STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
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September 29, 2021

Jeff Tinklepaugh
ZipperGeo
19019 36th Avenue W, Suite E
Lynnwood, WA 98036

Re: Further Action at the following Site:

- **Site Name:** Mill Creek Crossing – Prime Cleaners
- **Site Address:** 18001 Bothell-Everett Highway, Suite 125, Bothell, WA
- **Facility/Site No.:** 19816
- **VCP Project No.:** NW2571

Dear Jeff Tinklepaugh:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Mill Creek Crossing – Prime Cleaners facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70A.305 RCW.

Issue Presented and Opinion

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

YES. Ecology has determined that 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 70A.305 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:

- tetrachloroethene into the soil and groundwater

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. Preliminary Subsurface Sampling and Testing – Marketplace Plaza Gas Station and Dry Cleaner – 18001 Bothell-Everett Highway SE – Bothell, Washington by Environmental Associates and dated April 26, 1999
2. Limited Phase II Environmental Site Assessment – Marketplace Retail Center - 18001 Bothell-Everett Highway SE – Bothell, Washington by Adapt Engineering and dated November 9, 2007
3. Limited Site Investigation – Marketplace Retail Center - 18001 Bothell-Everett Highway SE – Bothell, Washington by Terracon and dated August 7, 2009
4. Supplemental Limited Site Investigation – Marketplace Retail Center - 18001 Bothell-Everett Highway SE – Bothell, Washington by Terracon and dated June 29, 2011
5. Groundwater Monitoring Report - Marketplace Retail Center - 18001 Bothell-Everett Highway SE – Bothell, Snohomish County, Washington by Zipper Geo Associates and dated June 8, 2012
6. Supplemental Remedial Investigation and Pilot Study Work Plan – Prime Cleaners - 18001 Bothell-Everett Highway SE – Bothell, Snohomish County, Washington by Zipper Geo Associates and dated September 12, 2013
7. Cleanup Action Plan – Prime Cleaners – 18001 Bothell-Everett Highway – Bothell, Washington by Zipper Geo Associates and dated June 24, 2014
8. Remedial Investigation/Feasibility Study and Pilot Study – Prime Cleaners - 18001 Bothell-Everett Highway – Bothell, Washington by Zipper Geo Associates and dated June 24, 2014
9. Groundwater Monitoring Report – Former Prime Cleaners - 18001 Bothell-Everett Highway – Bothell, Snohomish County, Washington by ZipperGeo Associates and dated September 29, 2017
10. Groundwater Monitoring Report – Former Prime Cleaners - 18001 Bothell-Everett Highway – Bothell, Snohomish County, Washington by ZipperGeo Associates and dated January 26, 2018
11. February 2018 Groundwater Monitoring Report - Former Prime Cleaners -

18001 Bothell-Everett Highway – Bothell, Snohomish County, Washington by ZipperGeo Associates and dated August 1, 2018

12. January 2019 Groundwater Monitoring Report - Former Prime Cleaners - 18001 Bothell-Everett Highway – Bothell, Snohomish County, Washington by ZipperGeo Associates and dated February 13, 2019
13. April 2019 Groundwater Monitoring Report - Former Prime Cleaners - 18001 Bothell-Everett Highway – Bothell, Snohomish County, Washington by ZipperGeo Associates and dated May 9, 2019
14. December 2019 Groundwater Monitoring Report - Former Prime Cleaners - 18001 Bothell-Everett Highway – Bothell, Snohomish County, Washington by ZipperGeo Associates and dated February 17, 2020
15. December 2020 Groundwater Monitoring Report - Former Prime Cleaners - 18001 Bothell-Everett Highway – Bothell, Snohomish County, Washington by ZipperGeo Associates and dated February 11, 2021

A number of these documents are accessible in electronic form from the Site webpage[1]. The complete records are stored in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Visit our Public Records Request page[2], to submit a public records request or get more information about the process. If you require assistance with this process, you may contact the Public Records Officer at publicrecordsofficer@ecy.wa.gov or 360-407-6040.

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 **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 March of 1999, two soil borings and two soil probes were installed on site. A soil sample from each boring or probe was analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and chloroform.

[1] https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=11775
[2] https://ecology.wa.gov/Footer/Public-records-requests

Trichloroethene and chloroform were not detected in any of the four soil samples. Cis 1,2-dichloroethene was detected in one of four samples, with a concentration below the then cleanup standard. Tetrachloroethene was detected in three of four soil samples, with one of three concentrations exceeding the MTCA Method A standard.

In October of 2007, one soil boring was installed on site, then converted to a groundwater monitoring well. One soil sample was collected from the soil boring and analyzed for benzene, ethylbenzene, toluene, xylene, tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and chloroform. Benzene, ethylbenzene, toluene, xylene, trichloroethene, cis 1,2-dichloroethene, and chloroform were not detected in the soil sample. Tetrachloroethene was detected in the sample, with a concentration exceeding the MTCA Method A standard. One groundwater sample was collected from the well and analyzed for the same analytes. Benzene, ethylbenzene, toluene, xylene, trichloroethene, and cis 1,2-dichloroethene were not detected in the sample. Chloroform was detected, with a concentration below the current MTCA Method B cancer standard. Tetrachloroethene was detected in the sample, with a concentration exceeding the MTCA Method A standard.

In May of 2009, Thirteen soil borings and three new groundwater monitoring wells were installed on site. Fifteen soil samples were collected from the three monitoring wells. The soil samples were analyzed for tetrachloroethene, trichloroethene, and cis 1,2-dichloroethene. Cis 1,2-dichloroethene was detected in one of thirty samples, from a soil boring, with a concentration exceeding the current MTCA Method B standard. Trichloroethene was detected in fourteen of fifteen soil boring samples, with three of fourteen concentrations exceeding the then MTCA Method A standard of 30 mg/Kg. Trichloroethene was not detected in any of the soil samples from the groundwater monitoring wells.

Tetrachloroethene was detected in thirteen of fifteen soil samples from soil borings, with three of thirteen concentrations exceeding the then MTCA Method A standard of 50 mg/Kg. Tetrachloroethene was detected in five of fifteen soil samples from groundwater monitoring wells, with all five concentrations below the then MTCA Method A standard of 50 mg/Kg. One groundwater sample was collected from each of the three new wells and one existing well. The groundwater samples were analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, benzene, ethylbenzene, toluene, xylene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.

Trichloroethene and p isopropyltoluene were not detected in any of the four groundwater samples. Tetrachloroethene was detected in three of four samples, with all concentrations exceeding the MTCA Method A standard. Benzene was detected in three of four groundwater samples, with two of three concentrations exceeding the MTCA Method A standard. The other analytes were detected in various combinations, with all concentrations below cleanup standards for those analytes that had cleanup standards.

In July of 2010, four additional groundwater monitoring wells were installed off of the property downgradient or cross-gradient. Twenty-seven soil samples were collected from the wells and analyzed for tetrachloroethene, trichloroethene, and cis 1,2-dichloroethene. Trichloroethene and cis 1,2-dichloroethene were not detected in any of soil samples. Tetrachloroethene was detected in two of fifteen soil samples from the three most distant wells, with both concentrations below the then MTCA Method A standard of 50 mg/Kg. Tetrachloroethene was detected in ten of twelve soil samples from a closer, downgradient well, with all concentrations below the then MTCA Method A standard of 50 mg/Kg. In August of 2010, groundwater samples were collected from seven monitoring wells and analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, benzene, ethylbenzene, toluene, xylene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. Ethylbenzene, toluene, xylene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not detected in any of the samples. Benzene was detected in one of seven samples, with a concentration below the MTCA Method A standard. Trichloroethene and cis 1,2-dichloroethene were detected in one of seven samples (the same sample), with both concentrations below their respective MTCA Method A or B standards. Tetrachloroethene was detected in four of seven groundwater samples, with two of four concentrations exceeding the MTCA Method A standard.

