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30 April 2010

RECEIVED

WA State Department
of Ecology (SWRO)

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

Subject: Terrestrial Ecological Evaluation
 Former Tacoma Metals Facility
 K/J 996098.00

Dear Mr. Teel:

This letter presents the results of a site-specific Terrestrial Ecological Evaluation (TEE) of soil analytical results from sampling conducted at the Former Tacoma Metals property (Site) located in Tacoma, Washington. The TEE was performed in accordance with the Agreed Order (No. DE97-5435) between the Washington State Department of Ecology (Ecology) and Portland Avenue Associates, LLC (owner). This TEE was completed in accordance with Ecology's Model Toxics Control Act (MTCA) regulations published in Washington Administrative Code (WAC) 173-340-7493.

Site Description and Background

The Site is a former metal recycling facility located at 1919 Portland Avenue in Tacoma, Washington, in an industrial-zoned area near the southern bank of the Puyallup River (see Figure 1). The Site consists of approximately 6 acres of paved and unpaved areas, with approximately 80 percent of the Site currently paved. In 2005, the City of Tacoma completed the Puyallup River Side Channel Project (PRSC) creating a wetland habitat adjacent to the Site.

The former metals recycling facility was in operation since the early 1950s under different owners and operators. From early 1950s until April 1983, General Metals, Inc. operated the facility. From May 1983 until March 1999, Tacoma Metals, Inc. operated the facility.

In the early 1940s, a coke manufacturing plant was constructed on the eastern end of the Site. Based on historical records, it appears that the coke plant only operated for a short time beginning in 1943.

The St. Paul and Tacoma Lumber Company operated a creosoting plant in the far northwestern corner of the Site in the 1910s to 1930s. The plant included a 130-foot treatment retort and several other structures. The creosoting plant structures are visible on a 1931 aerial photograph, but the Site does not appear operational at that time. Refer to the *Response to Ecology Comments* (Kennedy/Jenks Consultants 2009) letter for additional discussion of historical Site uses.

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Through a series of past investigations at the Site, chemicals of concern (COC) have been detected in surface and subsurface soils and groundwater. COCs encountered at the Site include primarily metals (mostly lead) from past metals recycling and hydrocarbon compounds consisting of polycyclic aromatic hydrocarbons (PAHs) from the former wood treatment activities conducted in the northwestern portion of the Site.

Purpose and General Approach

The purpose of a TEE is to evaluate the potential for adverse impacts to land-based ecological receptors from exposure to contaminated soil. The first step in the TEE process is to identify if the Site (area where contaminants have come to be located) has the potential to pose a risk to wildlife or plants, or affect the soil biota. Because COCs are present in surface soil, and due to the presence of contiguous undeveloped land within 500 feet of the Site, this Site does not qualify for a primary exclusion (WAC 173-340-7491) with respect to the requirements for completing a TEE.

The next step in the TEE process is to evaluate whether the Site requires a simple TEE or if a site-specific TEE is necessary. To assess whether a simple or site-specific TEE is required for this Site, Figure 2 was prepared showing the acreage of areas containing native vegetation within 500 feet of the Site. The acreage of areas containing native vegetation within 500 feet of the Site was estimated to be approximately be 6.6 acres, below the 10 acres minimum required for performing a site-specific TEE.

However, in accordance with our conversation with Dave Sternberg of Ecology during a conference call on 21 January 2010, Ecology is requiring that a site-specific TEE be conducted, because the Site is located near the PRSC constructed wetland. During our conversation, Mr. Sternberg confirmed that the site-specific TEE should be completed under the industrial land use scenario and that only wildlife protection values needed to be considered in completing this site-specific TEE.

Therefore, for this site-specific TEE, the surface soil analytical data collected from the Site for the *Remedial Investigation/Feasibility Study Report* (Kennedy/Jenks Consultants 2001) were screened against the ecological indicator soil concentrations for the protection of wildlife presented in Table 749-3 of Ecology's TEE guidance. This ecological risk screening is presented in Tables 1 through 4, which identify the samples that exceed the wildlife protection screening values. The corresponding soil sampling locations are shown on Figure 3.

Current and Future Exposure Pathways

As discussed, the Site is located in an industrial-zoned area and, as previously described, consists of approximately 6 acres of property with approximately 80 percent of the property currently paved. Based on the industrial designation for this Site, the current and future exposure pathway of concern to local terrestrial wildlife (mammals and birds) is limited to direct contact with soil. The soil samples collected for the remedial investigation (RI) consisted primarily of samples collected from beneath pavement with a small portion collected from unpaved areas of the Site. The soil samples collected from beneath paved areas do not represent a complete exposure pathway to local terrestrial wildlife, because the contaminants are inaccessible. Future development plans for this Site as provided in the RI feasible study (RI/FS) report include the paving of the entire property to eliminate any potential direct contact

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with surface and subsurface soil. Therefore, no complete exposure pathways are expected to terrestrial wildlife in the future.

Results of Soil Screening

In accordance with Ecology's request, the soil analytical results collected for the RI were screened against wildlife protection values, and this risk-based screening is presented in Tables 1 through 4, as follows:

- Table 1 - Metals
- Table 2 - polychlorinated biphenyl (PCBs)
- Table 3 - PAHs
- Table 4 - Volatile organic compounds (VOCs)

For the metals soils data, barium, cadmium, chromium, copper, lead, mercury, and selenium exceeded their corresponding wildlife protection screening values. The analytical reporting limit for selenium was above the corresponding wildlife screening level, though detected concentrations of selenium are identified in Table 1, where they exceed the wildlife protection value. In general, the locations where soil samples that exceed the metals wildlife protection values (values in bold in Table 1) are distributed throughout the subject Site and include areas that are currently paved and unpaved.

A total PCB concentration was calculated for each sample by summing the detected concentrations of Aroclors and using one-half of the reporting limits for those Aroclors that were reported as not detected values. As with metals, soil samples with PCB concentrations above the corresponding wildlife protection value (refer to Table 2) are distributed throughout the subject Site.

The 16 priority pollutant PAHs were analyzed in a subset of soil samples collected for the RI as summarized in Table 3. Table 749-3 of Ecology's TEE guidance only provides a wildlife protection screening value for benzo(a)pyrene. Benzo(a)pyrene was detected above its wildlife protection value in four of the 19 soil samples that were analyzed for PAHs (values in bold in Table 3). All the sample locations where benzo(a)pyrene was found above its wildlife protection value are located in paved areas of the Site (refer to Figure 3).

There are no wildlife protection values for VOCs and for the TPH fractions that were analyzed; there is only a wildlife protection value available for diesel-range organics provided in Table 749-3 of Ecology's TEE guidance. Of the 127 samples that were analyzed for TPH-diesel, only five samples collected from four locations exceed the TPH-diesel wildlife protection values (Table 4). (Note: In accordance with Ecology's letter dated 28 April 2009 (Ecology 2009), Ecology concurs that diesel-range organics detected in the northwestern portion of the Site are attributed primarily to PAH compounds resulting from past wood treatment activities and not petroleum hydrocarbons.)

Summary and Recommendations

A site-specific TEE was completed for the Site by conducting a risk-based screening of soil data collected for the RI against wildlife protection screening values provided in Ecology's TEE guidance. In accordance with Ecology's direction, the Site is being evaluated under the

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industrial use scenario; therefore, only the wildlife protection values were considered for this TEE. As shown in Tables 1 through 4, there were constituents detected in surface and shallow subsurface soil above their corresponding wildlife protection values.

The only exposure pathway of concern to terrestrial wildlife is direct contact to soil. As previously described, approximately 80 percent of the Site is currently paved and future development plans call for the paving of the remainder of the Site. Therefore, under predicted future conditions, the proposed development will eliminate all exposure pathways of concern for terrestrial wildlife to soil. Kennedy/Jenks Consultants requests that Ecology make the determination that no further site-specific TEE activities are necessary under provisions of WAC 173-340-7493 (1)(i).

Please feel free to contact me with any questions or concerns regarding this TEE letter report.

Very truly yours,

KENNEDY/JENKS CONSULTANTS



Taku Fuji, Ph.D.
Toxicologist



Ty C. Schreiner
Project Manager

Enclosures – Figure 1 – Site Location Map
Figure 2 – Tacoma Metals Natural Vegetation Areas
Figure 3 – Sample Location Summary Map
Table 1 – Soil Analytical results - Metals
Table 2 – Soil Analytical results - PCBs
Table 3 – Soil Analytical Results - PAHs
Table 4 – Soil Analytical Results - TPH and VOCs

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

References

Ecology. 2009. Transmittal of Ecology Comments on the Response to Ecology Comments, Forensic Evaluation of Hydrocarbons, Former Tacoma Metals Site, 1919 Portland Avenue, Tacoma, Washington, February 17, 2009, Agreed Order DE 97-5435. Letter from Mr. Steve Teel to Mr. Ty Schreiner. Dated 28 April 2009.

Kennedy/Jenks Consultants. 2001. Remedial Investigation/Feasibility Study Report, Former Tacoma Metals Facility. Prepared by Kennedy/Jenks Consultants for Portland Avenue Associates, LLC. Dated October 2001.

