June 9, 2014

Diane Escobedo
Washington State Department of Ecology
Toxics Cleanup Program, MWRO
3190 160th Avenue SE
Bellevue, Washington 98008

Re: Progress Report – Dirks Fine Dry Cleaning – Inglewood Plaza
701 228th Avenue NE, Redmond, Washington
Cleanup Site ID: 1044
Facility/Site No.: 62794175
VCP Project No.: NW2746

Ms. Escobedo:

This letter report has been prepared by Apex Companies, LLC (Apex) on behalf of Regency Centers, LP (the current Site owner) to provide the Washington State Department of Ecology (Ecology) with updated information for the former Dirks Fine Dry Cleaning (Site; now occupied by Inglewood Dry Cleaners) located at 701 228th Avenue NE, Redmond, Washington (Figure 1). The Site was first enrolled in the Voluntary Cleanup Program (VCP) in April 1999 due to release(s) from historical dry cleaning operations by Dirks Fine Dry Cleaning. Soil, soil gas, and groundwater investigations, and groundwater monitoring activities were completed at the Site from 1998 through at least early 2009. A soil vapor extraction (SVE) system operated at the Site from May 2004 through at least June 2009. The Site was re-enrolled in the VCP in 2007 after the property was acquired by Regency Centers, LP (Regency). Reports describing these site investigation and remediation activities were submitted to Ecology in the 2007 VCP application package. The VCP application package also included a request for a No Further Action (NFA) opinion. The Site was re-enrolled in the VCP on June 24, 2013. Ecology issued an opinion letter for the Site on September 17, 2013.

This report presents Regency's response to Ecology's request for information in the opinion letter and summarizes the results of historical investigation, groundwater monitoring, and remediation activities performed at the Site prior to the 2013 re-enrollment in the VCP. The report also describes groundwater monitoring and soil gas sampling activities completed at the Site since the 2013 re-enrollment in the VCP, and proposes a scope of work and schedule for additional investigation activities.

Collectively, the site investigation data (historical and recent), SVE performance data, and the proposed scope of work are intended to meet Ecology requirements for site characterization, and ultimately be sufficient to obtain an NFA opinion from Ecology.

SITE SETTING

The Site is located at Inglewood Plaza, which is a single-story shopping mall constructed on three parcels totaling 2.02 acres. The parcels were initially developed as farmland in the 1950s. The shopping mall was constructed on the parcels in two stages during the 1980s and includes one building that historically housed various retail stores, offices, restaurants, a dental clinic, and a dry cleaning facility. The dry cleaning facility (Dirks Dry Cleaners) operated in unit 701 and reportedly performed dry cleaning services from 1985 to 1990; since then, it has served as a drop-off and pick-up location for dry cleaning services that are performed off-site.

An Exxon-branded retail gas station was developed off-site, on the property adjacent to the northeast corner of the Site, in the early 1980s and operated until the early 1990s. The gas station was listed as Ecology Leaking Underground Storage Tank (LUST) site number 9504 in December 1991. Soil and groundwater investigations and groundwater monitoring were completed at the former gas station from 1991 to 1998. Groundwater samples collected from wells at the gas station between 1991 and 1994 were analyzed for gasoline; diesel; benzene, toluene, ethylbenzene, and xylenes (BTEX); lead; and halogenated volatile organic compounds (HVOCs). Tetrachloroethene (PCE) was detected in six wells at concentrations that exceeded the Model Toxics Control Act (MTCA) Cleanup Levels (CULs). Concentrations of other constituents detected between 1991 and 1994 were typically less than or close to the corresponding CULs. The underground storage tanks (USTs) were decommissioned in 1993 and the former gas station was removed from the LUST program in 1995.

Bella Cleaners, a facility that performs dry cleaning services, has operated at the former Exxon gas station property since approximately 2004. It is unknown whether Bella Cleaners uses HVOCs. The current layout of the Inglewood Plaza shopping mall and the location of the former Exxon gas station and current Bella Cleaners facility are shown on Figure 2.

HISTORICAL SOIL, SOIL GAS, AND GROUNDWATER INVESTIGATIONS AND GROUNDWATER MONITORING

Soil, soil gas, and groundwater investigations and groundwater monitoring were completed at the Site from 1995 through 2007 by ATC Associates (ATC), Dames & Moore, and Whitman Environmental Services (WES). These activities are summarized below. Sampling locations are shown on Figure 2. Soil sampling data and corresponding CULs are listed in Table 1. Soil gas sampling data and draft soil gas Screening Levels (SLs) for soil vapor intrusion (VI), listed in the Ecology *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (VI Guidance), are listed in Table 2. Groundwater elevation data are listed in Table 3 and groundwater elevations and elevation contours for July 16, 2013 are shown on Figure 4. Groundwater sampling data and corresponding CULs and groundwater VI SLs are listed in Table 4.

1995 Soil Investigation in Unit 701

Two borings (S-1 and S-2) were advanced inside unit 701 near a crack in the concrete slab floor. The borings were completed through the concrete slab using a core drill and a hand auger to depths of approximately one foot and three feet below the concrete slab, respectively. One soil sample was collected from each boring at the completed depth. The soil samples were analyzed for HVOCs and BTEX. Concentrations of PCE in both samples (2.3 to 2.4 milligrams per kilogram [mg/kg]) exceeded the corresponding CUL of 0.05 mg/kg. No other HVOCs or BTEX were detected in the soil samples.

1995 Upgradient Groundwater and Soil Gas Investigation

Additional investigation activities were performed in 1995 to evaluate soil gas and groundwater conditions upgradient of unit 701 and downgradient of the former Exxon gas station. The 1995 investigation activities included advancement of seven borings (SP-1 through SP-7) in the parking areas north and east of the retail/commercial building at Inglewood Plaza. The borings were advanced to depths ranging from 13 to 15 feet below ground surface (bgs). Borings SP-2 through SP-5 and SP-7 were terminated when refusal was encountered due to dense soils. Borings SP-1 and SP-6 were terminated when groundwater was first encountered, which was at a depth of approximately 12 feet bgs. Groundwater samples were collected from borings SP-1 and SP-6 and analyzed for HVOCs and BTEX. PCE, trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE) were detected in the groundwater sample collected from boring SP-1. PCE was detected in the groundwater sample collected from boring SP-2. No other HVOCs or BTEX were detected in the groundwater samples. All detected groundwater

concentrations were less than the respective CULs and SLs, with the exception of the PCE and TCE concentrations in SP-1, which exceeded the respective SLs.[1]

Soil gas samples were collected from borings SP-2 through SP-5 and SP-7 at depths ranging from approximately 12.5 to 17 feet bgs. The soil gas samples were analyzed for HVOCs and BTEX. PCE was detected in the soil gas samples collected from SP-2 through SP-5 and SP-7 at concentrations ranging from 142 to 291 micrograms per cubic meter ($\mu g/m^3$). No other HVOCs or BTEX were detected in the soil gas samples.

1998 Monitoring Well Installation and Groundwater Sampling

Seven monitoring wells (MW-1A, MW-1B, and MW-2 through MW-6) were installed in the parking areas located north, west, and east of unit 701 and sampled to evaluate the extent of HVOC impacts in groundwater. MW-1A and MW-2 through MW-6 are shallow wells that were completed to depths ranging from 17 to 21.5 feet bgs. MW-1B is a deep well completed to a depth of 36.5 feet bgs. Soil samples were field screened for VOCs, including but not limited to HVOCs and BTEX. Soil samples from wells MW-1A and MW-2 through MW-5 (one each), and two soil samples from MW-1B were submitted for laboratory analysis of VOCs. VOCs were not detected any of the soil samples, with the exception of PCE, TCE, and cis-1,2-DCE in the soil sample collected from boring MW-1A at an approximate depth of 5 to 6.5 feet. The concentrations of PCE and TCE in the soil sample collected from MW-1A exceed the respective CULs.

Groundwater was first encountered in the borings at depths ranging from 7 to 10 feet. Groundwater samples were collected from MW-1A, MW-1B, and MW-2 through MW-6 and submitted for analysis of VOCs. PCE was detected in groundwater samples collected from MW-1A, MW-1B, MW-2, MW-5, and MW-6; TCE was detected in the groundwater sample collected from MW-1A; cis-1,2-DCE was detected in the samples collected from MW-1A, MW-1B, and MW-5; and vinyl chloride was detected in groundwater from wells MW-1A and MW-1B. Groundwater concentrations, with the exception of PCE, cis-1,2-DCE, and vinyl chloride in well MW-1A and vinyl chloride in well MW-1B, were below the respective CULs. The concentrations of PCE in wells MW-1A, MW-1B, MW-2, MW-5, and MW-6, and the concentration of vinyl chloride in MW-5, exceeded the respective SLs.

1998-2009 Long-Term Groundwater Monitoring

Groundwater in wells MW-1A, MW-1B, MW-2, MW-3, MW-4, MW-5, and MW-6 was monitored between 1998 and 2009 to observe HVOC concentration trends over time. Well MW-3 (intended to evaluate background conditions) was monitored twice in 1998. Wells MW-1A, MW-1B, MW-2, MW-4, MW-5, and MW-6 were monitored approximately semi-annually in 1999 and 2001 and from 2004 to 2009 (at least 14 events). The depth to groundwater ranged from approximately 6 to16 feet. The inferred groundwater flow direction is toward the west during most of the year, but groundwater flows to the southeast or south during the months of October and November. The average flow gradient is 0.004 foot per foot (ft/ft). Historical groundwater contour maps are included as Attachment A.

HVOCs were not detected in well MW-3. PCE and cis-1,2-DCE were each detected in upgradient well MW-2 during at least one sampling event. With the exception of the PCE concentration in one sample, the HVOC concentrations in samples collected from MW-2 were below CULs. PCE, TCE, and/or cis-1,2-DCE were each detected in wells MW-4 and MW-6 during at least one sampling event. The detected HVOC concentrations in MW-4 were below CULs. With the exception of the PCE concentration in two samples collected from MW-6, the detected HVOC

[1] EPA released new toxicity factors for PCE in 2011, following releases of *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action.* The MTCA Method B CUL for indoor air (unrestricted land use) for PCE, based on the new toxicity factors, is 9.6 $\mu g/m^3$. Using the attenuation factors presented in *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, the corresponding modified soil gas SLs for shallow and deep intervals are 96 and 960 $\mu g/m^3$.

concentrations in MW-6 were below CULs. The detected concentrations of PCE in MW-2, MW-4, and MW-6 exceeded the SL during certain prior sampling events.

PCE, TCE, cis-1,2-DCE, and vinyl chloride were detected in wells MW-1A, MW-1B, during at least one sampling event. The detected concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride in MW-1A sometimes exceeded the CUL. Concentrations of PCE in MW-1B occasionally exceeded the SL. Concentration trend plots for monitoring wells MW-1A, MW-1B, MW-2, MW-4, MW-5, and MW-6 are included in Attachment B[2].

1999-2009 SVE System Implementation

An SVE system was installed at the Site in 2004 to remove subsurface contaminants at the presumed source area (the dry cleaning equipment in unit 701). SVE system pilot testing was completed in 1999. The pilot test was completed using two vapor extraction points: (1) VES-1 in unit 701; and (2) monitoring well MW-1A. A soil sample collected from the boring for VES-1 at a depth of 2.5 feet contained PCE at a concentration of 120 mg/kg. Based on this concentration and the areal extent of PCE impacts, WES estimated that as much as 50 kilograms of PCE were in the soil, but determined that this estimate was likely very high due to the range of concentrations of HVOCs detected in the subsurface (WES, 1999). The SVE system was constructed and began operating in 2004. The SVE system originally consisted of extraction points D-1, MW-1A/SP, and VES-1 in unit 701, and extraction point EJ-1 in adjacent unit 657. A fifth extraction point, D-2, was installed beneath unit 701 in May 2005. The locations of the system extraction points are shown on Figure 3. MW-1A/SP is a groundwater monitoring well that was converted to an extraction point. The MW-1A/SP screened interval is from 9 to 19 feet bgs. Vapor extraction points D-1, D-2, EJ-1, and VES-1 were screened from 1 to six 6 bgs. A soil sample was collected from the boring for extraction point D-2 at a depth of two feet. The sample contained PCE at a concentration of 0.29 mg/kg, which exceeds the CUL. No other HVOCs were detected in the soil sample from extraction point D-2. Each vapor extraction point was plumbed individually to a manifold. The manifold was equipped with a valve to control flow from each vapor extraction point. The manifold was plumbed to a regenerative blower. Effluent air from the blower was routed to two treatment vessels containing activated carbon and plumbed in series.

SVE system operations and maintenance (O&M) was conducted approximately quarterly. O&M included collection of air samples on at least a semi-annual basis from the influent stream to the blower and from extraction points D-1, D-2, EJ-1, and MW-1A/SP. SVE air sample data are listed in Table 5. These data were used to optimize system performance; specifically, the control valves were adjusted to maximize the extraction rates from vapor points D-1 and D-2, which had comparatively high concentrations of HVOCs. Based on the remediation progress reports, the SVE system removed vapors from the subsurface at an extraction rate of approximately 2 standard cubic feet per minute (scfm). Using this flow rate and the air sample data, the SVE system removed an estimated 0.2 kilograms of HVOCs from the subsurface between April 29, 2004 and June 26, 2006. The SVE system was shut down in 2009.

Voluntary Cleanup Program Re-Enrollment

The site was re-enrolled in the VCP in 2007, after the property was acquired by Regency. The VCP application cover letter indicated recent monitoring results suggested that site groundwater had been impacted by Bella Cleaners (WES, 2007b). The VCP enrollment was terminated by Ecology in 2012 after more than one year of inactivity. The owner (Regency) subsequently re-enrolled the site in the VCP on June 24, 2013.

2013 GROUNDWATER MONITORING AND SOIL VAPOR INTRUSION ASSESSMENT SAMPLING

Groundwater monitoring and a soil vapor intrusion investigation were completed by Apex after the Site was re-enrolled in the VCP on June 24, 2013. Investigation activities were performed to obtain information about current groundwater conditions, evaluate potential vapor intrusion risks using the Tier I screening methods described in the Ecology VI Guidance, and determine what, if any, additional investigation and/or remedial activities could be required

[2] Non-detects are shown as one-half the method detection limit.

to obtain an NFA opinion from Ecology. These activities are summarized below. The data obtained from these investigation activities has not previously been provided to Ecology.

Groundwater Monitoring

Groundwater monitoring activities were completed on July 16 and 17, 2013. The activities included redeveloping, measuring groundwater levels, and collecting samples from monitoring wells MW-1A, MW-1B, MW-3, MW-5, and MW-6. Monitoring wells MW-2 and MW-4 were apparently covered with asphalt-concrete (AC) and could not be located; therefore, these wells were not sampled. Monitoring wells MW-1A, MW-1B, MW-3, MW-5, and MW-6 were redeveloped using a peristaltic pump. The wells were allowed to equilibrate for approximately 24 hours following redevelopment. Prior to sampling, the depths to groundwater and groundwater quality parameters were measured following Apex Standard Operating Procedures (SOPs) 2.16 and 2.4 (Attachment C), respectively. Groundwater was 11.28 to 13.19 feet bgs, which is within the historical range. The inferred groundwater flow direction was to the southwest at a gradient of 0.003 ft/ft, which is consistent with historical measurements. Groundwater elevation data are listed in Table 3. Samples were collected using low flow methods following Apex SOP 2.5, placed into laboratory-provided containers, and submitted to TestAmerica in Tacoma, Washington under chain-of-custody procedures. Samples were analyzed for HVOCs by U.S. Environmental Protection Agency (EPA) Method 8260B. HVOCs were not detected in the groundwater samples. Groundwater sampling data and corresponding CULs and groundwater SLs are listed in Table 4. Laboratory reports are provided in Attachment D.

Tier I Vapor Intrusion Assessment Sampling at Unit 701

Soil gas sampling was performed by Apex on November 15, 2013 to complete the second part of the Tier I vapor intrusion evaluation process, as described in the Ecology VI Guidance. The first part of the Tier I evaluation process was completed using the July 2013 groundwater sampling data, which indicate that there is no vapor intrusion risk from current groundwater conditions beneath unit 701. Soil gas sampling activities included installation of soil gas probes VS-3 and VS-4 within unit 701 in the vicinity of historical borings S-1 and S-2 and the former vapor extraction points. Sample locations are shown on Figure 3. The soil gas probes were installed to a depth of approximately 3 inches below the base of the Portland cement concrete (PCC) slab using hand tools (e.g., slide hammer probe/roto-hammer). Each soil gas probe was leak tested to ensure probe integrity, using helium gas as a tracer with a shroud, and real-time helium gas monitor. After leak testing, a soil gas sample was collected from each probe using one-liter Summa canisters, at a rate of approximately 200 milliliters per minute. Each soil gas sample was analyzed for HVOCs by EPA method TO-15. PCE was detected in the samples collected from soil gas probes VS-3 and VS-4; the PCE concentration (4,300 $\mu g/m^3$) in the sample collected from VS-4 exceeds the SL. No other HVOCs were detected in the soil gas samples. Soil gas sampling data and soil gas SLs are listed in Table 2. Laboratory reports are provided in Attachment D.

Tier II Vapor Intrusion Assessment Sampling at Unit 701

The results of the Tier I assessment indicated that a Tier II assessment would be necessary to further evaluate potential vapor intrusion risks. Apex collected soil gas samples and indoor air samples for the Tier II assessment on March 28, 2014. Soil gas sampling activities included installation of soil gas probes VS-5 and VS-6 in unit 701 near the sanitary sewer and probe VS-4. Sample locations and the sanitary sewer line alignment are shown on Figure 3. The probes were installed approximately 3 inches below the base of the PCC slab and leak tested using the same methods used for the Tier I evaluation sampling. A soil gas sample was collected from each probe using one-liter Summa canisters at a rate of approximately 200 milliliters per minute and each sample was analyzed for HVOCs by EPA method TO-15. PCE was detected in the samples collected from soil gas probe VS-5 at a concentration (7,100 $\mu g/m^3$) exceeding the SL. PCE and TCE were detected in the sample collected from soil gas probe VS-6 at concentrations (1,000 and 12 $\mu g/m^3$, respectively) exceeding the SLs. No other HVOCs were detected in the soil

gas samples. Soil gas sampling data and soil gas SLs are listed in Table 2. Laboratory reports are provided in Attachment D.