In May of 2011, one new monitoring well and the seven existing wells were sampled and the samples analyzed for the same analytes. Trichloroethene, cis 1m,2-dichloroethene, ethylbenzene, toluene, xylene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not detected in any of the samples. Benzene was detected in one of eight samples, with a concentration below the MTCA Method A standard. Tetrachloroethene was detected in six of eight samples, with three of six concentrations exceeding the MTCA Method A standard.

In May of 2012, the four on-property wells and one off-property well were sampled and the samples analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, benzene, ethylbenzene, toluene, xylene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. None of the analytes were detected in any of the samples, with the exception of tetrachloroethene which was detected in three of five samples, including the off-property well, with all three concentrations exceeding the MTCA Method A standard.

In September of 2013, two additional groundwater monitoring wells were installed on site upgradient or cross-gradient of the suspected contamination. Eight soil samples were collected from each well and analyzed for tetrachloroethene, trichloroethene, and cis 1,2-dichloroethene. There were no detections of any analyte in any of the soil samples.

In November of 2013 and June of 2014, three indoor air samples and one outdoor air sample were collected and analyzed for trichloroethene and tetrachloroethene. Tetrachloroethene did not exceed the MTCA Method B standard in any of the indoor or outdoor measurements. Trichloroethene exceeded the MTCA Method B standard in all three indoor locations in November but only in the drycleaners and one adjoining space in June. At the same time, two soil gas samples were collected from beneath the drycleaners and the two adjoining spaces and analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene. Trans 1,2-dichloroethene and cis 1,2-dichloroethene were detected in one of twelve measurements in separate samples, with concentrations below their respective screening levels. Trichloroethene was detected in eight of twelve samples, with all eight concentrations exceeding the screening level. Four of the eight exceedances occurred in the drycleaners. Tetrachloroethene was detected in ten of twelve soil gas samples, with all ten concentrations exceeding the screening level. The soil gas samples were also analyzed for benzene, 2-propanol, toluene, chlorobenzene, and chloroform. Chlorobenzene was detected in two of twelve samples and toluene in three of twelve samples, with all concentrations below their respective screening levels. Chloroform was detected in five of twelve samples, with all concentrations exceeding the screening level. Benzene was detected in one of twelve samples, with a concentration exceeding the screening level. There is no screening level for 2-propanol.

In March of 2014, the two new wells and the eight existing wells were sampled and the samples analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, benzene, ethylbenzene, toluene, xylene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. None of the analytes were detected in any of the samples, with the exception of tetrachloroethene which was detected in five of ten samples, including an off-property well, with four of five concentrations exceeding the MTCA Method A standard. All exceedances occurred in existing on or off-property wells.

In January, August, and November of 2017, all ten on-property and off-property wells were sampled and the samples analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene. Trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene were not detected in any sample, except for one detection of trans 1,2-dichloroethene in one sample with a concentration below the MTCA Method B standard. Tetrachloroethene was detected in twenty of thirty samples, with seven of twenty concentrations exceeding the MTCA Method A standard. The seven exceedances occurred in two on-property and one off-property wells.

In February of 2018**,** all ten on-property and off-property wells were sampled and the samples analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene. Trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene were not detected in any sample. Tetrachloroethene was detected in seven of ten samples, with three of seven concentrations exceeding the MTCA Method A standard. The three exceedances occurred in two on-property and one off-property wells.

In August of 2018, January of 2019, and April of 2019, three rounds of indoor air sampling were performed sampling the drycleaners and the adjoining businesses. The samples were analyzed for tetrachloroethene, trichloroethene, and 1,2-dichloroethane. Tetrachloroethene was detected only once, in the drycleaners, with a concentration below the MTCA Method B cleanup level. Trichloroethene was detected once, in an adjoining business, with a concentration that exceeded the MTCA Method B cleanup standard. 1,2-dichloroethane was detected in five of nine samples, with all five concentrations below the MTCA Method B cleanup standard. In ambient air, trichlorethene was detected in one round and 1,2-dichloroethane in all three rounds, with two of three 1,2-dichloroethane concentrations exceeding the MTCA Method B cleanup standard.

In January and April of 2019, all ten on-property and off-property wells were sampled and the samples analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene. Trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene were not detected in any sample. Tetrachloroethene was detected in eight of twenty samples, with four of eight concentrations exceeding the MTCA Method A standard. All of the exceedances occurred in two wells, one on-property and one off-property.

In December of 2019, three wells, two on-property and one off-property, were sampled and the samples analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene. Trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene were not detected in any sample. Tetrachloroethene was detected in all three wells, with two of three concentrations exceeding the MTCA Method A standard. Both of the exceedances occurred in two wells, one on-property and one off-property.

In January of 2020, an additional round of indoor air sampling was performed, sampling the drycleaners and the adjoining businesses. The samples were analyzed for tetrachloroethene, trichloroethene, and 1,2-dichloroethane. Tetrachloroethene and trichloroethene were not detected in any of the three samples. 1,2-dichloroethane was detected in all three samples, with all three concentrations below the MTCA Method B cleanup standard. In ambient air, only 1,2-dichloroethane was detected, with a concentration below the MTCA Method B cleanup standard.

In December of 2020, three wells, two on-property (MW-3 and MW-4) and one off-property (MW-8), were sampled and the samples analyzed for tetrachloroethene, trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene. Trichloroethene, cis 1,2-dichloroethene, and trans 1,2-dichloroethene were not detected in any sample. Tetrachloroethene was detected in all three wells, with all three concentrations exceeding the MTCA Method A standard.

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

Tetrachloroethene – 0.05 mg/Kg

Trichloroethene – 0.03 mg/Kg

Cis-1,2-dichloroethene – 160 mg/Kg

Trans-1,2-dichloroethene – 1,600 mg/Kg

Vinyl Chloride - .67 mg/Kg

Groundwater

Tetrachloroethene – 5 µg/l

Trichloroethene – 5 µg/l

Cis – 1,2-dichloroethene – 16 µg/l

Trans 1,2-dichloroethene – 160 µg/l

Vinyl Chloride – 0.2 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 selected remedy – dual-phase extraction – meets the minimum requirements for cleanup actions by providing a permanent solution to the extent practicable, an immediate restoration time frame, provides for confirmation monitoring, and protects human health and the environment.

4. Cleanup.

Ecology has determined the cleanup you performed does not meet the cleanup standards at the Site.

A dual-phase extraction system to treat the contaminated groundwater was installed in February of 2017. **T**he system ran more or less continuously from June of 2017, with periodic shutdowns for maintenance and groundwater sampling, until February of 2018. At that time the system was shut down to accommodate tenant improvements to the former Prime Cleaners tenant space, which included improvements to the dual-phase extraction groundwater effluent plumbing system. The system was restarted in October of 2018 and has run more or less continuously since that time, with periodic shutdowns for maintenance, repairs and groundwater sampling.

Ecology has **determined** that the cleanup is **Insufficient.** The off-property flow of groundwater contaminated above State standards has not been fully remediated nor controlled.

5. Action Requested:

1) The off-property plume of contaminated groundwater may be remediated to below State standards or
2) An engineering control may be used to confine the contaminated groundwater to the property or
3) If the adjoining property owner agrees, and it is demonstrated that the plume of contaminated groundwater is not traveling beyond the boundaries of the adjacent property at concentrations above State standards, an environmental covenant may be used to control access to the off-property plume of contaminated groundwater

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 70A.305.040(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 70A.305.080 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 70A.305.170.

