STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

CERTIFIED MAIL

January 18, 2006

Carol Campagna
Shell Oil Products US
20945 S Wilmington Ave
Carson CA 90810

Re: Further Action Determination under WAC 173-340-515(5) for the following Hazardous Waste Site:

- Name: Texaco #63-232-0351/Shell Station 49
- Address: 2523 Pacific Ave
- Facility/Site No.: 47212644
- VCP No.: SW0710
- UST No.: 3342

Dear Mr. Orme:

Thank you for submitting your independent remedial action report for the Texaco #63-232-0351/Shell Station 49 facility (Site) for review by the State of Washington Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding whether further remedial action is necessary at the Site to meet the substantive requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC. Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding the Site:

- *Results of a Site Relinquishment and Acquisition Assessment for Shell Service Station #49, 2523 Pacific Avenue, Tacoma, Washington 98402*, Environmental Science and Engineering, Inc., February 8, 1991.
- *Remedial System Installation at 2523 Pacific Avenue, Tacoma, Washington*, Environmental Science and Engineering, Inc., July 2, 1992
- *Remediation System Status and Results of Groundwater Monitoring at Former Shell Service Station #49, 2523 Pacific Ave., Tacoma, Washington – WIC No. 246-8330-2202*, Environmental Science and Engineering, Inc., August 2, 1994
- *Underground Injection Control Notice for Shell/Texaco Site at 2523 Pacific Avenue, Tacoma, Washington*, Environmental Science and Engineering, August 31, 1994
- *Compliance Sampling Results – Stage II Vapor Recovery Installation, Texaco Facility #63-232-0351, 2523 Pacific Avenue, Tacoma, WA*, Groundwater Technology, Inc., April 24, 1995
- *Remediation System Status and Results of Groundwater Monitoring at Former Shell Service Station #49, 2523 Pacific Ave., Tacoma, Washington*, Environmental Science and Engineering, Inc., May 10, 1995
- *Remediation System Status and Results of Groundwater Monitoring at Former Shell Service Station #49, 2523 Pacific Ave., Tacoma, Washington*, Environmental Science and Engineering, Inc., July 11, 1995
- *Remediation System Status and Results of Groundwater Monitoring at Former Shell Service Station #49, 2523 Pacific Ave., Tacoma, Washington*, Environmental Science and Engineering, Inc., December 20, 1995
- *Phase I Environmental Site Assessment, Texaco Station, 2523 Pacific Avenue, Tacoma, Washington*, URS, March 18, 2003
- *Compliance Sampling Results – Stage II Vapor Recovery Installation*, Groundwater Technology, April 24, 1995
- *1996 and 1997 Groundwater Sampling Report, Former Shell Station 49, Tacoma, Washington*, EMCON, June 16, 1997
- *1998 Groundwater Sampling Report, Former Shell Station 49, Tacoma, Washington*, EMCON, March 23, 1998
- *Semi-Annual Groundwater Monitoring – First Quarter 1999, Former Shell Station SAP No. 121007, 2523 Pacific Avenue, Tacoma, Washington*, SECOR International Incorporated, June 18, 1999
- *Semi-Annual Groundwater Monitoring – Third Quarter 1999, Former Shell Station SAP No. 121007, 2523 Pacific Avenue, Tacoma, Washington*, SECOR International Incorporated, August 31, 1999
- *Semi-Annual Groundwater Monitoring – First Quarter 2000, Former Shell Station SAP No.*

121007, 2523 Pacific Avenue, Tacoma, Washington, SECOR International Incorporated, May 16, 2000

