



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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December 1, 2016

Mark Horne
Chevron Environmental Management Company
6101 Bollinger Canyon Rd.
San Ramon, CA 94583

Re: No Further Action at the following Site:

- **Site Name:** Chevron 9-1557
- **Site Address:** 220 Strander Boulevard, Tukwila, WA 98188
- **Facility/Site No.:** 43787415
- **VCP Project No.:** NW1561

Dear Mr. Horne:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Chevron 9-1557 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:

- Gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylenes into the soil and groundwater.

Enclosure A includes a detailed description and diagrams 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 documents listed in **Enclosure B**. 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 425-649-7190.

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**.

In October of 2000, borings B-1 through B-3 were installed in the vicinity of former and current fuel USTs and dispenser islands, and later converted to groundwater monitoring wells MW-1 through MW-3. MW-1 and MW-3 were advanced to total depths ranging from 15.5 to 21.5 fbg screened from 5 to 15 fbg (MW-1 and MW-2) and 5 to 20 fbg (MW-3).

One soil sample was collected at a depth of 5 fbg from each soil boring and submitted for laboratory analysis for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylenes. None of the analytes were detected in any of the soil samples

In October of 2002, groundwater monitoring well MW-4 was installed in the vicinity of the former used-oil and heating-oil underground storage tanks. MW-4 was advanced to a total depth of 20.5 fbg and screened from 7.5 to 20 fbg. One soil sample was collected from 10 fbg from the boring and submitted for laboratory analysis for gasoline, diesel, oil, benzene, ethylbenzene, toluene, xylenes and lead. None of the analytes were detected in the soil sample.

From 2000 to 2004, monitoring wells MW-1 through MW-4 were periodically sampled for gasoline, diesel, oil, benzene, ethylbenzene, toluene, xylene, methyl tertiary butyl ether, and lead. Exceedances of MTCA Method A standards for gasoline, diesel, and benzene were measured in MW-1. No exceedances of MTCA Method A standards were found in the other three monitoring wells.

In June of 2004 four soil borings, GP-3 through GP-6, were installed to characterize the soil and groundwater at the site. Thirteen soil samples were collected and submitted for laboratory analysis for gasoline, diesel, oil, benzene, ethylbenzene, toluene, xylenes, and fuel oxygenates. No analytes were detected above MTCA Method A cleanup levels in any of the soil samples.

Grab-groundwater samples from each soil boring, as well as groundwater monitoring wells MW-1 through MW-4 were collected and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, xylenes, lead, and oxygenates. Concentrations of diesel, oil, and/or dissolved lead were detected above the MTCA Method A cleanup levels in the groundwater samples collected from wells GP-3, GP-4, GP-5, MW-1, and MW-2 at maximum concentrations of 883 µg/L(oil), 2,380 µg/L (diesel), and 63 µg/L dissolved lead.

Also in June of 2004, soil borings BA-1 and BA-2 were installed. BA-1 was placed in the vicinity of the gasoline underground storage tanks and BA-2 in the vicinity of the used-oil underground storage tank. Soil samples were collected at 5 fbg from BA-1 and 3.5 fbg from BA-2 and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, xylenes, and oxygenates. No analytes were detected in any of the soil samples.

Grab-groundwater samples were collected from both borings in addition to the four monitoring wells and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, xylenes, and oxygenates.

Diesel was detected above the MTCA Method A cleanup level in the grab-groundwater samples collected from boring BA-1 at a concentration of 512 µg/L.

In January of 2007, six additional soil borings were installed (B-1, B-2, B-3B, B-4A, B-5, and B-6). Soil samples were collected from each soil boring at depths ranging from 3 to 12 fbg and submitted for laboratory analysis. No analyte concentrations were detected above the MTCA Method A cleanup levels in the soil samples.

Grab-groundwater samples were collected from each of the soil borings. Groundwater samples were also collected from the four groundwater monitoring wells in December 2006 and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, xylenes, lead, and carcinogenic polycyclic aromatic hydrocarbons. Concentrations of 14,000 µg/L (oil), 3,200 µg/L (diesel), 2,400 µg/L (gasoline), 280 µg/L benzene, 73 µg/L total lead, and 0.2954 µg/L total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) were detected above the MTCA Method A cleanup levels in the sample from MW-1. Benzene was also detected above the MTCA Method A cleanup level at concentrations of 29 µg/L in MW-3 and 22 µg/L in B-6. Dissolved lead was detected above the MTCA Method A cleanup level in samples from wells B-1 through B-4, B-6, and MW-4 at concentrations ranging from 43 to 260 µg/L.