Two indoor air samples (AA-1 and AA-2) were collected from within unit 701 and one outdoor air (background) air sample (OA-1) was collected outside unit 701 on March 28, 2014, concurrent with collection of the soil gas samples. The background sample was collected from the parking lot east and upwind of unit 701. Sample locations are shown on Figure 3. The outdoor sample was collected approximately 6 feet above the ground surface, and away from trees, airflow obstructions, and potential point sources of VOC emissions, such as exhaust fans and vehicles. The air samples were collected during an 8-hour interval in 6-liter Summa canisters. The air samples were collected when indoor air temperatures were significantly higher than outdoor temperatures. Each air sample was analyzed for HVOCs by EPA method TO-15. PCE was detected in the indoor and outdoor samples at concentrations below the CUL. Other HVOCs were not detected in the air samples. Air sample data are listed in Table 6. Laboratory reports are provided in Attachment D.

SUMMARY OF SITE CONDITIONS

The following information is based on groundwater, soil, and soil gas sampling data collected between 1995 and 2013, and the performance monitoring data collected for the SVE system.

Groundwater

- The depth to groundwater at the Site is approximately 6 to 16 feet bgs. Groundwater typically flows to the west at an average gradient of approximately 0.004 ft/ft; however, historically, groundwater has sometimes flowed to the south or southwest.
- *The Exxon station is no longer an off-site source of HVOCs.* HVOCs were detected at concentrations exceeding CULs in only two of at least eleven samples collected from upgradient wells MW-2 and MW-6 between February 23, 1998 and April 3, 2007; however, HVOCs were not detected in the groundwater sample collected from well MW-6 on July 17, 2013. These data indicate that groundwater conditions at the Site upgradient of unit 701 are stable, the Exxon station is no longer an off-site source of HVOCs, and HVOCs are no longer present in groundwater at concentrations exceeding CULs in groundwater in this part of the Site.
- *Site groundwater is no longer impacted with HVOCs.* HVOC concentrations in downgradient wells MW-1A, MW-1B, MW-4, and MW-5 from the recent sampling events indicates that groundwater conditions at the Site are stable and groundwater is no longer impacted with HVOCs.
    - MW-1A. Well MW-1A is approximately 5 feet downgradient of unit 701 and screened from 9 to 19 feet bgs. HVOCs were not detected at concentrations exceeding CULs in samples collected from well MW-1A since December 29, 2006, and HVOCs were not detected in the sample collected from well MW-1A on July 17, 2013. These data indicate that groundwater conditions at the presumed onsite source area (the drycleaning equipment in unit 701) are stable and HVOCs are no longer present in groundwater at the source area.
    - MW-1B. Well MW-1B is approximately five feet downgradient from unit 701 and screened from 27 to 33 feet bgs. With the exception of vinyl chloride, which was detected at a concentration of 1.5 micrograms per liter (μg/L) in the sample collected on February 23, 1998, HVOCs were not detected in samples collected from well MW-1B at concentrations exceeding CULs. HVOCs were not detected in the sample collected from well MW-1B on July 17, 2013. These data indicate that deep groundwater at the presumed on-site source area is stable and HVOCs are no longer present in deep groundwater at the source area.

- MW-4. HVOCs were not detected at concentrations exceeding CULs in any of the twelve samples collected from well MW-4 between February 23, 1998 and April 3, 2007. Historical data indicate that groundwater sometimes flows to the south (from unit 701 towards well MW-4). Sampling data indicate that under these flow conditions and under typical flow conditions (groundwater flowing to the west), groundwater conditions south of unit 701 are stable and HVOCs are no longer present in groundwater at concentrations exceeding CULs in groundwater in this part of the Site.
- MW-5. HVOCs were not detected at concentrations exceeding CULs in any of the thirteen samples collected from well MW-5 between February 23, 1998 and July 17, 2013. These data indicate that groundwater conditions downgradient of unit 701 are stable and HVOCs are no longer present in groundwater at concentrations exceeding CULs in groundwater in this part of the Site.

Tier I and Tier II Vapor Intrusion Assessment

- Groundwater was the likely source of HVOCs in soil gas samples collected upgradient of unit 701 in 1995. Groundwater sampling data indicate that HVOC concentrations in groundwater generally decreased between February 10, 1998 and April 3, 2007. Sampling data collected on July 19, 2013 indicate that: (1) groundwater conditions at the Site are stable; (2) the former Exxon gas station is no longer an off-site source of HVOCs; and (3) HVOCs are no longer present in Site groundwater. Furthermore, Bella Cleaners currently does not use HVOC-based dry cleaning solvents. Following the criteria in Section 2.4 of the Ecology VI Guidance, because Site groundwater is not contaminated, and will not become contaminated in the future, Site groundwater is therefore not considered a VI source.
- PCE was detected in the samples collected from soil gas probes VS-4, VS-5, and VS-6, and TCE was detected in the sample collected from soil gas probe VS-6; these probes were located in close proximity to the location of the former dry cleaning equipment. HVOCs were not detected in the groundwater samples collected from wells MW-1A and MW-1B on July 17, 2013; therefore, soil is the likely source of PCE and TCE in soil gas. The approximate areal extent of PCE in soil gas that exceeds the SL is shown on Figure 3. PCE was not detected at concentrations exceeding CULs and TCE was not detected in in the indoor air samples (AA-2 and AA-3) collected concurrent with soil gas samples VS-5 and VS-6; therefore, PCE and TCE concentrations in soil gas do not appear to pose an unacceptable vapor intrusion risk.

Soil

- Sampling data indicates that soil beneath and in close proximity to unit 701 was historically impacted with PCE and TCE at concentrations exceeding the respective CULs. The highest concentration of PCE (120 mg/kg) was detected in the soil sample collected from boring VES-1 in 1999 at a depth of 2.5 feet below the floor slab. Boring VES-1 is located in close proximity to the location of the former dry cleaning machine. PCE concentrations were lower and ranged from 2.31 to 3 mg/kg in samples collected further from the location of the former dry cleaning machine.
- The PCE concentration in the sample collected from boring D-2 in 2005 (0.29 mg/kg) is significantly lower than the concentrations in the sample collected from S-2 (2.4 mg/kg) in 1995. The samples were collected at similar depths and the borings are separated by a distance of approximately two feet, which suggests that operation of the SVE system reduced subsurface PCE concentrations. It is likely that PCE concentrations in soil have further attenuated since the SVE was shut down in 2009; therefore, the actual areal extent of PCE that currently exceeds the CUL is less than depicted.

PROPOSED ACTIVITIES TO OBTAIN AN NFA OPINION

The following additional work is planned to further define the nature and extent of hazardous substance impacts at the soil gas. The scope of work was developed based on our understanding of MTCA requirements and the Opinion Letter issued by Ecology on September 17, 2013. We anticipate that these activities will meet MTCA requirements

for site characterization and, pending the results, will be sufficient to obtain a NFA opinion from Ecology. The planned scope of work includes investigation activities that will be performed following Apex SOPs. These SOPs are referenced below and included in Attachment C.

Groundwater

Groundwater monitoring well data collected between 1998 and 2013 indicate that HVOCs are no longer present in groundwater; therefore, no additional work is proposed to characterize groundwater conditions.

Soil Sampling

Soil sampling will be completed to further delineate the vertical extent of HVOC impacts in soil. Samples will be collected at two locations inside unit 701: (1) near boring VES-1, which is the location that exhibited the highest concentration of HVOCs; and (2) near the floor drain. The planned sample locations are shown on Figure 3. Samples will be collected by coring through the flooring and concrete slab and advancing a direct-push (Geoprobe™) sampler, using limited-access drilling equipment, to the depth just above the capillary fringe/water table interface or until practical refusal. Soil samples will be collected at one-foot intervals from each boring following Apex SOPs 2.2 and 2.4. Soil samples will be field screened by measuring headspace vapor using a photoionization detector (PID) following Apex SOP 2.1. The soil sample from each boring with the greatest apparent impact will be selected for analysis. If no apparent VOC impacts are indicated by field screening, then the sample collected at the depth just above the capillary fringe will be submitted for laboratory analysis. Soil samples will be submitted for analysis of HVOCs by EPA Method 8260. The borings will be backfilled with hydrated bentonite and the concrete floor will be patched.

Implementation of Institutional Controls

It is possible that soil sampling data will indicate that soil with residual HVOCs at concentrations exceeding CULs could remain beneath unit 701. The SVE system has been decommissioned and removal of residual HVOC-impacted soil from beneath unit 701 by invasive methods, such as excavation, would not be practicable. The Tier II vapor intrusion assessment indicates that HVOCs in the subsurface do not pose an unacceptable vapor intrusion risk. Assuming that data collected during proposed characterization activities are generally similar to previously collected data, institutional controls, in the form of a restrictive covenant, will be implemented as a remedial measure for soil with residual HVOC concentrations exceeding the CUL that could remain at the Site.

HVOC-impacted soil at the Site currently meets exclusion criteria number 2 for MTCA Terrestrial Ecological Evaluations (TEE), specifically, the soil contamination is covered with buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed; therefore, the site is exempt from the MTCA requirements to complete a site-specific TEE. The restrictive covenant will specify that: (1) the soil contamination will remain covered such that the exemption from a TEE is maintained in the future; (2) if future development calls for the removal of covering materials (i.e., buildings, pavement, etc.) or soil disturbance then PCE-impacted soil exceeding the CUL will be properly managed and disposed in accordance with applicable regulatory requirements.

Supplemental Tier II Vapor Intrusion Evaluation

Data collected during the Tier I and Tier II vapor intrusion evaluation indicate that HVOCs in the subsurface do not pose an unacceptable vapor intrusion risk. In accordance with the Ecology VI guidance, a limited amount of additional characterization is necessary to refine the understanding of potential vapor intrusion exposure pathways at the Site and to confirm the results of the previous vapor intrusion assessment. The supplemental Tier II evaluation will include: (1) preparation of a Conceptual Site Model (CSM) for the building; (2) additional air and soil gas sampling; and (3) screening of the air and soil gas data to confirm that HVOC concentrations in soil gas do not pose

an unacceptable vapor intrusion risk and mitigation measures will not be necessary to ensure protection of workers. The tasks for completion of the supplemental Tier II vapor intrusion evaluation are described below.

- Preparation of a Conceptual Site Model. The CSM will provide a summary of potential indoor vapor exposure scenarios based on the sources of contamination, the transport media, and likely intrusion routes. The CSM will include: (1) a plan view drawing of unit 701 and adjacent retail units, showing their spatial relationship to the HVOC source and how air moves within the building; (2) a cross-sectional view of the building depicting the building foundation, approximate depth of the source, and depth to the shallowest groundwater; and (3) a narrative section describing the drawings and explaining any critical assumptions made in depicting site conditions.
- Air and Soil Gas Sampling at Unit 701. Tier II sampling indicates that the PCE concentrations in soil gas do not pose a vapor intrusion risk at unit 701. However, soil gas and indoor air concentrations can be affected by a number of factors, including atmospheric pressure, HVAC system operations, soil moisture, etc. Samples for the Tier II evaluation were collected on March 28, 2013 when indoor air temperatures were significantly higher than outdoor. Additional soil gas and ambient air sampling will be completed to evaluate vapor intrusion risk for unit 701 when indoor air temperatures are lower than outdoor temperatures. Two soil gas samples will be collected from two soil gas probes (one sample per probe) that will be installed in unit 701. One probe will be installed in close proximity to the domestic waste piping, if practicable. The second probe will be installed near historical boring VS-5, which exhibited the highest concentrations of PCE in soil. The planned sample locations are shown on Figure 3. The soil gas probes will be installed approximately three inches below the base of the PCC slab using hand tools. Soil gas samples will be collected using 1-liter Summa canisters. Concurrent with soil gas sampling, two indoor air samples will be collected from unit 701 and one outdoor air sample will be collected upwind of and close to unit 701. The outdoor sample will be collected at least five feet above the ground surface, and away from trees, airflow obstructions, and potential point sources of volatile organic compound emissions, such as exhaust fans and vehicles. The indoor air samples will be collected during an 8-hour interval in 6-liter Summa canisters. Each soil gas and air sample will be analyzed for the HVOCs of concern (PCE, TCE, cis-1,2-DCE, and vinyl chloride) by EPA method TO-15.
- Data Screening. Ambient air and soil gas sampling data will be evaluated using the Tier II decision matrices presented in the Ecology VI Guidance, Appendix E.

  Based on the decision matrices, there are three potential outcomes for unit 701:

  1) If HVOCs are not detected in indoor air samples at concentrations above the MTCA CUL, then additional sampling or mitigation will not be necessary;
  2) If HVOCs are detected in indoor air samples at concentrations less than 10 times the MTCA CUL, then additional sampling may be required to complete the Tier II evaluation (if HVOC concentrations in multiple follow-up air samples exceed SLs, then mitigation would likely be necessary); or
  3) If HVOCs are detected in indoor air samples collected from unit 701 at concentrations 10 times the CUL or greater, then mitigation may be necessary for that space.

Site Investigation Report and NFA Request

Following the activities outlined above, a site investigation report will be submitted to Ecology. The report will document the investigation activities and include the following:

- An updated site map showing historical sampling locations, floor drains, and sewer lines, as well as the locations of historical and new soil, soil gas and air samples collected for the Tier II vapor intrusion evaluation at unit 701;
- A laboratory data quality review and laboratory analytical reports for the new soil, soil gas and air samples;

- Updated analytical data tables (analytical data will be uploaded to the Ecology Electronic Information Management System [EIM]);
- A Tier II vapor intrusion evaluation for unit 701;
- Updated figures that delineate the approximate extents of hazardous substances in soil, groundwater, and soil gas that exceed CULs and SLs;
- A careful evaluation of the current and future risks to human health and the environment; and
- Assuming that the conditions are appropriate, this report would include a request for an NFA opinion.

Schedule

Apex would like to review the project progress report and confirm that the planned additional actions and contingent outcomes will be sufficient to obtain an NFA opinion for the Site with Ecology during the upcoming meeting, which is scheduled for June 20, 2014. Soil, gas, and air sampling for the Tier I/II vapor intrusion evaluation will be completed between July 1 and September 30, 2014, which is when indoor air temperatures are anticipated to be lower than outdoor temperatures.

Please contact me at your earliest convenience to schedule a meeting.

Sincerely,

Mark Havighorst, P.E.
Associate Engineer

ATTACHMENTS

Table 1 – Soil Sampling Analytical Results
Table 2 – Soil Gas Sampling Analytical Results
Table 3 – Groundwater Elevations
Table 4 – Groundwater Sampling Analytical Results
Table 5 – Soil Vapor Extraction System Influent Air Sampling Analytical Results
Table 6 – Air Sampling Analytical Results

Figure 1 – Site Location Map
Figure 2 – Site Layout
Figure 3 – Unit 701 Layout
Figure 4 – Groundwater Elevations – July 16, 2013

Attachment A – Historical Groundwater Elevations
Attachment B – Groundwater Concentration Trend Plots
Attachment C – Apex Standard Operating Procedures
Attachment D – Laboratory Report and QA/QC Report

REFERENCES

Ecology, 2010. *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action.* October, 2009.

WES, 1999. *Phase II Site Investigation Report*. May 26, 1999.

WES, 2004. *Remediation Progress Report.* September 24, 2004.

Table 1 - Soil Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location (Depth)	Sample Date	HVOC concentrations (mg/kg)			
		PCE	TCE	cis-1,2-DCE	Vinyl Chloride
	MTCA CUL (mg/kg)	0.05[a]	0.03[a]	160[b]	240[b]
S-1-1 (1')	10/30/1995	**2.31**	<0.05	<0.05	<0.05
S-1-1 Dup (1')	10/30/1995	**2.53**	<0.05	<0.05	<0.05
S-2-3 (3')	10/30/1995	**2.4**	<0.05	<0.05	<0.05
MW-1A (5.0'-6.5')	2/9/1998	**3**	**0.47**	**0.17**	<0.05
MW-1B (10'-11.5')	2/20/1998	<0.054	<0.054	<0.054	<0.054
MW-1B (20'-21.5')	2/20/1998	<0.064	<0.064	<0.064	<0.064
MW-2 (10'-11.5')	2/9/1998	<0.054	<0.054	<0.054	<0.054
MW-3 (15'-16.5')	2/9/1998	<0.065	<0.065	<0.065	<0.065
MW-4 (10'-11.5')	2/20/1998	<0.057	<0.057	<0.057	<0.057
MW-5 (10'-11.5')	2/20/1998	<0.055	<0.055	<0.055	<0.055
MW-6	2/20/1998	NS	NS	NS	NS
VES-1[c] (2.5')	1999[d]	**120**	NR	NR	NR
D-2 (2')	May 2005	**0.29**	<0.05	<0.05	<0.05

Notes:

1. HVOC = Halogenated volatile organic compound.
2. PCE = Tetrachloroethene.
3. TCE = Trichloroethene.
4. DCE = Dichloroethene.
5. MTCA CUL = Model Toxics Control Act Cleanup Level.
6. mg/kg = milligram per kilogram.
7. a = MTCA Method A Unrestricted Land Use Table Value.
8. b = MTCA Method B Non-Carcinogen CUL Standard Formula Value (Unrestricted Land Use).
9. c = Sample location is assumed based on WES letter to Regency Realty Corporation dated November 24, 1999.
10. d = Sample date is assumed based on WES letter to Regency Realty Corporation dated November 24, 2000.
11. < = Not detected at a concentration above the listed method detection limit or practical quantitation limit.
12. ND = Not detected at a concentration above the method detection limit, which was not available for this report.
13. NS = Not sampled .
14. NR = Not reported.
15. Bold = analyte was detected at a concentration above the method detection limit.
16. Shaded = concentration exceeds the CUL.

Table 2 - Soil Gas Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location (Depth)	Sample Date	HVOC concentrations (ug/m^3)			
		PCE	TCE	cis-1,2 DCE	Vinyl Chloride
	Soil Gas SL (ug/m^3)	96*/960**	3.7*/37**	160*/1600**	2.8*/28**
SP-2 (15-17')	8/11/1995	203	5.5	<40	NA
SP-3 (13-15')	8/11/1995	237	<5.5	<40	NA
SP-4 (13-15')	8/11/1995	291	5.5	<40	NA
SP-4 Dup (13-15')	8/11/1995	251	<5.5	<40	NA
SP-5 (13-15')	8/11/1995	163	<5.5	<40	NA
SP-7 (12.5-14.5')	8/11/1995	142	<5.5	<40	NA
VS-3 (3")	11/15/2013	14	<5.5	<4	<2.6
VS-4 (3")	11/15/2013	4300	<14	<10	<6.5
VS-5 (3")	3/28/2014	7100	<24	<17	<11
VS-6 (3")	3/28/2014	1000	12	<2.3	<1.5

Notes:

1. HVOC = Halogenated volatile organic compound.
2. PCE = Tetrachloroethene.
3. TCE = Trichloroethene.
4. DCE = Dichloroethene.
5. ug/m^3 = micrograms per cubic meter.
6. Soil Gas Screening Level (SL) for vapor intrusion included in Table B-1 of Ecology's *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action.*
7. * = SL for soil gas samples collected at depths of less than 15 feet.
8. ** = SL for soil gas samples collected at depths equal to or greater than 15 feet.
9. < = Not detected at a concentration above the listed method detection limit or method reporting limit.
10. NA = sample was not analyzed for vinyl chloride.
11. Bold = analyte was detected at a concentrations above the method detection limit.
12. Shaded = concentration exceeds the SL.
13. The soil gas SL for PCE presented in the 2010 Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action are not valid because they are not based on the most recent toxicity factors, which were issued by EPA in 2011. The SL for soil gas was calculated as 10/100x the MTCA Method B CUL for indoor air (9.6 ug/m^3).

