



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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June 23, 2016

Jose Rios, Manager  
Environmental Services  
7-Eleven Inc.  
PO Box 711  
Dallas TX 75221-0711

**Re: No Further Action at the following Site:**

- **Site Name:** 7 Eleven Food Store 230325983H
- **Site Address:** 3541 Martin Way East, Olympia, Washington
- **Facility/Site No.:** 5465157
- **Cleanup Site ID:** 5366
- **VCP Project No.:** SW1514

Dear Mr. Rios:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the 7 Eleven Food Store 230325983H facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

**Issue Presented and Opinion**

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Is further remedial action necessary to clean up contamination at the Site?

**NO. Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.**

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

**Description of the Site**

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This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following release:

- Petroleum and associated constituents into the soil and groundwater.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcels associated with this Site are affected by other sites.

### **Basis for the Opinion**

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This opinion is based on the information contained in the following documents:

1. *Site Assessment Report*, IT Corporation, February 29, 2000.
2. *Remediation Progress and Well Installation Report*, The IT Group, May 8, 2002.
3. *Additional Subsurface Investigation Report*, Stantec, December 16, 2009.
4. *UST System Removal Report*, Stantec, January 6, 2015.
5. *Cleanup Action Report*, Stantec, November 12, 2015.
6. Numerous groundwater monitoring reports dated 2000 through 2015.

These documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You may make an appointment by calling the SWRO resource contact at (360) 407-6365.

This opinion is void if any of the information contained in those documents is materially false or misleading.

### **Analysis of the Cleanup**

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Ecology has concluded that **no further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. **Characterization of the Site.**

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action.

The Site is a 1.45 acre parcel located at 3541 Martin Way East in Olympia, Washington (Figure 1). It is situated on the southwest corner of the Martin Way E and Lilly Road NE intersection in an area known as Sunshine Plaza. This plaza is a multiunit commercial development that is primarily paved with some landscaped areas. The area is zoned for mixed commercial and residential properties, and is surrounded by commercial developments on all sides excluding to the south, where there is a private residence.

7-Eleven currently leases the property as a convenience store (#25983). In 1984, three 12,000-gallon, single-walled fiberglass underground storage tanks (USTs) were installed directly north of the building for the retail sale of leaded and unleaded gasoline. Records indicate that diesel fuel was never stored or sold on site. This work included installing two fuel dispensers, a canopy, and associated underground piping. These three USTs and associated accessories were removed in 2014.

The topography of the Site generally slopes towards the southeast, to a storm water catch basin. The site is about 200 feet above mean sea level with Woodland Creek located approximately 1,000 feet to the west, which drains into Henderson Inlet and the Puget Sound. Soils at the Site are gravelly sand overlaying gravel with a foot wide silty layer that is approximately 15 to 16 feet below ground surface (bgs). Groundwater is generally around 25 feet bgs with a westerly flow.

In June 1995, McCon Building and Petroleum Services, Inc., of Vancouver, Washington, conducted a product piping upgrade at the Site. This work included contracting Fluor Daniel-GTI, Inc. to collect soil samples from the tank pit and dispensing area. These samples were tested for Total Petroleum Hydrocarbons-Gasoline (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total lead (Pb). While chemicals of concern were not detected in the vicinity of the tank pit, two samples from the dispensing area came back with levels of TPH-G above the MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses (Method A). One of these samples also contained elevated levels of toluene, ethylbenzene, and xylenes above their corresponding Method A cleanup levels.

In September 1997, during an upgrade of the UST system, Fluor Daniel-GTI, Inc. conducted a limited site assessment that included soil sampling. One of four samples collected contained elevated levels of toluene, ethylbenzene, xylenes, and TPH-G above their respective Method A cleanup levels.

In June 1999, IT Corporation advanced four onsite soil borings and corresponding ground water monitoring wells around the UST system (MW-1 through 4). Eight soil samples were collected and analyzed for BTEX, TPH-G, methyl tertiary butyl ether (MTBE), and Pb. No concentrations above Method A cleanup levels were detected.

IT Corporation, in June 2001, installed one additional monitoring well, MW-5, on the western edge of the property in the down gradient direction. Two soil samples were collected from the borings and analyzed for BTEX and TPH-G. No contamination above Method A cleanup levels was detected.

In May 2002, IT Corporation conducted an additional subsurface assessment, which included advancing three soil borings to roughly 25 feet bgs. Nine soil samples and one grab groundwater sample were collected for analysis. Only one of the soil samples collected had TPH-G, benzene, ethyl benzene, and xylenes above the Method A cleanup levels in use at that time.

In August 2009, Stantec Consulting Services, Inc. (Stantec) from Bellevue, WA advanced eight boreholes (SB-1 through SB-8) to depths between 16 and 32 feet bgs. Twenty-three discrete soil samples were field screened for contamination and laboratory analyzed for TPH-G and BTEX. Two of these samples were additionally tested for MTBE, EDB, and EDC. Results showed that three locations had soil contaminated with TPH-G, benzene, and/or xylenes above their respective Method A cleanup levels at around 15 feet bgs. Seven discrete groundwater samples were also collected and analyzed for TPH-G and BTEX. Two of these samples were also analyzed for MTBE, EDB, EDC, and total Pb. Two of the groundwater samples had xylene and TPH-G above their respective Method A cleanup levels.

In September through October 2014, Stantec oversaw the removal and remediation of the UST system which included the three USTs, dispensers, associated piping, concrete dispenser island, canopy, and vent risers. Monitoring wells MW-1 and MW-4 were abandoned by Environmental Services Network Northwest of Olympia, Washington in preparation for UST removal due to their proximity to anticipated excavation boundaries. Saybr Construction, Inc. of Tacoma, Washington rendered the USTs inert and then pumped and triple rinsed them. Marine Vacuum, Inc. of Seattle, Washington, removed 1,200 gallons of rinsate water and 100 gallons of sludge from the Site for disposal. Stantec inspected the USTs and product lines which appeared to be in good condition with no apparent failures. The USTs were then crushed and transferred off site for disposal.

During this excavation work, visual observations, headspace analysis for volatile organic compounds using a photoionization detector, and soil samples were analyzed to identify the presence of any contaminated soils onsite. Soil samples were collected from beneath each UST, the dispenser island, and product lines (Figure 2). Contamination was identified at about 15 feet bgs under the dispenser island, the USTs, and west of the facility. This contamination extended to a depth of 26 feet bgs and extended roughly 80 feet by 40 feet horizontally. Additional samples were collected from the final limits of the excavation using an approximate 10 foot by 10 foot horizontal grid. A total of 48 soil samples were collected throughout this process, and were submitted for analysis of TPH-G, BTEX, and Pb. Samples exhibiting the highest PID readings were submitted for additional analysis of EDB, EDC, MTBE, naphthalene, and volatile petroleum hydrocarbons.