Kennedy/Jenks Consultants. 2009. Response to Ecology Comments, Forensic Evaluation of Hydrocarbons, Former Tacoma Metals Facility. Letter from Mr. Dean Malte and Mr. Ty Schreiner to Mr. Steve Teel. Dated 17 February 2009.

Tables

TABLE 1
SOIL ANALYTICAL RESULTS - METALS
Former Tacoma Metals Facility

Sample Designation	Sample Depth	Sample Date	Total Metals (mg/kg) ^(a)						Selenium	Silver
			Arsenic	Barium	Cadmium	Chromium	Copper	Lead		
TP-1	0'-1'	9/27/2000	40	290	8.5	76	873	2,230	1.53	<10
	2-3'	9/27/2000	---	---	---	---	---	120	0.11	---
	4-6'	9/27/2000	---	---	---	---	---	---	---	---
	6-10'	9/27/2000	---	---	---	---	---	90	---	---
TP-2	0'-1'	9/27/2000	<10 ^(c)	404	18.2	67	1,090	831	0.88	<10
	2-3'	9/27/2000	<5	47.2	<0.2	18.6	20C	10	0.04	<0.3
	4-6'	9/27/2000	<8	58.1	<0.2	15.4	35.2	85	<0.06	<6
	6-10'	9/27/2000	<8	53.8	1.1	18.6	79.6	72	0.13	<6
TP-3	0'-1'	9/27/2000	<5	63.5	2.7	26.9	44.1	46	0.13	<5
	2-3'	9/27/2000	---	---	---	---	---	---	---	---
	4-6'	9/27/2000	7	63.8	0.4	15.4	33.2	106	0.21	<7
	6-10'	9/27/2000	<10	110	<0.5	18	42.4	93	0.13	<10
TP-4	0'-1'	9/27/2000	30	606	21.6	82	4,650	1,760	0.55	<10
	2-3'	9/27/2000	---	---	8	---	---	443	---	---
	4-6'	9/27/2000	---	---	---	---	---	160	---	---
TP-5	0'-1'	9/27/2000	<7	60.1	<0.3	16.9	24.6	9	<0.06	<7
	2-3'	10/4/2000	---	59.4	<0.2	59.9	23	8	<0.05	5
	4-6'	10/4/2000	<6	67.7	<0.3	38.2	37.3	56	0.20	<6
TP-6/600 ^(d)	0-1'	10/4/2000	<10	52.3	<0.5	24	56.1	248	0.3	<10
	2-3'	10/4/2000	---	196/208	5,614.9	92/39	711/237	1,550/867	0.50/0.45	20/20
	4-6'	10/4/2000	---	---	---	---	---	54	---	---
	5-10'	10/4/2000	---	---	---	---	---	40	---	---
TP-7	0'-1'	10/4/2000	10	657	12.3	103	361	796	0.88	8
	2-3'	10/4/2000	---	9	---	---	---	---	---	---
	4-6'	10/4/2000	---	---	---	---	---	---	---	---
TP-8	0'-1'	10/4/2000	<5	235	0.9	33.9	41	31	<0.05	<5
	2-3'	10/4/2000	---	---	---	---	---	---	---	---
TP-8/800	4-6'	10/4/2000	<6<5	38.4/42.1	0.3<0.2	17.5/15.7	29.6/47.8	25/26	<0.06/0.05	<6<5
	6-10'	10/4/2000	---	---	---	---	---	---	---	<0.4/0.7
TP-9	0'-1'	10/5/2000	40	1,990	59	132	1,260	1,960	0.30	<36
	2-3'	10/5/2000	---	---	---	---	---	20	---	<2
	4-6'	10/5/2000	<6	224	2.1	24.2	59.9	93	<0.05	<6
	6-10'	10/5/2000	---	---	---	---	---	---	---	<0.4
TP-10	0'-1'	10/6/2000	<5	218	4.2	49.2	217	460	0.54	7
	2-3'	10/6/2000	---	---	---	---	---	---	---	---
	4-6'	10/6/2000	<5	61	0.7	32.2	60.3	72	0.07	<5
	6-10'	10/6/2000	<6	49.5	0.4	28.8	29.3	15	<0.06	<6
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(e)		132	102	14	67	217	118	5.5	0.3	N/A ^(e)

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 1
SOIL ANALYTICAL RESULTS - METALS
Former Tacoma Metals Facility

Sample Designation	Sample Depth	Sample Date	Total Metals (mg/kg) ^(e)						
			Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury
TP-11	0-1'	10/5/2000	<5	254	5.7	54.4	15.7	202	0.27
	2-3'	10/5/2000	--	--	--	--	--	--	--
	4-6'	10/5/2000	<9	--	--	--	--	--	--
TP-12	5-10'	10/5/2000	<9	164	<0.3	18.4	31.5	57	0.1
	0-1'	10/5/2000	<5	37.5	3.3	19.4	21.3	17	<0.04
	2-3'	10/5/2000	--	--	--	--	--	--	<0.3
TP-13	4-6'	10/5/2000	--	--	--	--	--	--	--
	6-10'	10/5/2000	--	--	--	--	--	--	--
	0-1'	10/5/2000	<5	96	3	49.3	266	167	0.71
TP-14	2-3'	10/5/2000	--	--	--	--	--	--	--
	4-6'	10/5/2000	--	--	--	--	--	--	<5
	6-10'	10/5/2000	<6	84.6	2.3	35.3	78.6	152	0.07
TP-15	0-1'	10/6/2000	<5	42.6	<0.2	32.8	29.4	79	<0.04
	2-3'	10/6/2000	--	--	--	--	--	--	--
	4-6'	10/6/2000	--	--	--	--	--	--	--
TP-16/160	6-10'	10/6/2000	--	--	--	--	--	--	--
	0-1'	10/6/2000	40/30	999/592	45/22	105/85	80/41/210	2,590/2,040	1.82/2.19
	2-3'	10/6/2000	--	63	--	--	--	8,240	--
TP-17	0-1'	10/6/2000	60	272	15	120	2,930	1,470	0.4
	2-3'	10/6/2000	--	--	--	--	30	--	<50
	4-6'	10/6/2000	--	--	--	--	30	--	--
TP-18	6-10'	10/6/2000	--	--	--	--	--	--	--
	0-1'	10/10/2000	8	107	3.3	26.3	451	311	0.38
	2-3'	10/10/2000	--	--	--	--	--	--	<3
TP-19	4-6'	10/10/2000	--	--	--	--	--	--	--
	6-10'	10/10/2000	--	--	--	--	20	--	--
	0-1'	10/10/2000	20	111	4	46	1,060	204	<10
TP-20	2-3'	10/10/2000	--	--	--	--	--	--	--
	4-6'	10/10/2000	--	--	--	--	--	--	0.9
	6-10'	10/10/2000	--	--	--	--	--	--	--
TP-20/2000 ^(g)	0-1'	10/10/2000	<6	35.9	<0.2	22	17.2	6	<0.06
	2-3'	10/10/2000	20/<10	304/292	17/26.2	84/83	6,970/6,350	540	6
	4-6'	10/10/2000	--	--	--	--	--	230	<0.3
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(f)			132	102	14	67	217	118	5.5
									NA ^(e)

Analyses detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 1
SOIL ANALYTICAL RESULTS - METALS
Former Tacoma Metals Facility