- *Semi-Annual Groundwater Monitoring – Third Quarter 2000, Former Shell Station SAP No. 121007, 2523 Pacific Avenue, Tacoma, Washington*, SECOR International Incorporated, August 23, 2000
- *Semi-Annual Groundwater Monitoring – First Quarter 2001, Former Shell Station SAP No. 121007, 2523 Pacific Avenue, Tacoma, Washington*, SECOR International Incorporated, March 7, 2001
- *Semi-Annual Groundwater Monitoring – Third Quarter 2001, Former Shell Station SAP No. 121007, 2523 Pacific Avenue, Tacoma, Washington*, SECOR International Incorporated, August 16, 2001
- *Semi-Annual Groundwater Monitoring – First Quarter 2002, Former Shell Station SAP No. 121007, 2523 Pacific Avenue, Tacoma, Washington*, SECOR International Incorporated, April 11, 2002
- *Groundwater Monitoring Report, Fourth Quarter 2002, Former Texaco Service Station, 2523 Pacific Ave., Tacoma, Washington*, GeoEngineers, December 5, 2002
- *The EDR Radius Map, Texaco/McMacken Site, 2523 Pacific Avenue, Tacoma, WA 98402*, Environmental Data Resources, Inc., January 13, 2003
- *Groundwater Monitoring Report, Second Quarter 2003, Former Texaco Service Station, 2523 Pacific Ave., Tacoma, Washington*, GeoEngineers, June 6, 2003
- *Phase II Environmental Site Investigation Report*, URS, August 5, 2003 (incomplete copy of report)
- *Groundwater Monitoring Report, Fourth Quarter 2003, Former Texaco Service Station, 2523 Pacific Ave., Tacoma, Washington*, GeoEngineers, January 8, 2004
- *Groundwater Monitoring Report, Second Quarter 2003, Former Texaco Service Station, 2523 Pacific Ave., Tacoma, Washington*, GeoEngineers, June 3, 2004
- *Groundwater Monitoring Report, Fourth Quarter 2004, Former Texaco Service Station, 2523 Pacific Ave., Tacoma, Washington*, GeoEngineers, November 12, 2004
- *Groundwater Monitoring Report, First Quarter 2005, Former Texaco Service Station, 2523 Pacific Ave., Tacoma, Washington*, GeoEngineers, June 10, 2005
- *Subsurface Soil Characterization, Shell Service Station, SAP #121007, 2523 Pacific Avenue, Tacoma, Washington*, GeoEngineers, December 14, 2005
- *Remedial Action Plan, Shell Service Station, 2523 Pacific Avenue, Tacoma, Washington,* GeoEngineers, December 14, 2005
- *Work Plan, Shell Service Station, 2523 Pacific Avenue, Tacoma, Washington,* GeoEngineers, December 14, 2005

The documents listed above will be kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Appointments can be made by calling the

SWRO resource contact at (360) 407-6365.

The Site is defined by the extent of contamination caused by the following release(s):

- Petroleum in soil and groundwater

The Site is more particularly described in Enclosure A to this letter, which includes a detailed Site diagram. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of your proposed remedial action and supporting documentation listed above, **Ecology has determined that the proposed remedial action is not likely to be sufficient to meet the specific substantive requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site:**

- Petroleum in soil and groundwater

The suspected hoist area needs to be investigated.

Since no information on the waste oil tank and heating oil tank removal is available, these areas will need to be investigated.

Analytical parameters for all soil and groundwater samples should be consistent with the enclosed Table 830-1, WAC 173-340-900.

Soil cleanup levels need to be based on protection of direct contact pathway and protection of groundwater. [WAC 173-340-700(8)(b)(ii)(c)].

Since contaminated soil may likely be left on site, a restrictive covenant with groundwater monitoring will be needed. As such, a feasibility study and disproportionate cost analysis will be needed before a restrictive covenant can be applied.

If groundwater is non-potable, it must be demonstrated as per WAC 173-340-720.

The statement is made that protection of groundwater is not the intent of this remedial action due to regional groundwater contamination and potential of contamination migrating onto the site from off site sources. However, monitoring well MW-6, last sampled in March, 2002, had at that time concentrations of petroleum below Method A cleanup levels. Also at that time the groundwater flow direction was to the southwest. This change in groundwater flow direction

needs to be discussed.

This property is located within the area which is known to have arsenic contamination in soil due to air emissions originating from the old Asarco smelter in north Tacoma. Under the MTCA, a site evaluation and cleanup must consider and address all contaminants likely to be present at a site in order to receive a full "No Further Action" determination. Therefore, if a No Further Action letter is the goal for this site, it will be necessary to test site soils for arsenic. If arsenic is found above cleanup levels, those soils must be addressed.. One acceptable cleanup option is a pavement barrier for shallow arsenic soil contamination in the Tacoma Smelter Plume area. However, a deed restriction on the property must be in place to ensure the pavement is not disturbed.

In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Independent Remedial Actions shall be submitted in both a written and electronic format. Additional information regarding electronic format requirements are located at http://www.ecy.wa.gov/eim.

This opinion does not represent a determination by Ecology that the proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit an independent remedial action report to Ecology upon completion of the remedial action and request such an opinion under the VCP. **This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.**

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (360) 407-6263 or cjoh461@ecy.wa.gov.

Sincerely,

Carol A. Johnston
SWRO/Toxics Cleanup Program

CAJ/ksc:SW0710 Opinion letter

cc: Carol Campagna, Shell Oil Projects, 2555 13th Ave SW, Seattle WA 98134
Rob Olsen, TPCHD
Chuck Cline, Department of Ecology
Robert Warren, Department of Ecology
Trish Akana, Department of Ecology (SW071)

Enclosures: Enclosure A: (text + 3 figures, 4 tables)

Enclosure A

Texaco Station #63-232-0351/Shell Station 49 is located at 2523 Pacific Avenue, Tacoma, Pierce County, Washington (Figure 1).

