

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

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January. 2, 2013

Mr. Paul Fairbairn Stantec, Inc. 12043 134th Court NE, Suite 102 Redmond, WA 98052

Re: No Further Action at the Following Site:

Site Name: 7-Eleven Food Store 230625331

• Site Address: 12720 4th Avenue West, Everett, WA 98204

Facility/Site No.: 76937186VCP Project No.: NW2610

Dear Mr. Fairbairn:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the 7-Eleven Food Store 230625331 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

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

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

TPH-G (Gasoline Range Total Petroleum Hydrocarbons) and BTEX into the Soil

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

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

Basis for the Opinion

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

- 1. Stantec, Inc., Email with attachment concerning vapor intrusion; from Paul Fairbairn/Patrick Vaughan to Glynis Carrosino; 7-Eleven Store No. 25331, 12720 4th Avenue West, Everett, WA, VCP No. VW2610, dated January 2, 2013.
- 2. Stantec, Inc., Cleanup Action Report, 7-Eleven Store No. 25331, 12720 4th Avenue West, Everett, WA, VCP No. VW2610, dated June 15, 2012.
- 3. Associated Environmental Group, LLC, Remedial Action Report, Former Fazzio Cleaners, 12720 4th Avenue West, Everett, WA, dated September 14, 2012.
- 4. Associated Environmental Group, LLC, Remedial Action Report, Former Fazzio Cleaners, 12720 4th Avenue West, Everett, WA, dated September 14, 2012.
- 5. Stantec, Inc., Underground Storage Tank Closure Report, 7-Eleven Store No. 25331, 12720 4th Avenue West, Everett, WA, VCP No. VW2610, dated May 15, 2012.
- 6. Stantec, Inc., Additional Subsurface Investigation Report, 7-Eleven Store No. 25331, 12720 4th Avenue West, Everett, WA, VCP No. VW2610, dated, November 30, 2010.
- 7. Stantec, Inc., Additional Subsurface Investigation Report, 7-Eleven Store No. 25331, 12720 4th Avenue West, Everett, WA, VCP No. VW2610, dated April 27, 2012.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235, or via email at NWRO_public_request@ecy.wa.gov.

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

Analysis of the Cleanup

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 described above and in **Enclosure A**.

The lateral and vertical extent of petroleum-impacted soils has been adequately defined upon completion of subsurface soil investigation. Soil analytical results confirmed that petroleum hydrocarbons were present in vadose zone soils located in the area surrounding. Site dispenser island, extending south to southwest of the island and southwest of the UST basin, to a depth of 20 feet bgs.

2. Establishment of cleanup standards.

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

Soil

Cleanup Levels:

The Site does not meet the MTCA definition of an industrial property; therefore soil cleanup levels suitable for unrestricted land use are appropriate. For unrestricted land use, through protection of direct contact, either Method A or Method B cleanup levels can be used. MTCA Method B cleanup level was used for TPH-G and BTEX.

Soil cleanup levels protective of terrestrial ecological receptors are not necessary because the Site meets the initial Terrestrial Ecological Evaluation (TEE) exclusion criteria (MTCA 7481 (1)(c)(i)). There is less than 1.5 acres of contiguous undeveloped land within 500 feet of the area of the Site.

It should be noted that an evaluation of the soil to vapor pathway could have been stipulated at the Site. It is stated in MTCA (Section 740(3)(b)(iii)(C)(I and III)), that the soil to vapor pathway shall be evaluated for gasoline range organics and other VOCs whenever the concentrations are significantly higher than concentrations derived for protection of ground water for drinking water (MTCA Method A levels). One Site sample (located approximately 70 feet from the convenience store) had remaining contaminant levels higher than Method A levels. A critique of source area soil removal depth, confirmation sample results, and recent literature concerning depth that petroleum

vapor can be expected to become fully attenuated was sufficient to promote the conclusion that the presence of clean backfill and lateral separation between excavation boundaries and the convenience store would provide a sufficient biodegradation zone for attenuation of any unidentified residual petroleum constituents in soil vapor.

Point of Compliance: For soil cleanup levels based on direct contact, the point of compliance is defined as throughout the Site from the ground surface to 15 feet below the ground surface.