Table 3 - Groundwater Elevations
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Well ID	Date	Reference Elevation (feet)[1]	Depth To Groundwater (feet)	Groundwater Elevation (feet)
MW-1A	2/10/1998	354.83	9.04	345.79
	2/14/1998	354.83	9.06	345.77
	2/20/1998	354.83	9.33	345.5
	2/23/1998	354.83	9.31	345.52
	6/9/1999	354.83	10.19	344.64
	7/8/1999	354.83	10.37	344.46
	10/11/1999	354.83	14.61	340.22
	11/10/1999	354.83	13.97	340.86
	11/2/2001	354.83	14.77	340.06
	5/18/2004	355.2	12.92	342.28
	8/26/2004	355.2	14.37	340.83
	11/10/2004	355.2	15.09	340.11
	3/24/2005	355.2	14.15	341.05
	6/16/2005	355.2	12.67	342.53
	10/6/2005	355.2	16.67	338.53
	11/10/2005	355.2	14.51	340.69
	5/16/2006	355.2	11.04	344.16
	9/25/2006	355.2	15.78	339.42
	1/23/2007	355.2	7.23	347.97
	4/3/2007	355.2	8.21	346.99
	7/16/2013	355.2	12.69	342.51
MW-1B	2/23/1998	355.2	10.05	345.15
	6/9/1999	355.2	10.77	344.43
	7/8/1999	355.2	10.93	344.27
	10/11/1999	355.2	14.73	340.47
	11/10/1999	355.2	13.93	341.27
	11/2/2001	355.2	14.57	340.63
	5/18/2004	355.2	13.36	341.84
	8/26/2004	355.2	14.92	340.28
	11/10/2004	355.2	15.33	339.87
	3/24/2005	355.2	14.45	340.75
	6/16/2005	355.2	12.67	342.53
	10/6/2005	355.2	16.54	338.66
	5/16/2006	355.2	11.43	343.77
	9/25/2006	355.2	16.67	338.53
	1/23/2007	355.2	7.6	347.6
	4/3/2007	355.2	8.53	346.67
	7/16/2013	355.2	13.19	342.01

Please refer to notes at end of table.

Table 3 - Groundwater Elevations
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Well ID	Date	Reference Elevation (feet)[1]	Depth To Groundwater (feet)	Groundwater Elevation (feet)
MW-2	2/10/1998	354.9	9.04	345.86
	2/14/1998	354.9	9.08	345.82
	2/20/1998	354.9	9.3	345.6
	2/23/1998	354.9	9.25	345.65
	6/9/1999	354.9	10.16	344.74
	7/8/1999	354.9	10.32	344.58
	10/11/1999	354.9	15	339.9
	11/10/1999	354.9	15.32	339.58
	11/2/2001	354.9	16.01	338.89
	5/18/2004	354.9	12.35	342.55
	11/10/2004	354.9	15.74	339.16
	6/16/2005	354.9	12.21	342.69
	10/6/2005	354.9	16.48	338.42
	5/16/2006	354.9	10.65	344.25
	9/25/2006	354.9	15.6	339.3
	1/23/2007	354.9	6.83	348.07
	4/3/2007	354.9	7.87	347.03
	7/16/2013	354.9	NM	--
MW-3	2/10/1998	354.14	8.15	345.99
	2/14/1998	354.14	8.22	345.92
	2/20/1998	354.14	8.52	345.62
	2/23/1998	354.14	8.44	345.7
	6/9/1999	354.14	9.3	344.84
	7/8/1999	354.14	9.46	344.68
	10/11/1999	354.14	14.39	339.75
	11/10/1999	354.14	14.49	339.65
	11/2/2001	354.14	14.53	339.61
	5/18/2004	354.14	11.42	342.72
	11/10/2004	354.14	14.55	339.59
	6/16/2005	354.14	11.35	342.79
	10/6/2005	354.14	14.47	339.67
	5/16/2006	354.14	NM	--
	9/25/2006	354.14	14.75	339.39
	1/23/2007	354.14	5.98	348.16
	4/3/2007	354.14	6.98	347.16
	7/16/2013	354.14	11.28	342.86

Please refer to notes at end of table.

Table 3 - Groundwater Elevations
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Well ID	Date	Reference Elevation (feet)[1]	Depth To Groundwater (feet)	Groundwater Elevation (feet)
MW-4	2/20/1998	354.01	7.88	346.13
	2/23/1998	354.01	8.26	345.75
	6/9/1999	354.01	9.45	344.56
	7/8/1999	354.01	9.6	344.41
	10/11/1999	354.01	13.86	340.15
	11/10/1999	354.01	13.37	340.64
	11/2/2001	354.01	14.14	339.87
	5/18/2004	354.01	11.84	342.17
	11/10/2004	354.01	14.55	339.46
	6/16/2005	354.01	11.52	342.49
	10/6/2005	354.01	15.72	338.29
	5/16/2006	354.01	10	344.01
	9/25/2006	354.01	15.58	338.43
	1/23/2007	354.01	6.2	347.81
	4/3/2007	354.01	7.2	346.81
	7/16/2013	354.01	NM	--
MW-5	2/20/1998	354.81	9.83	344.98
	2/23/1998	354.81	9.48	345.33
	6/9/1999	354.81	10.54	344.27
	7/8/1999	354.81	10.67	344.14
	10/11/1999	354.81	14.08	340.73
	11/10/1999	354.81	12.85	341.96
	11/2/2001	354.81	13.63	341.18
	5/18/2004	354.81	13.31	341.5
	11/10/2004	354.81	14.5	340.31
	6/16/2005	354.81	12.65	342.16
	10/6/2005	354.81	15.9	338.91
	5/16/2006	354.81	11.2	343.61
	9/25/2006	354.81	16.15	338.66
	1/23/2007	354.81	7.23	347.58
	4/3/2007	354.81	8.33	346.48
	7/16/2013	354.81	13.13	341.68

Please refer to notes at end of table.

Table 3 - Groundwater Elevations
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Well ID	Date	Reference Elevation (feet)[1]	Depth To Groundwater (feet)	Groundwater Elevation (feet)
MW-6	2/23/1998	354.33	8.92	345.41
	6/9/1999	354.33	9.85	344.48
	7/8/1999	354.33	10.02	344.31
	10/11/1999	354.33	12.22	342.11
	11/10/1999	354.33	11.8	342.53
	11/2/2001	354.33	11.77	342.56
	5/18/2004	354.33	12.14	342.19
	11/10/2004	354.33	13.1	341.23
	6/16/2005	354.33	11.67	342.66
	10/6/2005	354.33	14.86	339.47
	5/16/2006	354.33	10.45	343.88
	9/25/2006	354.33	14.17	340.16
	1/23/2007	354.33	6.63	347.7
	4/3/2007	354.33	7.6	346.73
	7/16/2013	354.33	11.68	342.65

Notes:

1. Reference elevation (i.e., top of casing) relative to the reported elevation of a catch bain grate (354 feet) reported by the Sammamish Plateau Sewer and Water District.

Table 4 - Groundwater Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location	Sample Date	HVOC concentration (ug/L)			
		PCE	TCE	cis-1,2-DCE	Vinyl Chloride
	MTCA CUL (ug/L)	5[a]	5[a]	16[b]	0.2[a]
	SL for Vapor Intrusion (ug/L)	*9.6*	*0.42*	*160*	*0.35*
SP-1	8/11/1995	*3.3*	0.5	2	NA
SP-1 Dup	8/11/1995	*2.7*	0.4	2	NA
SP-6	8/11/1995	0.7	<0.1	<1	NA
MW-1A	2/10/1998	*5*	*1.1*	75	<1
	2/23/1998	*8.4*	*0.9*	45	*20*
	6/9/1999	*78*	*1.1*	21	*5.2*
	7/8/1999	*88*	*1.6*	28	*35*
	11/2/2001	*25.3*	*3.59*	23.9	*13.1*
	6/27/2003	*4.13*	*0.818*	15.3	*0.4*
	5/18/2004	*2*	<1	8	*2.4*
	8/26/2004	*5*	<1	10	*3*
	11/10/2004	*7*	<1	9	*1*
	3/24/2005	*4*	<1	20	<0.2
	6/16/2005	*3.1*	<1	6.2	<0.2
	10/6/2005	*6.3*	<1	6	<0.2
	11/10/2005	*6.6*	<1	9.4	<0.2
	5/16/2006	*4.8*	<1	1.3	<0.2
	9/25/2006	*6.2*	<1	5.6	<0.2
	12/29/2006	*15*	<1	3.7	<0.2
	4/3/2007	*4.4*	<1	<1	<0.2
	7/17/2013	<1	<1	<1	<1
MW-1B	2/23/1998	*4.1*	<1	13	*1.5*
	6/9/1999	*2.1*	0.24	3.7	<1
	7/8/1999	*2.3*	0.26	3.8	0.2
	11/2/2001	*2.61*	<1	0.55	<0.2
	5/18/2004	*2*	<1	<1	<0.2
	8/26/2004	*3*	<1	<1	<0.2
	11/10/2004	*3*	<1	<1	<0.2
	3/24/2005	*2*	<1	<1	<0.2
	6/16/2005	*2*	<1	<1	<0.2
	10/6/2005	*2.7*	<1	<1	<0.2
	5/16/2006	*1.6*	<1	<1	<0.2
	9/25/2006	*1.7*	<1	<1	<0.2
	12/29/2006	*3.3*	<1	<1	<0.2
	4/3/2007	*2.1*	<1	<1	<0.2
	7/17/2013	<1	<1	<1	<1

Please refer to notes at end of table.

Table 4 - Groundwater Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location	Sample Date	HVOC concentration (ug/L)			
		PCE	TCE	cis-1,2-DCE	Vinyl Chloride
	MTCA CUL (ug/L)	5[a]	5[a]	16[b]	0.2[a]
	SL for Vapor Intrusion (ug/L)	*9.6*	*0.42*	*160*	*0.35*
MW-2	2/10/1998	*1.1*	<0.5	<0.5	<1
	2/23/1998	<1	<1	<1	<1
	6/9/1999	0.55	<1	0.04	<0.2
	7/8/1999	0.64	<1	<0.4	<0.2
	11/2/2001	NS	NS	NS	NS
	5/18/2004	<1	<1	<1	<0.2
	8/26/2004	*3*	<1	<1	<0.2
	11/10/2004	*2*	<1	<1	<0.2
	3/24/2005	NS	NS	NS	NS
	6/16/2005	<1	<1	<1	<0.2
	10/6/2005	NS	NS	NS	NS
	5/16/2006	<1	<1	<1	<0.2
	9/25/2006	NS	NS	NS	NS
	12/29/2006	*5.6*	<1	<1	<0.2
	4/3/2007	<1	<1	<1	<0.2
	7/17/2013	NS	NS	NS	NS
MW-3	2/10/1998	<0.5	<0.5	<0.5	<1
	2/23/1998	<1	<1	<1	<1
	6/9/1999	NS	NS	NS	NS
	7/8/1999	NS	NS	NS	NS
	11/2/2001	NS	NS	NS	NS
	5/18/2004	NS	NS	NS	NS
	8/26/2004	NS	NS	NS	NS
	11/10/2004	NS	NS	NS	NS
	3/24/2005	NS	NS	NS	NS
	6/16/2005	NS	NS	NS	NS
	10/6/2005	NS	NS	NS	NS
	5/16/2006	NS	NS	NS	NS
	9/25/2006	NS	NS	NS	NS
	12/29/2006	NS	NS	NS	NS
	4/3/2007	NS	NS	NS	NS
	7/17/2013	<1	<1	<1	<1
	7/17/2013 DUP	<1	<1	<1	<1

Please refer to notes at end of table.

Table 4 - Groundwater Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location	Sample Date	HVOC concentration (ug/L)			
		PCE	TCE	cis-1,2-DCE	Vinyl Chloride
	MTCA CUL (ug/L)	5[a]	5[a]	16[b]	0.2[a]
	SL for Vapor Intrusion (ug/L)	*9.6*	*0.42*	*160*	*0.35*
MW-4	2/23/1998	<1	<1	<1	<1
	6/9/1999	0.42	0.084	0.094	<0.2
	7/8/1999	0.48	0.1	0.16	<0.2
	11/2/2001	*1.34*	<1	<1	<0.2
	5/18/2004	<1	<1	<1	<0.2
	8/26/2004	NS	NS	NS	NS
	11/10/2004	*2*	<1	<1	<0.2
	3/24/2005	NS	NS	NS	NS
	6/16/2005	<1	<1	<1	<0.2
	10/6/2005	*1.3*	<1	<1	<0.2
	5/16/2006	<1	<1	<1	<0.2
	9/25/2006	<1	<1	<1	<0.2
	1/23/2007	*2.9*	<1	<1	<0.2
	4/3/2007	*1.1*	<1	<1	<0.2
	7/17/2013	NS	NS	NS	NS
MW-5	2/23/1998	*2.6*	<1	4.3	<1
	6/9/1999	0.91	0.15	2.2	0.14
	7/8/1999	0.52	0.1	1.8	<0.2
	11/2/2001	<1	<1	<1	<0.2
	5/18/2004	<1	<1	<1	<0.2
	8/26/2004	NS	NS	NS	NS
	11/10/2004	1	<1	<1	<0.2
	3/24/2005	NS	NS	NS	NS
	6/16/2005	<1	<1	<1	<0.2
	10/6/2005	<1	<1	<1	<0.2
	5/16/2006	*1.4*	<1	<1	<0.2
	9/25/2006	<1	<1	<1	<0.2
	1/23/2007	*2.7*	<1	<1	<0.2
	4/3/2007	*1.3*	<1	<1	<0.2
	7/17/2013	<1	<1	<1	<1

Please refer to notes at end of table.

Table 4 - Groundwater Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location	Sample Date	HVOC concentration (ug/L)			
		PCE	TCE	cis-1,2-DCE	Vinyl Chloride
	MTCA CUL (ug/L)	5[a]	5[a]	16[b]	0.2[a]
	SL for Vapor Intrusion (ug/L)	*9.6*	*0.42*	*160*	*0.35*
MW-6	2/23/1998	*1.2*	<1	<1	<1
	6/9/1999	*1.2*	<1	<1	<0.2
	7/8/1999	*1.3*	<1	<1	<0.2
	11/2/2001	*1.02*	<1	<1	<0.2
	5/18/2004	<1	<1	<1	<0.2
	8/26/2004	NS	NS	NS	NS
	11/10/2004	<1	<1	<1	<0.2
	3/24/2005	NS	NS	NS	NS
	6/16/2005	<1	<1	<1	<0.2
	10/6/2005	<1	<1	<1	<0.2
	5/16/2006	*2.9*	<1	<1	<0.2
	9/25/2006	*10*	<1	<1	<0.2
	12/29/2006	*5.2*	<1	<1	<0.2
	4/3/2007	<1	<1	<1	<0.2
	7/17/2013	<1	<1	<1	<1

Notes:

1. HVOC = Halogenated volatile organic compound.
2. PCE = Tetrachloroethene.
3. TCE = Trichloroethene.
4. DCE = Dichloroethene.
5. MTCA CUL = Model Toxics Control Act Cleanup Level.
6. SL = Groundwater Screening Level for vapor intrusion included in Table B-1 of Ecology's *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*
7. ug/L = micrograms per liter.
8. a = MTCA Method A Table Value.
9. b = MTCA Method B Non-Carcinogen CUL Standard Formula Value (Unrestricted Land Use).
10. < = Not detected at a concentration above the listed method detection limit or practical quantitation limit.
11. NA = sample was not analyzed for vinyl chloride.
12. NS = sample was not collected.
13. Bold = analyte was detected at a concentration above the method detection limit.
14. Shaded concentration exceeds the CUL.
15. Italicized concentration exceeds the SL.
16. DUP = Duplicate sample.