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

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, 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

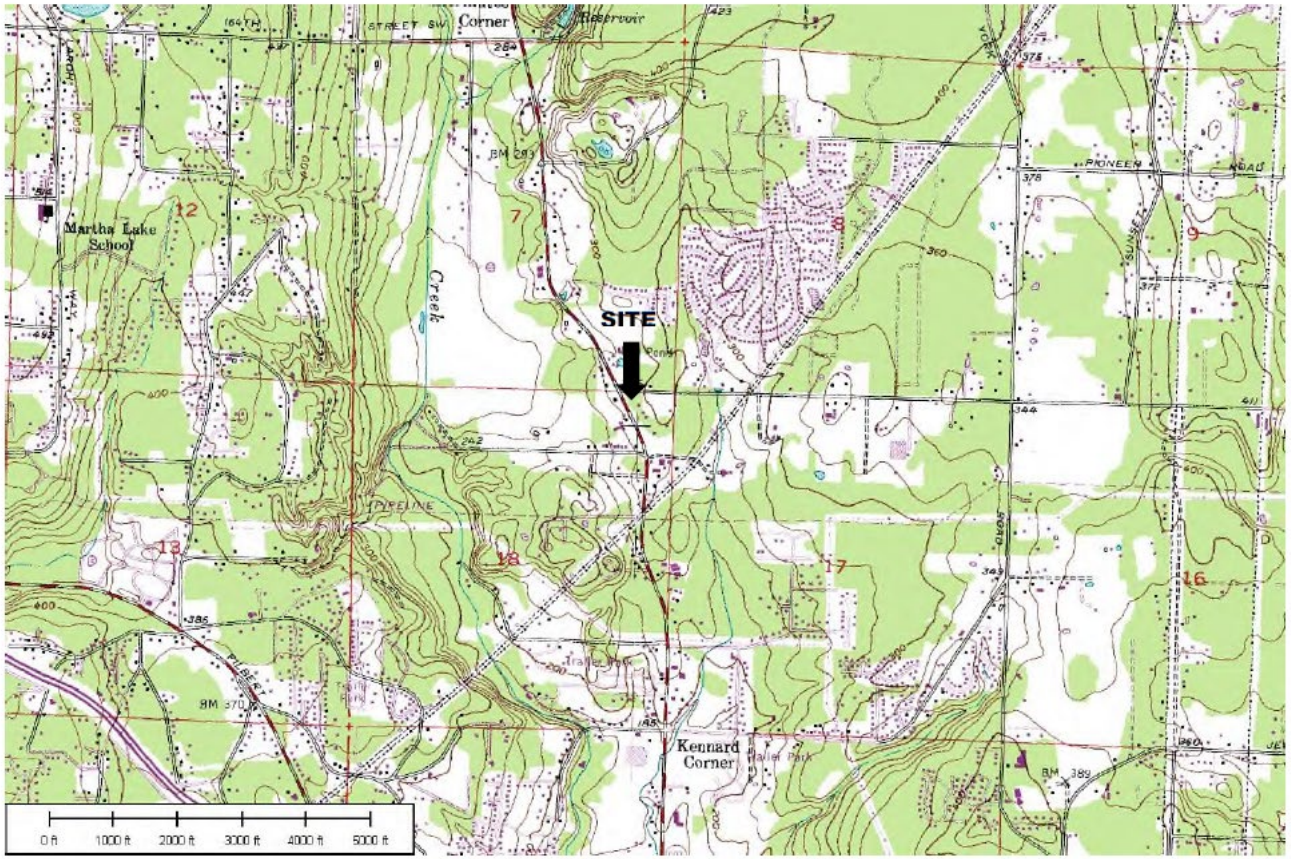
Enclosure: A – Description and Diagrams of the Site

cc: Nicholas Echelbarger, Mill Creek Crossing LLC

Enclosure A

Description and Diagrams of the Site

Section 18 Township 27 Range 05 Quarter NE -- N 430FT OF NE1/4 NE1/4 LY E OF OLD PACIFIC HWY EXC E 338FT THOF & EXC TH PTN CONVYD TO SNO CO & ST OF WA FOR RDS PER DEEDS REC AF NOS 633629, 2089149,8101050118, 8101050121, 8507240130 & 920609461 AKA A PTN OF LOTS 2, 3 & 4 SP227(10-82) REC AF NO 830302184 & PER BLA205-94 AF NO 9501060244 & LESS ADDL R/W TO SNO CO PER DEED REC AF NO 200802210413 &CORR PER REC AF NO 200803040365 & DEED REC AF NO 200803040248

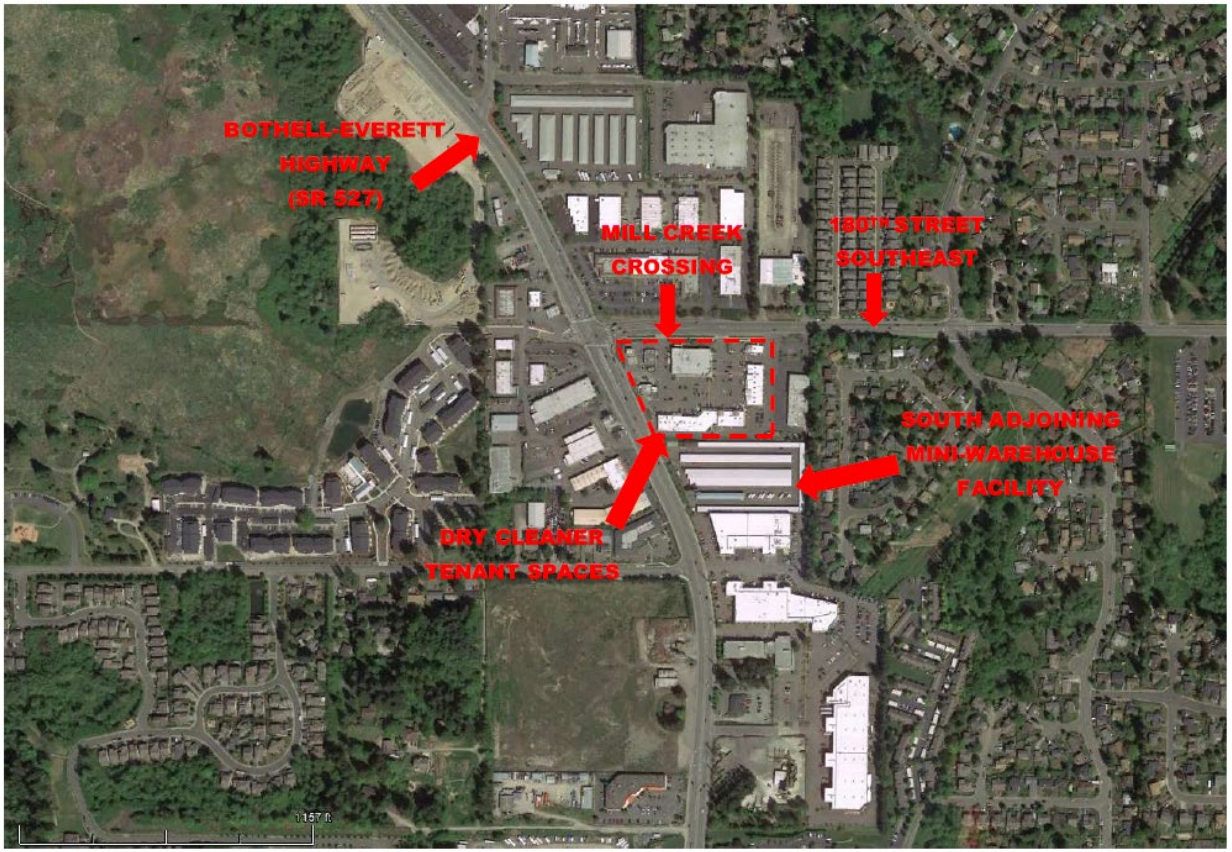


Project No.	1001.22	Project Manager: JME	
Drawn By:	JME	Scale: As Shown	
Date:	May, 2014	File Name:	
Client: Mill Creek Crossing LLC			

Zipper Geo Associates, LLC
Geotechnical and Environmental Consulting
19023 36th Avenue West, Suite D
Lynnwood, WA 98036
P 425.582.9928 zippergeo.com