The site is at an approximate elevation of 75 feet above mean sea level and is located within the Tacoma Upland. The Tacoma Upland is dominated by unconsolidated Vashon Age glacial outwash and till deposits. The outwash consists primarily of sands and gravels, the till consists of an unsorted mixture of clay, silt, sand, and gravel. Portions of the site are fill since until 1912 a deep gulch and creek extended through the site. These features were filled with undocumented material.

The property was originally developed as a gasoline service station in 1937. It was operated in that capacity along with a convenience store until 2005. The current configuration of the site sis shown in Figure 2. The Central Puget Sound Transit Authority (Sound Transit) is taking ownership of the property under rights of imminent domain for continuation of the Sound Transit rail line. Presently, the site facilities are being demolished.

Information on past underground storage tanks (USTs) is minimal. However, URS (2003) found that nine previous tanks were located at the site. Records suggest that the first three USTs installed at the site were removed in the 1950s, but no documentation of removal activities was found. They were located under what is presently a sidewalk. Four steel tanks, formerly present and east of the current USTs were removed in 1978 when the current USTs were installed. A waste oil tank and a heating oil tank were reportedly removed prior to 1991.

An auto hoist may have been present in the original Shell station building. No records documenting a hoist removal during the original building demolition were found.

Environmental work has been done at this site starting in 1990 when a Site Relinquishment and Acquisition Assessment was performed. Soil contamination to 32 feet below ground surface (bgs) was found around the UST nest, the west pump island area, and the former waste oil tank. Groundwater contaminated with petroleum was also found near the UST nest. Depth to groundwater at that time was approximately 31'-42' bgs with a flow direction toward the north northwest. Boring locations are highlighted on Figure 3 and results are given on Table 1.

In 1992 a remediation system consisting of groundwater extraction and treatment and soil vapor extraction was installed.

The December 1995 system report states that the systems were shut down for the winter months and that operation might be resumed in 1996. No additional information was found about the systems so it is unknown if operation was resumed.

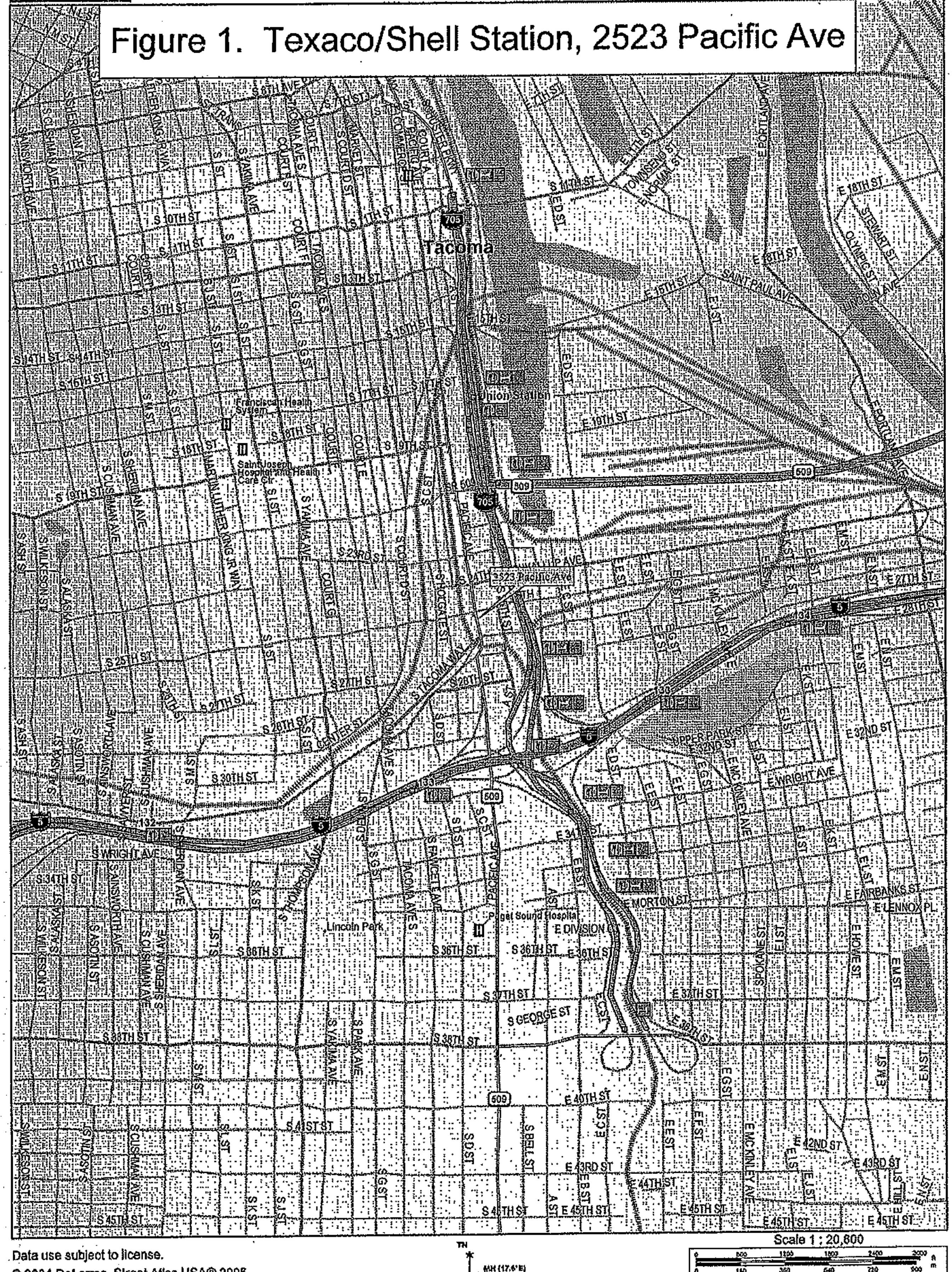
Table 2 lists the results of analyses done on groundwater samples collected at the site on November 7 and 8, 1995. At that time, levels of petroleum were still above MTCA cleanup levels.