Groundwater

Cleanup Levels:

Groundwater cleanup levels were not necessary for this Site. Ground water has not been encountered on the Property within the maximum depth of exploration, which is 120 feet below ground surface (bgs).

3. Selection of cleanup action.

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

The cleanup selected consisted of excavation and removal of petroleum impacted soil screened to MTCA Method A soil cleanup levels for TPH-G and BTEX. The selected cleanup action meets applicable minimum requirements for cleanup actions stipulated in WAC 173-340-360: protect human health and the environment, comply with cleanup standards, use permanent solutions, and provide for reasonable restoration times.

4. Cleanup.

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

The cleanup performed consisted of excavation and removal of three 12,000 gallon gasoline underground storage tanks (USTs), the dispenser island which contained three individual product dispensers, and approximately 1,557 tons of petroleum contaminated soil. Appropriate confirmational sampling of soil for constituents of concern was conducted. The analytical results indicated that MTCA Method A cleanup levels had been attained except at three location at the bottom of the excavation. Contaminant levels at these locations did not exceed MTCA Method B cleanup levels, however.

Groundwater was documented below the Site at 120 feet below ground surface. No contamination to groundwater was found. The leaching pathway was evaluated via

empirical demonstration under WAC 173-340-747(9). The Site-specific soil cleanup levels for the COCs are presented in **Attachment B**.

Listing of the Site

Based on this opinion, Ecology will remove the Site from our Confirmed and Suspected Contaminated Sites List and Leaking Underground Storage Tank List.

Limitations of the Opinion

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

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (# NW2610).

For more information about the VCP and the cleanup process, please visit our web site: 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 (425) 649-4422 or e-mail at gcar461@ecy.wa.gov.

Sincerely,

Glyns A. Carrosino

Project Manager

Toxics Cleanup Program

Enclösures:

A – Description and Diagrams of the Site

B - Summary of Site-specific MTCA Cleanup Levels

By certified mail: 7012 3050 0001 7342 5983

cc:

Yang Shin, Property Owner

Jose Rios, 7-Eleven, Inc., Operator

Carrie Pederson, Ecology

Dolores Mitchell, Ecology VCP Financial Manager

Enclosure A

Description and Diagrams of the Site

Site Description

This enclosure provides Ecology's understanding, and interpretation of Site conditions, and forms the basis for the opinions expressed in the letter.

Site Definition: The Site is defined by the extent of releases to soil of gasoline-range petroleum hydrocarbons (TPH-GRO) and BTEX associated with a property located at 12720 4th Avenue West in Everett, WA (the Property). The Property is approximately 1.65 acres in size. The Property contains a strip shopping mall where the 7-Eleven convenience store is currently located. Fazzio Cleaners, a former dry cleaning operation, is VCP NW 2385 and is located immediately south of the Site. The Property also contains a mail box/photo business, two restaurants and other retail businesses. The Property and the Site are shown on the attached Site Diagrams.

Area Description: The Property is located between 4th Avenue West and 128th Street West in Everett, WA. The area comprises commercial businesses and residential properties. The Mariner High School campus is approximately 1000 feet NE. The Snohomish County Assessor parcel number for the Property which comprises the Site is: 0181768, with a legal description of Township 28N; Range 4E; Section 25; Quarter-Quarter SW. The property coordinates are: Latitude 47 degrees, 52 minutes, 57 seconds; Longitude 122 degrees, 14 minutes, 22 seconds.

Property History and Current Use: The Property contains a 14,421-square foot building that was constructed in 1984. Past use of the Property since 1984 was primarily as a gasoline station with a convenience store. Three 12,000 gallon underground storage tanks (USTs) were excavated and removed from the Site in 2012. Current use of the Property is as a7-Eleven convenience store without petroleum retail.

Contaminant Sources and History of Releases: The potential contaminant sources for this Site include the former dispenser islands, located in the central portion of the Site, the former USTs which were located in the northeastern portion of the Site, and the former product conveyance piping. The facility discontinued the sale of gasoline in February 2012. During the 2012 cleanup action performed at the Site, the former conveyance piping was identified as the likely source of the original release of petroleum hydrocarbons.

