT) ≈17

TIME END PURGE: _____

TIME SAMPLED: 1030

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	25.04		7.47		17.57		0.16	0.64	1.44		2.81

TIME	920	920	1000	1020	1025		
VOLUME PURGED (GAL)	2	4	6	8	8.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	12.99	13.14	13.19	13.20	13.21		
pH bad probe?	N/A	N/A	N/A				
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	1159	1231	1263	1261	1261		
DISSOLVED OXYGEN (mg/L)	3.73	0.49	0.15	0.13	0.12		
eH(MV)Pt-AgCl ref. ? cal	369.8	332.1	345.9	346.2	346.5		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	slight	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈12	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		7.48		7.49			
NUMBER OF CASING VOLUMES REMOVED		~~7.48~~			≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/12/09 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-24

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1030 COMMENTS: _____

DEPTH SAMPLED (FT): ≈12 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (NIM)	
	1	A	↓	↓	½L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 8.5 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Cloudy

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/12/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-25

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 8.69 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1240 PURGE DEPTH (FT) =12

TIME END PURGE: _____

TIME SAMPLED: 1400

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	26.14		8.69		17.45		0.16	0.64	1.44		2.79

TIME	1300	1320	1330	1350	1355		
VOLUME PURGED (GAL)	2	4	6	8	8.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.25	13.50	13.53	13.46	13.45		
pH	NA	NA	NA	NA	NA		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	625	743	754	762	764		
DISSOLVED OXYGEN (mg/L)	0.03	0.01	0.01	0.02	0.01		
eH(MV)Pt-AgCl ref. Cal?	315.8	327.3	314.4	363.7	361.8		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	=12	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		8.81					
NUMBER OF CASING VOLUMES REMOVED					=3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/12/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-25

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:

TIME SAMPLED: 1400 COMMENTS: _____

DEPTH SAMPLED (FT): 17 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (Diss)	
	1	A	↓	↓	1L	↓		↓	Dx	
	3	VOA	HCl	↓	120 ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (GAL): 8.5 COMMENTS: _____

DISPOSAL METHOD: Dumped _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:

WEATHER CONDITIONS: Cloudy

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? No

cc: Project Manager: _____

Job File: _____

Other: _____

Groundwater Purge and Sample Form Date: 3/14/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-26

PROJECT NUMBER: PERSONNEL:

STATIC WATER LEVEL (FT): 9.61 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD:

TIME START PURGE: 1120 PURGE DEPTH (FT) ~15

TIME END PURGE:

TIME SAMPLED: 1255

COMMENTS:

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	27.83		9.61		18.22		0.16	0.64	1.44		2.91

TIME	1150	1220	1240	1245	1250		
VOLUME PURGED (GAL)	3	6	8	8.5	9		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.99	13.58	13.91	13.86	13.86		
pH	6.10	6.30	6.37	6.38	6.38		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	827	807	820	821	822		
DISSOLVED OXYGEN (mg/L)	0.15	0.08	0.04	0.02	0.02		
eH(MV)Pt-AgCl ref.	159.5	158.3	161.8	162.1	162.2		
TURBIDITY/COLOR	clear	—	—	—	—		
ODOR	N	—	—	—	—		
DEPTH OF PURGE INTAKE (FT)	~15	—	—	—	—		
DEPTH TO WATER DURING PURGE (FT)	10.31			10.52			
NUMBER OF CASING VOLUMES REMOVED					~3		
DEWATERED?	N	—	—	—	—		

Groundwater Purge and Sample Form Date: 3/11/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-26

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1255 COMMENTS: _____

DEPTH SAMPLED (FT): ~15 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (low)	
	1	A	↓	↓	1/2L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	624	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 9 COMMENTS: _____

DISPOSAL METHOD: drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Cloudy

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/12/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metal WELL NUMBER: MW-27

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 7.90 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1045 PURGE DEPTH (FT) ~14

TIME END PURGE: _____

TIME SAMPLED: 1220

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	25.89		7.90		17.99		0.16	0.64	1.44		2.87