Sample Designation	Sample Depth	Sample Date	Total Metals (mg/kg) ^(e)							Selenium	Silver
			Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury		
TP-21	0'-1'	10/10/2000	70	1,580	66	574	12,800	6,020	22.4	<30	31
	2-3'	10/10/2000	<300	4,190	130	1,080	13,200	7,20	10.2	<300	90
	4-6'	10/10/2000	--	--	<1	42	--	--	--	--	--
TP-22	6-10'	10/10/2000	--	--	--	--	--	50	--	--	--
	0-1'	10/10/2000	30	372	51	2,520	13,000	3,180	5.3	<30	36
	2-3'	10/10/2000	<60	464	52	913	20,200	3,690	5.1	<60	198
TP-23	0-1'	10/10/2000	--	--	--	47	--	360	--	--	--
	4-6'	10/10/2000	--	--	--	--	--	80	--	--	--
	6-10'	10/10/2000	--	--	--	--	--	--	--	--	--
TP-24	0-1'	10/11/2000	<5	40.4	<0.2	25.1	21.9	1.1	<0.04	<5	<0.3
	2-3'	10/11/2000	30	376	15.3	127	1,560	1,190	1.21	<10	1.4
	4-6'	10/11/2000	--	--	--	--	--	140	0.19	--	--
TP-25	3-10'	10/11/2000	--	--	--	--	--	130	--	--	--
	0-1'	10/11/2000	6	105	2.3	34.3	53.9	43.8	0.7	6	0.5
	2-3'	10/11/2000	--	--	--	--	--	--	--	--	--
TP-26	0-1'	10/11/2000	--	--	--	--	--	--	--	--	--
	2-3'	10/11/2000	<5	52.5	0.3	28.4	15.1	48	0.14	<5	<0.3
	4-6'	10/11/2000	--	--	--	--	--	--	--	--	--
TP-27/270	6-10'	10/11/2000	--	--	--	--	--	--	--	--	--
	0-1'	10/11/2000	<5	47.4	0.3	30.3	21.6	9	<0.05	<5	<0.3
	2-3'	10/11/2000	--	--	--	--	--	--	--	--	--
TP-28	4-6'	10/11/2000	<6	272	0.2	20.8	40.9	17	<0.05	<6	<0.3
	6-10'	10/11/2000	<7	80.1	<0.3	17.3	31.1	13	<0.06	<7	<0.4
	0-1'	10/11/2000	30/40	261/29	6.8/8.4	59/119	577/806	5,000/14,700	1.83/1.62	<10<10	1.2/1.7
TP-29	2-3'	10/11/2000	<10	217	6.2	49	3,130	575	1.32	<10	1.3
	4-6'	10/11/2000	--	--	--	--	--	--	<0.06	--	--
	6-10'	10/11/2000	--	--	--	--	--	--	--	--	--
TP-30	0-1'	10/11/2000	20	382	16.5	91	789	1,430	1.56	10	1.5
	2-3'	10/11/2000	--	--	--	--	--	2,340	1.12	<10	1.8
	4-6'	10/11/2000	--	--	<1	--	--	<10	<0.05	--	--
TP-31	6-10'	10/11/2000	5	67.9	0.2	29.7	24.6	16	<0.04	<5	<0.3
	2-3'	10/12/2000	--	--	--	--	--	--	--	--	--
	4-6'	10/12/2000	--	--	--	--	--	--	--	--	--
TP-32	6-10'	10/12/2000	--	--	--	--	--	--	--	--	--
	0-1'	10/12/2000	30	733	59.5	103	1,950	2,410	2.06	<1C	2.6
	2-3'	10/12/2000	20	805	21.2	90	540	1,110	0.57	<1C	1.4
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(g)	4-6'	10/12/2000	--	--	<1	--	--	<10	--	--	--
	6-10'	10/12/2000	--	--	--	--	--	50	--	--	--
	132	102	14	67	217	118	5.5	0.3	NA ^(e)		

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 1
SOIL ANALYTICAL RESULTS - METALS
Former Tacoma Metals Facility

Sample Designation	Sample Depth	Sample Date	Total Metals (mg/kg) ^(d)								
			Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver
TP-31	0'-1'	10/12/2000	<0	558	19.3	5B	417	1,040	0.63	<10	1
	2-3'	10/12/2000	<0	189	6.4	40	182	387	0.42	<10	0.7
	4-6'	10/12/2000	---	---	---	---	---	---	---	---	---
	6-10'	10/12/2000	---	---	---	---	---	---	---	---	---
TP-32	0-1'	10/12/2000	30	2,010	84	271	3,720	4,470	2.36	<30	3
TP-33	0-1'	10/12/2000	40	3,070	89	353	2,970	6,470	2.91	<30	5
	2-3'	10/12/2000	---	---	---	---	---	4,560	1.89	---	---
	4-6'	10/12/2000	---	---	---	---	---	10	---	---	---
	6-10'	10/12/2000	---	---	---	---	70	---	---	---	---
TP-34/340	0-1'	10/12/2000	<10<30	196/1,740	4/42	65.6/92	4,030/1,640	1,530/5,100	0.93/1.23	<10<30	1.6<2
	2-3'	10/12/2000	30	1,440	52	91	1,570	3,990	1.08	<30	<2
	4-6'	10/12/2000	---	---	---	---	1,110	<0.05	---	---	---
	6-10'	10/12/2000	---	---	---	---	40	---	---	---	---
TP-35	0-1'	10/13/2000	<10	290	8.4	153	1,260	4,230	0.52	<10	2.2
	2-3'	10/13/2000	---	---	---	---	---	240	---	---	---
	4-6'	10/13/2000	---	---	---	---	---	30	---	---	---
	6-10'	10/13/2000	---	---	---	---	20	---	---	---	---
TP-36	0-1'	10/13/2000	<10	54.5	0.9	31	39.3	36	0.12	<10	<0.6
	2-3'	10/13/2000	---	---	---	---	---	---	---	---	---
	4-6'	10/13/2000	---	---	---	---	---	---	---	---	---
	6-10'	10/13/2000	<10	31.7	0.5	19	25.3	15	0.06	<10	<0.8
TP-37	0-1'	10/13/2000	30	979	26.6	124	625	1,900	4.18	10	1.1
	2-3'	10/13/2000	20	1,530	24.7	112	483	1,630	2.66	<10	<0.6
	4-6'	10/13/2000	---	---	<1	---	20	<0.05	---	---	---
	6-10'	10/13/2000	---	---	---	---	30	---	---	---	---
TP-38	0-1'	10/13/2000	60	2,710	125	263	3,320	9,380	14.3	30	6
	2-3'	10/13/2000	---	---	---	---	70	0.12	---	---	---
	4-6'	10/13/2000	---	---	---	---	50	---	---	---	---
	6-10'	10/13/2000	---	---	---	---	11	---	---	---	---
TP-39/390	0-1'	10/13/2000	10<10	110/1,34	13/216.8	30/27	1,100/107	1,040/374	0.21/0.24	<10<10	<0.8<0.7
	2-3'	10/13/2000	---	---	10.4	---	---	---	---	---	---
	4-6'	10/13/2000	---	---	---	---	---	---	---	---	---
	6-10'	10/13/2000	---	---	---	---	---	---	---	---	---
TP-40	0-1'	10/13/2000	60	738	36	670	2,530	3,700	15	<50	4
	2-3'	10/13/2000	<30	851	40	212	1,240	2,050	3.19	<30	3
	4-6'	10/13/2000	<10	126	3.7	31	94	192	0.22	<10	<0.7
	6-10'	10/13/2000	---	---	---	---	---	---	---	---	---
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(f)			132	102	14	67	217	118	5.5	0.3	NA ^(e)

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 1
SOIL ANALYTICAL RESULTS - METALS
Former Tacoma Metals Facility

Sample Designation	Sample Depth	Sample Date	Total Metals (mg/kg) ^(a)						
			Arsenic	Barium	Cadmium	Chromium	Copper	Lead	
TP-41	0'-1'	10/16/2000	<30	38	<1	39	20	5.5	<30
	2-3'	10/16/2000	--	--	--	--	--	--	--
	4-6'	10/16/2000	--	--	--	--	--	--	--
TP-42	6-10'	10/16/2000	--	--	--	--	--	--	--
	0'-1'	10/16/2000	<30	78	2	31	98	130	<30
	2-3'	10/16/2000	--	--	--	--	--	--	--
TP-43	4-6'	10/16/2000	--	--	--	--	--	--	--
	6-10'	10/16/2000	--	--	--	--	--	--	--
	0-1'	10/16/2000	90/80	1,620/1,400	59/54	564/566	5,620/5,000	5,840/9,370	47/41
TP-43/430	2-3'	10/16/2000	80	1,280	46	259	2,520	12,300	21
	4-6'	10/16/2000	--	--	<1	--	--	10	<C.04
	6-10'	10/16/2000	--	--	--	--	--	70	--
TP-44	0-1'	10/13/2000	<10	27.2	0.4	17.2	21.5	13	<C.05
	2-3'	10/13/2000	--	--	--	--	--	--	<10
	4-6'	10/13/2000	--	--	--	--	--	--	<0.6
TP-45	6-10'	10/13/2000	--	--	--	--	--	--	--
	0-1'	10/16/2000	100	774	30	368	3,560	4,060	47
	2-3'	10/16/2000	--	--	15	--	--	950	16
TP-46	4-6'	10/16/2000	--	--	--	--	--	180	--
	6-10'	10/16/2000	--	--	--	--	--	80	--
	0-1'	10/16/2000	40	302	15	721	1,820	2,100	10.6
TP-47	2-3'	10/16/2000	--	9	104	--	970	2.88	--
	4-6'	10/16/2000	50	1,910	93	1,180	4,320	0.83	<30
	6-10'	10/16/2000	--	--	--	0.9	--	82	--
TP-48	0-1'	10/16/2000	<30	33	<1	25	13	<10	<0.05
	2-3'	10/16/2000	--	--	--	--	--	--	<2
	4-6'	10/16/2000	--	--	--	--	--	--	--
TP-49	6-10'	10/16/2000	--	--	--	--	--	--	--
	0-1'	10/17/2000	40	232	8	52	588	630	0.45
	2-3'	10/17/2000	--	--	--	--	--	--	<30
TP-49/490	4-6'	10/17/2000	--	--	--	--	--	--	--
	6-8.5'	10/17/2000	<70	67	<3	18	45	40	<0.1
	0-1'	10/17/2000	<30	71	1	33	78	150	0.13
TP-490	2-3'	10/17/2000	<30	64	<1	20	20	10	<30
	4-6'	10/17/2000	<30	78	<1	15	20	150	<2
	6-10'	10/17/2000	<50	51	<2	23	942	430	<50
Ecological Indicator Soil Concentrations for Protection of Wildlife^(b)			132	102	14	67	217	118	5.5
Analyses detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.									NA ^(e)