Groundwater was encountered at 25 feet bgs along with additional perched water at 16 feet bgs above the lens of silty sand in the area just west of the USTs.

The excavation was expanded until a utility corridor was encountered, clean excavation limits were reached, or other safety concerns prevented further expansion. Sample analysis results at the final limits of the excavation indicated the presence of TPH-G contaminated soils above the Method A cleanup levels remained on the north, west, and south walls of the excavation.

Groundwater has been monitored from July 1999 through August 2015 (Table 1). Starting in 1999, groundwater monitoring was conducted quarterly on all available monitoring wells

through 2008, and then continued yearly through 2015 (Figure 3). Samples were analyzed for BTEX and TPH-G every time in addition to 1,2-dibromoethane (EDC), 1,2-dichloroethane (EDB), and total Pb in 2009 and 2014. MW-1 and MW-3 were not found to have any analytes of concern above their respective Method A cleanup levels. MW-2 had only one sample with an elevated TPH-G result in 2001. MW-4 consistently had TPH-G and varying levels of BTEX above Method A cleanup levels through 2007. In 2001, MW-5 had elevated TPH-G levels and in 2005 showed elevated benzene levels. Since the end of 2007, no samples from any of the five wells have contained contamination above the Method A cleanup levels. The last two monitoring rounds, conducted in June 2015 and August 2015, found total Pb in MW-3 and MW-5 above the Method A cleanup level of 15 micrograms per liter ( $\mu\text{g/l}$ ). Samples analyzed for dissolved Pb detected none at the detection limit of 0.002  $\mu\text{g/l}$ . This suggests that these detections are probably an artifact of the soil excavation and sampling methods and does not represent actual groundwater conditions.

A total of 1,393 tons of petroleum contaminated soil was removed from the Site during remedial activities and disposed of at Allied Waste Landfill in Roosevelt, Washington (236 tons) and the Cowlitz County Landfill in Castle Rock, WA (1,157 tons). The excavation was then backfilled with clean overburden and imported fill by the end of October 2014. The area is currently paved and used for parking.

## **2. Establishment of cleanup standards.**

Ecology has determined the cleanup levels and points of compliance you established for the Site meets the substantive requirements of MTCA.

Cleanup levels and points of compliance were calculated using empirical demonstration [Chapter 173-340-7490(f)] and a Site-specific Method B cleanup level for TPH-G. Using this chapter, the exposure routes have been studied and found to be incomplete.

Site-specific Method B cleanup levels were calculated for TPH-G. This was accomplished by analyzing five representative soil samples for VPH fractions and then entering this data into the Method B spreadsheets. A value of 2,540 milligrams per kilogram for direct contact was derived for the Site (sample CSS-9@16'; Table 2). All the remaining TPH-G in soil falls well below this value.

No Method B values were calculated for BTEX, MTBE, EDB, EDC, and Pb since the remaining concentrations of these constituents are below their Method A cleanup levels.

Adequate groundwater monitoring has been done to document that the remaining contamination in soil is not impacting groundwater above Method A cleanup levels. This documentation consists of four consecutive quarters of sampling results that are either non-detect or below the Method A cleanup levels of 800  $\mu\text{g/l}$  for TPH-G and 5  $\mu\text{g/l}$  for benzene.

The vapor intrusion pathway was screened out due to a distance of over 30 feet from the remaining contamination to the on-Site building.

The terrestrial ecological evaluation (TEE) was submitted. The Site qualified for an exemption. The TEE has been accepted, thus eliminating this pathway of exposure.

**3. Selection of cleanup action.**

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA.

The soil remedy selected consisted of excavation of all accessible contaminated soil with disposal at permitted landfills.

The groundwater remedy consisted of monitoring until contamination levels fell below applicable Method A cleanup levels. This was verified by laboratory analyses.

**4. Cleanup.**

Ecology has determined the cleanup you performed meets the cleanup standards established for the Site.

Cleanup actions taken at the Site consisted of excavation of all accessible contaminated soil. A total of 1,393 tons of petroleum contaminated soil was taken to landfills located in Roosevelt, Washington and Castle Rock, Washington for disposal.

Groundwater monitoring was conducted to verify that it was clean. Four quarters of clean results were obtained to confirm that all contaminant levels were below applicable cleanup levels.

**Limitations of the Opinion**

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**1. Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

**2. Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

**3. State is immune from liability.**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

**Termination of Agreement**

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Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#SW1514).

For more information about the VCP and the cleanup process, please visit our web site: [www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm](http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm). If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at (360) 407-6263 or e-mail at [cjoh461@ecy.wa.gov](mailto:cjoh461@ecy.wa.gov).