Figure 1

Topographic Map

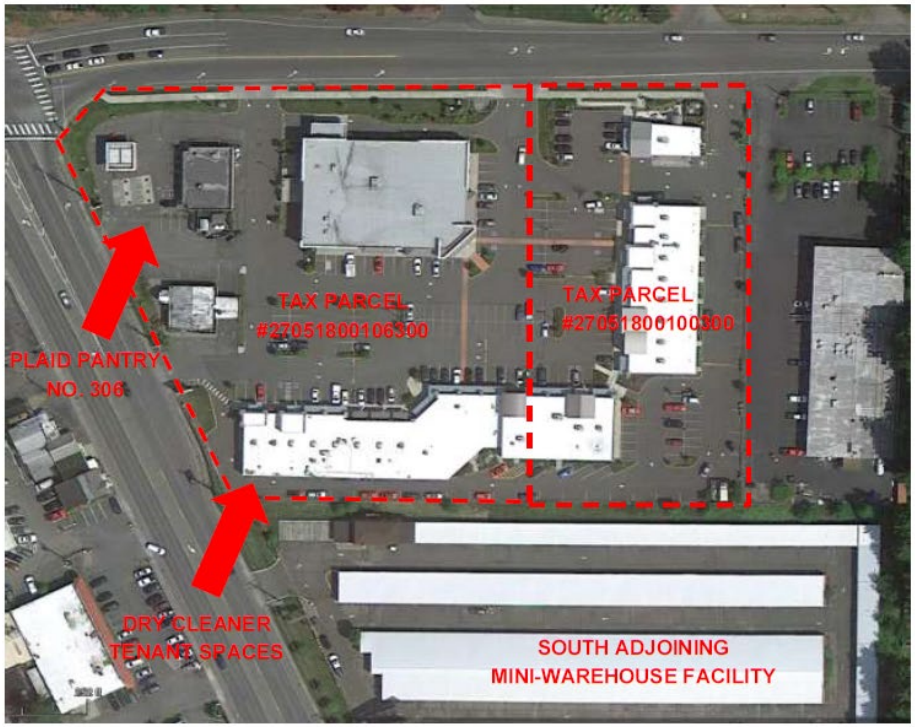


Project No.	1001.22	Project Manager: JME	
Drawn By:	JME	Scale: As Shown	
Date:	May, 2014	File Name:	
Client: Mill Creek Crossing LLC			

Zipper Geo Associates, LLC
Geotechnical and Environmental Consulting
19023 36th Avenue West, Suite D
Lynnwood, WA 98036
P 425.582.9928 zippergeo.com