Physiographic Setting: The approximate elevation of the Site is 475 feet above mean sea level, and the topography of the area in moderately level, sloping to the east-southeast. Most of the Site is paved with asphalt and concrete. The nearest water body is North Creek, which is located approximately ¾ mile east of the Site. Surface water at the Site drains in an easterly direction towards North Creek. North Creek drains south to the Sammamish River, which releases into Lake Washington, and eventually into Puget Sound.

Surface Water: The nearest surface water body is North Creek, which flows south approximately 3,000 feet east of the Property.

Ecological Setting: There is little terrestrial habitat in the immediate vicinity of the Property. The area is heavily developed as residential and commercial properties. Small areas of undeveloped land exist immediately to the northwest and northeast around the Site.

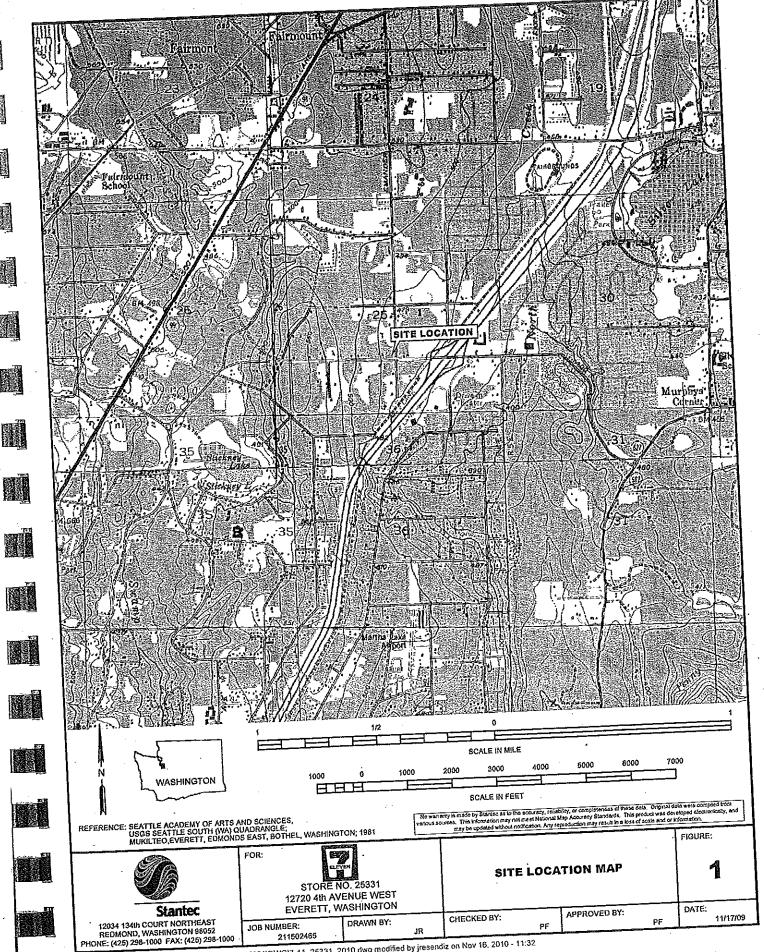
Geology: The project Site is located in the central Puget Sound Lowland, which is bounded to the west by the Olympic Mountains and to the east by the Cascade Range. The lowland is filled with glacial and nonglacial sediments consisting of interbedded gravel, sand, silt, till and peat lenses. The Site is underlain by fill from the ground surface to approximately 4 feet bgs. This fill consists of silty sand and gravel. Underlying the fill is glacial till comprised of dense, to very dense silts and sands with varying amounts of gravel, which extended to a depth of 120.5 feet bgs, the maximum depth explored.