Table 5 - Soil Vapor Extraction System Influent Air Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location	Sample Date	HVOC concentrations (ug/m^3)				Operating Period	Days Per Operating Period	Average HVOC Concentration during Operating Period (ug/m^3)	HVOCs Removal Rate during Operating Period (grams per day)	HVOCs Removed per Operating Period (grams)
		PCE	TCE	cis-1,2 DCE	Vinyl Chloride					
SVE Influent	5/12/2004	33000	400	<200	500	4/29/2004-5/12/2004	13	33900	3	37
D-1	9/30/2004	9800	<200	<200	<200	5/12/2004-10/21/2004	162	3400[a]	0.28	46
MW-1A/SP	9/30/2004	400	<200	<200	<200					
EJ-1	10/21/2004	<200	<200	<200	<200					
D-2	3/21/2005	2400	<500	<500	<500	10/21/2004-3/21/2005	151	2400	0.20	30
SVE Influent	7/5/2005	1700	<200	<200	<200	3/22/2005-7/5/2005	105	1700	0.14	15
SVE Influent	10/3/2005	20000	<200	<200	<200	7/6/2005-10/3/2005	89	2000	0.17	15
SVE Influent	6/26/2006	1000	<200	<200	<200	10/4/2005-6/26/2006	630	1000	0.08	53
									Total	195

Notes:

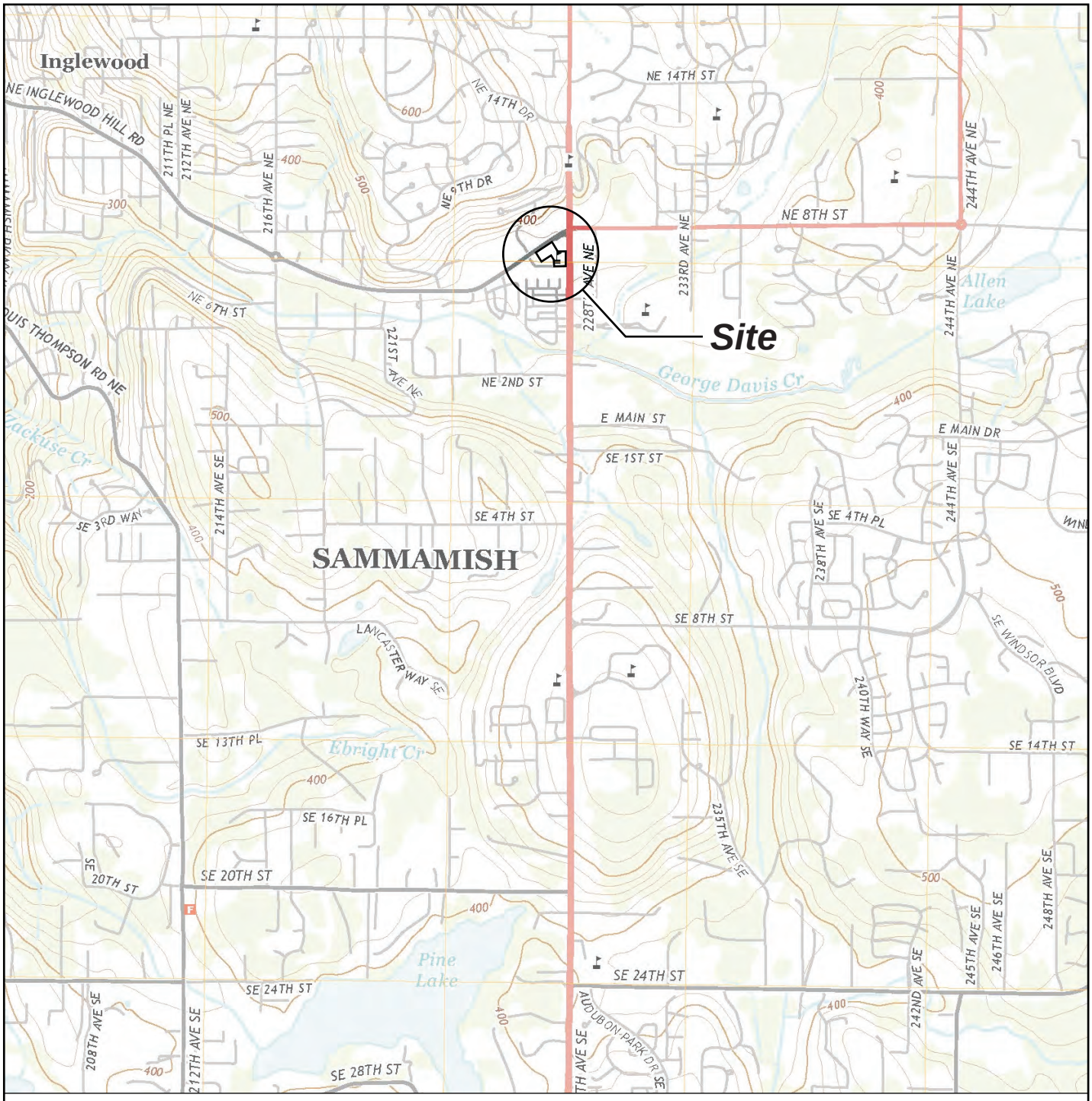
1. HVOC = Halogenated volatile organic compound.
2. PCE = Tetrachloroethene.
3. TCE = Trichloroethene.
4. DCE = Dichloroethene.
5. ug/m^3 = microgram per cubic meter.
6. ND = Not detected at a concentration above the method detection limit.
7. Bold = analyte was detected at a concentrations above the method detection limit.
8. a = concentration is an average based on concentrations detected in samples collected from individual extraction points (D-1, MW-1A/SP, and D-2).
9. SVE Influent = sample was collected from a sample port located near the influent to the soil vapor extraction system blower.

Table 6 - Air Sampling Analytical Results
Former Dirks Fine Dry Cleaning
Sammamish, Washington

Sample Location	Sample Depth	Sample Date	HVOC concentrations (ug/m^3)			
			PCE	TCE	cis-1,2-DCE	Vinyl Chloride
MTCA Method B Cleanup Level (ug/m^3)			9.6	0.37	NR	46
AA-1	Indoor ambient air	3/28/2014	**2.5**	<0.36	<0.27	<0.086
AA-2	Indoor ambient air	3/28/2014	**3.4**	<0.36	<0.27	<0.086
OA-1	Outdoor ambient air	3/28/2014	**1.9**	<0.2	<0.14	<0.047

Notes:

1. HVOC = Halogenated volatile organic compound.
2. PCE = Tetrachloroethene.
3. TCE = Trichloroethene.
4. DCE = Dichloroethene.
5. ug/m^3 = microgram per cubic meter.
6. MTCA CUL = Model Toxics Control Act Cleanup Level (Unrestricted Land Use).
7. < = Not detected at a concentration above the shown reporting limit.
8. Bold = analyte was detected at a concentration above the method detection limit.
9. NR = A MTCA CUL for this compound has not been developed by the Department of Ecology.



Note: Base map prepared from USGS 7.5-minute quadrangle of Issaquah, WA, dated 2014 as provided by USGS.gov.

0 2,000 4,000

Approximate Scale in Feet

Site Location Map

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		1

Legend:

MW-1A	Monitoring Well Location
SP-1	Groundwater Sample Location (1995)
S-1	Soil Sample Location (1995)
SP-2	Soil Gas Sample Location (1995)

0 100 200

Approximate Scale in Feet

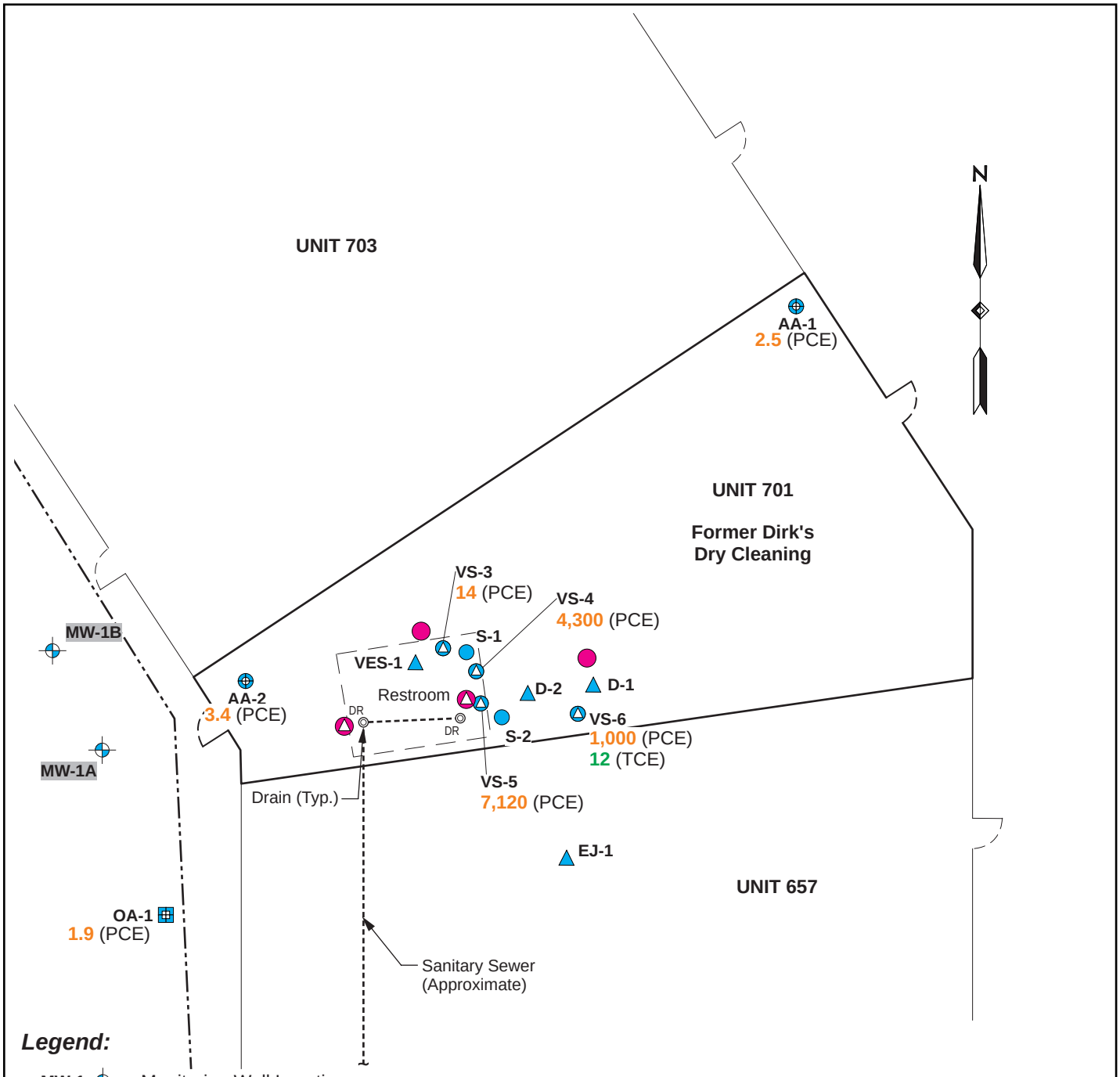
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Site Layout

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		2



Legend:

MW-1	Monitoring Well Location
VS-1	Soil Gas Sample Location (2013 and 2014)
AA-1	Indoor Ambient Air Sample Location (2014)
OA-1	Outdoor Ambient Air Sample Location (2014)
VES-1	Soil Vapor Extraction Point
S-1	Soil Sample Location (1995)
	Planned Soil Gas Sample Location
	Planned Soil Sample Location
1,000 (PCE)	Tetrachloroethene (PCE) Concentration in µg/m^3
12 (TCE)	Trichloroethene (TCE) Concentration in µg/m^3

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

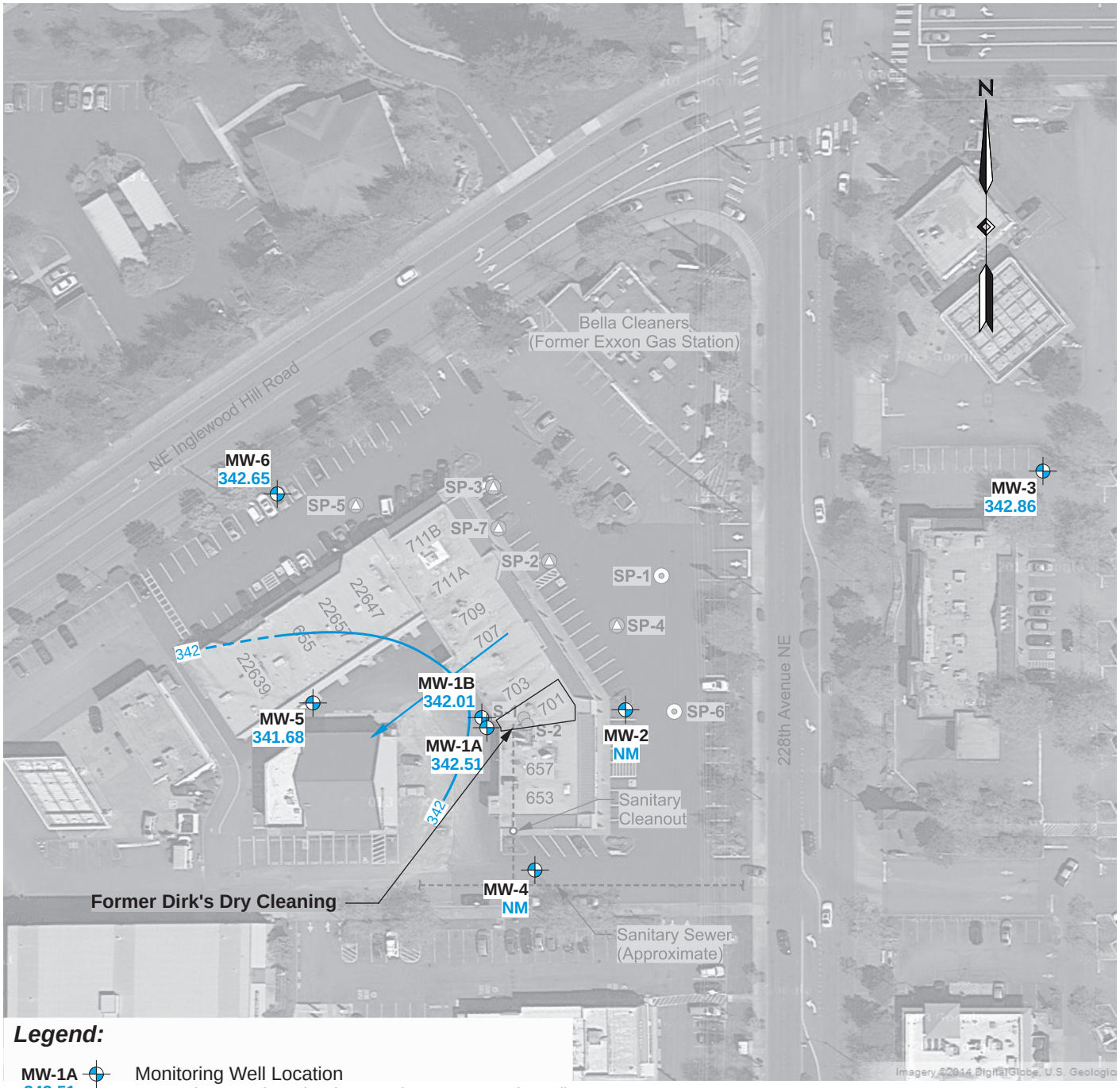
0 10 20
Approximate Scale in Feet

Unit 701 Layout

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		3



Legend:

- **MW-1A 342.51** — Monitoring Well Location; Groundwater Elevation in Feet (NM=Not Monitored)
- 342 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - July 16, 2013

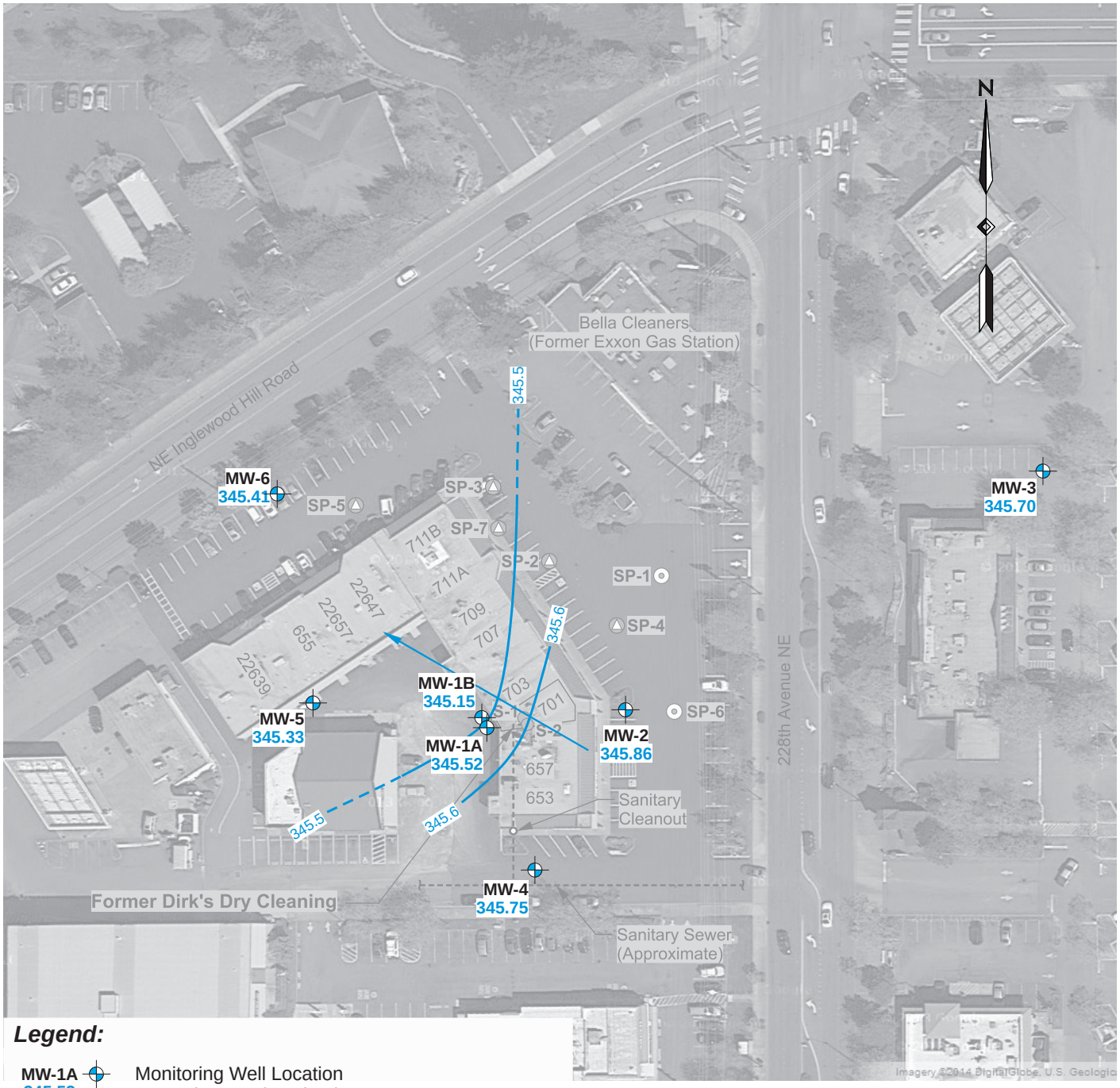
Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		4

Attachment A

Historical Groundwater Elevations



Legend:

- **MW-1A 345.52** — Monitoring Well Location, Groundwater Elevation in Feet
- 345.5 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)
- Apparent Groundwater Flow Direction
- **SP-1** — Groundwater Sample Location (1995)
- **S-1** — Soil Sample Location (1995)
- **SP-2** — Soil Gas Sample Location (1995)