Figure 2A

2013 Aerial Photograph

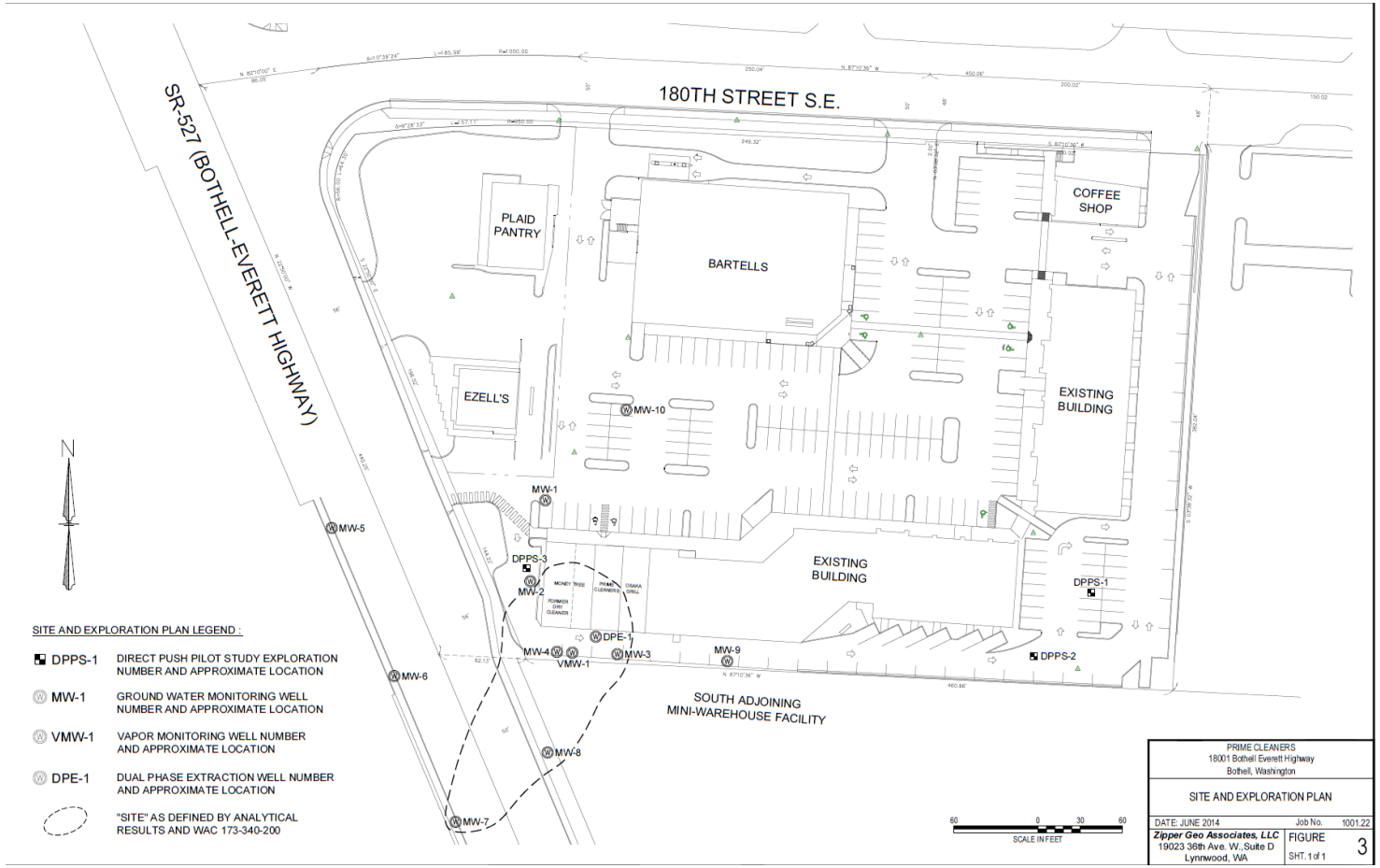


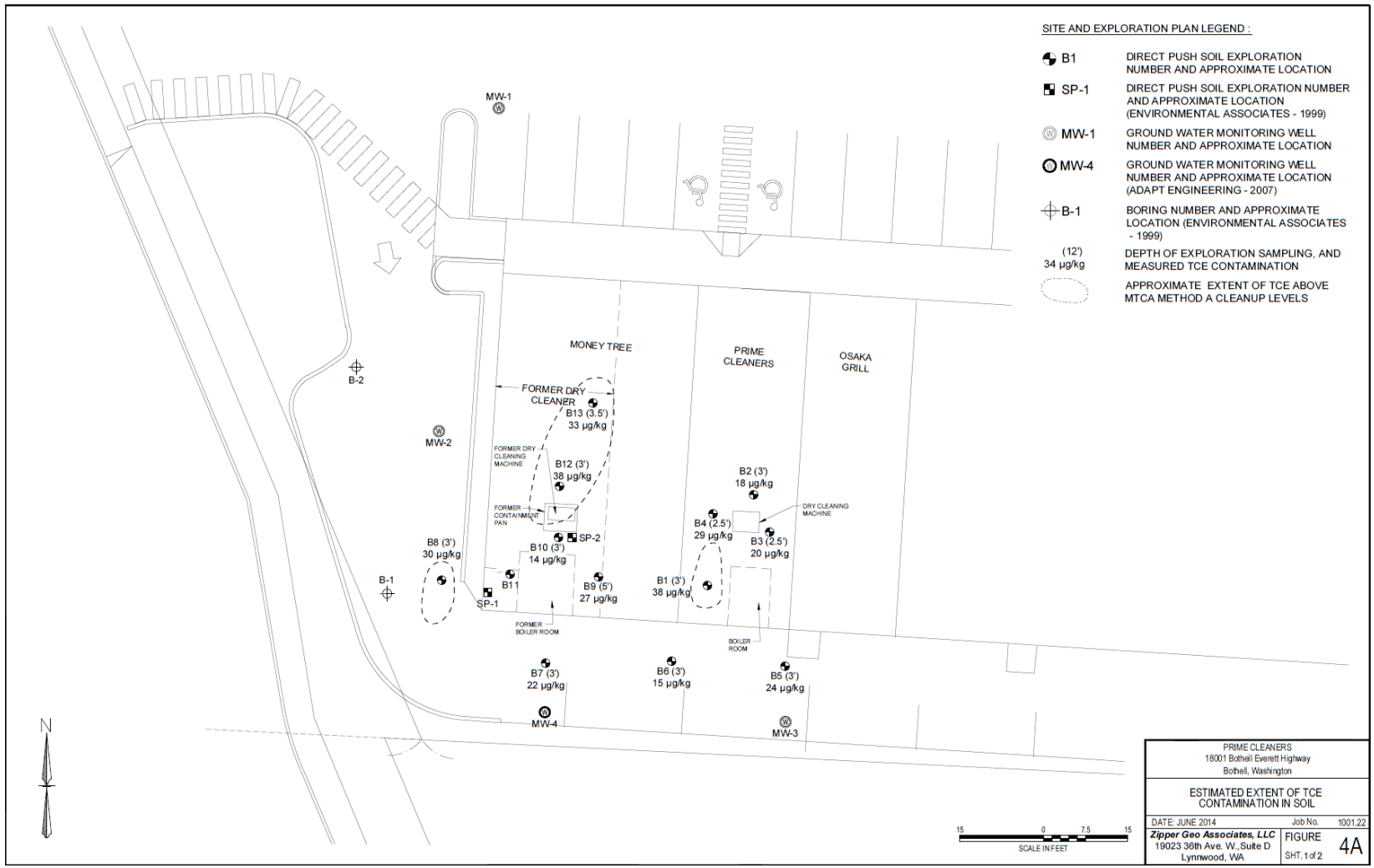
Project No.	1001.22	Project Manager: JME	
Drawn By:	JME	Scale: As Shown	
Date:	June, 2014	File Name:	
Client: Mill Creek Crossing LLC			

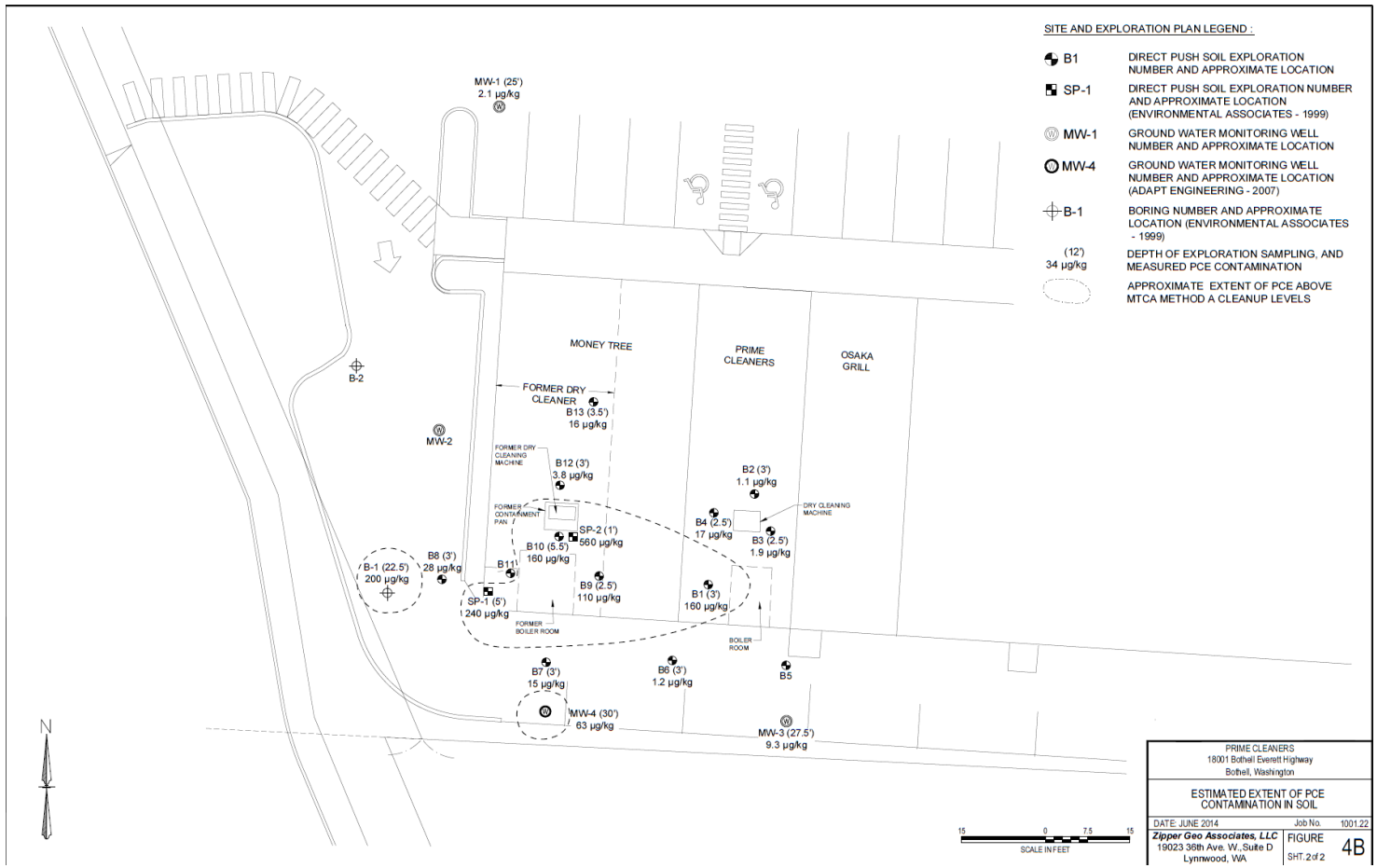
Zipper Geo Associates, LLC
Geotechnical and Environmental Consulting
19023 36th Avenue West, Suite D
Lynnwood, WA 98036
P 425.582.9928 zippergeo.com

Figure 2B

2013 Aerial Photograph


180TH STREET S.E.
SR-527 (BOTHELL-EVERETT HIGHWAY)
PLAID PANTRY
BARTELLS
COFFEE SHOP
EZELL'S
EXISTING BUILDING
EXISTING BUILDING
SOUTH ADJOINING MINI-WAREHOUSE FACILITY
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
VMW-1
DPE-1
DPPS-1
DPPS-2
DPPS-3
MONEY TREE
PRIME CLEANERS
OSAKA GRILL
FORMER DRY CLEANER
N
SITE AND EXPLORATION PLAN LEGEND :
DPPS-1 DIRECT PUSH PILOT STUDY EXPLORATION NUMBER AND APPROXIMATE LOCATION
MW-1 GROUND WATER MONITORING WELL NUMBER AND APPROXIMATE LOCATION
VMW-1 VAPOR MONITORING WELL NUMBER AND APPROXIMATE LOCATION
DPE-1 DUAL PHASE EXTRACTION WELL NUMBER AND APPROXIMATE LOCATION
"SITE" AS DEFINED BY ANALYTICAL RESULTS AND WAC 173-340-200
60 0 30 60
SCALE IN FEET
PRIME CLEANERS
18001 Bothell Everett Highway
Bothell, Washington
SITE AND EXPLORATION PLAN
DATE: JUNE 2014
Job No. 1001.22
Zipper Geo Associates, LLC
19023 36th Ave. W., Suite D
Lynnwood, WA
FIGURE 3
SHT. 1 of 1