Sincerely,



Carol A Johnston  
SWRO Toxics Cleanup Program

CAJ/ksc:Site NFA SW1517 7 Eleven Food Store 230325983H

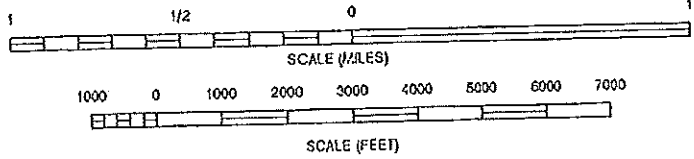
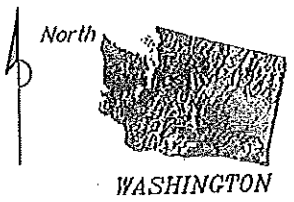
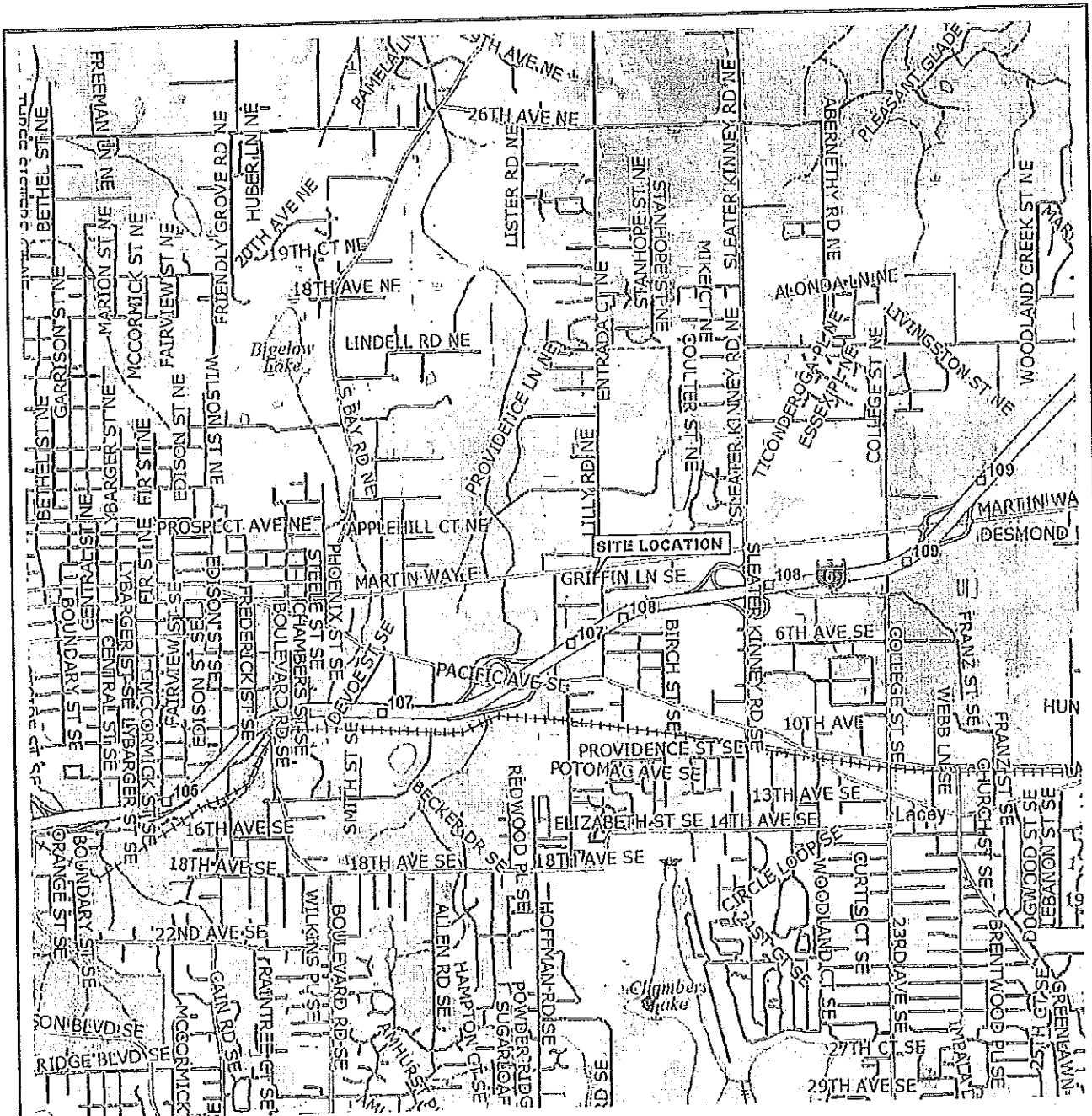
Enclosures (3 figures, 2 tables):

By certified mail: ( 91 7108 2133 3939 7790 8923 )



cc: William Carlson, Sunshine Plaza LLC/Columbia Investment Group  
Paul Fairbairn  
Gerald Tousley, Thurston County Health  
Nick Acklam, Ecology  
Matthew Alexander, Ecology (w/o attachments)

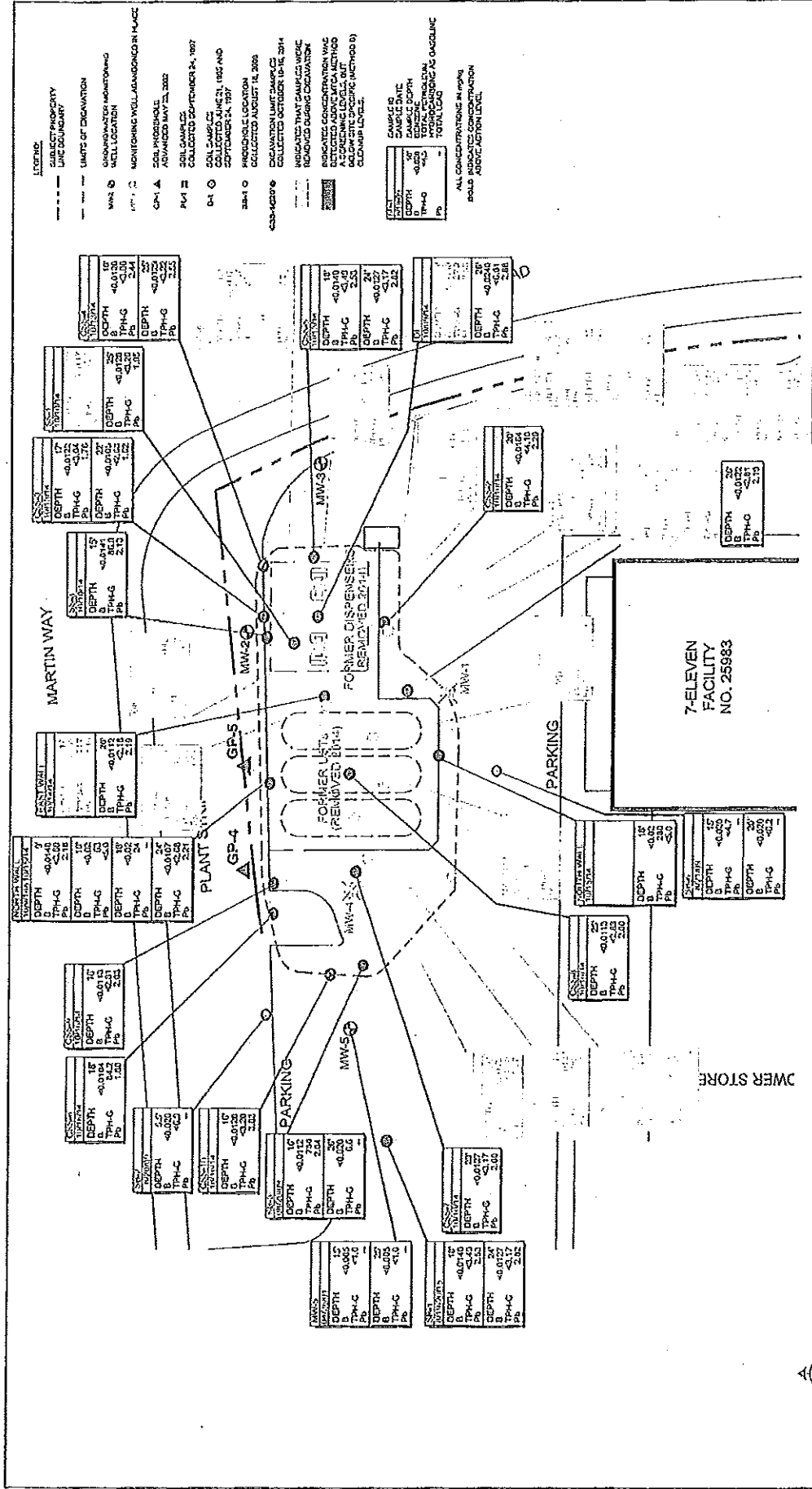






REFERENCE: USGS 7.5 MINUTE QUADRANGLE, LACEY, WASHINGTON

 11100 NE 33RD PLACE, SUITE 200 BELLEVUE, WASHINGTON PHONE: (425) 889-9448 FAX: (425) 889-1189	FOR:  STORE NO. 25983 3541 MARTIN WAY EAST OLYMPIA, WASHINGTON	<b>SITE LOCATION MAP</b>		FIGURE: <b>1</b>
	JOB NUMBER: 186750040	DRAWN BY: MDR	CHECKED BY: EWB	APPROVED BY: PF