TIME	1105	1125	1145	1205	1215		
VOLUME PURGED (GAL)	2	4	6	8	9		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.59	13.41	13.52	13.51	13.50		
pH cal?	4.06	2.84	1.84	DNA	NA		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	887	880	881	878	879		
DISSOLVED OXYGEN (mg/L)	0.57	0.12	0.07	0.02	0.02		
eH(MV)Pt-AgCl ref. cal?	114.3	158.6	179.5	193.3	193.7		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	V. low	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	~14	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		8.06		8.14			
NUMBER OF CASING VOLUMES REMOVED					~3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/12/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-29

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1220 COMMENTS: _____

DEPTH SAMPLED (FT): ~14 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	clear		Y	PAH	
	2	A	"	"	2L	"		"	PAH (N,SG)	
	1	A	"	"	1/2L	"		"	Dx	
	3	VOA	HCl	"	120ml	"		"	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 9 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: cloudy

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? No

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/13/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-28 (R)

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): _____ MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1030 PURGE DEPTH (FT) ≈12

TIME END PURGE: _____

TIME SAMPLED: 1155

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	23.94		7.19		16.75		0.16	0.64	1.44		2.68

TIME	1050	1110	1130	1145	1150		
VOLUME PURGED (GAL)							
PURGE RATE (GPM)	2	4	6	7.5	8		
TEMPERATURE (°C)	13.18	12.25	14.23	13.24	13.25		
pH C=17	2.72	3.62	5.64	5.86	5.89		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	521	496	493	491	491		
DISSOLVED OXYGEN (mg/L)	0.01	0.01	0.01	0.02	0.02		
eH(MV)Pt-AgCl ref.	276.1	284.9	260.3	258.2	258.3		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	mild-strong	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈12	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		7.22					
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/13/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-28(R)

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1155 COMMENTS: _____

DEPTH SAMPLED (FT): ≈12 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (NIST)	
	1	A	↓	↓	½L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 8 COMMENTS: _____

DISPOSAL METHOD: drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Rain

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/11/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-29

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): _____ MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1330 PURGE DEPTH (FT) ≈20

TIME END PURGE: _____

TIME SAMPLED: 1520

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	31.74		10.06		21.68		0.16	0.64	1.44		3.46

TIME	1410	1430	1450	1510	1515		
VOLUME PURGED (GAL)	4	6	8	10	10.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.76	13.78	14.00	14.12	14.12		
pH	6.96	6.73	6.81	6.89	6.90		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	1253	1248	1241	1241	1242		
DISSOLVED OXYGEN (mg/L)	0.01	0.01	0.02	0.01	0.01		
eH(MV)Pt-AgCl ref.	134.1	128.9	128.1	130.8	130.7		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈20	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		10.39					
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/11/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-C9

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1520 COMMENTS: _____

DEPTH SAMPLED (FT): ≈20 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (8331)	
	1	A	↓	↓	½L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	GF	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 10.5 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Cloudy

TEMPERATURE (SPECIFY °C OR °F): 40's

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/7/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-30

PROJECT NUMBER: PERSONNEL:

STATIC WATER LEVEL (FT): 8.61 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1130 PURGE DEPTH (FT) ≈22

TIME END PURGE:

TIME SAMPLED: 1415

COMMENTS:

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	40.60		8.61		31.99		0.16	0.64	1.44		5.11

TIME	1210	1250	1330	1400	1410		
VOLUME PURGED (GAL)	4	8	12	15	16		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.87	13.98	14.06	14.04	14.03		
pH	6.41	6.41	6.41	6.41	6.41		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	1014	1035	1066	1074	1075		
DISSOLVED OXYGEN (mg/L)	0.02	0.01	0.01	0.01	0.01		
eH(MV)Pt-AgCl ref.	40.6	48.9	48.5	50.5	50.8		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈22	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)	8.72		8.76		8.78		
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 5/7/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-3D

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1415 COMMENTS: _____

DEPTH SAMPLED (FT): ~22 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH NISI	
	1	A	↓		1/2L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	GX	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 16 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: YES (NO)