TABLE 1
SOIL ANALYTICAL RESULTS - METALS
Former Tacoma Metals Facility

Sample Designation	Sample Depth	Sample Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Total Metals (mg/kg) ^(a)		Selenium	Silver
									Total	Mercury		
TP-50/500	0'-1'	10/17/2000	<30	208/293	8/18	37/55	1,100/530	380/570	0.45/0.61	<30/<30	<2/<2	
	2'-3'	10/17/2000	<30	69	<1	44	29	150	<0.05	<30	<2	
	4'-6'	10/17/2000	--	--	--	--	--	--	--	--	--	
	6'-10'	10/17/2000	--	--	--	--	--	--	--	--	--	
TP-51	0'-1'	11/14/2000	<30	73	<1	34	61	100	0.05	<30	<2	
	2'-3'	11/14/2000	--	--	--	--	--	--	--	--	--	
	4'-6'	11/14/2000	--	--	--	--	--	--	--	--	--	
	6'-10'	11/14/2000	--	--	--	--	--	--	--	--	--	
TP-52	0'-1'	11/14/2000	<20	50	<1.0	27	38/2	38	0.06	<20	<1	
	2'-3'	11/14/2000	--	--	--	--	--	--	--	--	--	
	4'-6'	11/14/2000	--	--	--	--	--	--	--	--	--	
TP-53	0'-1'	11/14/2000	<30	63	<1	31	40	20	0.05	<30	<2	
	2'-3'	11/14/2000	--	--	--	--	--	--	--	--	--	
	4'-6'	11/14/2000	--	--	--	--	--	--	--	--	--	
TP-54	0'-1'	11/14/2000	<30	242	8	48	273	410	0.98	<30	<2	
	2'-3'	11/14/2000	--	--	--	--	--	--	--	--	--	
	4'-6'	11/14/2000	--	--	--	--	--	--	--	--	--	
TP-55	0'-1'	11/14/2000	<30	1,080	29	117	465	1,750	0.83	<30	<2	
	2'-3'	11/14/2000	--	--	21.1	--	--	772	--	--	--	
	4'-6'	11/14/2000	--	--	--	--	--	106	--	--	--	
TP-56	0'-1'	11/14/2000	<30	63	2	31	88	70	0.12	<30	<2	
	2'-3'	11/14/2000	--	--	--	--	--	--	--	--	--	
	4'-6'	11/14/2000	--	--	--	--	--	--	--	--	--	
TP-57	0'-1'	11/14/2000	60	2,740	70	145	7,410	2,710	0.6	40	<2	
	2'-3'	11/14/2000	--	--	1.7	--	--	28	--	--	--	
	4'-6'	11/14/2000	--	--	--	--	--	80	--	--	--	
TP-58	0'-1'	11/15/2000	<30	46	<1	29	21	<10	0.06	<30	<2	
	2'-3'	11/15/2000	<30	602	17	105	2,070	2,340	62	<30	<2	
	4'-6'	11/15/2000	--	--	<0.5	--	--	9	--	--	--	
TP-59	0'-1'	11/15/2000	--	871	34	173	3,010	2,250	1.55	<30	2	
	2'-3'	11/15/2000	<30	194	9	35	388	350	0.22	<30	<2	
	4'-6'	11/15/2000	--	--	--	--	--	--	--	--	--	
	6'-10'	11/15/2000	--	--	--	--	--	--	--	--	--	
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(b)			132	102	14	67	217	118	5.5	0.3	NA ^(e)	

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 1
SOIL ANALYTICAL RESULTS - METALS
Former Tacoma Metals Facility

Sample Designation	Sample Depth	Sample Date	Total Metals (mg/kg) ^(a)						
			Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury
TP-60	0'-1'	11/15/2000	50	1,050	30	225	2,330	10,800	77
	2-3'	11/15/2000	<30	1,410	20	99	773	3,260	14.1
TP-61	4-6'	11/15/2000	--	--	0.9	--	--	11.6	0.08
	3-10'	11/15/2000	--	--	--	--	--	49	--
TP-62	0-1'	11/15/2000	<30	377	10	53	356	4,180	0.76
	2-3'	11/15/2000	<30	352	1	25	40	80	0.23
TP-63	4-6'	11/15/2000	--	--	--	--	--	--	<30
	5-10'	11/15/2000	--	--	--	--	--	--	<30
TP-64	0-1'	11/15/2000	<30	201	5	72	208	420	0.92
	2-3'	11/15/2000	<30	265	11	283	407	800	2.05
TP-65	4-6'	11/15/2000	--	--	<0.5	--	--	--	<0.04
	5-10'	11/15/2000	--	--	--	--	--	--	--
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(f)	0-1'	11/15/2000	<30	584	38	61	304	700	0.37
	2-3'	11/15/2000	<30	637	50	64	299	1,800	0.24
TP-66	4-6'	11/15/2000	--	--	0.7	--	--	123	--
	6-10'	11/15/2000	<30	163	5	31	459	450	10.2
TP-67	0-1'	11/15/2000	--	--	--	--	--	--	<30
	2-3'	11/15/2000	--	--	--	--	--	--	<2
TP-68	4-6'	11/15/2000	--	--	--	--	--	--	--
	6-10'	11/15/2000	--	--	--	--	--	--	--
TP-69	0-1'	11/15/2000	<30	58	<1	28	19	<10	0.35
	2-3'	11/15/2000	--	--	--	--	--	--	--
TP-70	4-6'	11/15/2000	--	--	--	--	--	--	--
	6-10'	11/15/2000	--	--	--	--	--	--	--
for Protection of Wildlife ^(f)			132	102	14	67	217	18	5.5
									0.3
									NA ^(e)

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

Notes

- (a) Soil samples were analyzed for total metals by EPA Methods 6010/7000 series.
- (b) "..." Sample not tested for selected analyte.
- (c) " \geq " denotes analyte was not detected at the indicated reporting limit.
- (d) Second number signifies analysis of duplicate sample.
- (e) "NA" = No wildlife screening level is available.
- (f) Wildlife Ecological Indicator Soil Concentration: Table 749-3

mg/kg = milligrams per kilogram

TABLE 2
SOIL ANALYTICAL RESULTS - PCBs
Former Tacoma Metals Facility

Sample Designation	Sample Depth	PCBs (mg/kg) ^(a)						Total PCBs ^(b)
		Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	
TP-1	0-1'	<0.036 ^(g)	<0.036	<0.036	0.64	0.50	<0.073	<0.036
TP-3	0-1'	<0.035	<0.036	<0.035	0.17	0.061	<0.070	<0.035
TP-4	0-1'	<0.037	<0.037	1.1	4.7	2.4	<0.073	<0.037
TP-5	2-3'	<0.035	<0.035	0.390	1.4	0.970	<0.071	<0.035
TP-6	0-1'	<0.036	<0.036	<0.036	<0.036	<0.036	<0.073	<0.036
TP-7	2-3'	<0.035	<0.035	0.018J	0.050	0.028J	<0.069	<0.036
TP-8	0-1'	<0.370	<0.370	4.3	7.7	2.7	<0.740	<0.370
TP-9	2-3'	<0.036	<0.036	2.1	5.2	1.9	<0.071	<0.036
TP-10	0-1'	<0.040	<0.040	<0.040	0.87	1.1	<0.081	<0.040
TP-11	2-3'	<0.037	<0.037	0.56	0.65	0.29	<0.073	<0.037
TP-12	0-1'	<0.036	<0.036	<0.037	0.045	<0.037	<0.074	<0.037
TP-13	2-3'	<0.034	<0.034	0.150	0.430	0.170	<0.068	<0.034
TP-14	0-1'	<0.034	<0.034	<0.034	1	2	<0.069	<0.034
TP-15	2-3'	<0.037	<0.037	0.088Y	0.60	0.26	<0.073	<0.037
TP-16/16 ^(e)	0-1'	<0.035	<0.035	0.031J	0.063	0.030J	<0.069	<0.035
TP-17	2-3'	<0.034	<0.034	<0.034	0.150	0.430	<0.069	<0.034
TP-19	0-1'	<0.038	<0.038	<0.038	0.057	0.060	<0.069	<0.034
TP-20	2-3'	<0.035	<0.035	<0.035	0.020J	0.023J	<0.070	<0.035
TP-21	0-1'	<0.036	<0.036	0.180Y	0.970	0.320	<0.072	<0.036
TP-22	2-3'	<0.040	<0.040	<0.040	1.4	6.9	5.2	<0.082
TP-23	2-3'	<0.042	<0.042	0.43Y	1.4	0.66	<0.083	<0.042
TP-25	0-1'	<0.035	<0.035	0.520Y	1.3	0.990	<0.083	<0.041
TP-27/27 ^(f)	2-3'	<0.036	<0.036	<0.035	0.019J	0.320J	<0.070	<0.035
TP-29	0-1'	<0.036	<0.036	<0.036	0.042	0.043	<0.048	<0.072
TP-31	2-3'	<0.037	<0.037	0.15	0.71	0.76	<0.074	<0.037
TP-33	0-1'	<0.037	<0.037	0.52	1.7	1.2	<0.075	<0.037
TP-34 ^(g)	2-3'	<0.040	<0.040	0.12	0.57	0.5	<0.080	<0.040
TP-35	2-3'	<0.041	<0.041	0.11	0.51	0.40	<0.081	<0.041
TP-36	0-1'	<0.036	<0.036	<0.036	0.21	0.30	<0.073	<0.036
TP-37	2-3'	<0.037	<0.037	0.031J	0.056	0.060	<0.074	<0.037
TP-39/39 ^(h)	0-1'	<0.035/0-0.042	<0.035/0-0.042	<0.035/0-0.042	2.71/1.5	<0.035/0-0.042	<0.069/0-0.084	<0.035/0-0.042
TP-40	2-3'	<0.038	<0.038	3.7Y	18	6	<0.077	<0.038
		<0.038	<0.038	0.660Y	3.2	1.7	<0.076	<0.038
Ecological Indicator Soil Concentrations for Protection of Wildlife ⁽ⁱ⁾		NA ^(f)	NA	NA	NA	NA	NA	NA
Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.								0.65