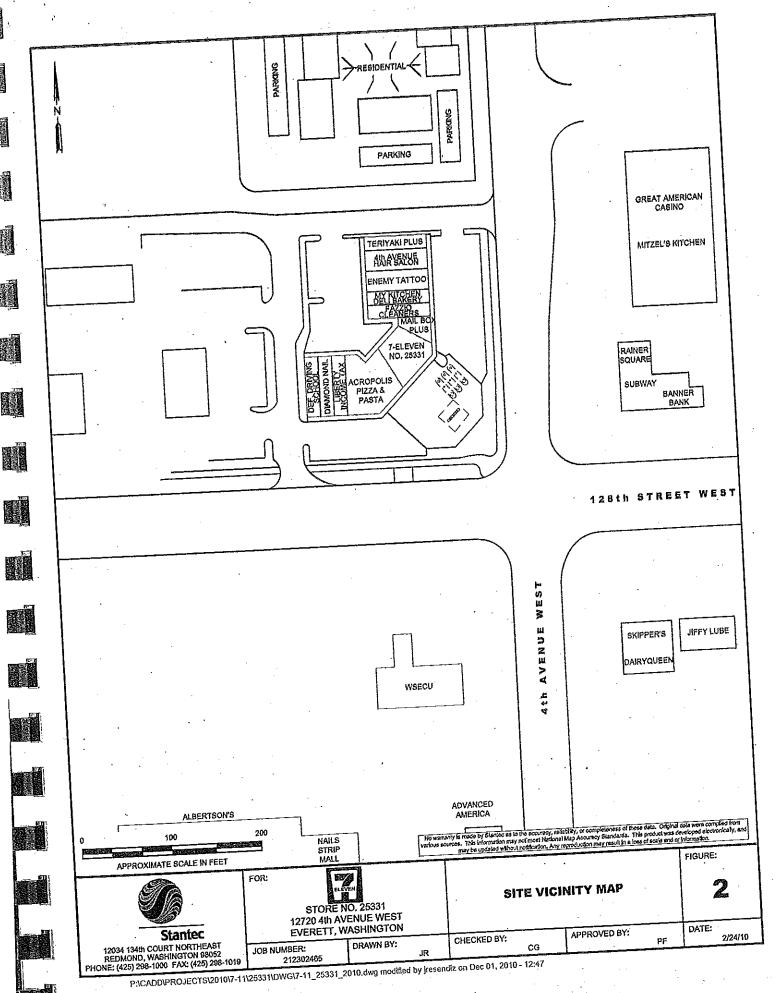
Ground Water: Ground water has been investigated via geotechnical borings. Ground water has not been encountered on the Property within the depth explored, including in a 60 foot boring advanced by Adapt Engineering in 2006 and a 120.5 foot boring advanced by Stantec, Inc. in June 2012.

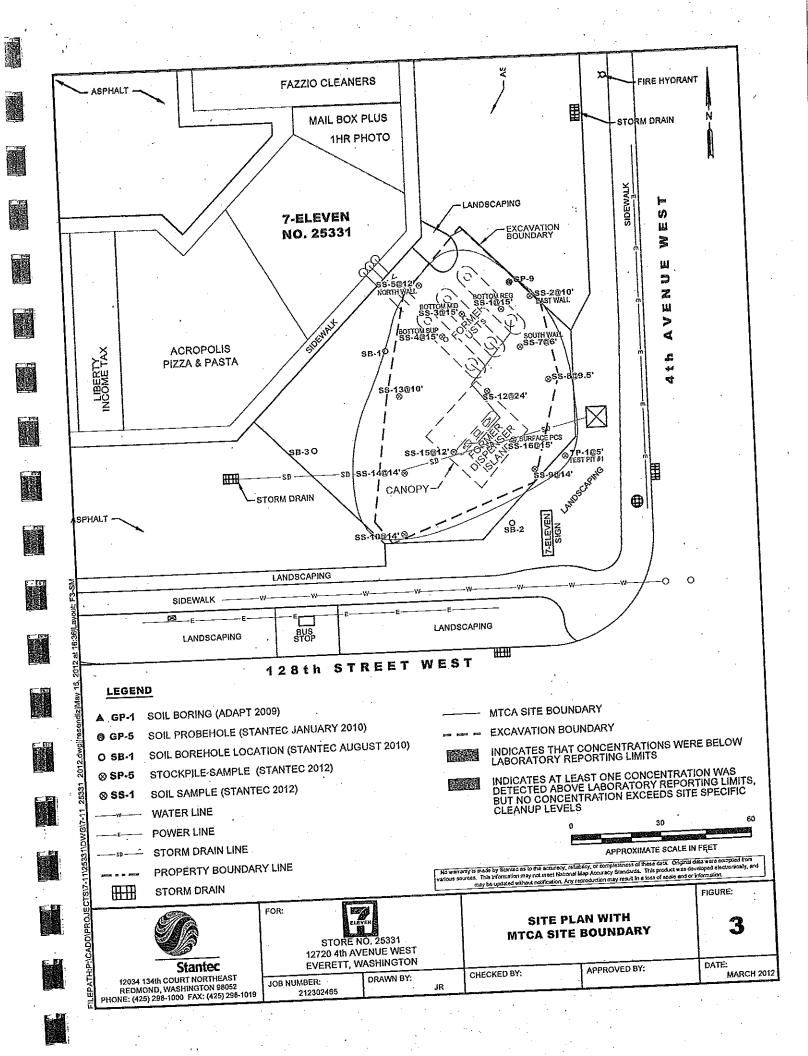
Water Supply: The source of the City's drinking water is the Sultan River which is located approximately 30 miles to the east. The Sultan River Basin covers approximately 84 square miles of steep mountain terrain and is one of the wettest watersheds on the west side of the Cascade Mountains. According to Ecology's well log database, no water supply wells are located within 0.5 mile of the Property.