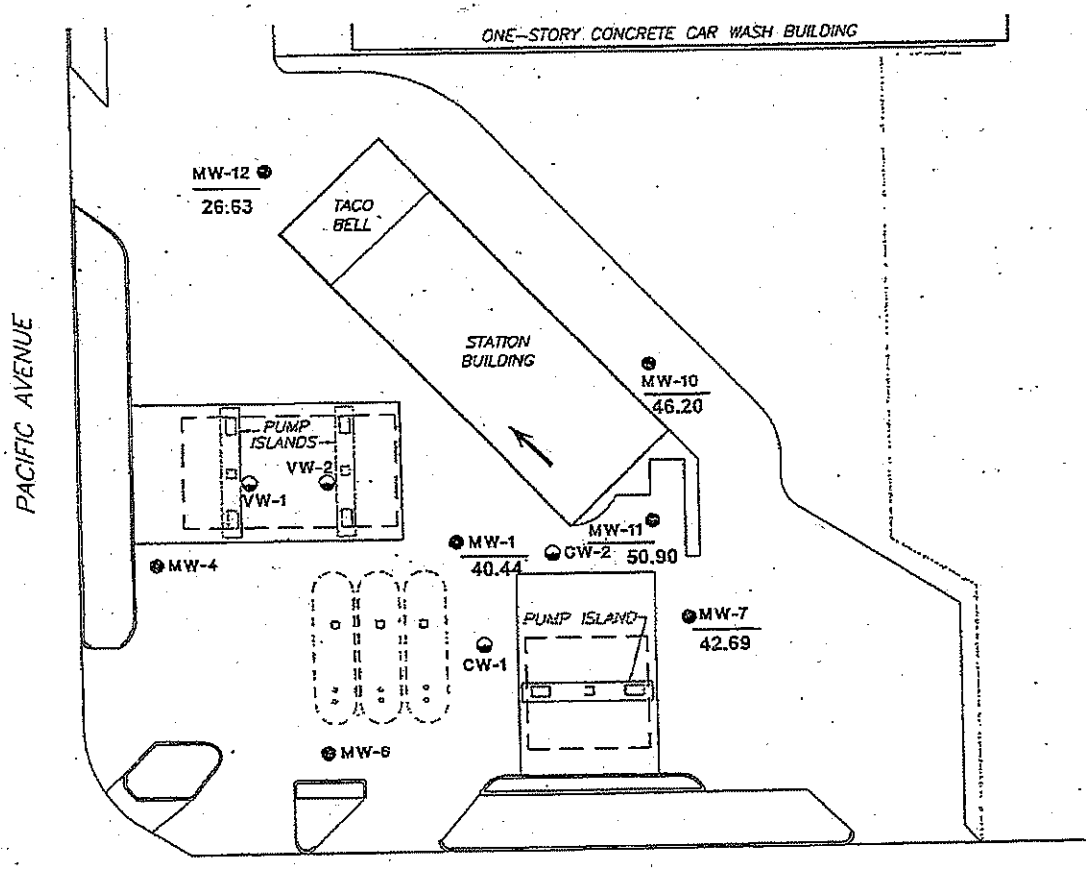
Groundwater monitoring was initiated in February 1996. The latest report in Ecology's file is dated November 18, 2005. At that time, four wells were sampled. Results indicate that benzene and gasoline-range hydrocarbons are present above MTCA cleanup levels (Table 3).