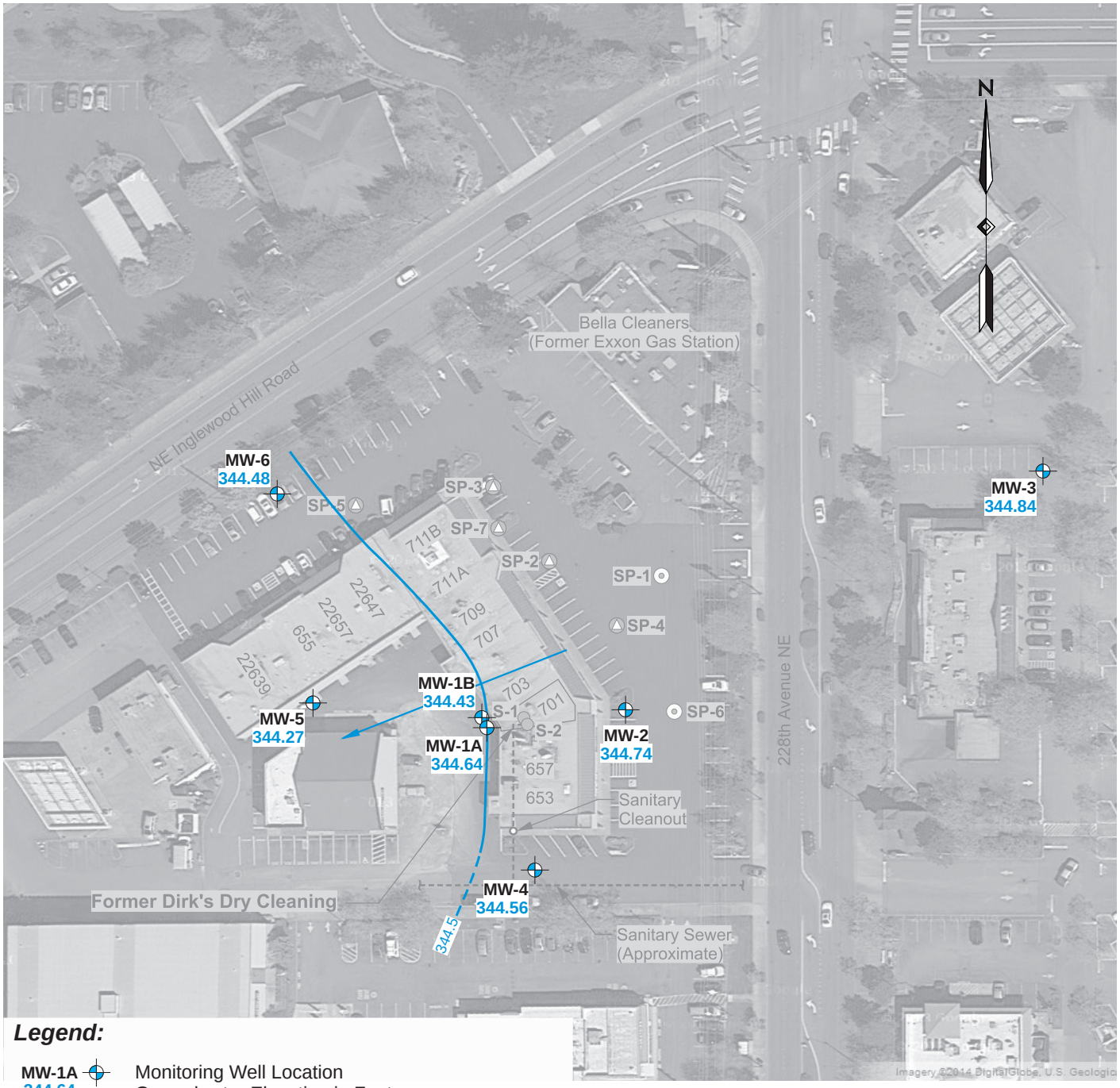
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - February 23, 1998

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-1



Legend:

- **MW-1A** 344.64 — Monitoring Well Location, Groundwater Elevation in Feet
- 344.5 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

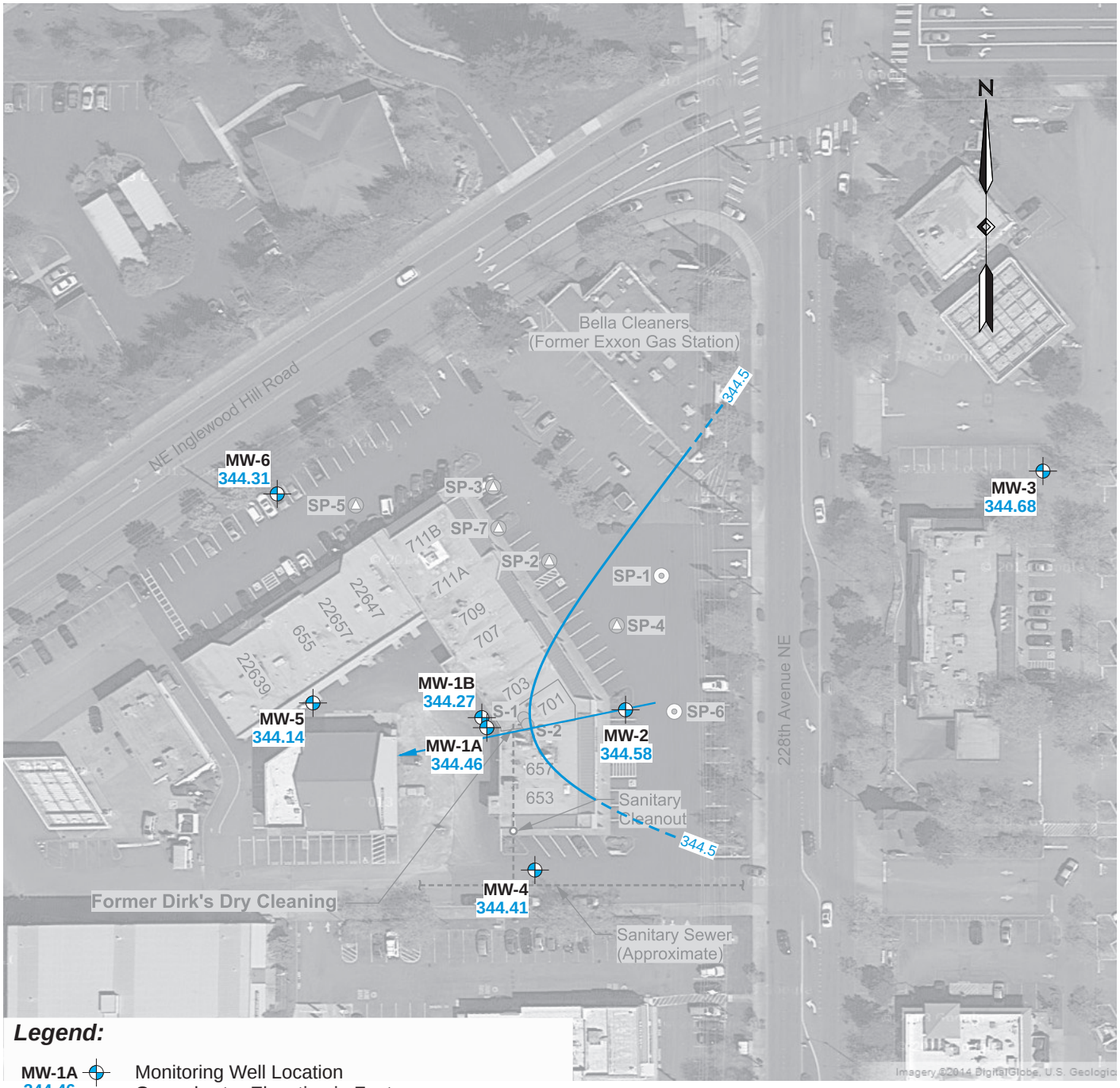
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - June 9, 1999

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-2



0 100 200

Approximate Scale in Feet

Legend:

- **MW-1A** 344.46 — Monitoring Well Location, Groundwater Elevation in Feet
- 344.5 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

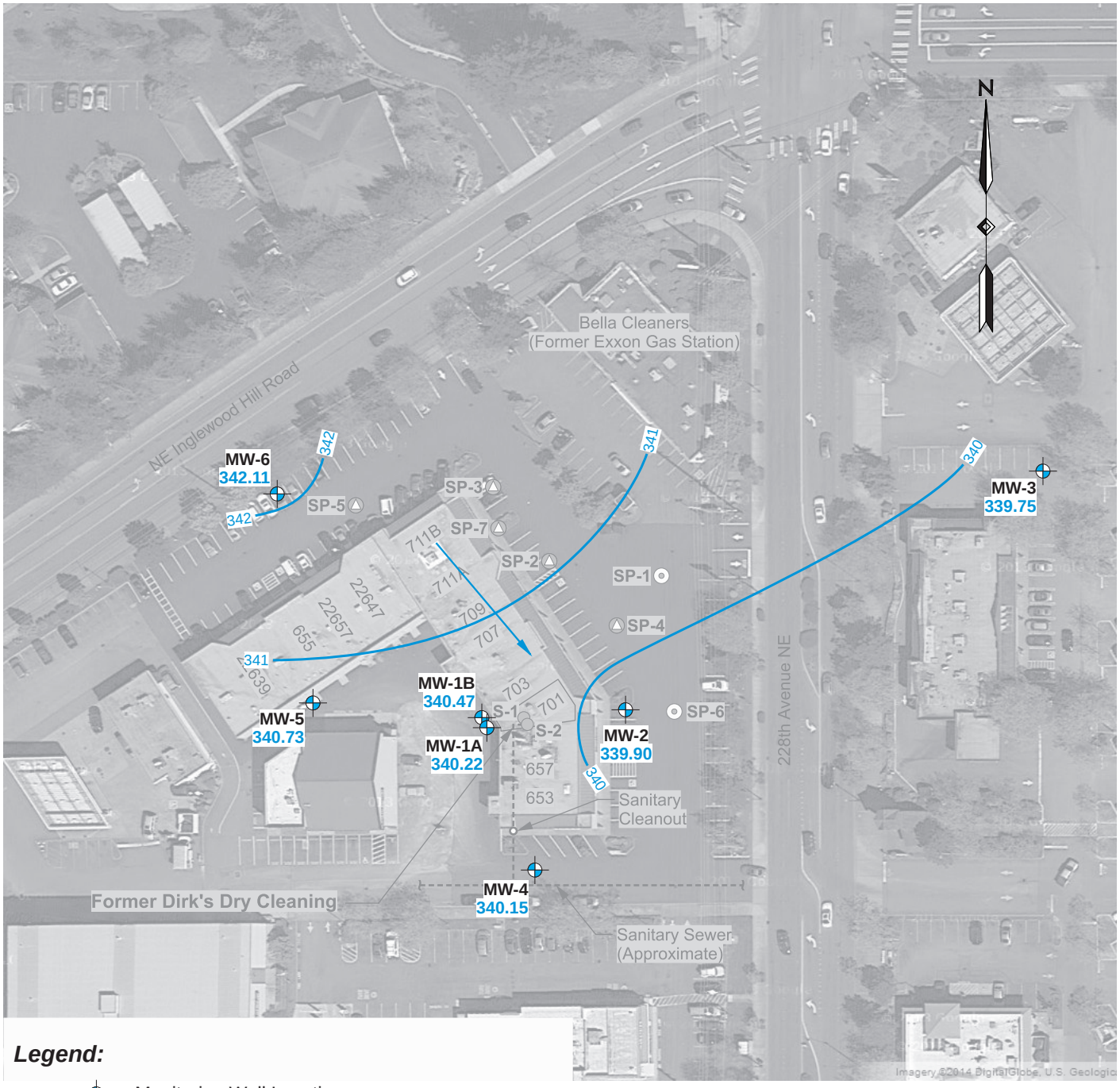
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - July 8, 1999

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-3



Legend:

- **MW-1A 340.22** — Monitoring Well Location, Groundwater Elevation in Feet
- 342 — Groundwater Elevation Contour in Feet
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

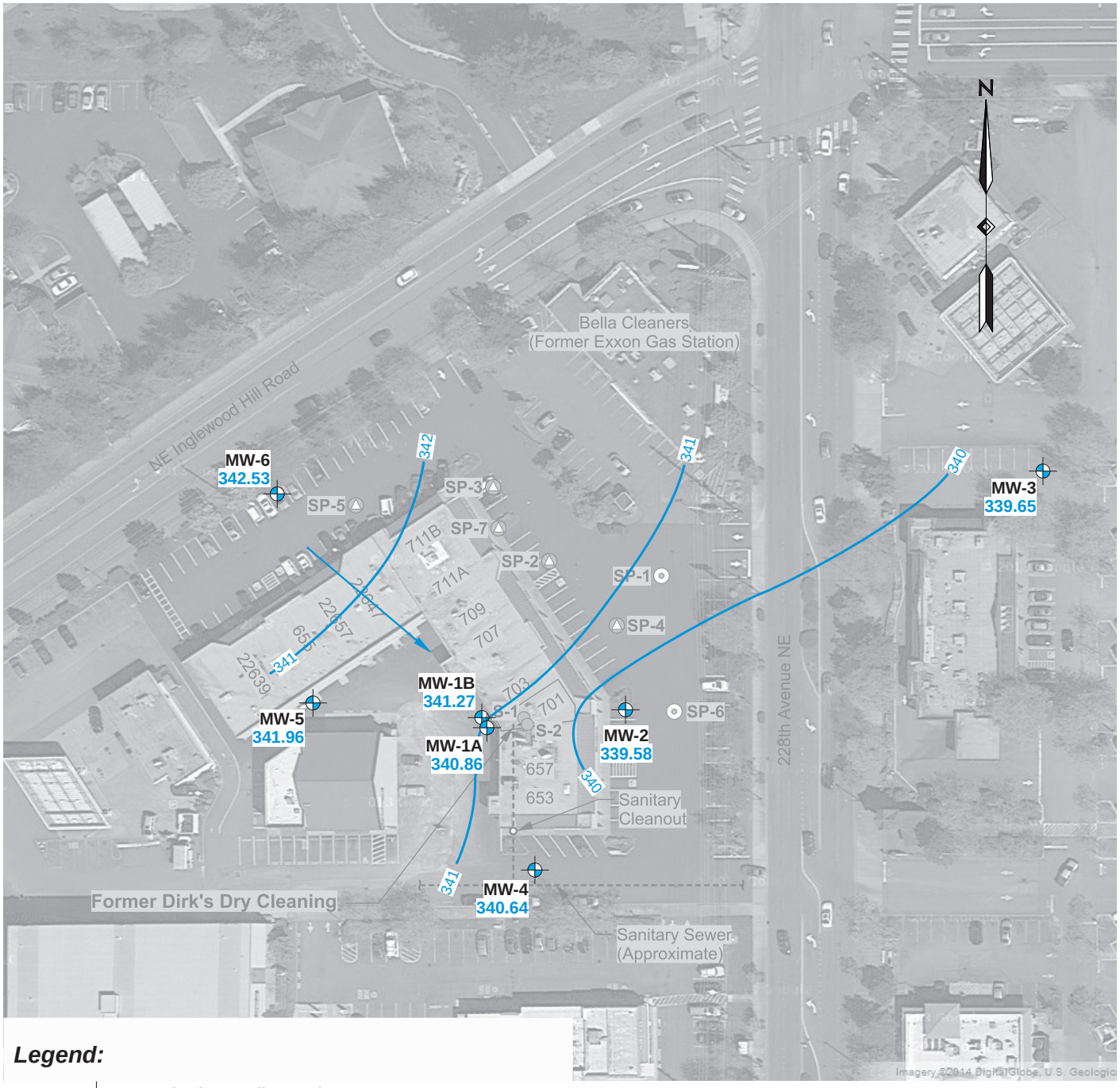
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

0 100 200
Approximate Scale in Feet

Groundwater Elevations - October 11, 1999

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	11277-200	Figure A-4
	May 2014		



Legend:

- **MW-1A 340.86** — Monitoring Well Location, Groundwater Elevation in Feet
- 342 — Groundwater Elevation Contour in Feet
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

0 100 200

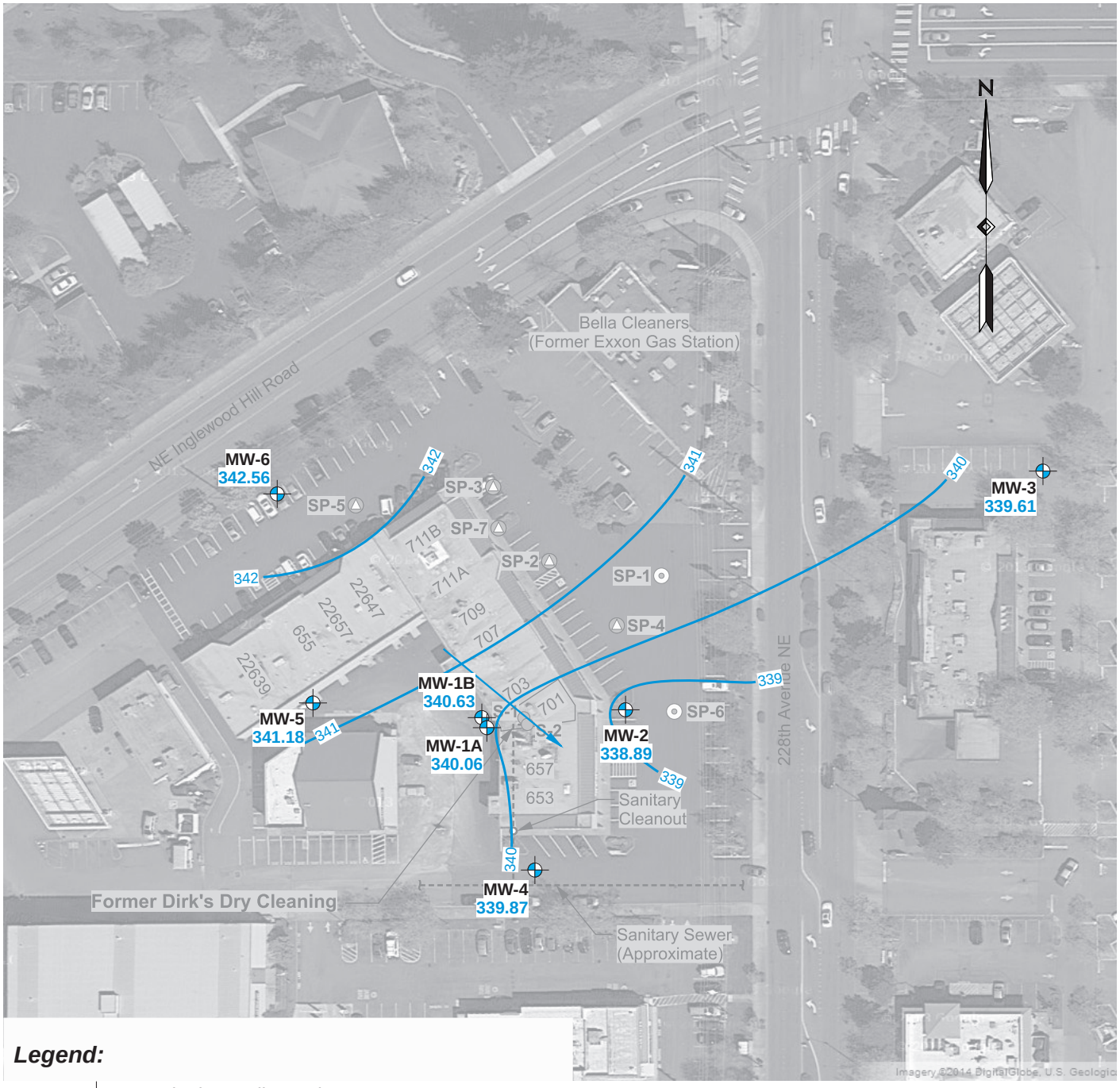
Approximate Scale in Feet

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - November 10, 1999

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	11277-200	Figure A-5
	May 2014		