From 2008 through 2011, groundwater monitoring was performed at all four monitoring wells. The samples were analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylenes. The final four samples, in October of 2010 and January, April, and August of 2011, had no exceedances of MTCA Method A standards for any of the seven analytes.

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.

The land use is designated for commercial use and the selected Method A and B standards used at this site for soil and groundwater are protective of human health and the environment:

Soil (Method A)

Gasoline – 30 mg/Kg
Diesel – 2,000 mg/Kg
Oil – 2,000 mg/Kg
Benzene – 0.03 mg/Kg
Toluene – 7 mg/Kg
Xylenes – 9 mg/Kg
Ethylbenzene – 6 mg/Kg

(Method B – hoist area)

Gasoline, Diesel, Oil – 14,672 mg/Kg
Benzene – 18.2 mg/Kg
Toluene – 6,400 mg/Kg
Xylenes – 16,000 mg/Kg
Ethylbenzene – 8,000 mg/Kg

Groundwater (Method A)

Gasoline – 800 µg/l
Diesel – 500 µg/l
Oil – 500 µg/l
Benzene – 5 µg/l
Toluene – 1,000 µg/l

Xylenes – 1,000 µg/l
Ethylbenzene – 700 µg/l

A standard horizontal point of compliance, the property boundary, was used for soil contamination.

A standard vertical point of compliance, fifteen feet, for soils was established in the soils throughout the site from the ground surface to fifteen feet below the ground surface. Fifteen feet is protective for direct contact with the contaminated soil.

A standard vertical point of compliance, from the uppermost level of the saturated zone to the lowest depth that could potentially be affected, was used for groundwater contamination.

3. Selection of cleanup action.

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

The method selected for soil excavation of the petroleum contaminated soil and transporting the soil off-site to a permitted facility, meets the minimum requirements for cleanup actions by providing a permanent solution, immediate restoration time frame, provides for confirmation monitoring, and protects human health and the environment.

No groundwater remediation was used.

4. Cleanup.

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

In March of 1991, two 9,562-gallon gasoline underground storage tanks, one 5,760-gallon gasoline underground storage tank, one 9,886-gallon diesel underground storage tank, one 1,500-gallon used-oil underground storage tank, one 850-gallon heating-oil underground storage tank, two dispenser islands, and all associated fuel delivery lines were excavated. Approximately 1,500 cubic yards of petroleum hydrocarbon impacted soil were removed for offsite disposal during the tank removal and over-excavation activities. Confirmation soil samples were collected from the bottom and sidewalls of the final excavations at depths ranging from 3 to 12 fbg. Concentrations of gasoline and benzene exceeding Washington State Model Toxics Control Act Method A cleanup levels were left in place in the northern, southern, eastern, and western limits of the main petroleum fuel tank excavation and beneath the southern and northeastern dispenser islands. Benzene concentrations ranging from 0.03 milligrams per kilogram to 0.41 mg/kg and gasoline concentrations at 84 mg/kg were left in place at depths ranging from 3 to 12 fbg, based on the cleanup levels at the time.

The soil samples collected from the used-oil and heating-oil tank excavation did not contain petroleum hydrocarbons concentrations above MTCA Method A cleanup levels.

In January of 1999, one hydraulic hoist was removed from the eastern service bay. The hoist excavation was subsequently backfilled. One soil sample was collected at a depth of 7 fbg from the excavation.

Diesel and oil were detected above the MTCA Method A cleanup levels at concentrations of 10,500 mg/kg and 29,500 mg/kg, respectively. The total amount of the soil excavated and its subsequent disposal was not stated.

In May of 1999, the removal of a second hydraulic hoist, this from the western service bay. The excavation was over-excavated to a total depth of 12 fbg. One soil sample collected at 3 fbg was analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylenes. The results of the analyses which exceeded MTCA Method A cleanup levels included 1,140 mg/Kg gasoline, 4.720 mg/Kg diesel and 15,000 mg/Kg oil, 9.20 mg/Kg toluene, 10.1 mg/Kg ethylbenzene, and 67.6 mg/Kg xylenes. The total amount of soil excavated was not stated; but some of the excavated soil was used to backfill the excavation.