**Stattec**  
 11550 NE 28th Place, Suite 200  
 Bellevue, WA 98004  
 Phone: (206) 835-4444 Fax: (206) 835-1100

**FOR:** STORE NO. 25983  
 3450 MARTIN AVENUE  
 OLYMPIA, WASHINGTON

**JOB NUMBER:** 1072500-0  
**DRAWN BY:** D.L. GAUDER

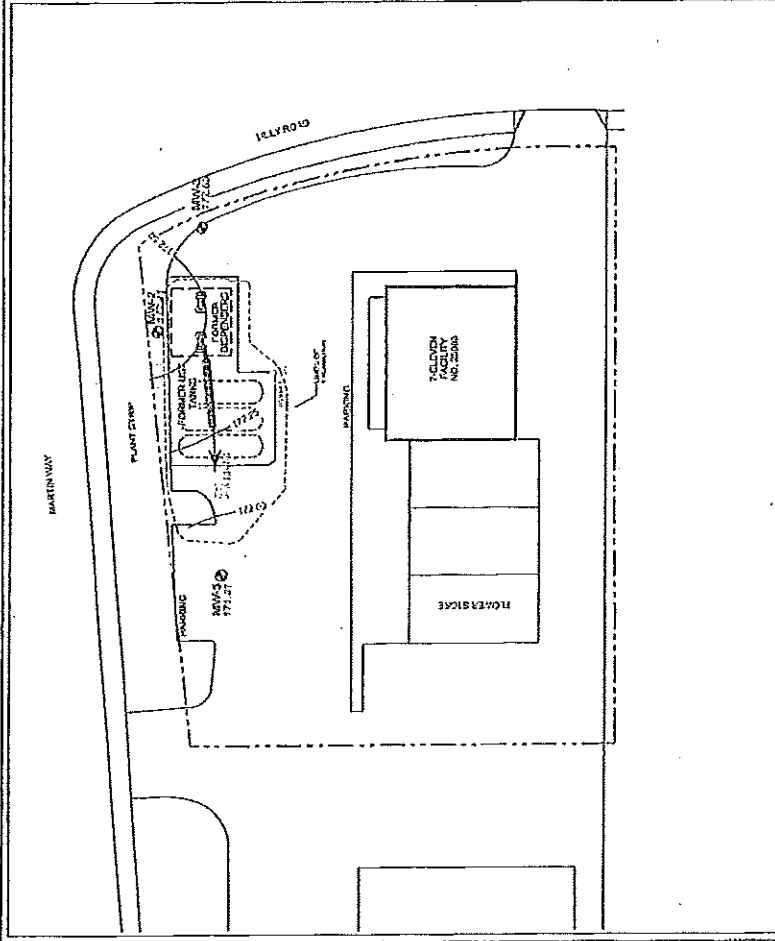
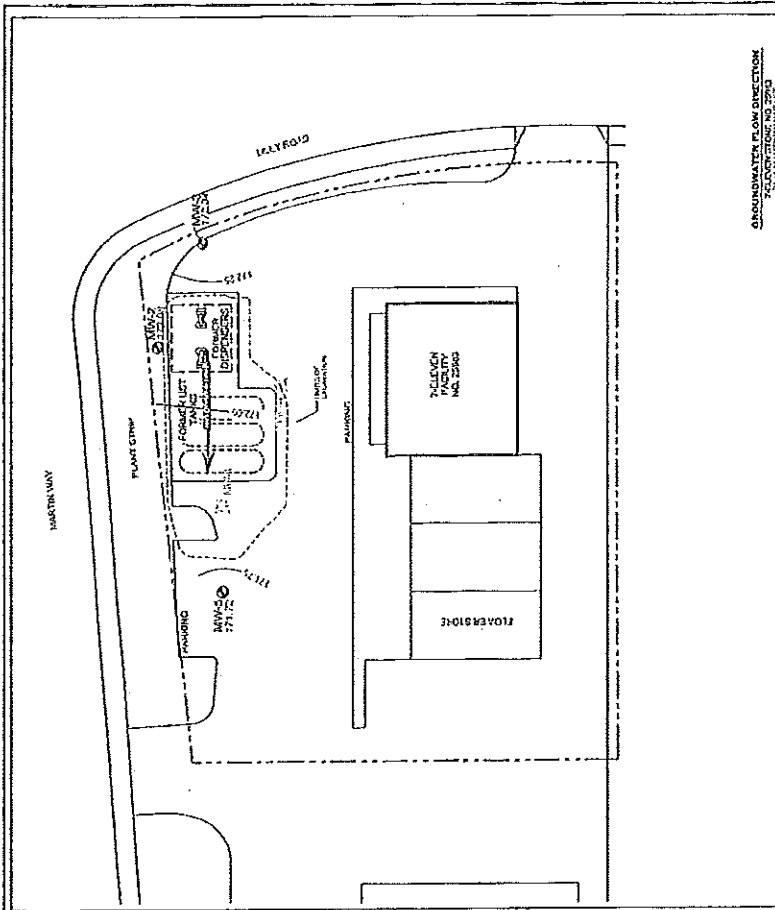
**DATE:** NOV 2015

**APPROVED BY:** PF

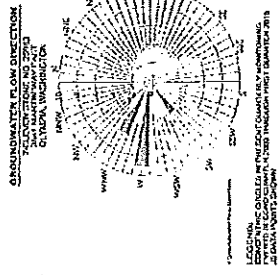
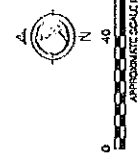
**PROJECT:** C-4-002379

**SITE PLAN WITH SOIL ANALYTICAL RESULTS OCTOBER 10-18, 2014**

**FIGURE:** 2



- LEGEND**
- SUBJECT PROPERTY
  - - - LAKE BOUNDARY
  - MW-2 GROUNDWATER MONITORING WELL LOCATION
  - MW-1, MW-2 GROUNDWATER MONITORING WELL LOCATION
  - ← FLOW DIRECTION
  - 172.00 INCHES BELOW SURFACE (AS FLOW DIRECTION)
  - 172.25 INCHES BELOW SURFACE (AS FLOW DIRECTION)
  - 172.50 INCHES BELOW SURFACE (AS FLOW DIRECTION)