Legend:

- **MW-1A** 340.06 — Monitoring Well Location, Groundwater Elevation in Feet
- 342 — Groundwater Elevation Contour in Feet
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

0 100 200

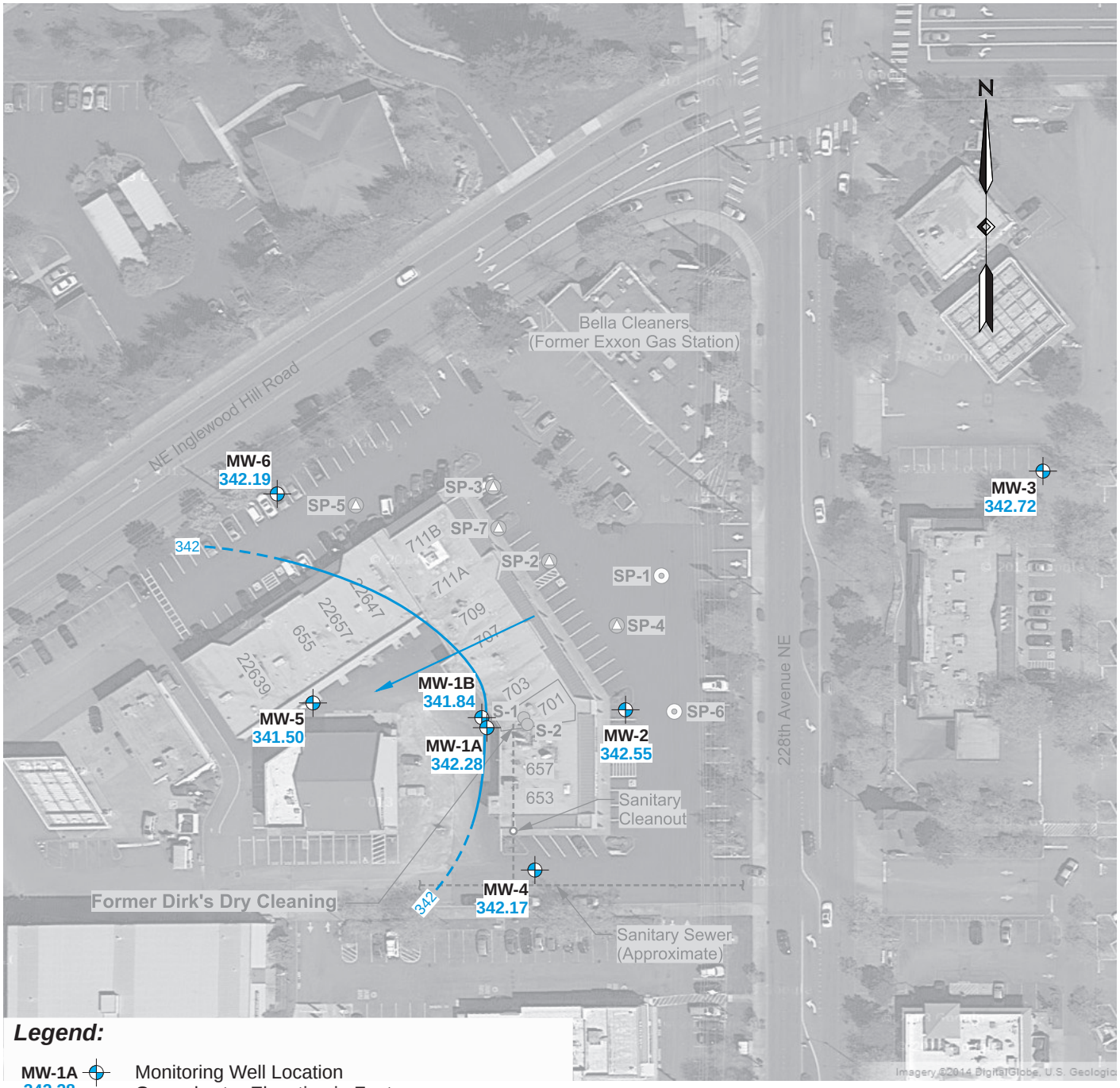
Approximate Scale in Feet

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - November 2, 2001

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	11277-200	Figure A-6
	May 2014		



Legend:

- **MW-1A 342.28** — Monitoring Well Location, Groundwater Elevation in Feet
- 342 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

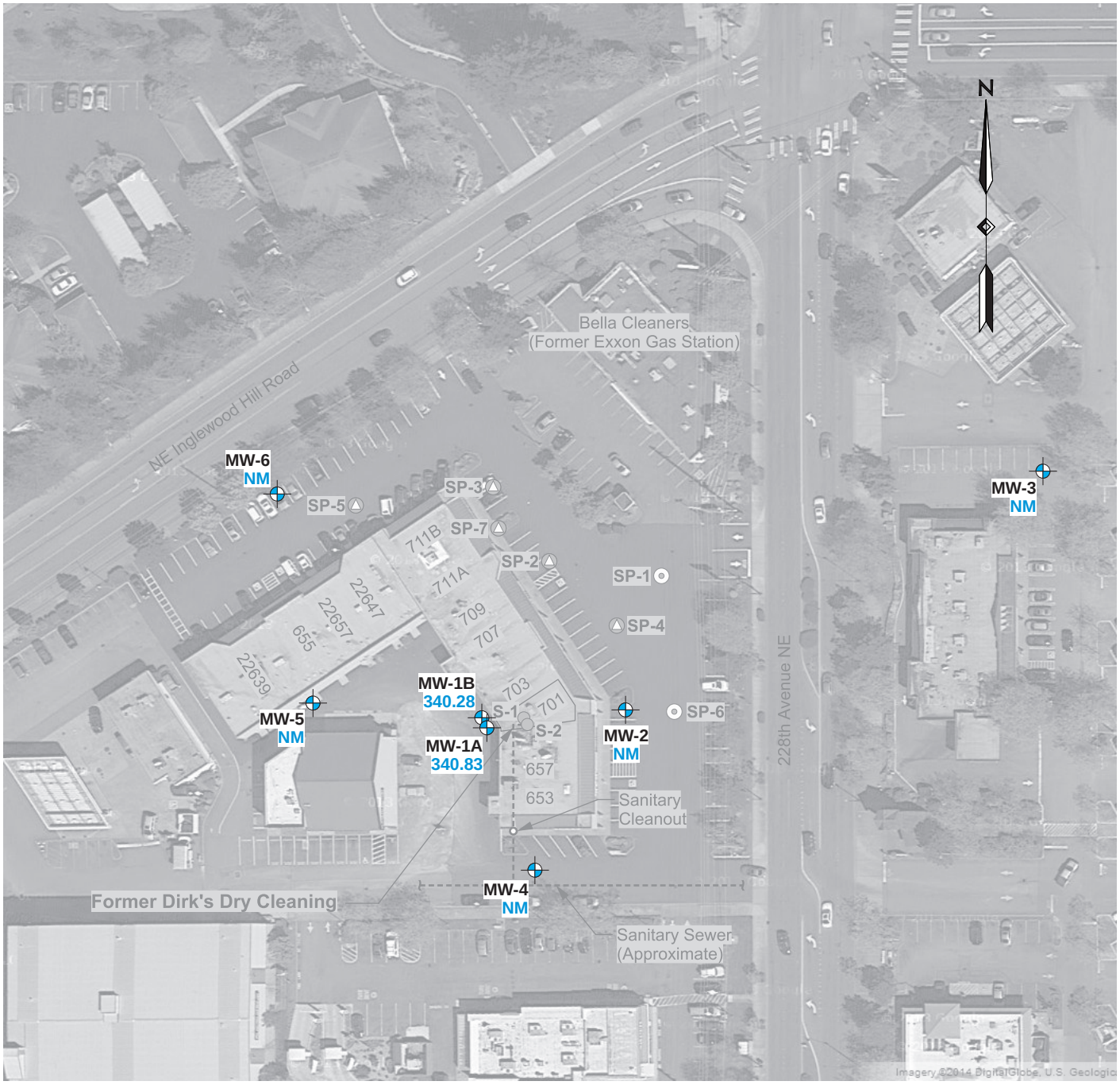
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - May 18, 2004

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-7



0 100 200

Approximate Scale in Feet

Legend:

MW-1A 340.83 — Monitoring Well Location, Groundwater Elevation in Feet (NM=Not Monitored)

SP-1 — Groundwater Sample Location (1995)

S-1 — Soil Sample Location (1995)

SP-2 — Soil Gas Sample Location (1995)

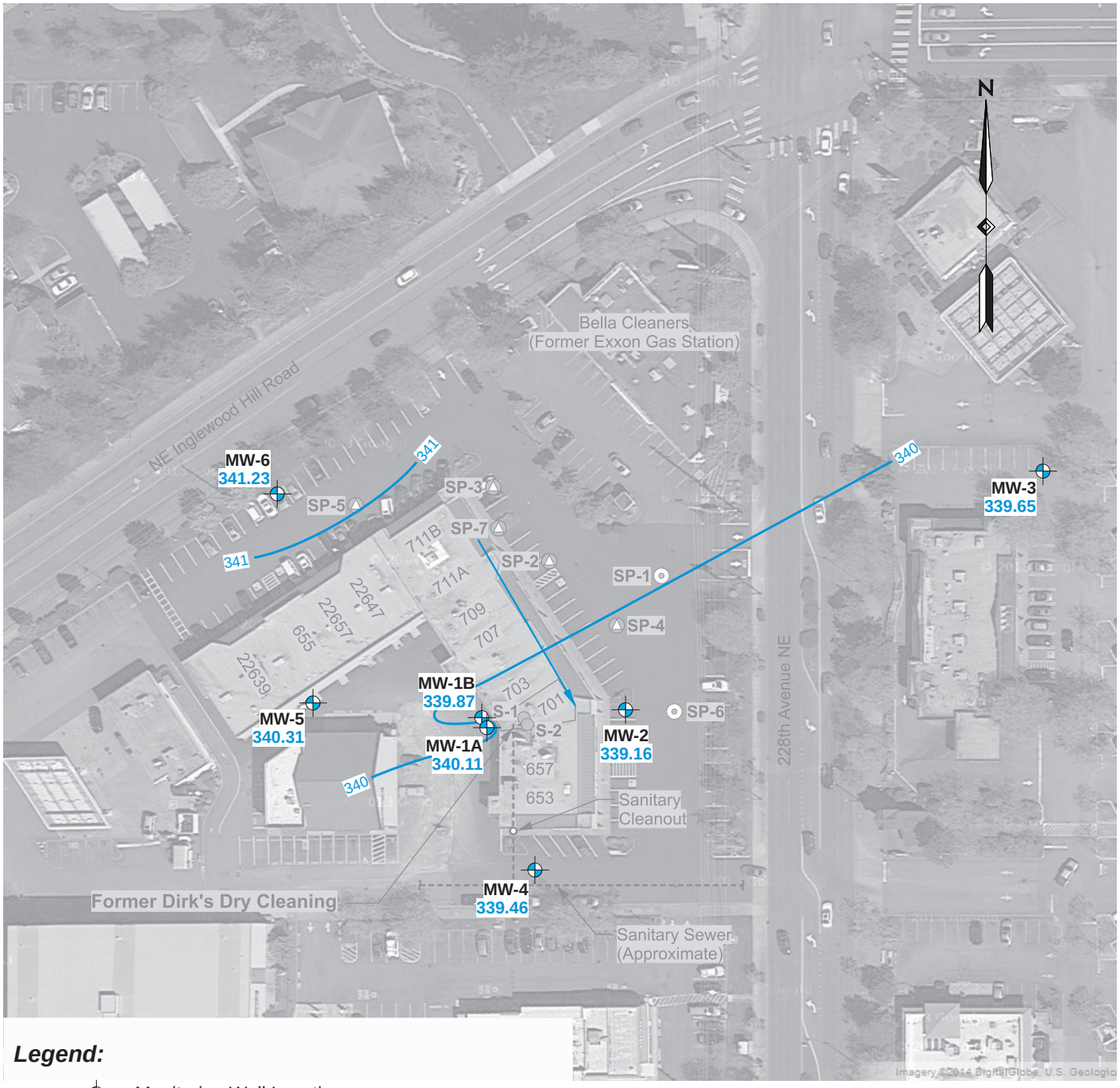
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - August 26, 2004

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-8



Legend:

- **MW-1A** 340.11 — Monitoring Well Location, Groundwater Elevation in Feet
- 341 — Groundwater Elevation Contour in Feet
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

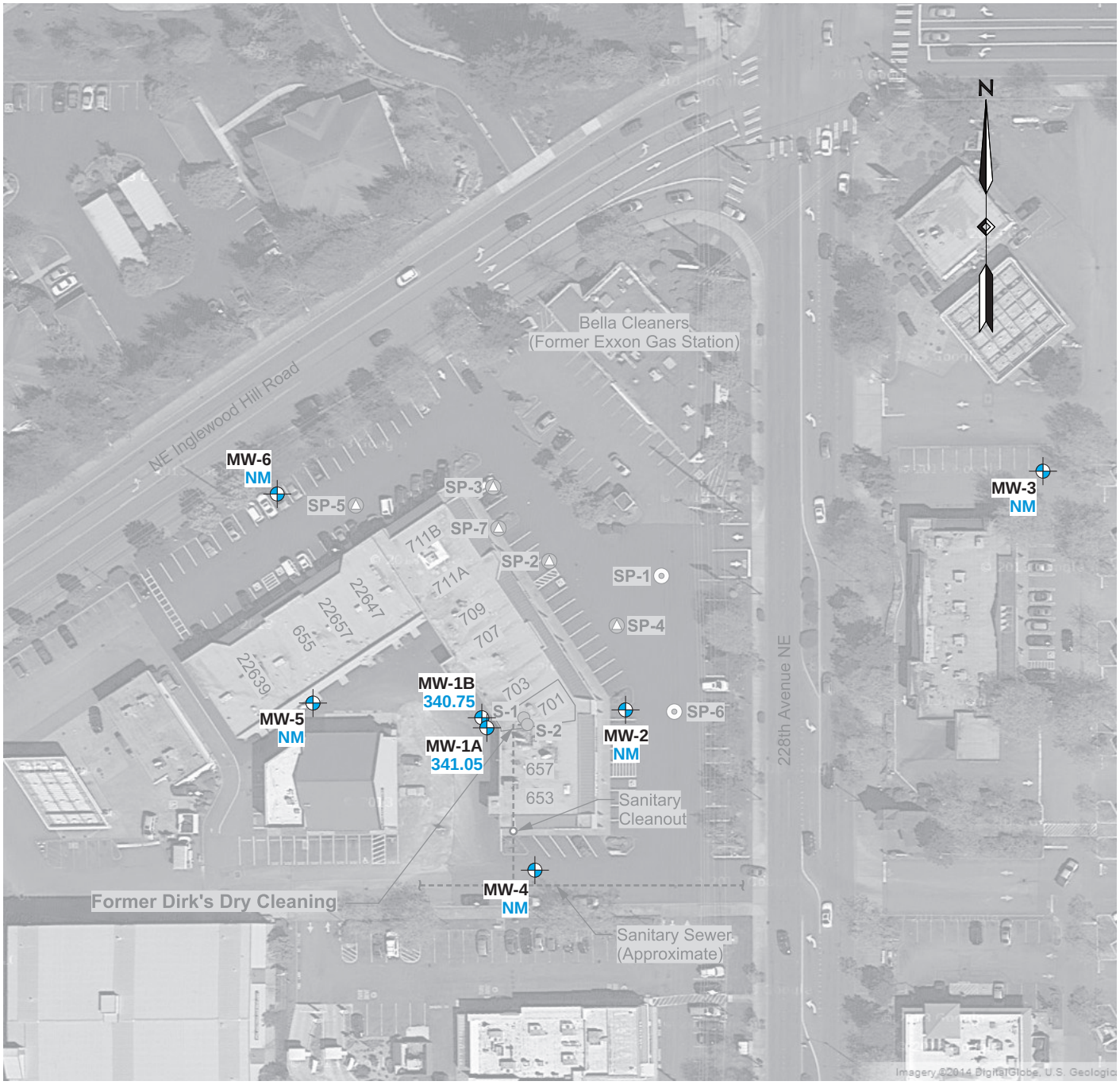
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

0 100 200
Approximate Scale in Feet

Groundwater Elevations - November 10, 2004

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	11277-200	Figure A-9
	May 2014		



0 100 200

Approximate Scale in Feet

Legend:

MW-1A 341.05 — Monitoring Well Location
Groundwater Elevation in Feet
(NM=Not Monitored)

SP-1 — Groundwater Sample Location (1995)

S-1 — Soil Sample Location (1995)