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 2
SOIL ANALYTICAL RESULTS - PCBs
Former Tacoma Metals Facility

Sample Designation	Sample Depth	PCBs (mg/kg) ^(a)						Total PCBs ^(b)
		Aroclor 1016	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	
TP-41	0'-1'	<0.035	<0.035	<0.035	0.049	0.021J	<0.070	<0.395
TP-43/A30 ^(d)	0'-1'	<0.48<0.46	<0.48<0.46	2.6Y/2.2Y	14/11	6.8/5.8	<0.95<0.92	<0.48<0.46
	2-3'	<0.47	<0.47	1.9Y	8.1	8.6	<0.93	<0.47
	4-6'	<0.036	<0.036	<0.036	0.036J	<0.036	<0.072	<0.036
TP-44	0'-1'	<0.035	<0.035	<0.035	<0.035	<0.035	<0.070	<0.325
TP-45	0'-1'	<0.46	<0.46	1.9Y	12	9.5	<0.92	0.14
	2-3'	<0.88	<0.88	<0.88	7	4.6	<0.88	24.6
TP-46	0'-1'	<0.036	<0.036	0.90Y	8.3	4.3	<0.073	14.26
	2-3'	<0.038	<0.038	<0.038	0.051	<0.038	<0.076	13.6
TP-47	0'-1'	<0.037	<0.037	<0.037	<0.037	<0.037	<0.075	0.149
TP-49	0'-1'	<0.035	<0.035	<0.035	0.190	0.130	<0.070	0.035
TP-50	0'-1'	<0.036	<0.036	0.87	5.3	1.3	<0.071	0.425
	2-3'	<0.037	<0.037	<0.037	0.036J	<0.037	<0.073	7.6
TP-51	0'-1'	<0.036	<0.036	0.043	0.14	0.14	<0.072	0.036
	2-3'	<0.035	<0.035	<0.035	0.054	0.046	<0.070	0.413
TP-53	0'-1'	<0.036	<0.036	0.83	3	1.5	<0.073	0.205
TP-55	0'-1'	<0.036	<0.036	0.041	1.4	1.2	<0.082	5.42
TP-57	0'-1'	0.71Y	<0.041	<0.041	1.2	0.29	<0.082	0.041
TP-59	0'-1'	<0.038	<0.038	13	9.8	2.1	<0.076	3.68
	2-3'	<0.036	<0.036	0.38	0.55	0.20	<0.072	25
TP-60	0'-1'	<0.93	<0.93	<0.93	29	8.3	<1.9	0.036
	2-3'	<0.045	<0.045	0.12Y	1.1	0.58	<0.090	40.11
TP-61	0'-1'	<0.036	<0.036	0.71	1.9	0.83	<0.072	1.913
TP-63	0'-1'	<0.036	<0.036	0.33Y	2.6	0.35	<0.072	3.53
TP-65	0'-1'	<0.036	<0.036	<0.036	0.020J	<0.036	<0.071	3.37
Ecological Indicator Soil Concentrations for Protection of Wildlife, ^(g) mg/kg		NA ^(h)	NA	NA	NA	NA	NA	0.146
Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.								0.65

Notes:

(a) Samples were analyzed for polychlorinated biphenyls (PCBs) by EPA Method 8052.

(b) The total PCBs were calculated by summing the concentrations of all the probable PCBs. If a probable PCB was not detected, a value equal to one-half the reporting limit was used.

(c) < denotes analyte was not detected at the indicated reporting limit.

(d) Duplicate sample.

(e) Analytical report reads TP-34 as TP-340.

(f) "NA" = No wildlife screening level is available.

(g) Wildlife Ecological Indicator Soil Concentration: Table 749-3

Qualifiers:

"J" indicates as estimated value of analyte found and confirmed by analyst but with low spectral match.

"Y" indicates raised reporting limit due to background interference.

mg/kg = milligrams per kilogram

TABLE 3
SOIL ANALYTICAL RESULTS - PAHs
Former Tacoma Metals Facility

Sample Designation	Sample Date	PAHs (mg/kg) ^(a)										cPAHs (mg/kg) ^(b)						
		Naphthalene	Acenaphthylene	Acenaphth-thiophene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (g,h,i)perylene	Chrysene	Benzo (b)fluoranthene	Benzo (k)-fluoranthene	Indeno (1,2,3-cd) pyrene	Benzo (a)-pyrene	Dibenz (a,h)-anthracene	Benzo (a)-anthracene	
-TP-2-6-10	9/27/2000	440	7.1	240	200	460	380	370	430	34	230	90	110	33	17	140		
-TP-5-6-10	10/4/2000	41	19	260	360	750	750	470	400	39	190	93	80	95	35	16	130	
-TP-9-0-1	10/4/2000	0.35	0.014J	0.028	0.16	0.067	0.27J	0.24	0.17	0.28	0.17	0.12	0.14	0.094	0.035	0.15		
-TP-10-6-10	10/5/2000	0.011J	0.0068J	0.023	0.014J	0.032M	0.018J	0.041M	0.038	0.036M	0.023MJ	0.025	0.018M	0.0091MJ	0.020MJ	1.2		
-TP-11-6-10	10/5/2000	0.70	0.16J	1.6	2.7	0.86M	4.6	2.8	0.55J	1.8	1	0.78J	0.94	0.55J	0.16MJ	3.8		
-TP-16-0-1	10/6/2000	0.99	18	1.8	2.2	1.8	6.9	6.2	3.5	4.3	4.5	5.6	7	3.8	1.4	0.11		
-TP-27-0-1	10/11/2000	0.08	0.025	0.011M	0.011J	0.13	0.034	0.15	0.19	0.22	0.27	0.19	0.12	0.14	0.16	0.048	0.11	
-TP-30-2-3	10/12/2000	0.14	0.11	0.053J	0.091	0.5	0.2	0.84	0.95	0.49	1.9	0.82	0.44	0.52	0.38	0.12	0.5	
-TP-33-0-1	10/12/2000	0.31	0.067J	0.075	0.097	0.51	0.17	0.6	0.94	0.49	0.65	0.46	0.39	0.49	0.34	0.12	0.36	
-TP-34-2-3	10/12/2000	0.95	0.1	1.9	0.91	4.3	1.3	4.7	4	0.93	4.2	2	1.1	1.3	0.79	0.24	1.9	
-TP-37-2-3	10/13/2000	0.3	0.094	0.078	0.2	1.1	0.34	1.9	2	1.2	1.2	1.1	0.75	1	0.87	0.27	0.81	
-TP-38-0-1	10/13/2000	0.3	0.24	0.58	0.51	4.2	1	5.1	4.9	2	3.2	2	2.1	2.4	2	0.59	2.5	
-TP-40-0-1	10/13/2000	0.98	3.8	0.74	1.4	17	4.7	43	51	13	41	24	23	28	14	4.8	3.3	
-TP-43-2-3	10/16/2000	0.29	0.34	0.31	0.25	2.3	0.83	3.6	2.6	1.3	2.2	1.4	1.5M	1.4	1.7	1.1	0.44	1.6
-TP-46-4-6	10/16/2000	0.21	0.055J	0.065J	0.063J	0.35	0.11	0.62	0.43	0.35	0.45	0.3M	0.3M	0.31M	0.2	0.094	0.25	
-TP-49-6-10	10/17/2000	8.4	16	440	390	1,300	250	810	620	38	230	73	54	82	31	14M	150	
-TP-51-6-10	11/14/2000	<1.3	<1.3	3.9	3.6	7.0	1.4	4.6	3.1	<1.3	1.7M	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	
-TP-57-0-1	11/14/2000	0.68	<0.081	<0.081	0.26	<0.081	0.53	0.63	0.31M	0.32M	0.31M	0.22	0.25	0.19	<0.081	0.22	0.22	
-TP-61-2-3	11/15/2000	2.8	0.67	0.68M	1.7	2.5M	9.3	7.8	1.1	4.9	2.9	2.7	2.9	1.6	0.61M	4.1		
Ecological Indicator Soil Concentrations for Protection of Wildlife (c)		NA (e)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

Notes:

(a) Samples were analyzed for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270B GC/MS SIM.

(b) “<” denotes a analyte was not detected at the indicated reporting limit.