In March of 2015, one 1,000-gallon used-oil UST located south of the station building and three hydraulic hoists located inside the station building were removed. The used-oil UST excavation was completed to 12 feet east to west by 6 feet north to south with a total depth of approximately 7 fbg. Groundwater was encountered at approximately 4 to 5 fbg. Five soil samples from the bottom and sidewalls of the used oil tank excavation and one grab-groundwater sample were collected. The samples were analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylenes. No exceedances of MTCA Method A standards were found. Two soil samples from the eastern and western hydraulic hoist excavations were collected. A second consultant collected five soil samples from the hydraulic hoist excavation. The soil samples collected from the east and west hydraulic hoist excavations between 3 and 4 fbg contained concentrations of oil and/or tetrachloroethene exceeding MTCA Method A cleanup levels. Over-excavation was subsequently conducted on the west hydraulic excavation based on the analytical results. Final excavation was completed to approximately 18 feet north to south by 5 feet east to west with a total depth of approximately 6fbg. Five soil samples were collected from the bottom and sidewalls of the final excavation and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylenes. No exceedances of MTCA Method A standards for any analyte were observed.

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 (NW 1561).

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 360 – 407 – 7223 or e-mail at Christopher.Maurer@ecy.wa.gov.

Sincerely,



Christopher Maurer, P.E.
HQ - Toxics Cleanup Program

Enclosures (2): A – Description and Diagrams of the Site
 B – Basis for the Opinion: List of Documents