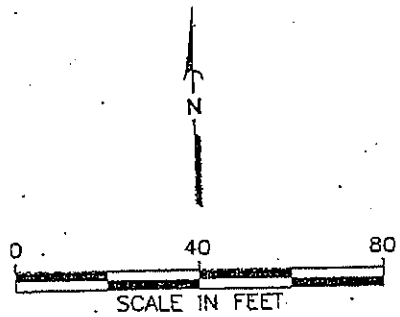
Attachments
Figure 1. Property location map
Figure 2. Current configuration of site
Figure 3. 1990 investigation site map
Table 1. Soil and groundwater analytical results, 1990
Table 2. Groundwater analytical results, November 1995
Table 3. Most recent groundwater monitoring results, October 2005

DELORME

Figure 1. Texaco/Shell Station, 2523 Pacific Ave







EXPLANATION:

- INFERRED SOIL VAPOR EXTRACTION POINT
- INFERRED GROUNDWATER FLOW DIRECTION
- MW-12 / 26.71 — MONITORING WELL / GROUNDWATER ELEVATION

Notes: 1. The locations of all features shown are approximate.
2. This figure is for informational purposes only. It is intended to assist in the identification of features discussed in a related document. Data were compiled from sources as listed in this figure. The data sources do not guarantee these data are accurate or complete. There may have been updates to the data since the publication of this figure.

Reference: Drawing entitled "Groundwater Elevation Contour and Analytical Results (3/26/02), Former Shell Service Station SAP#121007" dated 05/08/02, by Secor.