(c) Wildlife Ecological Indicator Soil Concentration: Table 749-3

(d) “NA” = No wildlife screening level is available.

Qualifiers:

“M” indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.

mg/kg = milligrams per kilogram

TABLE 4
SOIL ANALYTICAL RESULTS - TPBs AND VOCs
Former Tacoma Metals Facility

Sample Designation	Sample Depth (ft)	Collection Date	TPBs (ng/kg) ^(b)												Volatile Organic Compounds (ng/kg) ^(b)											
			TPH-Diesel	TPH-motor oil	Benzene	Toluene	Ethylbenzene	Total ^(c) xylenes	Acetone	1,1-Di-chloro-ethane	1,1-Di-chloro-chloro-ethane	Cis-1,2-di-chloro-ethane	Trichloro-ethane	2-Butanone	1,1,1-Trichloro-ethane	Tetrachloro-ethylene	1,1,2-Tri-chloro-ethylene	1,2,4-Tri-methyl-hexa-chlorobenzene	1,3,5-Tri-methyl-benzene	1,3,5-Tri-methyl-benzenes	4-isopropyl-1,4-diene	Styrene	Raphthalene	Isopropylbenzene		
TP-1	0'-1'	9/27/2000	560	1,200	<9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	9/27/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	9/27/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	9/27/2000	130	400	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-2	0'-1'	9/27/2000	3.6	120	6	14.4	200B	<120 ^(d)	<12	<12	<12	<12	<12	<12	<12	<12	<1.2	3	7.1	<6	<1.2	2.4	120	<1.2	120	
	2-3'	9/27/2000	1,100	1,200	58	350	140	410	460B	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	520	1,450	<7.3	9.1	12M	120,000	55	
	4-6'	9/27/2000	2,800	1,700	73	430	870	3,600	540J	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	2,800	6,200	<7.9	1,600	1,6	390,000	480	
TP-3	0'-1'	9/27/2000	10,300	1,103	26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	9/27/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	9/27/2000	1,300	1,200	<1.8	330	<1.8	<38	530	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	
	6-10'	9/27/2000	280	240	<3.3	8	4,60	27	200	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	
TP-4	0'-1'	9/27/2000	270	530	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	9/27/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	9/27/2000	67	31	<1.7	730	<17	<3.4	<8.6	<1.7	<17	<17	<17	<17	<17	<17	<17	<17	<17	<17	<17	<17	<17	<17	<17	
TP-5	0'-1'	9/27/2000	18	21	31	27	200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/4/2000	81	75	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/4/2000	2,000	2,300	23,000	<23	1,200	<230	<230	<200	<230	<230	<230	<230	<230	<230	<230	<230	<230	<230	<230	<230	<230	<230	<230	
TP-6/500 ^(b)	0'-1'	10/4/2000	180,190	210,220	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/4/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/4/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/4/2000	350	760	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-7	0'-1'	10/4/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/4/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/4/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/4/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-8	0'-1'	10/4/2000	4,40	1,200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/4/2000	32,34	49,70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/4/2000	6-10'	10/4/2000	43	280	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-9	0'-1'	10/4/2000	1,900	3,000	<140	980	<140	<140	<700	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	
	2-3'	10/4/2000	54	72	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/4/2000	160	250	<7.0	130	<7.0	<7.0	<35	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	
	6-10'	10/4/2000	64	260	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-10	0'-1'	10/5/2000	4,60	280	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/5/2000	440	2,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/5/2000	1,400	8,700	<150	1,800	<150	<70	<70	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	
TP-11	0'-1'	10/5/2000	810	2,400	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/5/2000	440	540	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/5/2000	870	610	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/5/2000	3,900	8,500	17	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-12	0'-1'	10/5/2000	17	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/5/2000	4,60	4,60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/5/2000	6-10'	10/5/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ecological Indicator Soil Concentrations for Protection of Wildlife(s)			6,000	NA ^(m)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

FORMER TACOMA METALS
 W11995969694.00 Tacoma Metals 2010 Terrestrial Ecological Evaluation Table 4 VOCs&TPH TEE.xls Table4

996098.00
 April 2010

Analyses detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 4
SOIL ANALYTICAL RESULTS - TPBs AND VOCs
Former Tacoma Metals Facility

Sample Designation	Sample Depth (ft)	TPHs (mg/kg) ^(a)		Volatile Organic Compounds (ng/kg) ^(b)															
		TPH-Diesel	TPH-motor oil	Benzene	Toluene	Ethylenbenzene	Total ^(c) Aromatic hydrocarbons	1,1-Dichloroethane	Cis-1,2-dichloroethane	1,1,1-Trichloroethane	2-Butanone	Tetrachloroethylene	Tetrabromoethylene	1,1,2-Trichloroethene	1,3,5-Tri-methylbenzene	1,2,4-Trimethylbenzene	4-isopropyltoluene	Styrene	Naphthalene
TP-13	0-1'	10/5/2000	27	59	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/5/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/5/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/5/2000	<2.2	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-14	0-1'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/6/2000	48	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-15	0-1'	10/6/2000	13	30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-16/160 ^(d)	0-1'	10/6/2000	2,800/300	2,500/890	<9.0<1	720/380	15<9.1	20<9.1	14<9.1<45	<9.0<9.1	<9.0<9.1	<9.0<9.1	<9.0<9.1	<9.0<9.1	<9.0<9.1	<9.0<9.1	83<1	90<1	<9.0<9.1
	2-3'	10/6/2000	9-0	1,400	---	---	---	---	---	---	---	---	---	---	---	---	44<91	44<91	<9.0<9.1
TP-17	0-1'	10/6/2000	300	1,200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/6/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-18	0-1'	10/10/2000	55	160	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-19	0-1'	10/10/2000	75	220	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-20	0-1'	10/10/2000	<10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/10/2000	130/140	380/410	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-21	0-1'	10/10/2000	200	660	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/10/2000	100	240	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-22	0-1'	10/10/2000	60	250	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/10/2000	48	170	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/10/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-23	0-1'	10/11/2000	<52	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/11/2000	260	970	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-24	0-1'	10/11/2000	28	130	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4-6'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	6-10'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(g)		6,000	NA (h)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 4
SOIL ANALYTICAL RESULTS - TPBs AND VOCs
Former Tacoma Metals Facility

Sample Designation	Collection Date	TPHs (ng/kg) ^(a)		Volatile Organic Compounds (ng/g) ^(b)																
		TPH-Diesel	TPH-motor oil	Benzene	Toluene	Ethylbenzene	Total ^(c) Xylenes	Acetone	1,1-Di-chloro-ethane	Cis+2-di-chloro-ethylene	2-Butene	1,1,1-Tri-chloro-ethane	Tetrachloro-ethylene	1,1,2-Trichloro-ethane	1,2,4-Trichlorobutene	1,3,5-Trimethylbenzene	1,2,4-Trichlorobutadiene	Styrene	Naphthalene	Isopropenylbenzene
TP-25	0'-1' 10/11/2000	58	380	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/11/2000	6.4	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-26	0'-1' 10/11/2000	---	470	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/11/2000	120	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/11/2000	26	78	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/11/2000	610670	2,000/2,200	<5.7/5.0	<1.4/<10	<28/<25	<5.7/<5.0	<5.7/<5.0	<5.7/<5.0	<28/<25	<5.7/<5.0	<5.7/<5.0	<5.7/<5.0	<5.7/<5.0	<5.7/<5.0	<5.7/<5.0	<28/<25	<5.7/<5.0	
TP-27/270 ^(d)	0'-1' 10/11/2000	120	430	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/11/2000	4-6'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/11/2000	130	940	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-28	0'-1' 10/11/2000	930	1,000	<5.5	150	<5.5	<11	<28	<5.5	<5.5	<28	<5.5	<5.5	<5.5	<5.5	<5.5	<28	<5.5	<5.5	
	2-3'	10/11/2000	4-6'	10/11/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/11/2000	39	320	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-29	0'-1' 10/12/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/12/2000	4-6'	10/12/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/12/2000	290	330	1,800	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-30	0'-1' 10/12/2000	7.0	2,500	<4.3	640	<4.8	164	130	<4.8	<4.8	<24	<4.8	<4.8	<4.8	<4.8	<4.8	150	180	<24	
	2-3'	10/12/2000	4-6'	10/12/2000	8.5	15	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/12/2000	430	1,300	<4.7	640	<4.7	92	<4.7	<4.7	<23	<4.7	<4.7	<4.7	<4.7	<4.7	<23	7.6	<4.7	
TP-31	0'-1' 10/12/2000	290	610	<5.5	170	<5.5	6.6	76	<5.5	<5.5	<27	<5.5	<5.5	<5.5	<5.5	<5.5	<27	<5.5	<5.5	
	2-3'	10/12/2000	4-6'	10/12/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/12/2000	450	1,700	<5.1	780	<5.1	13.7	300	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	9	12	<25	<5.1
TP-32	0'-1' 10/12/2000	970	2,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-33	0'-1' 10/12/2000	420	1,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/12/2000	4-6'	10/12/2000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/12/2000	450	1,700	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-34/340 ^(d)	0'-1' 10/13/2000	350/460	1,100/1,400	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/13/2000	710	2,600	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	4-6'	10/13/2000	59	160	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6-10'	10/13/2000	190	350	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-35	0'-1' 10/13/2000	2-3'	10/13/2000	4-6'	10/13/2000	4-6'	10/13/2000	4-6'	10/13/2000	4-6'	10/13/2000	4-6'	10/13/2000	4-6'	10/13/2000	4-6'	10/13/2000	4-6'	10/13/2000	
	6-10'	10/13/2000	15	56	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	2-3'	10/13/2000	4-6'	10/13/2000	280	220	<4.3	84	30.0	<8.0	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	10	6.2	<22
	6-10'	10/13/2000	6,000	NA ^(b)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(g)		Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.																		