SITE AND EXPLORATION PLAN LEGEND :
B1
DIRECT PUSH SOIL EXPLORATION NUMBER AND APPROXIMATE LOCATION
SP-1
DIRECT PUSH SOIL EXPLORATION NUMBER AND APPROXIMATE LOCATION (ENVIRONMENTAL ASSOCIATES - 1999)
MW-1
GROUND WATER MONITORING WELL NUMBER AND APPROXIMATE LOCATION
MW-4
GROUND WATER MONITORING WELL NUMBER AND APPROXIMATE LOCATION (ADAPT ENGINEERING - 2007)
B-1
BORING NUMBER AND APPROXIMATE LOCATION (ENVIRONMENTAL ASSOCIATES - 1999)
(12')
34 µg/kg
DEPTH OF EXPLORATION SAMPLING, AND MEASURED TCE CONTAMINATION
APPROXIMATE EXTENT OF TCE ABOVE MTCA METHOD A CLEANUP LEVELS
MW-1
B-2
MW-2
MONEY TREE
PRIME CLEANERS
OSAKA GRILL
FORMER DRY CLEANER
B13 (3.5')
33 µg/kg
FORMER DRY CLEANING MACHINE
B12 (3')
38 µg/kg
FORMER CONTAINMENT PAN
B2 (3')
18 µg/kg
DRY CLEANING MACHINE
B4 (2.5')
29 µg/kg
B3 (2.5')
20 µg/kg
SP-2
B8 (3')
30 µg/kg
B10 (3')
14 µg/kg
B-1
B11
SP-1
B9 (5')
27 µg/kg
B1 (3')
38 µg/kg
FORMER BOILER ROOM
BOILER ROOM
B7 (3')
22 µg/kg
B6 (3')
15 µg/kg
B5 (3')
24 µg/kg
MW-4
MW-3
N
15 0 7.5 15
SCALE IN FEET
PRIME CLEANERS
18001 Bothell Everett Highway
Bothell, Washington
ESTIMATED EXTENT OF TCE CONTAMINATION IN SOIL
DATE: JUNE 2014
Job No. 1001.22
Zipper Geo Associates, LLC
19023 36th Ave. W., Suite D
Lynnwood, WA
FIGURE
SHT. 1 of 2
4A


SITE AND EXPLORATION PLAN LEGEND :
B1
DIRECT PUSH SOIL EXPLORATION NUMBER AND APPROXIMATE LOCATION
SP-1
DIRECT PUSH SOIL EXPLORATION NUMBER AND APPROXIMATE LOCATION (ENVIRONMENTAL ASSOCIATES - 1999)
MW-1
GROUND WATER MONITORING WELL NUMBER AND APPROXIMATE LOCATION
MW-4
GROUND WATER MONITORING WELL NUMBER AND APPROXIMATE LOCATION (ADAPT ENGINEERING - 2007)
B-1
BORING NUMBER AND APPROXIMATE LOCATION (ENVIRONMENTAL ASSOCIATES - 1999)
(12')
34 µg/kg
DEPTH OF EXPLORATION SAMPLING, AND MEASURED PCE CONTAMINATION
APPROXIMATE EXTENT OF PCE ABOVE MTCA METHOD A CLEANUP LEVELS
MW-1 (25')
2.1 µg/kg
MONEY TREE
PRIME CLEANERS
OSAKA GRILL
B-2
FORMER DRY CLEANER
B13 (3.5')
16 µg/kg
MW-2
FORMER DRY CLEANING MACHINE
B12 (3')
3.8 µg/kg
B2 (3')
1.1 µg/kg
FORMER CONTAINMENT PAN
DRY CLEANING MACHINE
B4 (2.5')
17 µg/kg
SP-2 (1')
560 µg/kg
B3 (2.5')
1.9 µg/kg
B10 (5.5')
160 µg/kg
B-1 (22.5')
200 µg/kg
B8 (3')
28 µg/kg
B11
B9 (2.5')
110 µg/kg
B1 (3')
160 µg/kg
SP-1 (5')
240 µg/kg
FORMER BOILER ROOM
BOILER ROOM
B7 (3')
15 µg/kg
B6 (3')
1.2 µg/kg
B5
MW-4 (30')
63 µg/kg
MW-3 (27.5')
9.3 µg/kg
N
15 0 7.5 15
SCALE IN FEET
PRIME CLEANERS
18001 Bothell Everett Highway
Bothell, Washington
ESTIMATED EXTENT OF PCE CONTAMINATION IN SOIL
DATE: JUNE 2014
Job No. 1001.22
Zipper Geo Associates, LLC
19023 36th Ave. W., Suite D
Lynnwood, WA
FIGURE
SHT. 2 of 2
4B

SGP-4		
DATE	TCE (µg/m³)	PCE (µg/m³)
11-25-13	420	3,400
6-3-14	840	5,400

SGP-1		
DATE	TCE (µg/m³)	PCE (µg/m³)
11-25-13	ND<1.3	500
6-3-14	ND<12	1,600

SGP-3		
DATE	TCE (µg/m³)	PCE (µg/m³)
11-25-13	68	11,000
6-3-14	160	24,000

SGP-6		
DATE	TCE (µg/m³)	PCE (µg/m³)
11-25-13	ND<630	ND<790
6-3-14	ND<3.2E4	ND<4.0E4

SGP-5		
DATE	TCE (µg/m³)	PCE (µg/m³)
11-25-13	220	5,400
6-3-14	360	8,700

SGP-2		
DATE	TCE (µg/m³)	PCE (µg/m³)
11-25-13	440	7,700
6-3-14	470	9,900

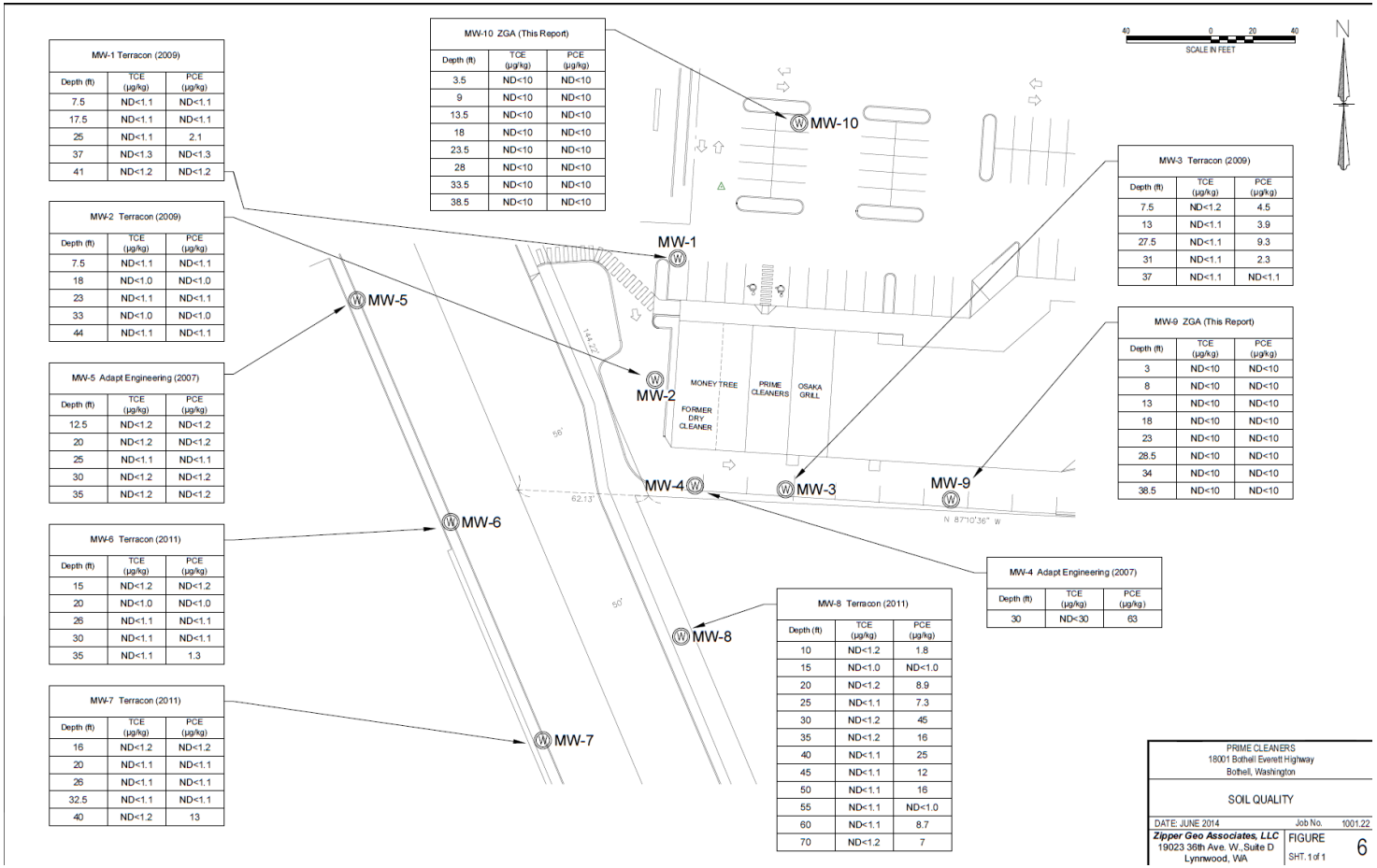
PRIME CLEANERS
18001 Bothell Everett Highway
Bothell, Washington