GeoEngineers

SITE PLAN AND GROUNDWATER FLOW

FIGURE 2

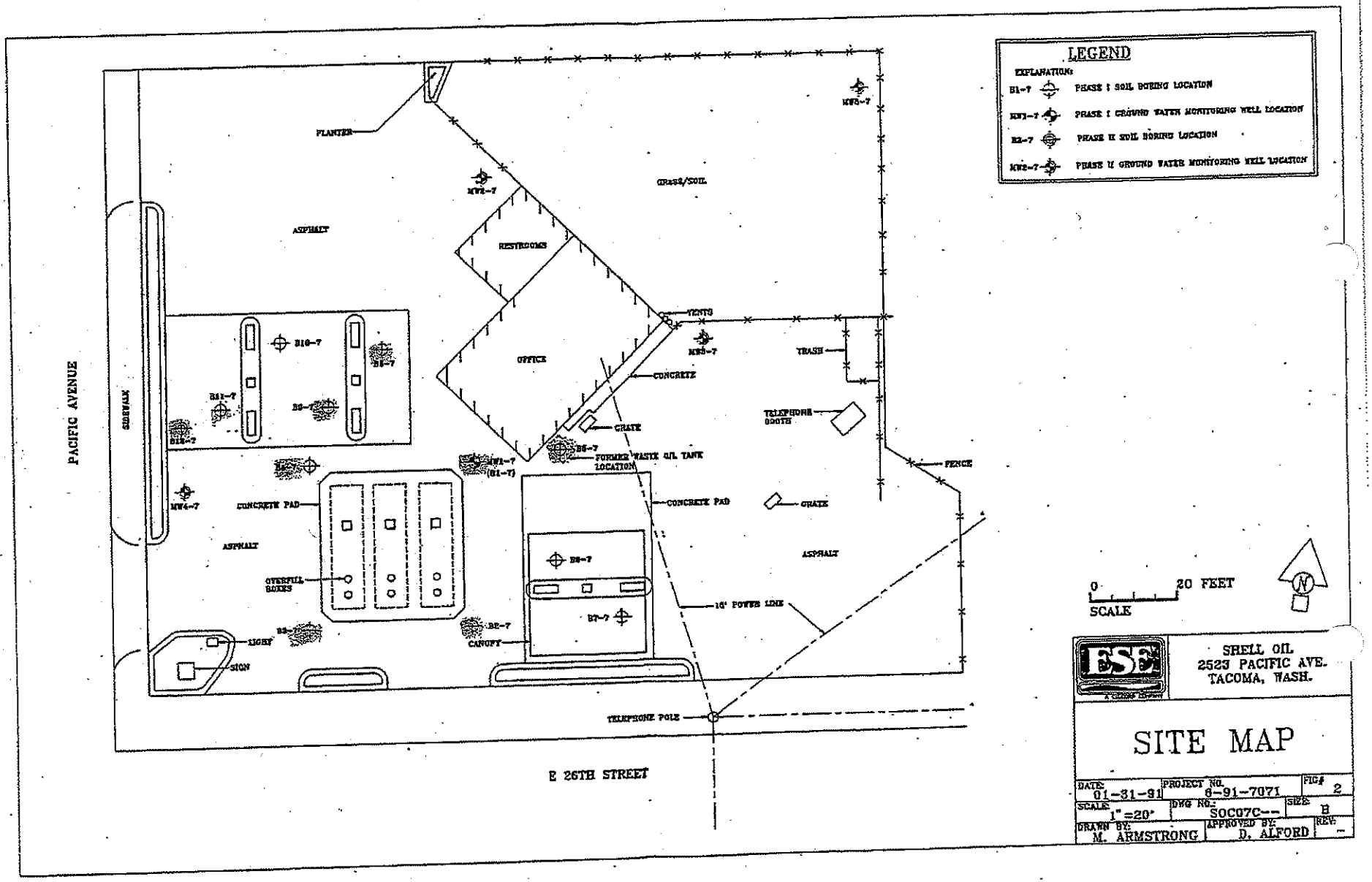

LEGEND
EXPLANATION:
B1-7 PHASE I SOIL BORING LOCATION
MW1-7 PHASE I GROUND WATER MONITORING WELL LOCATION
B2-7 PHASE II SOIL BORING LOCATION
MW2-7 PHASE II GROUND WATER MONITORING WELL LOCATION
PACIFIC AVENUE
ALLEYWAY
E 26TH STREET
PLANTER
ASPHALT
GRASS/SOIL
RESTROOMS
OFFICE
VENTS
TRASH
CONCRETE
GRATE
TELEPHONE BOOTH
FENCE
FORMER WASTE OIL TANK LOCATION
CONCRETE PAD
OVERFILL BOXES
CANOPY
LIGHT
SIGN
16' POWER LINE
TELEPHONE POLE
0 20 FEET
SCALE
N
SHELL OIL
2523 PACIFIC AVE.
TACOMA, WASH.
SITE MAP
DATE: 01-31-91
PROJECT NO. 6-91-7071
FIG# 2
SCALE: 1" =20'
DWG NO.: SOC07C--
SIZE: B
DRAWN BY: M. ARMSTRONG
APPROVED BY: D. ALFORD
REV: -

FIGURE 3

TABLE 1. LABORATORY RESULTS OF SOIL SAMPLES ANALYZED FOR PETROLEUM HYDROCARBON CONCENTRATION USING EPA METHODS 8015 AND 8020

		EPA METHOD 8015 (ppm)	EPA METHOD 8020 (ppb)			
BORING NUMBER	DEPTH	TPH	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
PHASE I						
B1-7	7'	ND	ND	ND	ND	ND
B1-7	12'	ND	ND	ND	ND	ND
B1-7	22'	700	11,000	>50,000	>50,000	>50,000
B1-7	32'	ND	ND	80	160	1,350
B2-7	5'	ND	ND	180	ND	ND
B2-7	10'	ND	ND	ND	ND	ND
B2-7	15'	ND	ND	130	ND	ND
B2-7	20'	ND	ND	ND	80	420
B3-7	5'	ND	ND	80	ND	210
B3-7	10'	ND	ND	60	ND	ND
B3-7	15'	ND	ND	ND	ND	ND
B3-7	20'	ND	ND	ND	ND	ND
B4-7	5'	ND	ND	ND	ND	60
B4-7	10'	ND	ND	ND	ND	ND
B4-7	15'	ND	ND	ND	ND	ND
B4-7	20'	ND	ND	ND	ND	ND
B5-7	5'	ND	ND	ND	ND	ND
B5-7	10'	60	60	150	ND	60
B5-7	15'	ND	240	420	ND	310
B5-7	20'	24	50	180	500	2,690
B6-7	5'	ND	---	---	---	---
B7-7	2'	ND	---	---	---	---

TABLE 1. (cont.)

		EPA METHOD 8015 (ppm)	EPA METHOD 8020 (ppb)			
BORING NUMBER	DEPTH	TPH	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
B8-7	4'	7	ND	90	50	290
B9-7	4'	ND	ND	ND	ND	ND
B10-7	4'	10	ND	240	50	630
B11-7	4'	3,000	3,000	>50,000	27,000	>50,000
PHASE II						
MW2-7	5'	ND	---	---	---	---
MW2-7	10'	ND	---	---	---	---
MW2-7	15'	ND	---	---	---	---
MW2-7	20'	ND	---	---	---	---
MW2-7	25'	ND	---	---	---	---
MW2-7	30'	ND	---	---	---	---
MW3-7	5'	ND	ND	ND	ND	8
MW3-7	10'	ND	ND	ND	ND	ND
MW3-7	15'	ND	ND	ND	ND	6
MW3-7	20'	18	27	5	190	387
MW3-7	25'	6	22	7	240	1,130
MW4-7	5'	ND	ND	ND	21	108
MW4-7	10'	ND	ND	14	6	27
MW4-7	15'	5	ND	5	15	65
MW4-7	20'	480	31	190	6,400	21,900
MW4-7	25'	180	6	<1,000	3,600	14,700
MW4-7	30'	ND	2,100	1,200	6,800	11,800
MW5-7	10'	ND	---	---	---	---
MW5-7	20'	ND	---	---	---	---
MW5-7	30'	ND	---	---	---	---

TABLE 1. (cont.)