By certified mail: 9171999991703646815198

cc: Ben Summersett, GHD
 Matt Alexander, Ecology

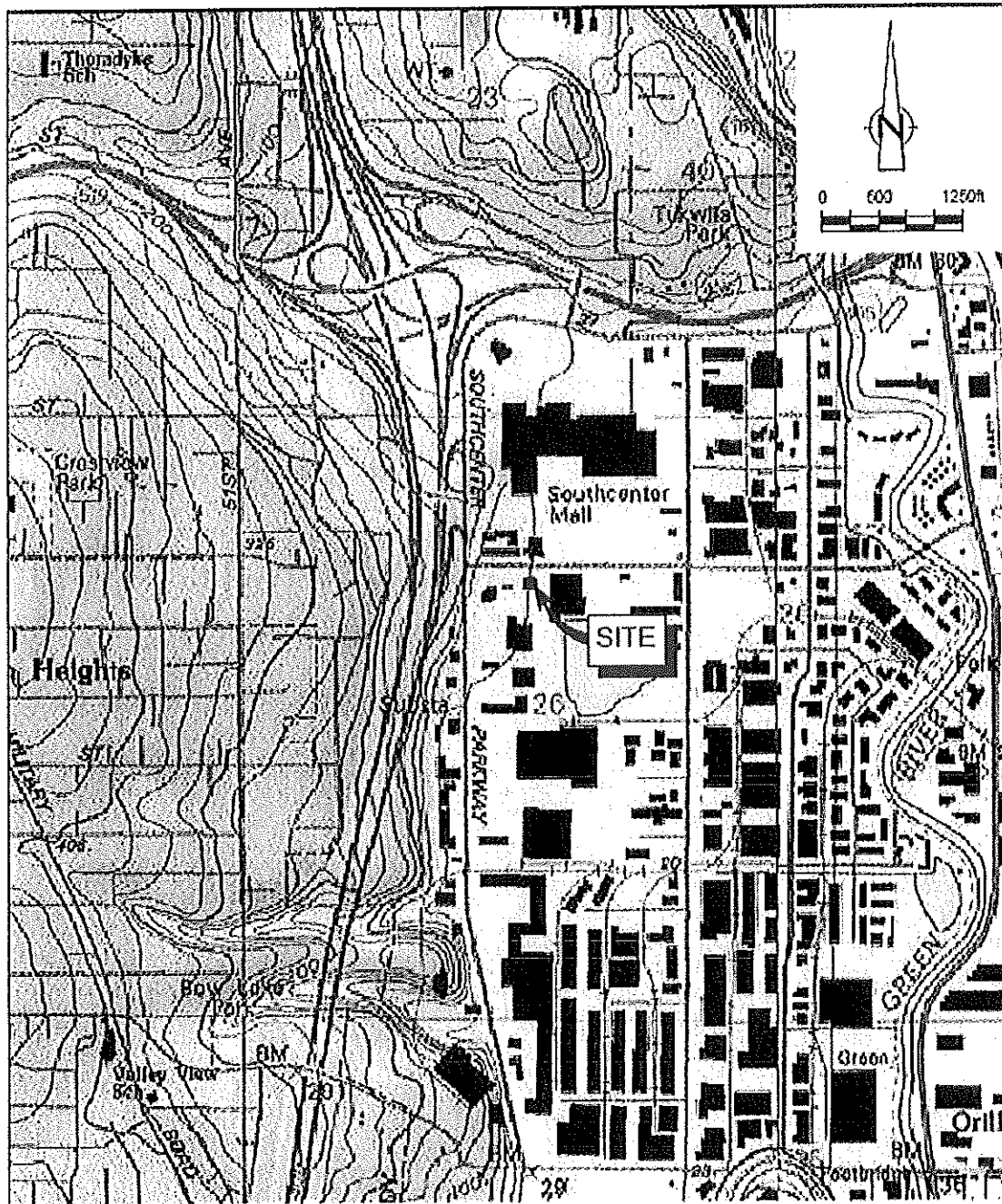
Enclosure A

Description and Diagrams of the Site

W 150 FT OF E 350 FT OF N 230 FT OF SE 1/4 OF NW 1/4 LESS ST

Plat Block:

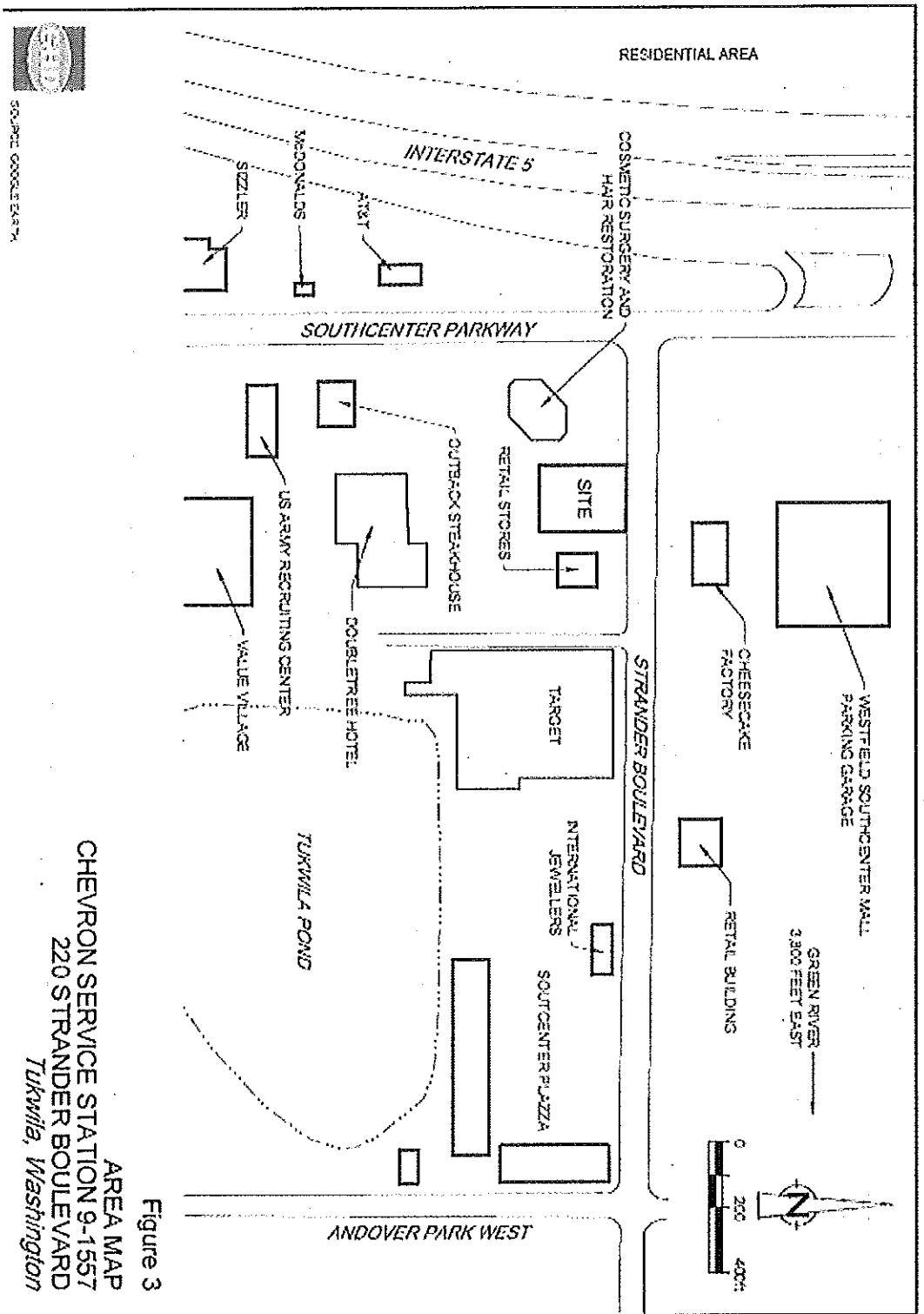
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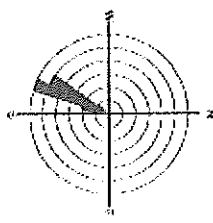
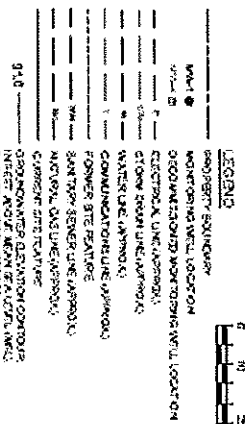