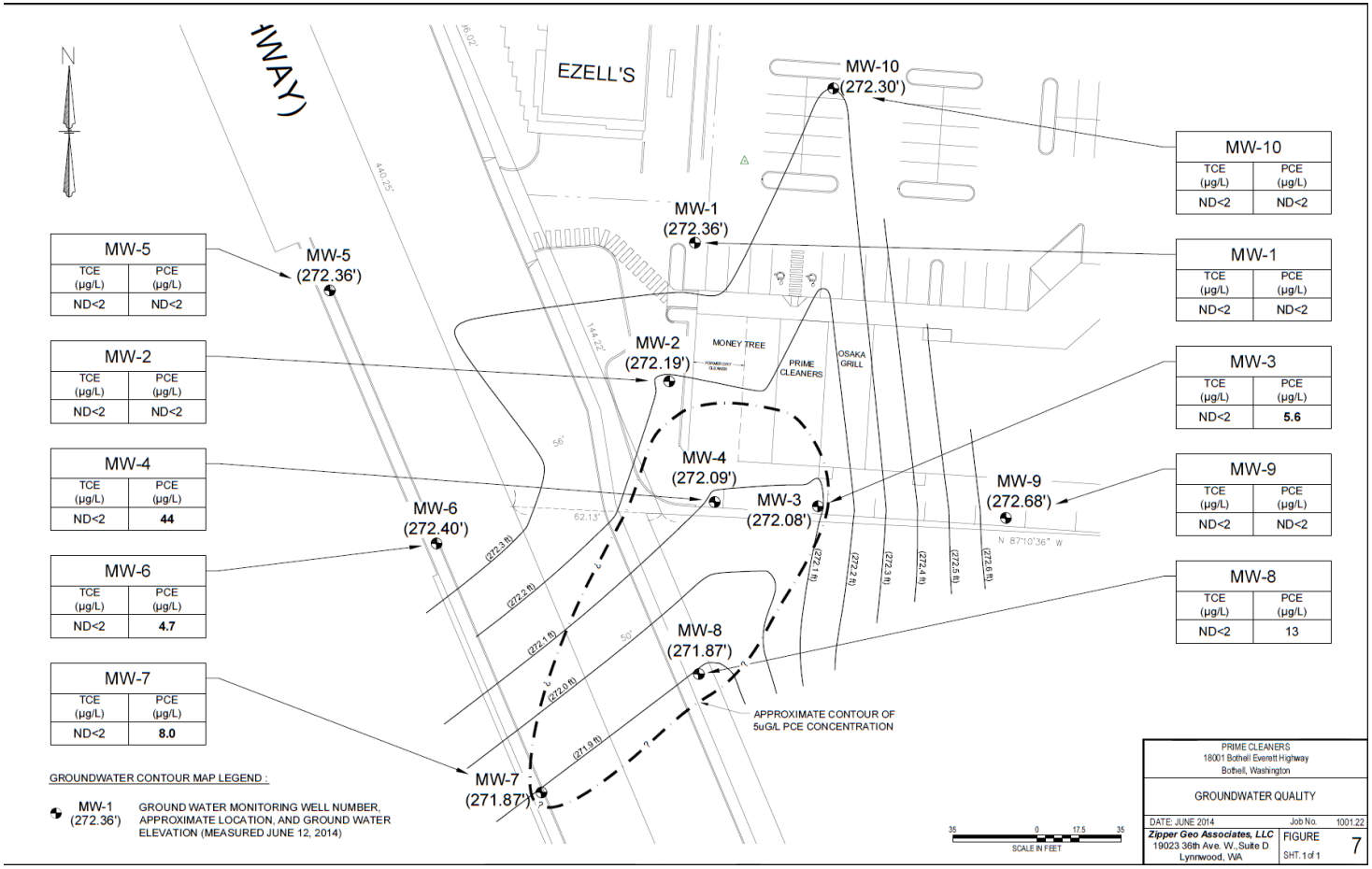
SOIL GAS - SITE AND EXPLORATION PLAN

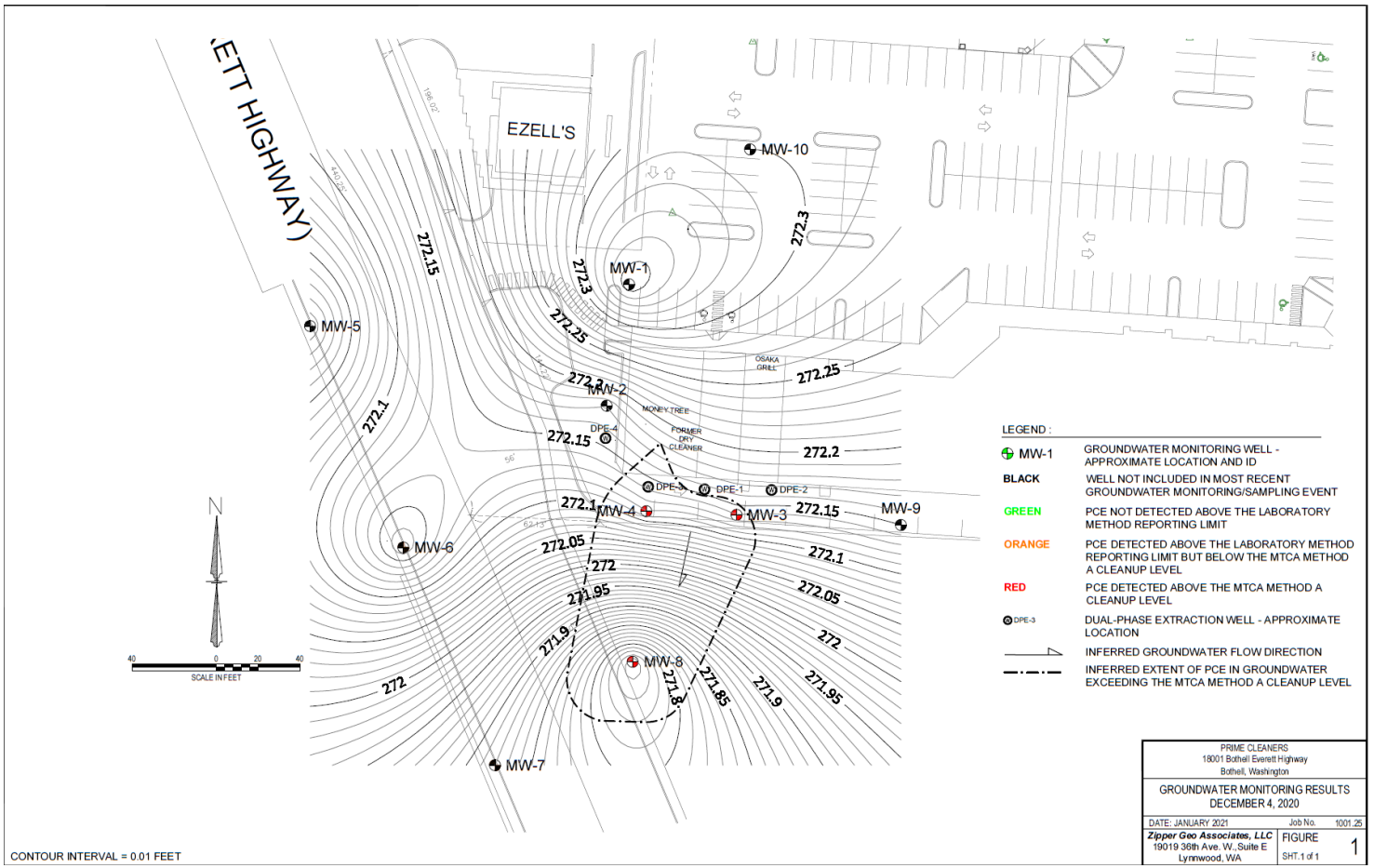
DATE: JUNE 2014 Job No. 1001.22

Zipper Geo Associates, LLC
19023 36th Ave. W., Suite D
Lynnwood, WA

FIGURE 5
SHT. 1 of 1


MW-1 Terracon (2009)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
7.5 | ND<1.1 | ND<1.1
17.5 | ND<1.1 | ND<1.1
25 | ND<1.1 | 2.1
37 | ND<1.3 | ND<1.3
41 | ND<1.2 | ND<1.2
MW-2 Terracon (2009)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
7.5 | ND<1.1 | ND<1.1
18 | ND<1.0 | ND<1.0
23 | ND<1.1 | ND<1.1
33 | ND<1.0 | ND<1.0
44 | ND<1.1 | ND<1.1
MW-5 Adapt Engineering (2007)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
12.5 | ND<1.2 | ND<1.2
20 | ND<1.2 | ND<1.2
25 | ND<1.1 | ND<1.1
30 | ND<1.2 | ND<1.2
35 | ND<1.2 | ND<1.2
MW-6 Terracon (2011)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
15 | ND<1.2 | ND<1.2
20 | ND<1.0 | ND<1.0
26 | ND<1.1 | ND<1.1
30 | ND<1.1 | ND<1.1
35 | ND<1.1 | 1.3
MW-7 Terracon (2011)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
16 | ND<1.2 | ND<1.2
20 | ND<1.1 | ND<1.1
26 | ND<1.1 | ND<1.1
32.5 | ND<1.1 | ND<1.1
40 | ND<1.2 | 13
MW-10 ZGA (This Report)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
3.5 | ND<10 | ND<10
9 | ND<10 | ND<10
13.5 | ND<10 | ND<10
18 | ND<10 | ND<10
23.5 | ND<10 | ND<10
28 | ND<10 | ND<10
33.5 | ND<10 | ND<10
38.5 | ND<10 | ND<10
MW-8 Terracon (2011)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
10 | ND<1.2 | 1.8
15 | ND<1.0 | ND<1.0
20 | ND<1.2 | 8.9
25 | ND<1.1 | 7.3
30 | ND<1.2 | 45
35 | ND<1.2 | 16
40 | ND<1.1 | 25
45 | ND<1.1 | 12
50 | ND<1.1 | 16
55 | ND<1.1 | ND<1.0
60 | ND<1.1 | 8.7
70 | ND<1.2 | 7
MW-3 Terracon (2009)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
7.5 | ND<1.2 | 4.5
13 | ND<1.1 | 3.9
27.5 | ND<1.1 | 9.3
31 | ND<1.1 | 2.3
37 | ND<1.1 | ND<1.1
MW-9 ZGA (This Report)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