Release and Extent of Contamination - Soil: Petroleum hydrocarbons in the form of TPH-G, were the known contaminants present in soil at the Site. Multiple soil investigations were conducted at the Site between 1999 and 2011, and contamination was present to a depth of at least 20 feet, but less than 45 feet bgs. Soil samples collected ranged from 2 feet to 120 feet bgs.

Site Diagrams







Enclosure B

Site-specific soil cleanup levels for the COCs

Summary of Site-Specific MTCA Cleanup Levels

(MTCA Cleanup Regulation, Chapter 173-340 WAC, Publication No. 94-06 Revised November 2007)

TPH-G	Benzene	Toluene	Ethyl-	Total	Lead		Naphthalenes	
Soil Method B (mg/kg) 2,258	Method B	Method B 1,000	Method B	Method B	Method A 250	Naphthelene Method B 1,600	1- Methyl Method B 35	P-Methyl Method B 320

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

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

1. Enter Site Information

Date: 09/29/11 Site Name: 7-Eleven Site 25331

Sample Name: DPN-1@2'

Chemical of Concern	Measured Soil Conc	Composition
r Equivalent Carbon Group	dry basis	Ratio
	mg/kg	%
Petroleum EC Fraction		
AL_EC >5-6	179	2.62%
AL_EC >6-8	161	. 2.36%
AL_EC >8-10	940	13.78%
AL_EC > 10-12	671	9.84%
AL_EC >12-16		0.00%
AL_EC >16-21		0.00%
AL_EC >21-34		0.00%
AR_EC >8-10	986	14.46%
AR_EC >10-12	1753	25.70%
AR_EC >12-16	709	10.39%
AR_EC > 16-21		0.00%
AR_EC >21-34		0.00%
Benzene	9.12	0.13%
Toluene	271	3.97%
Ethylbenzene	107	1.57%
Total Xylenes	747	10.95%
Naphthalene	127	1.86%
I-Methyl Naphthalene	41	0.60%
2-Methyl Naphthalene	- 92	1.35%
n-Hexane		0.00%
MTBE	27.9	0.41%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene		0.00%
Benzo(b)fluoranthene		0.00%
Benzo(k)fluoranthene	•	0.00%
Benzo(a)pyrene		0.00%
Chrysene		0.00%
Dibenz(a,h)anthracene		0.00%
Indeno(1,2,3-cd)pyrene		0.00%
Sum	6821.02	100.00%

3. Enter Site-Specific Hyd	drogeological D	<u>ata</u>
Total soil porosity:	0.43	Unitless
Volumetric water content:	0.1	7 Unitless
Volumetric air content:	0.33	e Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

II 2	701	MITSTY /			Andines.	(if adjusted)
114	Inroot	1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	una wate	r c <i>oncen</i>	::UIIII	(II RAINSTER)
11.2	· AHISEI.	12 22 070	4,,,,,,,,,			
15.						