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Overcast

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/13/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-31

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 5.90 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 735 PURGE DEPTH (FT) ≈21

TIME END PURGE: _____

TIME SAMPLED: 950 / 1000 (Dup)

COMMENTS: Dup MW-100 Collected Here

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	32.47		5.90		26.57		0.16	0.64	1.44		4.25

TIME	815	855	915	935	945		
VOLUME PURGED (GAL)							
PURGE RATE (GPM)	4	8	10	12	13		
TEMPERATURE (°C)	13.17	13.21	13.20	13.26	13.25		
pH	7.36	6.23	6.02	6.27	6.24		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	1217	1190	1136	1127	1127		
DISSOLVED OXYGEN (mg/L)	0.25	0.03	0.04	0.01	0.02		
eH(MV)Pt-AgCl ref.	228.9	242.6	245.4	244.6	245.8		
TURBIDITY/COLOR	Clear	←	←	←	→		
ODOR	Mod/Low	←	←	←	→		
DEPTH OF PURGE INTAKE (FT)	≈21	←	←	←	→		
DEPTH TO WATER DURING PURGE (FT)		6.71		6.71			
NUMBER OF CASING VOLUMES REMOVED							
DEWATERED?	N	←	←	←	→		

Groundwater Purge and Sample Form Date: 3/13/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-31

PROJECT NUMBER: _____ PERSONNEL: _____

SAMPLE DATA:
TIME SAMPLED: 950 / 1000 (Dup) COMMENTS: Dup MW-100 Collected

DEPTH SAMPLED (FT): ≈21

SAMPLING EQUIPMENT: Peristaltic

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
	4	A	N	N	4L	clear		Y	PAH	
	4	A	↓	↓	4L	↓		↓	PAH (Mass)	
	2	A	↓	↓	1L	↓		↓	Dx	
	6	VOA	HCl	↓	240ml	↓		↓	GX	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 13 COMMENTS: _____

DISPOSAL METHOD: Drummed

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: YES (NO)

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Rain

TEMPERATURE (SPECIFY °C OR °F): 45

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? ND

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/12/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-32

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 6.76 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1430 PURGE DEPTH (FT) ≈12

TIME END PURGE: _____

TIME SAMPLED: 1600

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	24.5		6.76		17.74		0.16	0.64	1.44		2.83

TIME	1450	1510	1530	1550	1555		
VOLUME PURGED (GAL)	2	4	6	8	8.5		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.89	14.01	13.98	14.00	13.99		
pH	NA	NA	NA	NA	NA		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	866	861	861	858	858		
DISSOLVED OXYGEN (mg/L)	0.01	0.01	0.01	0.01	0.01		
eH(MV)Pt-AgCl ref. Cal?	326.1	328.6	332.6	328.6	328.4		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≈12	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		6.91					
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/12/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-32

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1600 COMMENTS: _____

DEPTH SAMPLED (FT): ≈12 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	N	N	2L	Clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (diss)	
	1	A	↓	↓	1/2L	↓		↓	Dx	
	3	VOA	HCl	↓	120 ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 8.5 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Cloudy

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/13/98 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-33

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 6.41 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1215 PURGE DEPTH (FT) ≥12

TIME END PURGE: _____

TIME SAMPLED: 1350

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	24.5		6.41		18.09		0.16	0.64	1.44		2.89

TIME	1235	1255	1315	1335	1345		
VOLUME PURGED (GAL)	2	4	6	8	9		
PURGE RATE (GPM)							
TEMPERATURE (°C)	13.80	13.82	13.71	13.79	13.78		
pH Cal 7.	4.25	4.93	6.13	7.37	7.39		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	678	709	733	746	746		
DISSOLVED OXYGEN (mg/L)	0.01	0.01	0.01	0.01	0.01		
eH(MV)Pt-AgCl ref.	290.0	262.3	250.3	236.0	235.5		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≥12	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		6.44		6.46			
NUMBER OF CASING VOLUMES REMOVED					≈3		
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/13/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-33