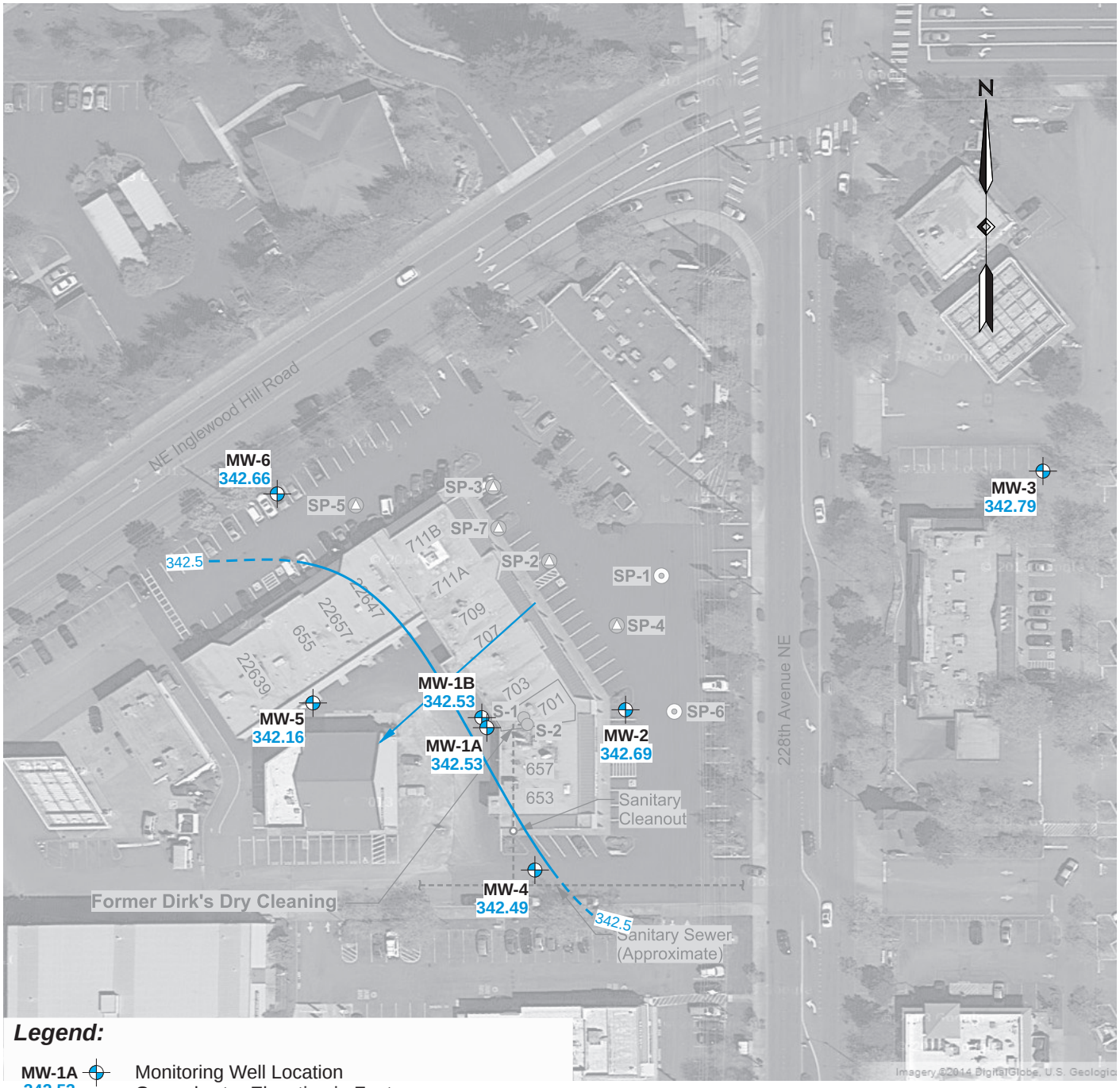
SP-2 — Soil Gas Sample Location (1995)

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - March 24, 2005

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	11277-200	Figure A-10
	May 2014		



Legend:

MW-1A 342.53 — Monitoring Well Location, Groundwater Elevation in Feet

342.5 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)

Apparent Groundwater Flow Direction

SP-1 — Groundwater Sample Location (1995)

S-1 — Soil Sample Location (1995)

SP-2 — Soil Gas Sample Location (1995)

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

0 100 200

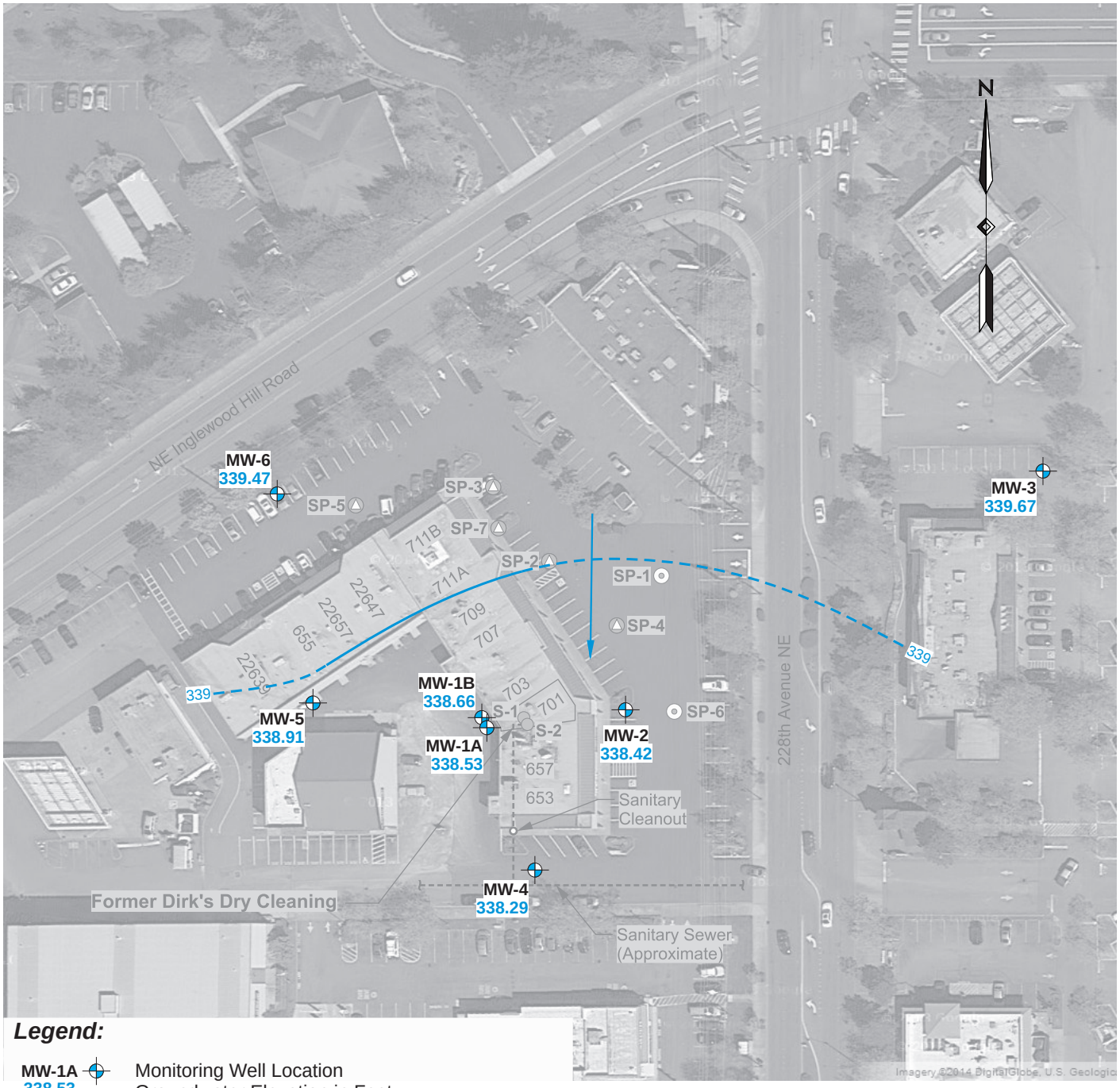
Approximate Scale in Feet

Groundwater Elevations - June 16, 2005

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-11



Legend:

MW-1A 338.53 — Monitoring Well Location, Groundwater Elevation in Feet

339 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)

Apparent Groundwater Flow Direction

SP-1 — Groundwater Sample Location (1995)

S-1 — Soil Sample Location (1995)

SP-2 — Soil Gas Sample Location (1995)

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

0 100 200

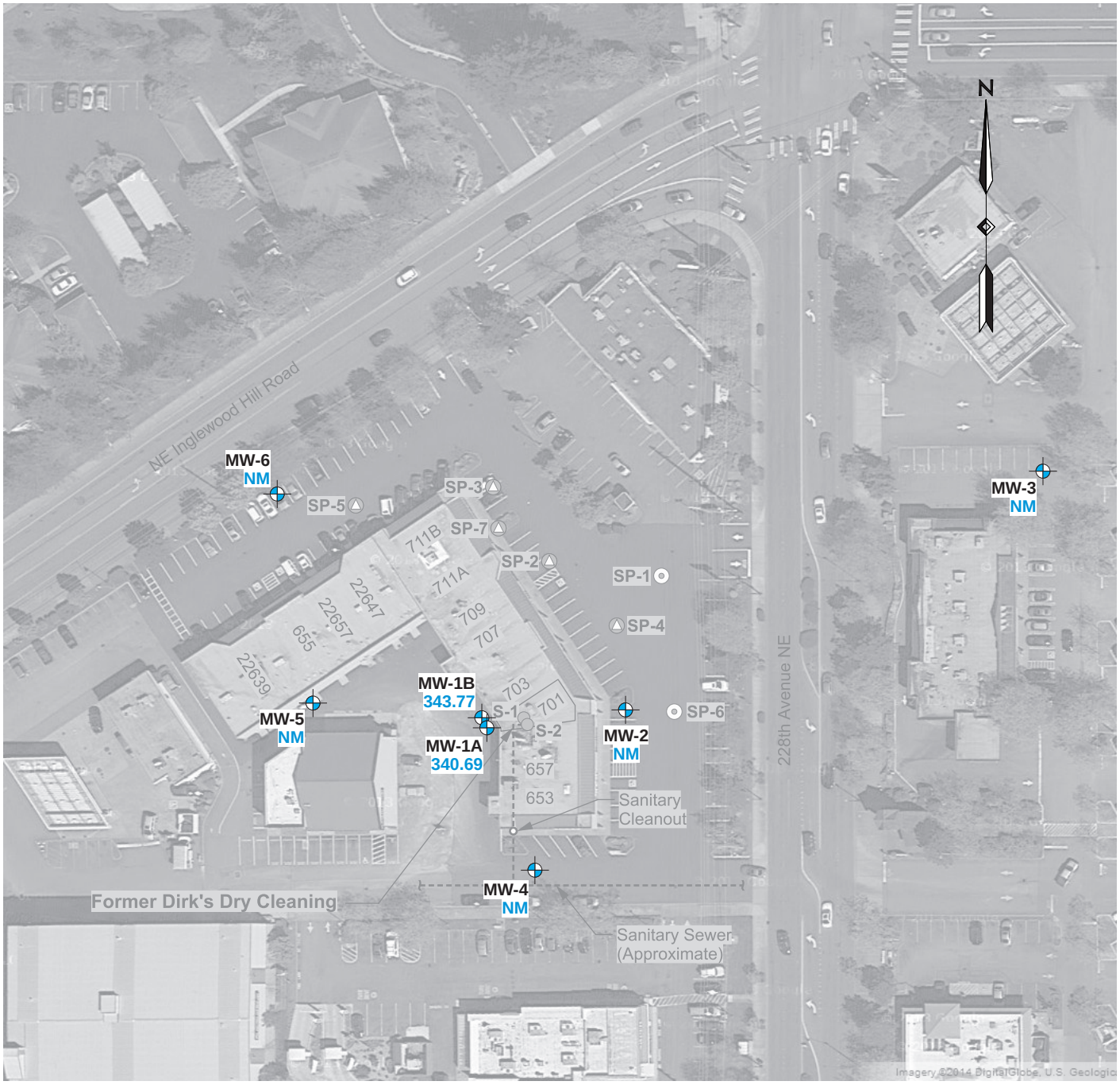
Approximate Scale in Feet

Groundwater Elevations - October 6, 2005

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-12



0 100 200

Approximate Scale in Feet

Legend:

MW-1A 340.69 — Monitoring Well Location, Groundwater Elevation in Feet (NM=Not Monitored)

SP-1 — Groundwater Sample Location (1995)

S-1 — Soil Sample Location (1995)

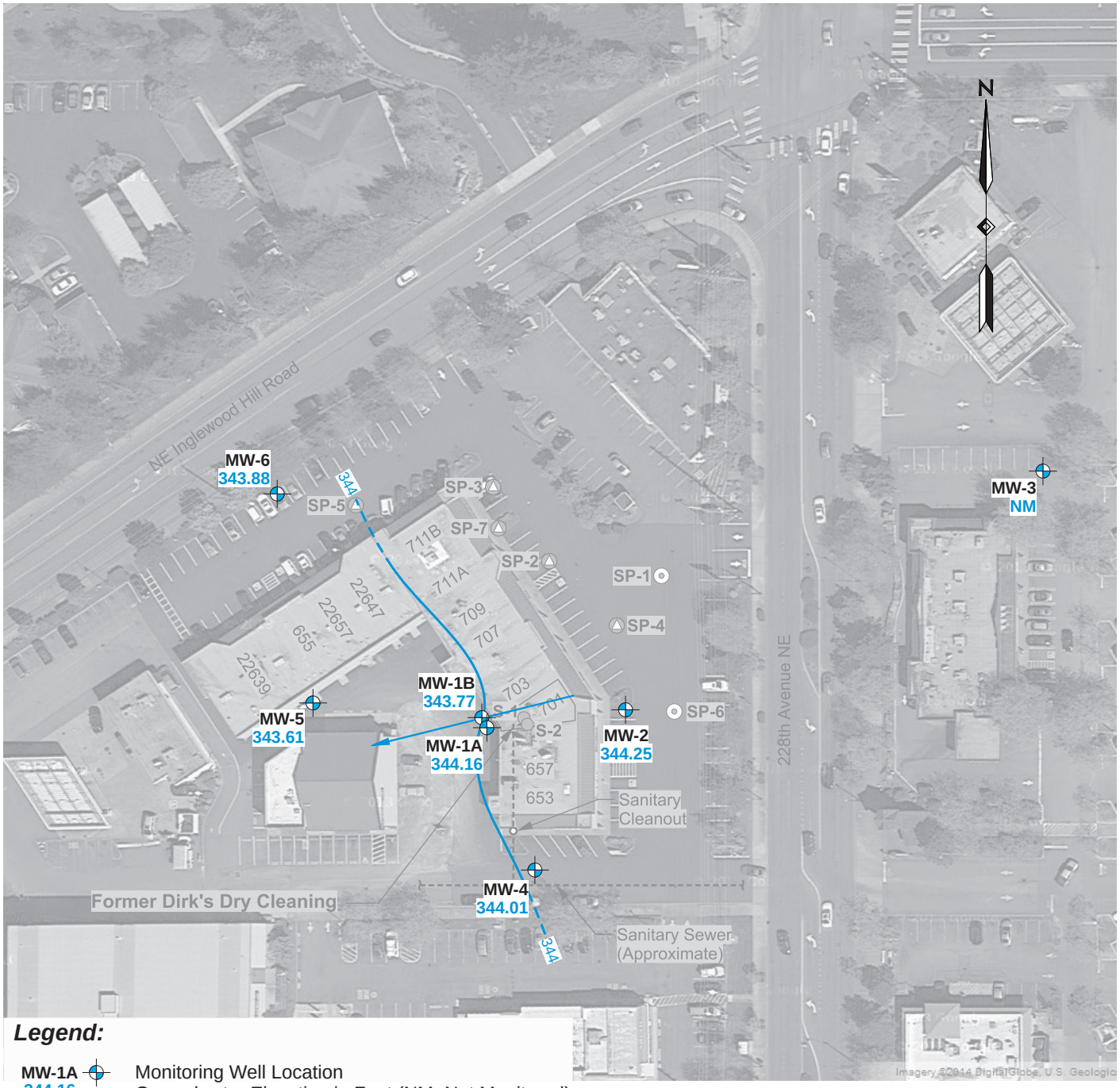
SP-2 — Soil Gas Sample Location (1995)

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - November 10, 2005

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	11277-200	Figure A-13
	May 2014		



Legend:

MW-1A 344.16 — Monitoring Well Location; Groundwater Elevation in Feet (NM=Not Monitored)

344 — Groundwater Elevation Contour in Feet (Dashed Where Inferred)

Apparent Groundwater Flow Direction

SP-1 — Groundwater Sample Location (1995)

S-1 — Soil Sample Location (1995)

SP-2 — Soil Gas Sample Location (1995)

0 100 200

Approximate Scale in Feet

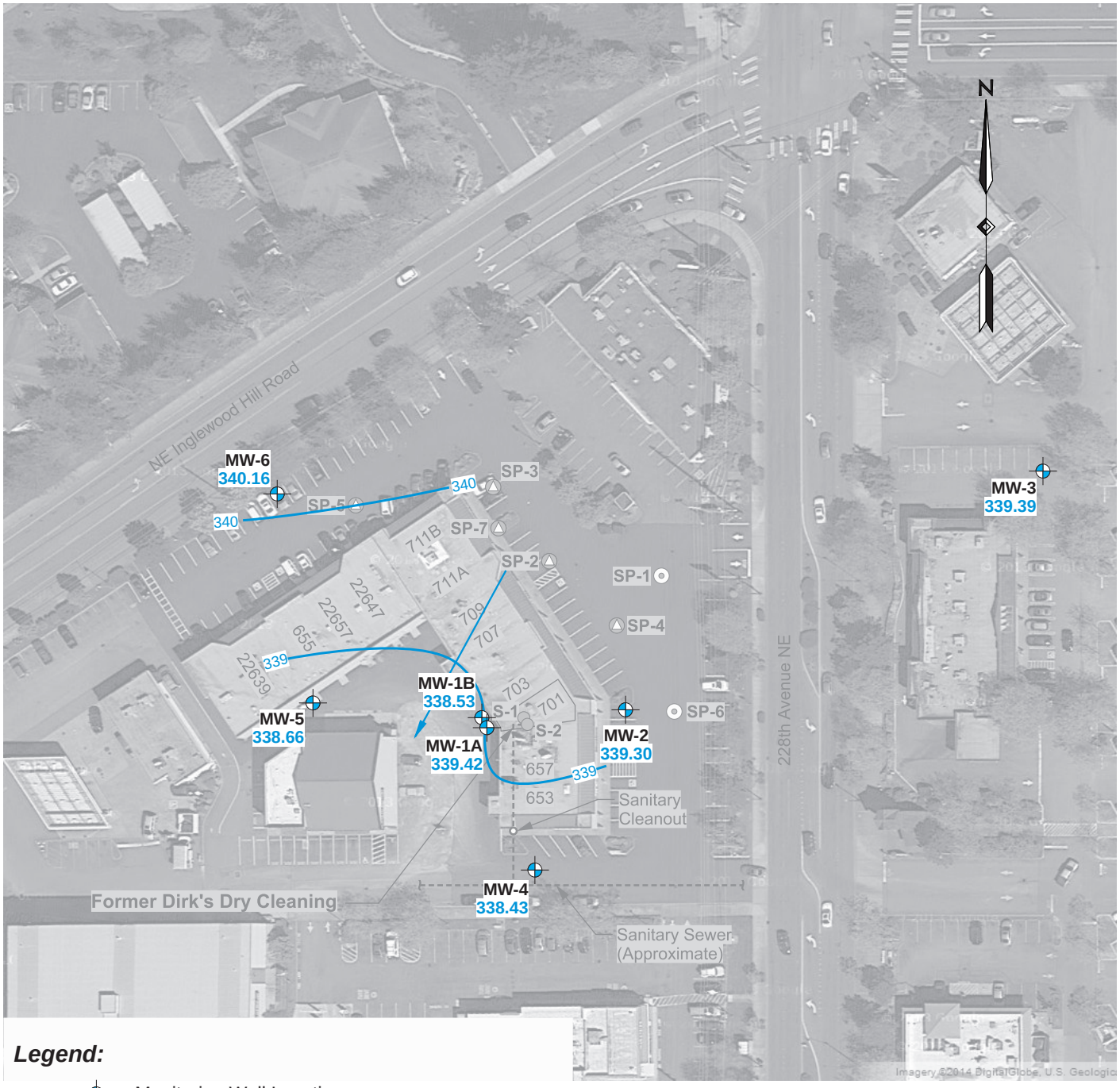
Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - May 16, 2006