GROUNDWATER ELEVATION CONTOUR MAP FOR JUNE 5, 2015	FOR	STORE NO. 2000 3541 MARTIN WAY EAST OLYMPIA, WASHINGTON	APPROVED BY	DATE
			SM	NOV 2015
GROUNDWATER ELEVATION CONTOUR MAP FOR AUGUST 15, 2015	FOR	STORE NO. 2000 3541 MARTIN WAY EAST OLYMPIA, WASHINGTON	APPROVED BY	DATE
			SM	NOV 2015

1130 MARINO BLVD, SUITE 200  
BELLEVUE, WASHINGTON  
PHONE: (206) 835-4141 FAX: (206) 835-1180

FILEPATH: G:\OTHER OFFICES\3541 MARTIN WAY EAST\17220150815\17220150815\_2\_010.dwg | L:\7001\3541\3541.dwg | DATE: 11/11/2015 8:10:52

**TABLE 1**  
**GROUNDWATER MONITORING AND ANALYTICAL RESULTS**  
 7-Eleven Store No. 25983  
 3541 Marlin Way East, Olympia, Washington  
 All results in micrograms per liter (µg/L), except where noted.

Well ID (IOC)	Sample Date	MIBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-G	EDC	EDB	Total Lead	Dissolved Lead	Depth To Groundwater	Groundwater Elevation (feet)
MW-1	07/08/99	--	--	--	--	--	--	--	--	--	--	26.00	172.33
198.33	07/15/99	--	<0.3	<0.3	<0.5	<0.6	<100	--	--	<5	--	26.02	172.31
	03/14/00	--	<0.3	<0.3	<0.5	<0.6	<100	--	--	--	--	25.38	172.95
	06/27/00	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	25.97	172.36
	09/25/00	--	<0.5	2.90	0.56	2.8	100	--	--	--	--	26.52	171.81
	11/13/00	--	<0.5	<0.5	<0.5	<1.5	<100	--	--	--	--	26.30	172.03
	02/14/01	--	<0.5	<0.5	0.56 <sup>a</sup>	<1.0	<100	--	--	--	--	26.09	172.24
	06/07/01	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	26.13	172.20
	08/01/01	--	<0.5	<0.5	<0.5	<1.0	<50	--	--	--	--	26.29	172.04
	11/15/01	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	26.36	171.97
	03/25/02	--	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	25.34	172.99
	06/21/02	--	--	--	--	--	--	--	--	--	--	--	--
	09/23/02	--	<0.5	<1.0	<1.0	1.01	<100	--	--	--	--	26.20	172.13
	12/10/02	--	--	--	--	--	--	--	--	--	--	26.37	171.96
	04/02/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.41	172.92
	06/11/03	--	--	--	--	--	--	--	--	--	--	26.05	172.28
	09/15/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.34	170.99
	12/04/03	--	--	--	--	--	--	--	--	--	--	25.51	172.82
	03/04/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.64	171.69
	05/10/04	--	--	--	--	--	--	--	--	--	--	27.02	171.31
	08/11/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.27	171.06
	11/17/04	--	--	--	--	--	--	--	--	--	--	27.16	171.17
	02/21/05	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.94	171.39
	05/16/05	--	--	--	--	--	--	--	--	--	--	28.96	169.37
	08/19/05	--	--	--	--	--	--	--	--	--	--	27.03	171.30
	10/26/05	--	--	--	--	--	--	--	--	--	--	27.16	171.17
	01/26/06	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.79	172.54
	05/11/06	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	--	--
	07/26/06	--	--	--	--	--	--	--	--	--	--	--	--
	11/09/06	--	--	--	--	--	--	--	--	--	--	24.18	174.15
	04/11/07	--	--	--	--	--	--	--	--	--	--	25.36	172.97
	08/27/07	--	--	--	--	--	--	--	--	--	--	26.15	172.18
	02/06/08	--	--	--	--	--	--	--	--	--	--	26.35	171.98
	08/18/08	--	--	--	--	--	--	--	--	--	--	25.05	173.28
	11/12/08	--	--	--	--	--	--	--	--	--	--	24.28	174.05
	02/05/09	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.56	172.77
	01/12/10	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.30	173.03
	02/14/11	--	<0.5	<0.5	<0.5	<0.5	<250	--	--	--	--	25.48	172.85
	02/09/12	--	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	25.23	173.10
	01/18/13	--	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	24.51	173.82
	04/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.00922	1.77	--	25.25	173.08
	09/23/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	26.14	172.19
	09/23/14	Well Abandoned 9/23/14											
MTCA Method A Cleanup Level		20	5	1,000	700	1,000	800/1,000 <sup>b</sup>	5	0.01	15			

TABLE 1  
GROUNDWATER MONITORING AND ANALYTICAL RESULTS  
7-Eleven Store No. 25983  
3541 Marlin Way East, Olympia, Washington  
All results in micrograms per liter (µg/L), except where noted.