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1350 COMMENTS: _____

DEPTH SAMPLED (FT): ~12 _____

SAMPLING EQUIPMENT: Peristaltic _____

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	NA	N	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (0.55)	
	1	A	↓	↓	1/2L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 9 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Rain

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? NO

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/13/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-34

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): _____ MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 1420 PURGE DEPTH (FT) ≥13

TIME END PURGE: ↓

TIME SAMPLED: 1600

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	25.5		6.75		18.75		0.16	0.64	1.44		3.00

TIME	1440	1500	1520	1540	1550		
VOLUME PURGED (GAL)	2	4	6	8	9		
PURGE RATE (GPM)							
TEMPERATURE (°C)	14.26	14.35	14.37	14.29	14.28		
pH	7.52	7.28	7.15	7.16	7.17		
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	1044	1061	1046	1007	1008		
DISSOLVED OXYGEN (mg/L)	0.01	0.01	0.01	0.01	0.01		
eH(MV)Pt-AgCl ref.	238.8	239.3	239.8	240.1	240.0		
TURBIDITY/COLOR	clear	→	→	→	→		
ODOR	N	→	→	→	→		
DEPTH OF PURGE INTAKE (FT)	≥13	→	→	→	→		
DEPTH TO WATER DURING PURGE (FT)		6.91		6.92			
NUMBER OF CASING VOLUMES REMOVED							
DEWATERED?	N	→	→	→	→		

Groundwater Purge and Sample Form Date: 3/13/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-34

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1600 COMMENTS: _____

DEPTH SAMPLED (FT): ~13 _____

SAMPLING EQUIPMENT: Peristaltic _____

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	2L	clear		Y	PAH	
	2	A	↓	↓	2L	↓		↓	PAH (NISP)	
	1	A	↓	↓	½L	↓		↓	Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 9 COMMENTS: _____

DISPOSAL METHOD: Drummed _____

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Rain

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? No

cc: Project Manager: _____
Job File: _____
Other: _____

Groundwater Purge and Sample Form Date: 3/14/06 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-35

PROJECT NUMBER: _____ PERSONNEL: DKM

STATIC WATER LEVEL (FT): 4.41 MEASURING POINT DESCRIPTION: TOC

WATER LEVEL MEASUREMENT METHOD: Solinst PURGE METHOD: Peristaltic

TIME START PURGE: 830 PURGE DEPTH (FT) ≈40 TOC

TIME END PURGE: _____

TIME SAMPLED: 1230

COMMENTS: _____

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (FT)	-	DEPTH TO WATER (FT)	=	WATER COLUMN (FT)	X	MULTIPLIER FOR CASING DIAMETER (IN) 2	4	6	=	CASING VOLUME (GAL)
	≈52 TOC		4.41		47.59		0.16	0.64	1.44		7.61

TIME	920	1010	1100	1150	1210	1220	
VOLUME PURGED (GAL)							
PURGE RATE (GPM)	5	10	15	20	22	23	
TEMPERATURE (°C)	13.03	13.09	13.27	13.34	13.28	13.30	
pH	7.28	7.96	7.68	7.71	7.74	7.75	
SPECIFIC CONDUCTIVITY (micromhos/cm) (uncorrected)	2501	2555	2445	2536	2547	2546	
DISSOLVED OXYGEN (mg/L)	1.05	1.95	0.60	0.82	0.71	0.72	
eH(MV)Pt-AgCl ref.	212.1	203.9	213.8	214.0	212.4	212.2	
TURBIDITY/COLOR	clear	~	~	~	~	~	
ODOR	N	~	~	~	~	~	
DEPTH OF PURGE INTAKE (FT)	≈40	~	~	~	~	~	
DEPTH TO WATER DURING PURGE (FT)	4.45			4.49			
NUMBER OF CASING VOLUMES REMOVED						~	
DEWATERED?	N	~	~	~	~	~	