		EPA METHOD 8015 (ppm)	EPA METHOD 8020 (ppb)			
BORING NUMBER	DEPTH	TPH	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
B12-7	5'	ND	---	---	---	---
B12-7	10'	ND	---	---	---	---
B12-7	15'	ND	---	---	---	---
B12-7	20'	ND	---	---	---	---
B12-7	25'	ND	6	ND	34	125
B12-7	30'	ND	ND	380	1,800	8,900

ppm - Parts per million or milligrams per kilogram (mg/kg)
ppb - Parts per billion or micrograms per kilogram (ug/kg)
TPH - Total Petroleum Hydrocarbons using gasoline standard unless otherwise noted
ND - Not Detected
* - Analyzed using diesel #2 standard
--- - Not Analyzed

TABLE 2. LABORATORY RESULTS OF GROUND WATER SAMPLES ANALYZED FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHOD 602

EPA METHOD 602 (ppb)				
BORING NUMBER	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
PHASE I				
W-1 (MW1-7)	760	1,700	260	4,900
PHASE II				
MW2-7	3	ND	ND	8
MW3-7	160	21	ND	1,700
MW4-7	3	ND	10	21
MW5-7	2	ND	ND	ND

ppb - Parts per billion or micrograms per liter (ug/L)

TABLE 2. LABORATORY-REPORTED RESULTS OF GROUNDWATER SAMPLES COLLECTED NOVEMBER 7 AND 8, 1995

WELL NUMBER	WTPH-G (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	XYLENES (mg/L)	D.O. (mg/L)
MW-1	**11**	**0.047**	0.020	**0.079**	**0.75**	1.98
MW-2	ND	ND	ND	ND	ND	1.98
MW-3	**1.2**	**0.0059**	0.0026	0.011	0.0039	2.40
MW-4	ND	ND	ND	ND	ND	1.38
MW-5	NS	NS	NS	NS	NS	NS
MW-6	NS	NS	NS	NS	NS	NS
MW-7	**4.1**	**0.021**	0.0071	**0.10**	**0.091**	2.21
MW-8	ND	0.00067	ND	ND	ND	2.70
MW-9	**6.2**	**0.031**	**0.079**	**0.22**	**0.65**	2.36
MW-10[1]	**3.8**	**0.022**	0.0072	**0.10**	**0.094**	NA
Groundwater Cleanup Levels	1	0.005	0.04	0.03	0.02	NA
Reporting Limits	0.05	0.0005	0.0005	0.0005	0.001	NA

MW-10[1] - Sample MW-10 is a duplicate of Sample MW-1
NA - Not applicable
NS - Not sampled
mg/L - Milligrams per liter or parts per million (ppm) equivalent
ND - Not detected above laboratory reporting limit
BOLD - Concentrations greater than Groundwater Cleanup Levels

TABLE 3

SUMMARY OF GROUNDWATER MONITORING DATA
BETX, MTBE, AND GASOLINE-RANGE HYDROCARBONS
2523 PACIFIC AVENUE
TACOMA, WASHINGTON