Well ID (TOC)	Sample Date	MTBE	Benzene	Toluene	Et-hyl-benzene	Total Xylenes	TRH-G	EDC	EDB	Total Lead	Dissolved Lead	Depth To Groundwater	Groundwater Elevation (feet)
MW-2	07/08/99	--	--	--	--	--	--	--	--	--	--	25.89	172.42
198.31	07/15/99	--	<0.3	<0.3	<0.5	44	725	--	--	<5	--	26.00	172.31
	03/14/00	--	<0.3	<0.3	0.78	1.12	104	--	--	--	--	25.34	172.97
	06/27/00	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	25.94	172.37
	09/25/00	--	<0.5	2.70	0.58	2.3	<100	--	--	--	--	26.33	171.98
	11/13/00	--	<0.5	<0.5	<0.5	2.2	<100	--	--	--	--	26.32	171.99
	02/14/01	--	<0.5	<0.5	0.58 <sup>a</sup>	<1.0	<100	--	--	--	--	26.33	171.98
	06/07/01	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	26.21	172.10
	08/01/01	--	<0.5	<0.5	<0.5	<1.0	<50	--	--	--	--	26.37	171.94
	11/15/01	--	<0.5	5.7 <sup>a</sup>	12 <sup>a</sup>	43 <sup>a</sup>	1,900	--	--	--	--	26.50	171.81
	03/25/02	--	<0.5	<1.0	<1.0	1.66	<100	--	--	--	--	25.29	173.02
	06/21/02	--	--	--	--	--	--	--	--	--	--	--	--
	09/23/02	--	0.317	<1.0	<1.0	1.01	<100	--	--	--	--	26.25	172.06
	12/10/02	--	--	--	--	--	--	--	--	--	--	26.41	171.90
	04/02/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.40	172.91
	06/11/03	--	--	--	--	--	--	--	--	--	--	26.05	172.26
	09/15/03	--	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	27.40	170.91
	12/04/03	--	--	--	--	--	--	--	--	--	--	25.51	172.80
	03/04/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.64	171.67
	05/10/04	--	--	--	--	--	--	--	--	--	--	27.05	171.26
	08/11/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.34	170.97
	11/17/04	--	--	--	--	--	--	--	--	--	--	27.23	171.08
	02/21/05	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.95	171.36
	05/17/05	--	--	--	--	--	--	--	--	--	--	29.21	169.10
	08/19/05	--	--	--	--	--	--	--	--	--	--	28.91	169.40
	10/26/05	--	--	--	--	--	--	--	--	--	--	29.68	168.63
	01/26/06	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.72	172.59
	05/11/06	--	--	--	--	--	--	--	--	--	--	25.90	172.41
	07/26/06	--	--	--	--	--	--	--	--	--	--	--	--
	11/09/06	--	--	--	--	--	--	--	--	--	--	22.96	175.35
	04/11/07	--	--	--	--	--	--	--	--	--	--	23.35	174.96
	08/27/07	--	--	--	--	--	--	--	--	--	--	26.22	172.09
	02/06/08	--	--	--	--	--	--	--	--	--	--	26.38	171.93
	08/18/08	--	--	--	--	--	--	--	--	--	--	25.12	173.19
	11/12/08	--	--	--	--	--	--	--	--	--	--	23.06	175.25
	02/05/09	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	24.98	173.33
	01/12/10	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.23	173.08
	02/14/11	--	<0.5	<0.5	<0.5	<0.5	<250	--	--	--	--	25.45	172.86
	02/09/12	--	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	25.18	173.13
	01/18/13	--	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	25.13	173.18
	04/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.00932	13.2	--	25.25	173.06
	09/23/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	26.18	172.13
	12/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.0600	1.75	--	25.54	172.77
	03/09/15	<1.00	<1.00	<1.00	<1.00	<2.00	<100	<1.00	<0.0200	5.44	--	25.49	172.82
	06/09/14	--	<1.00	<1.00	<1.00	<3.00	<100	--	--	11.1	--	25.90	172.41
	08/19/15	--	<1.00	<1.00	<1.00	<3.00	<100	--	--	5.50	<0.00200	26.23	172.08
MTCA Melliody's Cleanup Level:		20	5	1,000	700	1,000	800/1,000	5	0.01	15			

**TABLE 1**  
**GROUNDWATER MONITORING AND ANALYTICAL RESULTS**  
 7-Eleven Store No. 25983  
 3541 Marlin Way East, Olympia, Washington  
 All results in micrograms per liter (µg/L), except where noted.

Well ID (TOC)	Sample Date	MTBE	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	TPH/G	EDC	EDB	Total Lead	Dissolved Lead	Depth to Groundwater	Groundwater Elevation (feet)
MW-3	07/08/99	--	--	--	--	--	--	--	--	--	--	25.60	172.59
198.19	07/15/99	--	<0.3	<0.3	<0.5	<0.6	<100	--	--	<5	--	26.10	172.09
	03/14/00	--	<0.3	<0.3	<0.5	<0.6	<100	--	--	--	--	24.89	173.30
	06/27/00	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	25.56	172.63
	09/25/00	--	<0.5	2.10	<0.5	1.7	<100	--	--	--	--	25.98	172.21
	11/13/00	--	<0.5	<0.5	<0.5	<1.5	<100	--	--	--	--	25.94	172.25
	02/14/01	--	<0.5	<0.5	<0.57	<1.0	<100	--	--	--	--	26.15	172.04
	06/07/01	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	25.87	172.32
	08/01/01	--	<0.5	<0.5	<0.5	<1.0	<50	--	--	--	--	26.01	172.18
	11/15/01	--	<0.5	<0.5	<0.5	<1.0	<100	--	--	--	--	26.20	171.99
	03/25/02	--	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	23.89	174.30
	06/21/02	--	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	25.59	172.60
	09/23/02	--	0.299	<1.0	<1.0	<1.0	<100	--	--	--	--	25.88	172.31
	12/10/02	--	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	26.00	172.19
	04/02/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.98	172.21
	06/11/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.68	172.51
	09/15/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.05	171.14
	12/04/03	--	--	--	--	--	--	--	--	--	--	25.09	173.10
	03/04/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.23	171.96
	05/10/04	--	--	--	--	--	--	--	--	--	--	26.68	171.51
	08/11/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.97	171.22
	11/17/04	--	--	--	--	--	--	--	--	--	--	26.84	171.35
	02/21/05	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.61	171.58
	05/17/05	--	--	--	--	--	--	--	--	--	--	28.46	169.73
	08/19/05	--	--	--	--	--	--	--	--	--	--	27.68	170.51
	10/26/05	--	--	--	--	--	--	--	--	--	--	24.68	173.51
	01/26/06	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.27	172.92
	05/11/06	--	--	--	--	--	--	--	--	--	--	25.40	172.79
	07/26/06	--	--	--	--	--	--	--	--	--	--	--	--
	11/09/06	--	--	--	--	--	--	--	--	--	--	21.14	177.05
	04/11/07	--	--	--	--	--	--	--	--	--	--	24.92	173.27
	08/27/07	--	--	--	--	--	--	--	--	--	--	25.83	172.36
	02/06/08	--	--	--	--	--	--	--	--	--	--	--	--
	08/18/08	--	--	--	--	--	--	--	--	--	--	24.73	173.46
	02/05/09	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.14	173.05
	01/12/10	Unable to access well										--	--
	02/14/11	Unable to access well										--	--
	02/09/12	Unable to access well										--	--
	01/18/13	Unable to access well										--	--
	04/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.00969	6.10	--	--	--
	09/23/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	25.81	172.38
	12/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.0600	2.12	--	25.15	173.04
	03/09/15	<1.00	<1.00	<1.00	<1.00	<2.00	<100	<1.00	<0.0198	10.4	--	25.11	173.08
	06/09/15	--	<1.00	<1.00	<1.00	<3.00	<100	--	--	26.0	--	25.54	172.65
	08/19/15	--	<1.00	<1.00	<1.00	<3.00	<100	--	--	16.5	<0.00200	25.85	172.34
	MTCA Method A Cleanup Level	20	5	1,000	700	1,000	800/1,000	5	0.01	15			

TABLE 1  
GROUNDWATER MONITORING AND ANALYTICAL RESULTS  
7-Eleven Store No. 25983  
3541 Marlin Way East, Olympia, Washington  
All results in micrograms per liter (µg/L), except where noted.