Groundwater Purge and Sample Form Date: 5/14/08 **Kennedy/Jenks Consultants**

PROJECT NAME: Tacoma Metals WELL NUMBER: MW-35

PROJECT NUMBER: _____ PERSONNEL: DKM

SAMPLE DATA:
TIME SAMPLED: 1230 COMMENTS: _____

DEPTH SAMPLED (FT): ~40

SAMPLING EQUIPMENT: Peristaltic

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or L)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN-OF-CUSTODY AT 4°C?	ANALYSIS REQUEST (METHOD)	COMMENTS
	2	A	~~HCl~~ N	N	2L	clear		Y	PAH	
	2	A	N		2L				PAH (NIST)	
	1	A	N		1L				Dx	
	3	VOA	HCl	↓	120ml	↓		↓	Gx	

PURGE WATER DISPOSAL NOTES:
TOTAL DISCHARGE (GAL): 23 COMMENTS: _____

DISPOSAL METHOD: Drummed

DRUM DESIGNATION(S)/VOLUME PER (GAL): _____

WELL HEAD CONDITIONS CHECKLIST (CIRCLE YES OR NO - IF NO, ADD COMMENTS):

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: (YES) NO

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: _____

GENERAL:
WEATHER CONDITIONS: Cloudy

TEMPERATURE (SPECIFY °C OR °F): 50

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? No

cc: Project Manager: _____
Job File: _____
Other: _____

Attachment 7

DNAPL Monitoring
26 June 2008

DNAPL MONITORING FORM
Former Tacoma Metals Facility

Well No.	Date	Depth to water (ft.bsd) [a]	Depth to DNAPL (ft.bsd) [a]	Depth to Bottom of Well (ft.bsd) [a]	Thickness of DNAPL (ft)	Comments
MW-14	6/26/08	8.61	ND	23.90	0	
MW-15	6/26/08	8.27	ND	25.95	0	
MW-16	6/26/08	7.95	ND	26.50	0	
MW-17	6/26/08	7.02	ND	22.75	0	
MW-18	6/26/08	9.80	ND	25.18	0	
MW-19	6/26/08	9.31	ND	26.83	0	
MW-20	6/26/08	8.25	ND	29.59	0	
MW-21	6/26/08	7.25	ND	21.67	0	
MW-22	6/26/08	7.15	ND	23.01	0	
MW-8(R) **(Check LNAPL)**	6/26/08	9.10	LNAPL Present	NM	LNAPL <0.01ft.	

DNAPL MONITORING FORM
Former Tacoma Metals Facility

Well No.	Date	Depth to water (ft.bsd) [a]	Depth to DNAPL (ft.bsd) [a]	Depth to Bottom of Well (ft.bsd) [a]	Thickness of DNAPL (ft)	Comments
MW-23 (Off-Property)	6/26/08	12.59	ND	31.71	0	
MW-24 (Off-Property)	6/26/08	8.70	ND	25.10	0	
MW-25 (Off-Property)	6/26/08	9.36	ND	26.09	0	
MW-26 (Off-Property)	6/26/08	10.69	ND	27.95	0	
MW-27 (Off-Property)	6/26/08	9.24	ND	25.99	0	
MW-28(R) (Off Property)	6/26/08	8.43	23.29	23.93	0.64	
MW-29 (Off-Property)	6/26/08	9.25	ND	31.80	0	
MW-30 (Off-Property)	6/26/08	8.05	ND	41.10	0	
MW-31 (Off-Property)	6/26/08	7.34	ND	32.50	0	

DNAPL MONITORING FORM
Former Tacoma Metals Facility

Well No.	Date	Depth to water (ft.bsd) [(a)]	Depth to DNAPL (ft.bsd) [(a)]	Depth to Bottom of Well (ft.bsd) [(a)]	Thickness of DNAPL (ft)	Comments
MW-32 (Off-Property)	6/26/08	7.32	ND	25.50	0	
MW-33 (Off-Property)	6/26/08	7.26	ND	24.60	0	
MW-34 (Off-Property)	6/26/08	7.63	ND	26.05	0	
MW-35 (Off-Property)	6/26/08	6.02	ND	52.01	0	

Notes:
(a) All measurements taken to surveyed datum on PVC well casing. ft.bsd = feet below surveyed datum