SOURCE: TOPOI MAPS.



Figure 1
VICINITY MAP
CHEVRON SERVICE STATION 91557
220 STRANDER BOULEVARD
Tukwila, Washington





GROUNDWATER ELEVATION CONTOUR AND
HYDROCARBON CONCENTRATION MAP
CHEVRON SERVICE STATION 1415ST
220 STRANDER BOULEVARD
Tukwila, Washington
August 04, 2017

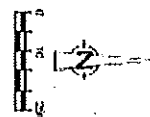
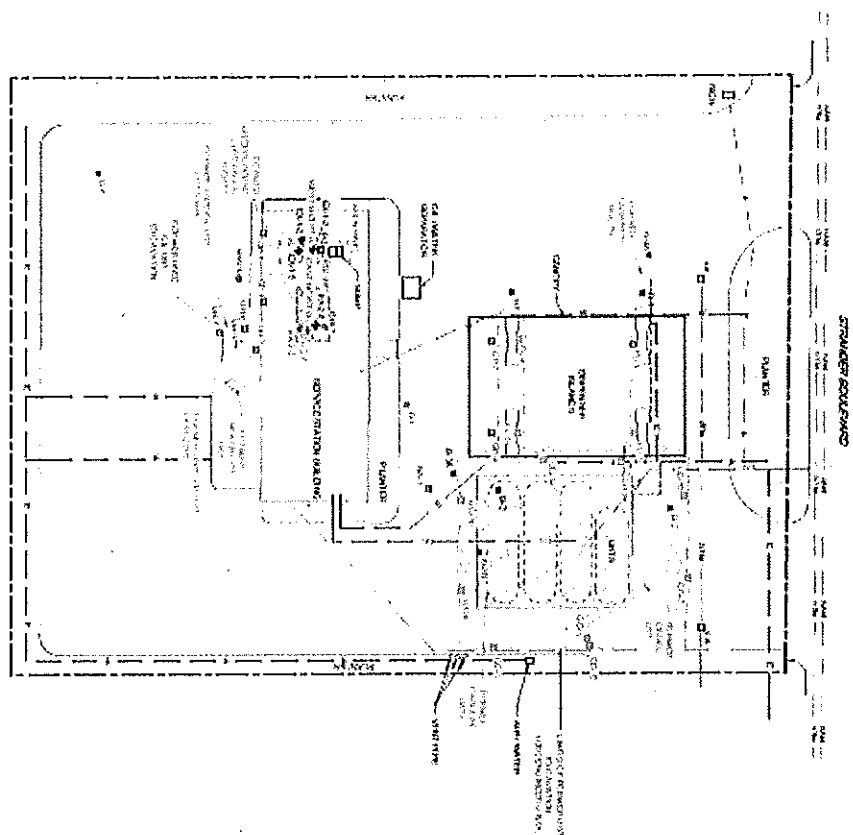
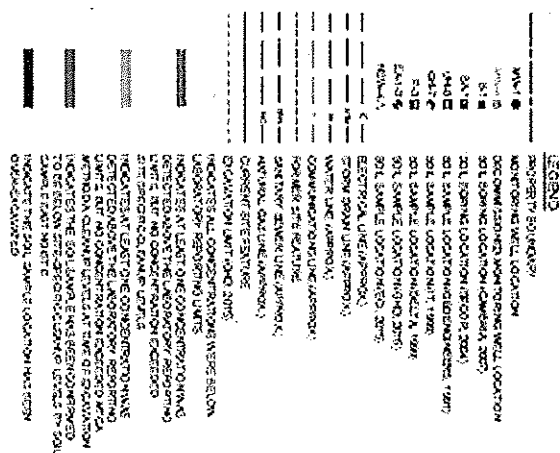