Well ID: (TOC)	Sample Date	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH:G	EDC	EDB	Total Lead	Dissolved Lead	Depth To Groundwater	Groundwater Elevation (feet)
MW-4	07/08/99	--	--	--	--	--	--	--	--	--	--	26.12	172.43
198.55	07/15/99	--	<30	5,150	<50	23,900	90,800	--	--	<5	--	26.10	172.45
	03/14/00	--	<30	1,870	3,030	27,500	67,000	--	--	--	--	25.41	173.14
	06/27/00	--	100	2,500	3,400	27,000	91,000	--	--	--	--	26.81	171.74
	09/25/00	--	10,000	4,800	4,200	4,200	68,000	--	--	--	--	26.70	171.85
	11/13/00	--	<120	780	1,800	17,000	70,000	--	--	--	--	26.77	171.78
	02/14/01	--	<120	660	1,300 <sup>a</sup>	21,000	99,000	--	--	--	--	25.74	172.81
	06/07/01	--	<25	97	360	4,800	23,000	--	--	--	--	26.34	172.21
	08/01/01	--	20.5	329	300	12,100	39,900	--	--	--	--	26.53	172.02
	11/15/01	--	<10	97 <sup>a</sup>	350 <sup>a</sup>	4,200 <sup>a</sup>	30,000	--	--	--	--	27.37	171.18
	03/25/02	--	1.7	74.8	143	1,489	34,100	--	--	--	--	25.45	173.10
	06/21/02	--	<0.5	5.28	349	1,867	22,600	--	--	--	--	26.54	172.01
	09/23/02	--	1.0	7.97	77.3	438	6,090	--	--	--	--	26.65	171.90
	12/10/02	--	<5.0	7.38	225.0	1,788	14,500	--	--	--	--	26.67	171.88
	04/02/03	--	7.7	7.9	350	1,950	30,000	--	--	--	--	26.44	172.11
	06/11/03	--	5.9	6.5	160	580	7,600	--	--	--	--	26.54	172.01
	09/15/03	--	<5.0	<5.0	76.0	460	5,800	--	--	--	--	27.67	170.88
	12/04/03	--	4.9	2.1	140	332	5,200	--	--	--	--	26.41	172.14
	03/04/04	--	4.5	3.2	75	259	3,800	--	--	--	--	27.11	171.44
	05/10/04	--	1.6	<1.0	24	100	2,300	--	--	--	--	27.65	170.90
	08/11/04	--	1.7	<1.0	10	38	1,100	--	--	--	--	27.76	170.79
	11/17/04	--	5.3	15	580	4,500	43,000	--	--	--	--	27.12	171.43
	02/21/05	--	3.8	1.8	93	630	16,000	--	--	--	--	27.61	170.94
	05/17/05	--	2.2	<1.0	49	190	6,600	--	--	--	--	27.51	171.04
	08/19/05	--	1,100	580	1,600	5,330	30,000	--	--	--	--	29.99	168.56
	10/26/05	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.10	172.45
	01/26/06	--	1.9	<1.0	120	139	3,400	--	--	--	--	26.65	171.90
	05/11/06	--	<1.0	<1.0	75	37	2,400	--	--	--	--	27.40	171.15
	07/26/06	--	360	2,900	750	2,740	24,000	--	--	--	--	28.56	169.99
	11/09/06	--	170	<4.0	91	55	3,300	--	--	--	--	26.68	171.87
	04/11/07	--	<4.0	<4.0	59	50	3,100	--	--	--	--	26.11	172.44
	08/27/07	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.05	171.50
	02/06/08	--	<1.0	<1.0	6.9	<2.0	160	--	--	--	--	26.28	172.27
	06/18/08	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.95	171.60
	11/12/08	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.78	171.77
	02/05/09	<0.20	<1.0	<1.0	<1.0	<2.0	<100	<0.20	<0.0095	--	--	26.28	172.27
	01/12/10	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	24.95	173.60
	02/14/11	--	<0.5	<0.5	<0.5	<0.5	<250	--	--	--	--	26.13	172.42
	02/09/12	--	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	25.79	172.76
	01/18/13	--	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	24.32	174.23
	04/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.00952	6.48	--	26.95	171.60
	09/23/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	26.62	171.93
Well Abandoned 9/23/14													
MTCA Method A/ Cleanup Level		20	5	1,000	700	1,000	800/ 1,000 <sup>b</sup>	5	0.01	15			

**TABLE 1**  
**GROUNDWATER MONITORING AND ANALYTICAL RESULTS**  
 7-Eleven Store No. 25983  
 3541 Marlin Way East, Olympia, Washington  
 All results in micrograms per liter (µg/L), except where noted.

Well ID (TOC)	Sample Date	MtBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH-G	EDC	EDB	Total Lead	Dissolved Lead	Depth to Groundwater	Groundwater Elevation (feet)
MW-5	06/07/01	--	<0.5	<0.5	2.1	26	950	--	--	--	--	26.48	171.88
198.36	08/01/01	--	1.4	<0.5	3.0	4.3	899	--	--	--	--	26.76	171.60
	11/15/01	--	<0.5	<0.5	6.5 <sup>a</sup>	20 <sup>a</sup>	1,500	--	--	--	--	27.08	171.28
	03/25/02	--	<0.5	<1.0	0.6	1.6	188	--	--	--	--	26.10	172.26
	06/21/02	--	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	26.59	171.77
	09/23/02	--	0.304	<1.0	<1.0	1.6	<100	--	--	--	--	26.65	171.71
	12/10/02	--	<0.5	<1.0	<1.0	<3.0	<100	--	--	--	--	26.70	171.66
	04/02/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.24	172.12
	06/11/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.70	171.66
	09/15/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.67	170.69
	12/04/03	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.32	172.04
	03/04/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.48	170.88
	05/10/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.58	170.78
	08/11/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.71	170.65
	11/17/04	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.68	170.68
	02/21/05	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	27.31	171.05
	05/17/05	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	31.26	167.10
	08/19/05	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	28.46	169.90
	10/26/05	--	7.50	<1.0	<1.0	1.1	410	--	--	--	--	24.25	174.11
	01/26/06	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.55	171.81
	05/11/06	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.60	171.76
	07/26/06	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	31.68	166.68
	11/09/06	--	--	--	--	--	--	--	--	--	--	22.90	175.46
	04/11/07	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.17	172.19
	08/27/07	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.70	171.66
	02/06/08	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.12	172.24
	08/18/08	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	25.65	172.71
	11/12/08	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.65	171.71
	02/05/09	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	26.37	171.99
	01/12/10	--	<1.0	<1.0	<1.0	<2.0	<100	--	--	--	--	24.90	173.46
	02/14/11	--	<0.5	<0.5	<0.5	<0.5	<250	--	--	--	--	26.25	172.11
	02/09/12	--	<0.50	<0.50	<0.50	<0.50	<250	--	--	--	--	26.00	172.36
	01/18/13	--	<0.50	0.60	<0.50	<0.50	<250	--	--	--	--	26.00	172.36
	04/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.00962	2.51	--	26.05	172.31
	09/23/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	--	--	--	--	26.65	171.71
	12/08/14	<1.00	<1.00	<1.00	<1.00	<2.00	<50.0	<1.00	<0.0600	2.52	--	26.39	171.97
	03/09/15	<1.00	<1.00	<1.00	<1.00	<2.00	<100	<1.00	<0.0202	11.3	--	26.34	172.02
	06/09/15	--	<1.00	<1.00	<1.00	<3.00	<100	--	--	28.5	--	26.55	171.81
	08/19/15	--	<1.00	<1.00	<1.00	<3.00	<100	--	--	21.6	<0.00200	26.64	171.72
MTC A Method A Cleanup Level		20	5	1,000	700	1,000	800/ 1,000 <sup>b</sup>	5	0.01	15			