If you adjusted the target TPH ground water

concentration, enter adjusted 8
value here:

800	ug/L

Notes for Data Entry	Set Default Hydrogeology
Clear All Soil Concer	itration Data Entry Cells
Restore All Soil Concentr	ation Data cleared previously

Notes:

Soil collected from this location has been excavated and properly disposed. It was added to simulate worst-case-scenario.

EDB and EDC have been tested for and 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.

There is no history of diesel at the site, so EPH Method was not used and corrisponding fractions are therefore 0.

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 the Model Toxics Control Act Cleanup Regulation User's Guide for MTCATPH 11.1 & MTCASGL 11.0.

•	
Hazardous Substance	Associated EC-Fraction
Ethylbenzene and Xylenes (C8-C10)	AR_EC >8-10
Naphthalene (C10HC8)	AR EC >10-12
1-Methyl + 2-methyl naphthalene (C12C16)	AR_EC>12-16
T-Methal + 5-Menna Mahmmuricue (expers)	

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 = (1,840) - (107 + 747) = 986 mg/kg

AR EC>10-12 corrected total = (1,880) - (127) = 1753 mg/kg

AR EC>12-16 corrected total = (709) - (41+92) = 576 mg/kg

Analysis was performed outside the holding time requirement.

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: 9/29/2011

Site Name: 7-Eleven Site 25331

Sample Name: DPN-1@2'

Measured Soil TPH Concentration, mg/kg:

6,821.020

1. Summary of Calculation Results

		Protective Soil TPH	With Measu	red Soil Conc	Does Measured Soil
Exposure Pathway	Method/Goal	Conc, mg/kg	RISK @	HI @	Conc Pass or Fail?
Protection of Soil Direct	Method B	2,391	5.02E-07	2.85E+00	Fail
Contact: Human Health	Method C	44,546	6.72E-08	1.53E-01	Pass
Protection of Method B Ground	Potable GW: Human Health Protection	8	2.21E-04	1.18E+01	Fail
Water Quality (Leaching)	Target TPH GW Conc. @ 800 ug/L	22	NA	NA	Fail

Warningl Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494). Warningl Check Residual Soturation (WAC340-747(10)).

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

	mway: Human means	
	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	2,390.87	44,545.99
Most Stringent Criterion	HI =1	HI =1

	Pro	tective Soil Concentra	ation @Method	В	Protective Soil Concentration @Method C			
Soil Criteria	Most Stringent?	TPH Conc, mg/kg	RISK @	ні @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.39E+03	1.76E-07	1.00E+00	YES	4.45E+04	4.39E-07	1.00E+00
Total Risk=IE-5	NO	1.36E+05	1.00E-05	5.68E+01	NO	1.01E+06	1.00E-05	2.28E+01
Risk of Benzene= 1E-6	NO	1.36E+04	1.00E-06	5.68E+00			•	
Risk of cPAHs mixture= 1E-6	NA	NA.	NA	NA		NA		
EDB	NA	NA	NA	NA		11/7		
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	MTBE = 20 ug/L
Protective Ground Water Concentration, ug/L	313.48
Protective Soil Concentration, mg/kg	7.97

G	Protective	Protective Soil			
Ground Water Criteria	Most Stringent?	TPH Conc, ug/L	RISK @	H1@	Cone, mg/kg
HI=1	NO	4.75E+02	8.78E-06	1.00E+00	2.16E+01
Total Risk = 1E-5	NO	8.37E+02	1.00E-05	1.82E+00	2,13E+01
Total Risk = 1E-6	YES	8.31E+01	. 1.00E-06	1.80E-01	2.13E+00
Risk of ePAHs mixture= 1E-5	NA	NA	NA	NA	NA
Benzene MCL = 5 ug/L	NO	5.26E+02	6.29E-06	1.14E+00	1.34E+01
MTBE = 20 ug/L	YES	3.13E+02	3.75E-06	6.80E-01	7.97E+00

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
	TPH Conc, ug/L	Risk @	HI @	Cone, mg/kg
Target TPH GW Conc = 800 ug/L	8.00E+02	1.02E-05	1.72E+00	2.21E+01