Figure 9
CURRENT SOIL CONDITIONS
CHEVRON SERVICE STATION 91557
220 STRANDER BOULEVARD
Tukwila, Washington



Enclosure B

Basis for the Opinion: List of Documents

1. Report of Geoenvironmental Services – Tank Removal Monitoring – Chevron Service Station 60091557 – 220 Strander Boulevard – Tukwila, Washington by Geo-Engineers and dated July 2, 1991
2. Hydraulic Hoist Removal – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by IT Corporation and dated March 10, 1999
3. Hoist Removal Sampling Activities – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Delta Environmental and dated December 6, 1999
4. Groundwater Monitoring and Sampling Report – Event of December 17, 2000 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated February 6, 2001
5. Groundwater Monitoring and Sampling Report – Event of March 25, 2001 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated April 23, 2001
6. Environmental Investigation – Chevron Service Station 9-1557 – 1220 Strander Boulevard – Tukwila, Washington by Delta Environmental and dated June 28, 2001
7. Groundwater Monitoring and Sampling Report – Event of June 10, 2001 – Event of September 10, 2001 – Event of November 30, 2001 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated January 14, 2002
8. Environmental Investigation – Chevron Service Station 9-1557 – 1220 Strander Boulevard – Tukwila, Washington by Delta Environmental and dated February 6, 2003
9. Groundwater Monitoring and Sampling Report – Event of February 14, 2003 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated March 26, 2003
10. Groundwater Monitoring and Sampling Report – Event of February 26, 2004 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated March 23, 2004
11. Final Baseline Site Assessment – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Secor International and dated July 28, 2004
12. Groundwater Monitoring and Sampling Report – Event of October 27, 2004 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated December 1, 2004
13. Groundwater Monitoring and Sampling Report – Event of January 11, 2005 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated February 17, 2005
14. Groundwater Monitoring and Sampling Report – Event of November 11, 2005 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated December 16, 2005
15. Groundwater Monitoring and Sampling Report – Event of March 1, 2006 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated April 6, 2006
16. Groundwater Monitoring and Sampling Report – Event of June 6, 2006 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Gettler-Ryan and dated July 12, 2006

17. Groundwater Monitoring Report – Third Quarter 2006 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Cambria Environmental Technology and dated February 16, 2007
18. Groundwater Monitoring Report – Fourth Quarter 2006 and First Quarter 2007 – Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated August 23, 2007
19. Groundwater Monitoring Report – Second Quarter 2007 - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated September 6, 2007
20. Groundwater Monitoring Report – Third Quarter 2007 - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated January 18, 2008
21. Interim Action Report – Third Quarter 2007 - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated February 29, 2008
22. Groundwater Monitoring Report – Fourth Quarter 2007 - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated March 4, 2008
23. Groundwater Monitoring Report – First Quarter 2008 - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated September 5, 2008
24. Second Quarter 2008 Groundwater Monitoring Report - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated January 13, 2009
25. Third Quarter 2008 Groundwater Monitoring Report - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated February 23, 2009
26. Groundwater Monitoring Report of March 29, 2010 - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated June 8, 2010
27. First Quarter 2011 Groundwater Monitoring and Sampling Report - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated June 14, 2011
28. Second Quarter 2011 Groundwater Monitoring and Sampling Report - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated November 29, 2011
29. Third Quarter 2011 Groundwater Monitoring and Sampling Report - Chevron Service Station 9-1557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated February 15, 2012
30. Site Assessment Work Plan – Chevron Service Station 91557 – 220 Strander Boulevard – Tukwila, Washington by Conestoga-Rover and dated May 27, 2014
31. Underground Storage Tank Site Assessment – 220 Strander Boulevard – Tukwila, Washington by ECI (consultant) and dated March 27, 2015
32. Soil Remediation Report – 220 Strander Boulevard – Tukwila, Washington by ECI (consultant) and dated June 8, 2015
33. Cleanup Action Report – Chevron Service Station 91557 – 220 Strander Boulevard – Tukwila, Washington by GHD and dated June 15, 2016