**Explanation of Abbreviations:**

- TOC = top of casing elevation
- MtBE = methyl tertiary butyl ether
- TPH-G = total petroleum hydrocarbons as gasoline
- EDC = 1,2-Dichloroethane
- EDB = 1,2-Dibromoethane
- = not sampled, not measured, or not available
- < = less than the reporting limit
- MTC A = Model Toxics Control Act

**Notes:**

- <sup>a</sup> Method blank contamination
  - <sup>b</sup> The TPH-G cleanup level is reduced from 1,000 µg/L to 800 µg/L if benzene is present in the sample
- Bold values exceed the MTC A Method A Cleanup Level**



**A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750**

**1. Enter Site Information**

Date: 10/16/14  
 Site Name: 7-Eleven Store No. 25983  
 Sample Name: CSS-9 @ 16'

**2. Enter Soil Concentration Measured**

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc	Composition
	dry basis mg/kg	Ratio %
<b>Petroleum EC Fraction</b>		
AL_EC >5-6	0.56	9.47%
AL_EC >6-8	0.56	9.47%
AL_EC >8-10	0.56	9.47%
AL_EC >10-12	0.56	9.47%
AL_EC >12-16	0	0.00%
AL_EC >16-21	0	0.00%
AL_EC >21-34	0	0.00%
AR_EC >8-10	0.56	9.47%
AR_EC >10-12	1.67	28.24%
AR_EC >12-16	1.32	22.32%
AR_EC >16-21	0	0.00%
AR_EC >21-34	0	0.00%
Benzene	0.00565	0.10%
Toluene	0.00565	0.10%
Ethylbenzene	0.00845	0.14%
Total Xylenes	0.02655	0.45%
Naphthalene	0.02605	0.44%
1-Methyl Naphthalene	0.02605	0.44%
2-Methyl Naphthalene	0.02605	0.44%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0	0.00%
Benzo(b)fluoranthene	0	0.00%
Benzo(k)fluoranthene	0	0.00%
Benzo(a)pyrene	0	0.00%
Chrysene	0	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0	0.00%
<b>Sum</b>	<b>5.91445</b>	<b>100.00%</b>

**3. Enter Site-Specific Hydrogeological Data**

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

**4. Target TPH Ground Water Concentration (if adjusted)**

If you adjusted the target TPH ground water concentration, enter adjusted value here:  ug/L

Notes for Data Entry      Set Default Hydrogeology  
 Clear All Soil Concentration Data Entry Cells  
 Restore All Soil Concentration Data cleared

**REMARK:**

MTBE, EDB, and EDC have been analyzed for and have never been detected at the site in any media and are not suspected of being present at the site based on the site history. Therefore, a value of zero will be assigned. A value of 1/2 of the laboratory reporting limit will be assigned to all other constituents not detected above laboratory detection limits.

There is no history of diesel at the site, so EPH Method was not used and corresponding fractions are therefore zero.

The analytical concentrations of the following hazardous substances will be subtracted from the associated EC-Fractions to avoid double counting as per Table 3.3 of the Washington State Department of Ecology's Workbook Tools for Calculating Soil and Groundwater Cleanup Levels under Model Toxics Control Act Cleanup Regulations User's Guide for MTCATPH11.1 & MTCASGL11.0

Hazardous Substance	Associated EC-Fraction
Ethylbenzene and Xylenes (C8H10)	AR_EC>8-10
Naphthalene (C10H8)	AR_EC>10-12
1-Methyl + 2-Methyl Naphthalene (C11H10)	AR_EC>12-16

If one or more analytes are not detected above the laboratory reporting limits then double counting will not be applied.

AR\_EC>8-10 corrected total = NA

AR\_EC>10-12 corrected total = NA

AR\_EC>12-16 corrected total = NA

TABLE 2

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

**A2 Soil Cleanup Levels: Calculation and Summary of Results.** Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date:	10/16/2014
Site Name:	7-Eleven Store No. 25983
Sample Name:	CSS-9 @ 16'
Measured Soil TPH Concentration, mg/kg:	5.914

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,540	3.11E-10	2.33E-03	Pass
	Method C	44,325	4.17E-11	1.33E-04	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	5	1.26E-06	2.86E-01	Pass
	Target TPH GW Conc. @ 800 ug/L	111	NA	NA	Pass

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	2,540.25	44,324.54
Most Stringent Criterion	HI=1	HI=1

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI=1	YES	2.54E+03	1.34E-07	1.00E+00	YES	4.43E+04	3.12E-07	1.00E+00
Total Risk=1E-5	NO	1.90E+05	1.00E-05	7.48E+01	NO	1.42E+06	1.00E-05	3.20E+01
Risk of Benzene= 1E-6	NO	1.90E+04	1.00E-06	7.48E+00	NA			
Risk of cPAHs mixture= 1E-6	NA	NA	NA	NA				
BDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	Total Risk = 1E-6
Protective Ground Water Concentration, ug/L	61.35
Protective Soil Concentration, mg/kg	4.69

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	NO	2.62E+02	7.99E-06	1.00E+00	4.12E+01
Total Risk = 1E-5	NO	5.44E+02	1.00E-05	2.03E+00	4.75E+01
Total Risk = 1E-6	YES	6.13E+01	1.00E-06	2.27E-01	4.69E+00
Risk of cPAHs mixture= 1E-5	NA	NA	NA	NA	NA
Benzene MCL = 5 ug/L	NO	3.87E+02	6.29E-06	1.43E+00	2.95E+01
MTBB = 20 ug/L	NA	NA	NA	NA	NA

3.2. Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 800 ug/L	8.00E+02	2.21E-05	3.04E+00	1.11E+02