TABLE 4
SOIL ANALYTICAL RESULTS - TPHs AND VOCs
Former Tacoma Metals Facility

Volatile Organic Compounds (ug/g) ^(b)											
			TPHs (mg/kg) ^(a)			Organic Compounds (ug/g) ^(b)					
Sample Designation	Sample Depth (ft)	Collection Date	TPH-Diesel	TPH-motor oil	Benzene	Toluene	Ethylnitrobenzene	Total ^(c) Azenes	Acetone	1,1-Dichloroethane	1,1,1-Trichloroethane
TP-37	0'-1'	10/13/2000	810	2,100	---	---	---	---	---	---	---
	2-3'	10/13/2000	970	2,800	---	---	---	---	---	---	---
	4-6'	10/13/2000	60	84	---	---	---	---	---	---	---
TP-38	0'-1'	10/13/2000	1,400	2,700	---	---	---	---	---	---	---
	2-3'	10/13/2000	68	88	---	---	---	---	---	---	---
	4-6'	10/13/2000	--	--	---	---	---	---	---	---	---
	6-10'	10/13/2000	--	--	---	---	---	---	---	---	---
TP-39/390 ^(d)	0'-1'	10/13/2000	8163	340/350	---	---	---	---	---	---	---
	2-3'	10/13/2000	--	--	---	---	---	---	---	---	---
	4-6'	10/13/2000	--	--	---	---	---	---	---	---	---
TP-40	0'-1'	10/13/2000	1,100	2,300	---	---	---	---	---	---	---
	2-3'	10/13/2000	670	1,600	---	---	---	---	---	---	---
	4-6'	10/13/2000	100	230	---	---	---	---	---	---	---
TP-41	0'-1'	10/13/2000	<5.2	16	---	---	---	---	---	---	---
	2-3'	10/13/2000	--	--	---	---	---	---	---	---	---
	4-6'	10/13/2000	--	--	---	---	---	---	---	---	---
TP-42	0'-1'	10/13/2000	42	130	---	---	---	---	---	---	---
	2-3'	10/13/2000	--	--	---	---	---	---	---	---	---
	4-6'	10/13/2000	--	--	---	---	---	---	---	---	---
	6-10'	10/13/2000	--	--	---	---	---	---	---	---	---
TP-43/430 ^(e)	0'-1'	10/13/2000	1,000/1,000	2,500/2,800	---	---	---	---	---	---	---
	2-3'	10/13/2000	1,500	3,400	---	---	---	---	---	---	---
	4-6'	10/13/2000	<5.3	<11	---	---	---	---	---	---	---
TP-44	0'-1'	10/13/2000	19	28	---	---	---	---	---	---	---
	2-3'	10/13/2000	--	--	---	---	---	---	---	---	---
	4-6'	10/13/2000	--	--	---	---	---	---	---	---	---
	6-10'	10/13/2000	--	--	---	---	---	---	---	---	---
TP-45	0'-1'	10/16/2000	450	1,100	---	---	---	---	---	---	---
	2-3'	10/16/2000	--	--	---	---	---	---	---	---	---
	4-6'	10/16/2000	--	--	---	---	---	---	---	---	---
TP-46	0'-1'	10/16/2000	140	450	---	---	---	---	---	---	---
	2-3'	10/16/2000	170	510	---	---	---	---	---	---	---
	4-6'	10/16/2000	1,000	2,700	---	---	---	---	---	---	---
TP-47	0'-1'	10/16/2000	45	150	---	---	---	---	---	---	---
	2-3'	10/16/2000	6.2	<11	---	---	---	---	---	---	---
	4-6'	10/16/2000	--	--	---	---	---	---	---	---	---
	6-10'	10/16/2000	--	--	---	---	---	---	---	---	---
Ecological Indicator Solvents/Concentrations for Protection of Wildlife ^(g)			6 COO	NA ^(f)	NA	NA	NA	NA	NA	NA	NA

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FORMER TACOMA METALS

TABLE 4
SOIL ANALYTICAL RESULTS - TPBs AND VOCs
Former Tacoma Metals Facility

Sample Designation	Collection Date	TPHs (mg/kg) ^(a)		Volatile Organic Compounds (µg/kg) ^(b)																
		TPH-Diesel	TPH-motor oil	Benzene	Toluene	Ethylbenzene	Total ^(c) Xylenes	Acetone	1,1-Dichloro-chloroethane	Cis+2-dichloro-ethylene	2-Butanone	1,1,1-Trichloroethane	Tetrachloroethylene	1,1,2-Trichloroethylene	1,3,5-Tri-methylbenzene	1,2,4-Tri-methylbenzene	4-isopropyl-Hexachlorobutadiene	Styrene	Naphthalene	Isopropylbenzene
TP-48	0-1' 2-3' 4-6' 6-8.5'	10/17/2000 10/17/2000 10/17/2000 10/17/2000	130 200 630 870	290 --- --- ---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-49	0-1' 2-3' 4-6' 6-10' TP-50/500 ^(d)	10/17/2000 10/17/2000 10/17/2000 10/17/2000 10/17/2000	220 50 4,000 2,900 39	1,500 11,600 4,000 14,000 270	<1.1 <1.1 <9.3 <22 <1.1	3.7 27 24 270 <1.1	<2.2 <1.1 <9.0 <22 <2.2	<5.7 <1.1 <9.0 <22 <1.1	<1.1 <1.1 <9.0 <22 <1.1	<1.1 <1.1 <9.0 <22 <1.1	<5.7 <1.1 <9.0 <22 <1.1	<1.1 <1.1 <9.0 <22 <1.1								
TP-51	0-1' 2-3' 4-6' 6-8' TP-52	11/14/2000 11/14/2000 11/14/2000 11/14/2000 11/14/2000	368 100 --- --- 440	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
TP-53	0-1' 2-3' 4-6' 6-10' TP-54	11/14/2000 11/14/2000 11/14/2000 11/14/2000 0-1'	730 870 700 700 310	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
TP-55	4-6' 6-10' TP-56	11/14/2000 11/14/2000 11/14/2000 11/14/2000 0-1'	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TP-57	2-3' 4-6' 6-10' TP-58	11/14/2000 11/14/2000 11/14/2000 11/14/2000	12,000 4,700 2,400 66	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(e)	6,000	NA ^(f)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

TABLE 4
SOIL ANALYTICAL RESULTS - TPBs AND VOCs
Former Tacoma Metals Facility

Sample Designation	Sample Collection Date	Volatile Organic Compounds (ng/kg) ^(b)																			
		TPH-Diesel	TPH-motor oil	Benzene	Toluene	Ethy-benzene	Total ^(c) xylenes	Acetone	1,1-Di-chloro-ethane	Cis-1,2-di-chloro-ethane	1,1-Di-chloro-ethane	2-Butanone	1,1,1-Trichloro-ethane	Tetrachloro-ethylene	1,1,2-Tri-chloro-ethane	1,3,5-Tri-methyl-benzene	1,2,4-Tri-methyl-benzenes	1,3,5-Tri-methyl-benzene	Styrene	Naphthalene	Isopropylbenzene
TP-59	0-1'	11/15/2000	520B	1,203	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'
TP-60	0-1'	11/15/2000	989B	1,700	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'
TP-61	0-1'	11/15/2000	3,700B	1,900	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	11/15/2000	8,500B	2,300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-62	0-1'	11/15/2000	120	87	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	11/15/2000	910	320B	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-63	0-1'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'
	2-3'	11/15/2000	340B	1,100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-64	0-1'	11/15/2000	860B	2,100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	11/15/2000	2-40	640	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TP-65	0-1'	11/15/2000	150B	330	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	2-3'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'	11/15/2000	4-6'
Ecological Indicator Soil Concentrations for Protection of Wildlife ^(g)	6-10'	11/15/2000	NA ^(h)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Analytes detected in samples at concentrations exceeding respective wildlife screening levels are shown in bold.

Notes:

(a) Total diesel- and motor oil-range hydrocarbons were analyzed by Ecology Method NWTFH-Diesel (Extended).

(b) Samples were analyzed for volatile organic compounds (VOCs) by EPA Method 26C.

(c) Total xylenes were calculated by summing the concentrations of m,p- and o-xylene isomers.

(d) "—" = Sample not tested for selected analyte.

(e) "*<*" denotes analyte was not detected at the indicated reporting limit.

(f) Duplicate sample.

(g) Wildlife Ecological Indicator Soil Concentration: Table 749-3

(h) "NA" = No wildlife screening level is available.