3 | ND<10 | ND<10
8 | ND<10 | ND<10
13 | ND<10 | ND<10
18 | ND<10 | ND<10
23 | ND<10 | ND<10
28.5 | ND<10 | ND<10
34 | ND<10 | ND<10
38.5 | ND<10 | ND<10
MW-4 Adapt Engineering (2007)
Depth (ft) | TCE (µg/kg) | PCE (µg/kg)
30 | ND<30 | 63
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MONEY TREE
PRIME CLEANERS
OSAKA GRILL
FORMER DRY CLEANER
144.22'
62.13'
N 87°10'36" W
50'
50'
40 0 20 40
SCALE IN FEET
N
PRIME CLEANERS
18001 Bothell Everett Highway
Bothell, Washington
SOIL QUALITY
DATE: JUNE 2014
Job No. 1001.22
Zipper Geo Associates, LLC
19023 36th Ave. W.,Suite D
Lynnwood, WA
FIGURE 6
SHT. 1 of 1


N
EZELL'S
MW-10
(272.30')
MW-1
(272.36')
MW-2
(272.19')
MW-3
(272.08')
MW-4
(272.09')
MW-5
(272.36')
MW-6
(272.40')
MW-7
(271.87')
MW-8
(271.87')
MW-9
(272.68')
MONEY TREE
PRIME CLEANERS
OSAKA GRILL
440.25'
144.22'
62.13'
56'
50'
N 87°10'36" W
APPROXIMATE CONTOUR OF 5uG/L PCE CONCENTRATION
MW-10
TCE (µg/L) ND<2
PCE (µg/L) ND<2
MW-1
TCE (µg/L) ND<2
PCE (µg/L) ND<2
MW-3
TCE (µg/L) ND<2
PCE (µg/L) 5.6
MW-9
TCE (µg/L) ND<2
PCE (µg/L) ND<2
MW-8
TCE (µg/L) ND<2
PCE (µg/L) 13
MW-5
TCE (µg/L) ND<2
PCE (µg/L) ND<2
MW-2
TCE (µg/L) ND<2
PCE (µg/L) ND<2
MW-4
TCE (µg/L) ND<2
PCE (µg/L) 44
MW-6
TCE (µg/L) ND<2
PCE (µg/L) 4.7
MW-7
TCE (µg/L) ND<2
PCE (µg/L) 8.0
GROUNDWATER CONTOUR MAP LEGEND :
MW-1 (272.36') GROUND WATER MONITORING WELL NUMBER, APPROXIMATE LOCATION, AND GROUND WATER ELEVATION (MEASURED JUNE 12, 2014)
35 0 17.5 35
SCALE IN FEET
PRIME CLEANERS
18001 Bothell Everett Highway
Bothell, Washington
GROUNDWATER QUALITY
DATE: JUNE 2014
Job No. 1001.22
Zipper Geo Associates, LLC
19023 36th Ave. W., Suite D
Lynnwood, WA
FIGURE 7
SHT. 1 of 1



CONTOUR INTERVAL = 0.01 FEET

PRIME CLEANERS
18001 Bothell Everett Highway
Bothell, Washington

GROUNDWATER MONITORING RESULTS
DECEMBER 4, 2020

DATE: JANUARY 2021 | Job No. 1001.25

Zipper Geo Associates, LLC
19019 36th Ave. W.,Suite E
Lynnwood, WA

FIGURE 1
SHT.1 of 1