Well Number	Date	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Volatile Aromatic Hydrocarbons (µg/l)				Gasoline-range Hydrocarbons (mg/l)	MTBE (µg/l)
				B	E	T	X		
MW-1	02/14/01	34.11	40.89	60.3	65.0	10.3	170	2.98	--
	07/26/01	34.25	40.75	53.4	42.8	7.03	88.3	2.59	<5.00
	03/26/02	15.26	59.74	<0.500	<0.500	<0.500	<1.00	<0.0500	--
	10/14/02	34.72	40.28	27	37	3.8	45	2	<1
	04/30/03	33.52	41.48	40	20	2.2	22.6	0.82	<1
	10/24/03	33.78	41.22	27	2.5	1.5	41	0.72	--
	04/01/04	33.58	41.42	30	24	1.6	17.3	0.71	--
	10/07/04	34.30	40.70	36	14	3.6	65.2	1.2	--
	04/21/05	33.25	41.75	14	2.9	<1	8.5	0.45	--
	10/07/05	34.56	40.44	10	<1	<1	2.5	0.26	--
MW-7	02/14/01	29.20	45.33	<0.910	<0.500	<0.500	<2.57	0.121	--
	07/26/01	--	--	--	--	--	--	--	--
	03/26/02	16.39	58.14	73.9	83.6	7.03	198	5.53	--
	10/14/02	31.49	43.04	<1	30	1.4	51	0.74	<1
	04/30/03	17.04	57.49	2.1	4.9	<1	14.5	<0.25	<1
	10/24/03	16.51	58.02	<1	<1	<1	<1	<0.25	--
	04/01/04	19.57	54.96	3.7	16	1.1	48.5	0.86	--
	10/07/04	29.17	45.36	<1	52	3.1	72	2	--
	04/21/05	15.29	59.24	<1	<1	<1	<1	0.13	--
	10/07/05	31.84	42.69	1.9	26	2.4	29.5	0.76	--
MW-10	02/14/01	--	--	--	--	--	--	--	--
	07/26/01	--	--	--	--	--	--	--	--
	03/26/02	--	--	--	--	--	--	--	--
	10/14/02	26.13	47.93	<1	<1	<1	<1	<0.25	<1
	04/30/03	22.96	51.10	<1	<1	<1	<1	<0.25	<1
	10/24/03	20.99	53.07	<1	<1	<1	<1	<0.25	--
	04/01/04	23.63	50.43	<1	<1	<1	<1	<0.25	--
	10/07/04	22.83	51.23	<1	<1	<1	<1	<0.25	--
	04/21/05	21.48	52.58	<1	<1	<1	<1	<0.05	--
	10/07/05	27.86	46.20	<1	<1	<1	<1	<0.05	--
MW-11	02/14/01	--	--	--	--	--	--	--	--
	07/26/01	18.85	55.40	40.0	140	9.66	343	6.59	<5.00
	03/26/02	--	--	--	--	--	--	--	--
	10/14/02	22.57	51.68	<5	170	8	538	7.3	<5
	04/30/03	17.46	56.80	27	7.8	<1	7.6	0.58	<1
	10/34/03	16.89	57.36	<1	22	1.1	48	0.88	--
	04/01/04	17.64	56.61	15	6.8	<1	12	0.5	--
	10/07/04	18.88	55.37	35	89	<5	206	3.9	--
	04/21/05	16.47	57.78	<1	1.2	<1	1.6	0.2	--
	10/07/05	23.35	50.90	<1	81	5.5	151	5.1	--
MTCA Method A Cleanup Level				5.0	700	1,000	1,000	0.8	20

Notes appear on page 2 of 2

TABLE 4

SOIL CLEANUP LEVELS BASED ON PROTECTION OF DIRECT CONTACT PATHWAY

2523 PACIFIC AVENUE
TACOMA, WASHINGTON

Analyte	Cleanup Level	Unit	Source
Gasoline-range hydrocarbons	3,999	mg/kg	Soil Direct Contact pathway (ingestion only): CLARC 3.1 Summary Table for Method A Soil Clean Up Values in Table 740-1.
Diesel-range hydrocarbons	3,900	mg/kg	Soil Direct Contact pathway: Method B-unrestricted land use
Heavy oil-range hydrocarbons	3,900	mg/kg	Soil Direct Contact pathway (ingestion only): CLARC 3.1 Summary Table for Method A Soil Clean Up Values in Table 740-1.
Benzene	18	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Toluene	16,000	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Ethylbenzene	8,000	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Total Xylenes	16,000	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Total Naphthalenes	1,600	mg/kg	Soil, Method B, Non-carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
n-Hexane	4,800	mg/kg	Soil, Method B, Non-carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
MTBE	560	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Ethylene Dibromide (EDB)	0.012	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
1,2 Dichloroethane (EDC)	11.0	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Benzo(a)anthracene	0.14	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Benzo(b)fluoranthene	0.14	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Benzo(k)fluoranthene	0.14	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Benzo(a)pyrene	0.14	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Chrysene	0.14	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Dibenzo(a,h)anthracene	0.14	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Indeno(1,2,3-cd)pyrene	0.14	mg/kg	Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Arsenic	20	mg/kg	Soil, Method A based on Direct Contact and Protection of Drinking Water - adjusted for natural background concentrations in soil, unrestricted land use (mg/kg)
Cadmium	80	mg/kg	Soil, Method B, Non-carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Chromium IV	19	mg/kg	Soil, Method A, Unrestricted Land Use, Table Value (mg/kg)
Chromium III	2,000	mg/kg	Soil, Method A, Unrestricted Land Use, Table Value (mg/kg)
Mercury	24	mg/kg	Soil, Method B, Non-carcinogen, Standard Formula Value, Direct Contact (ingestion only), unrestricted land use (mg/kg)
Lead	250	mg/kg	Soil, Method A, Unrestricted Land Use, Table Value (mg/kg)

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