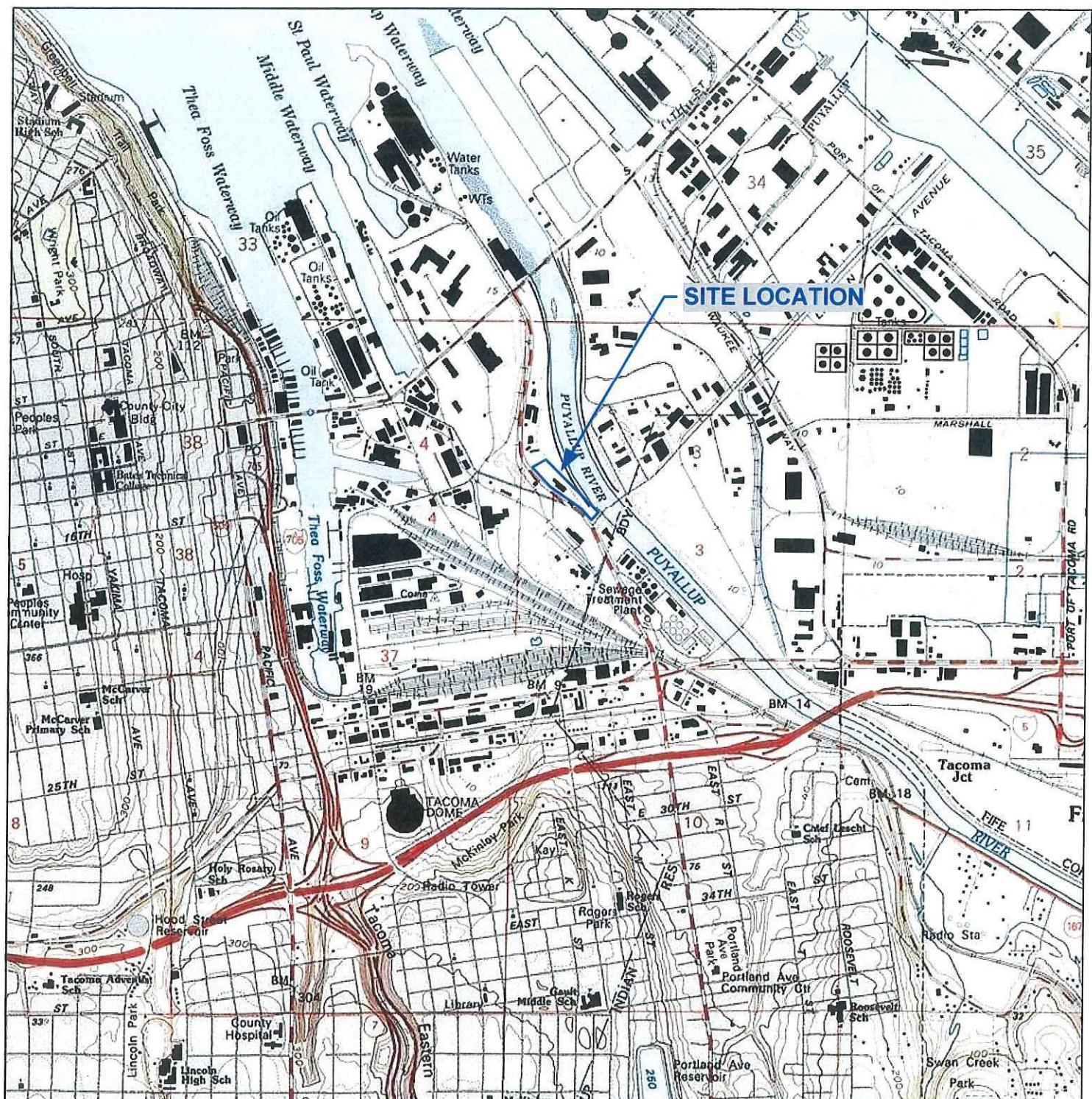
(i) "J" indicates an estimated value below the calculated detection limit.

(j) "B" indicates compound also detected in methoc blank.

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

Figures

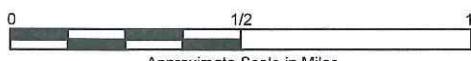


Kennedy/Jenks Consultants

FORMER TACOMA METALS FACILITY
TACOMA, WA

SITE LOCATION MAP

996098.00/LOCATION.VSD



Approximate Scale in Miles

FIGURE 1

FIGURE 2

MARCH 2010
09960896.00

VEGETATION AREAS
TACOMA METALS NATIVE

TACOMA METALS, PORT OF TACOMA
TACOMA METALS, PORT OF TACOMA

Kennedy/Jencks Consultants

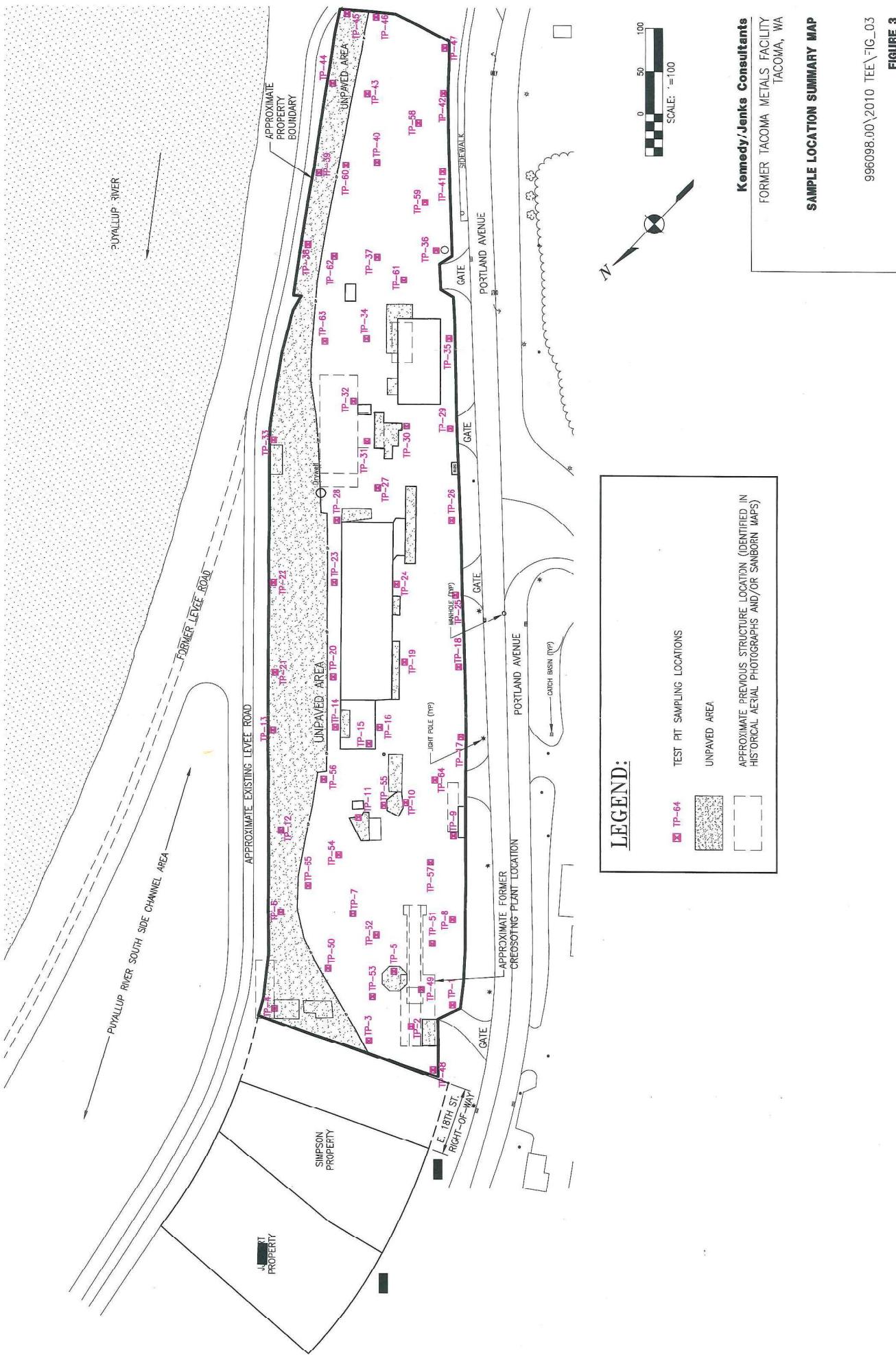
1 inch = 250 feet

Scale: Feet
0 250 500



500-Foot Perimeter Boundary
Existing Native Vegetation Habitat
Site Boundary





LEGEND:

- | | |
|---------|---|
| ■ TP-64 | TEST PIT SAMPLING LOCATIONS |
| ■ TP-65 | UNPAVED AREA |
| — — — | APPROXIMATE PREVIOUS STRUCTURE LOCATION (IDENTIFIED IN HISTORICAL AERIAL PHOTOGRAPHS AND/OR SANBORN MAPS) |

996098.00\2010 TEE\FIG_03

FIGURE 3