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-14



Legend:

- **MW-1A** 339.42 — Monitoring Well Location, Groundwater Elevation in Feet
- 339 — Groundwater Elevation Contour in Feet
- Apparent Groundwater Flow Direction
- **SP-1** — Groundwater Sample Location (1995)
- **S-1** — Soil Sample Location (1995)
- **SP-2** — Soil Gas Sample Location (1995)

0 100 200

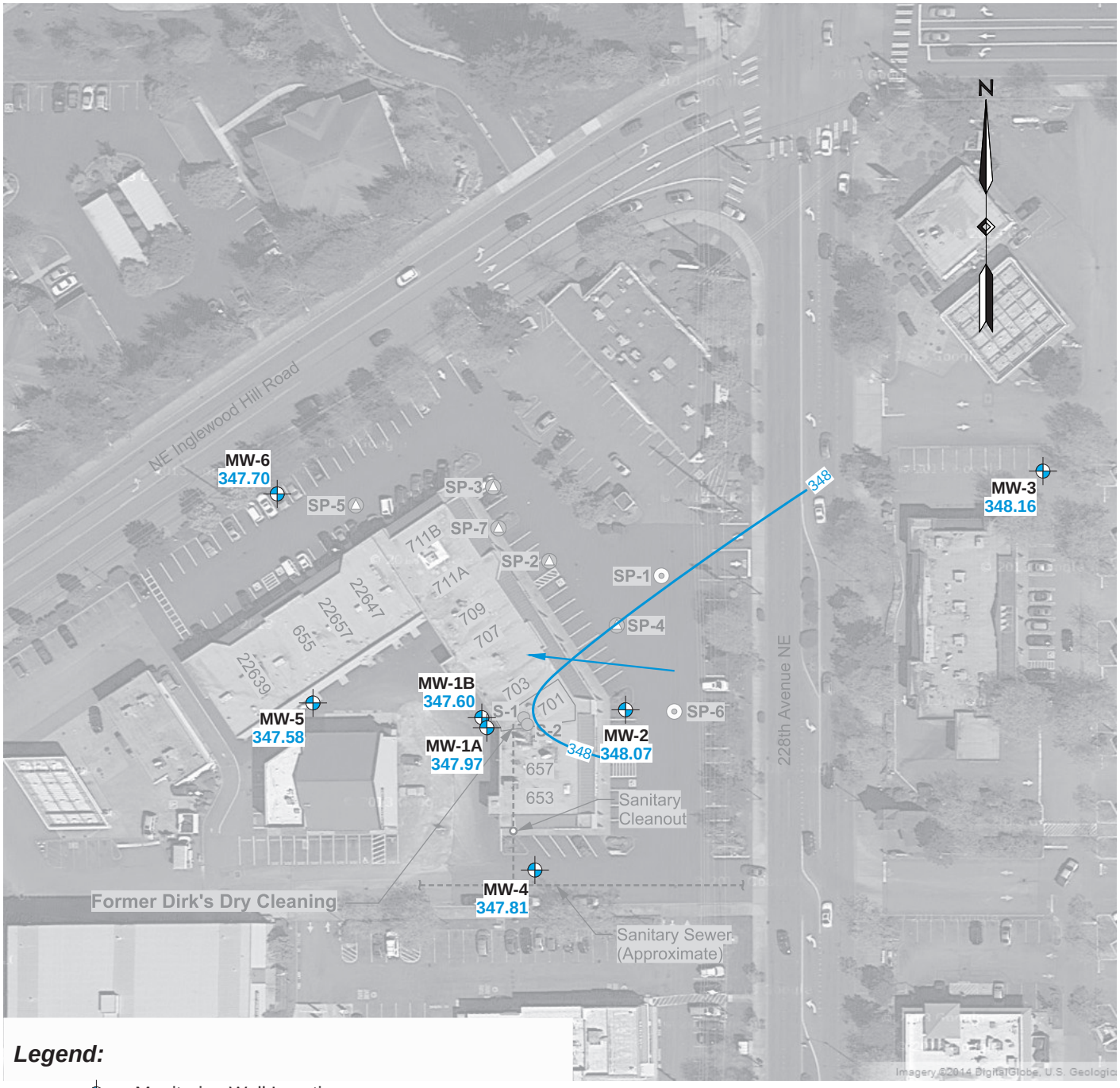
Approximate Scale in Feet

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

Groundwater Elevations - September 25, 2006

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	11277-200	Figure A-15
	May 2014		



Legend:

- **MW-1A** 347.97 — Monitoring Well Location, Groundwater Elevation in Feet
- 348 — Groundwater Elevation Contour in Feet
- Apparent Groundwater Flow Direction
- SP-1 — Groundwater Sample Location (1995)
- S-1 — Soil Sample Location (1995)
- SP-2 — Soil Gas Sample Location (1995)

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

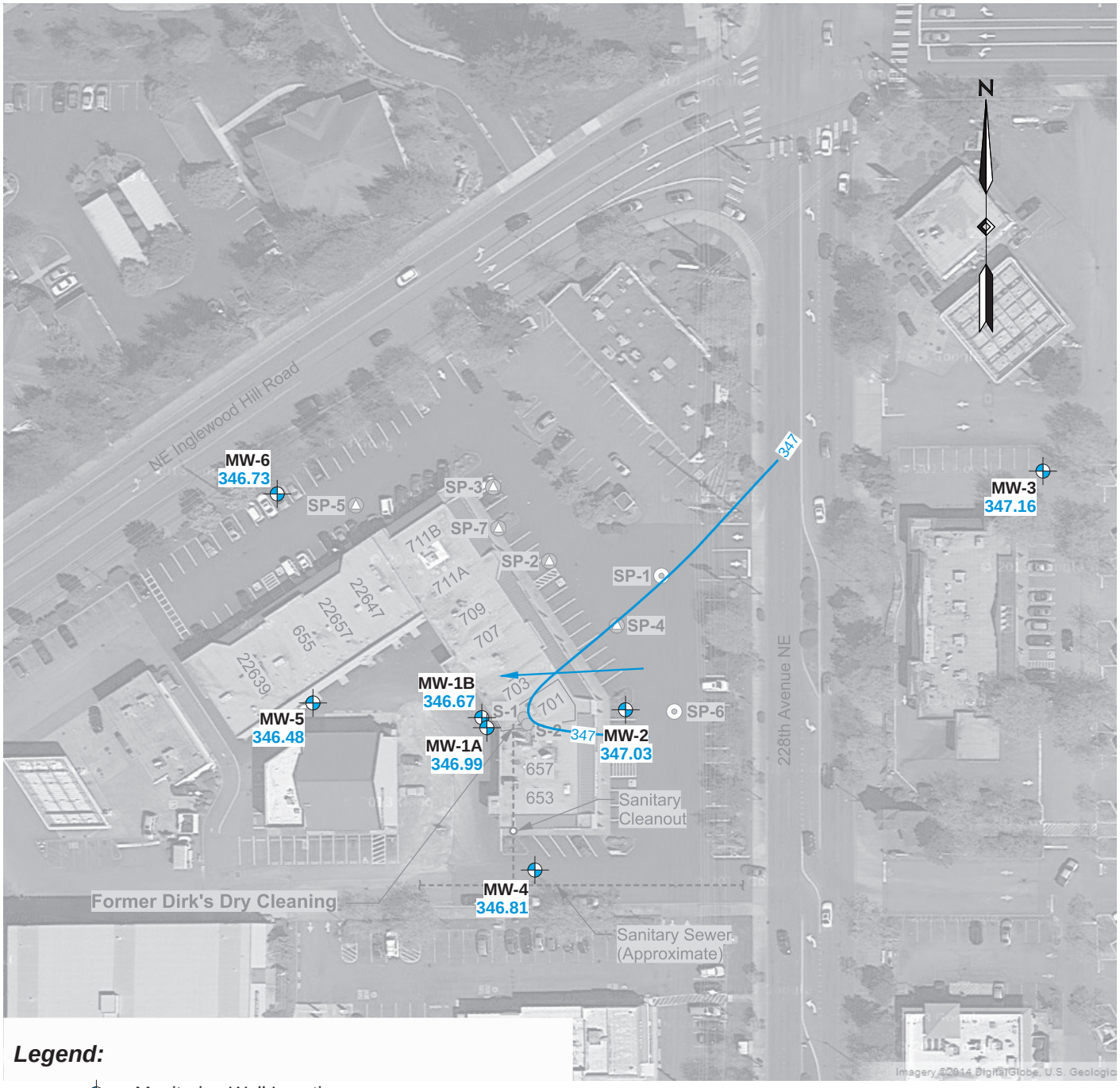
0 100 200
Approximate Scale in Feet

Groundwater Elevations - January 23, 2007

Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-16



Legend:

- **MW-1A 346.99** — Monitoring Well Location, Groundwater Elevation in Feet
- 347 — Groundwater Elevation Contour in Feet
- Apparent Groundwater Flow Direction
- **SP-1** — Groundwater Sample Location (1995)
- **S-1** — Soil Sample Location (1995)
- **SP-2** — Soil Gas Sample Location (1995)

Notes: 1) Base map prepared from 2014 - Google Imagery. Aerial dated May 4, 2013.
2) All site features and historical locations are approximate.

0 100 200
Approximate Scale in Feet

Groundwater Elevations - April 3, 2007

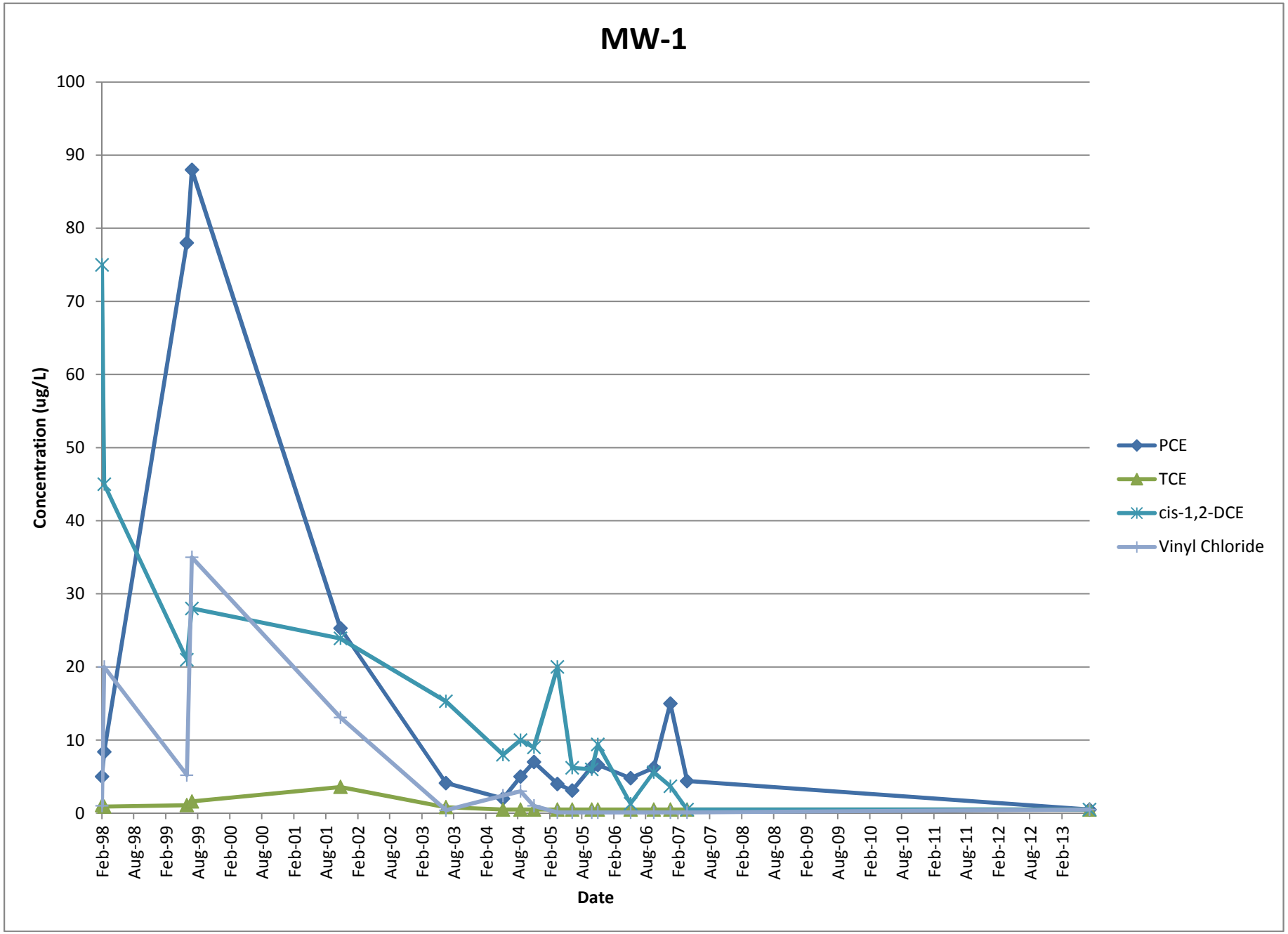
Inglewood Plaza
615 228th Avenue NE
Sammamish, Washington

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	11277-200	Figure
May 2014		A-17

Attachment B

Groundwater Concentration Trend Plots


MW-1
Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Feb-05
Aug-05
Feb-06
Aug-06
Feb-07
Aug-07
Feb-08
Aug-08
Feb-09
Aug-09
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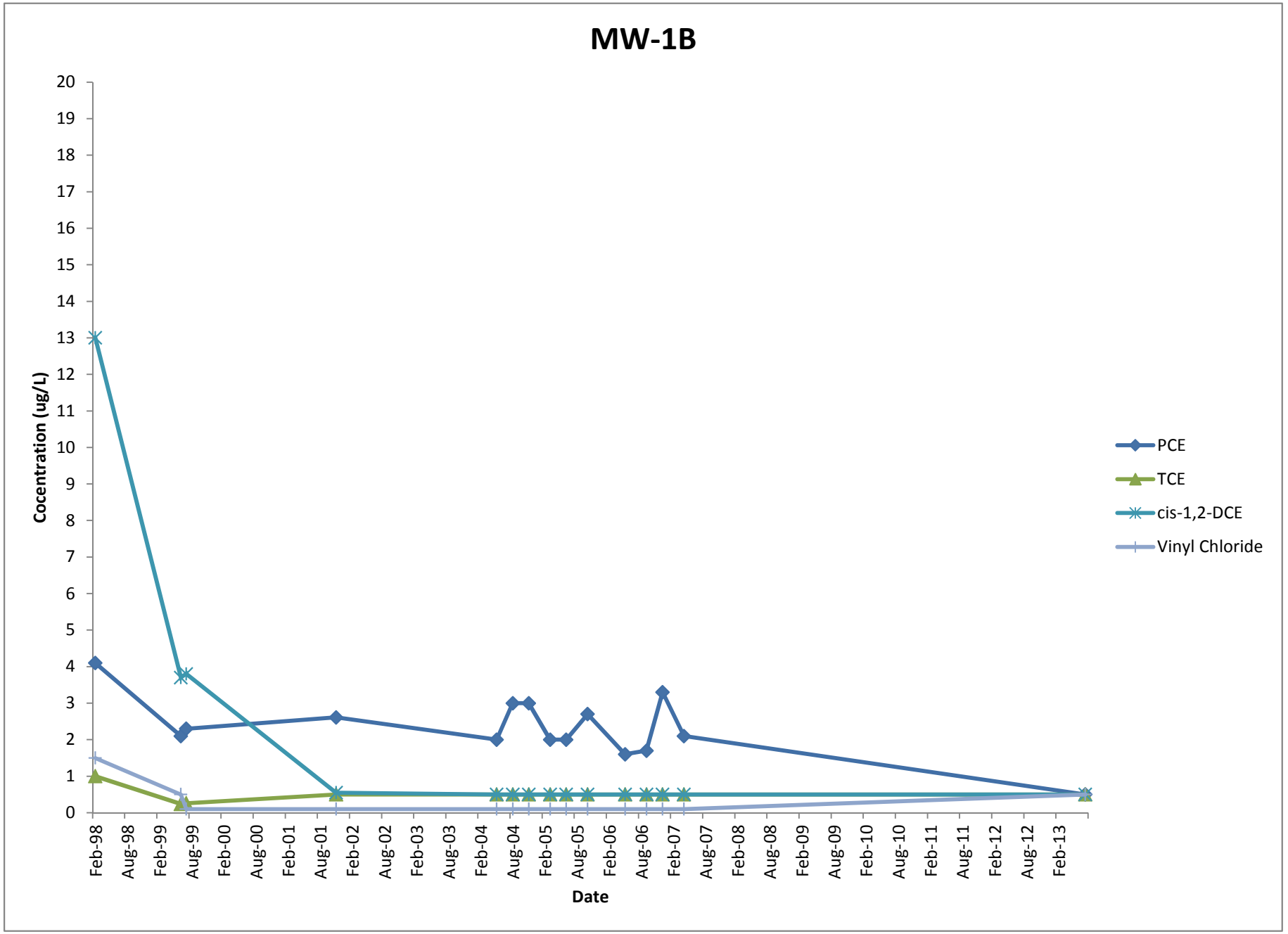
Aug-12
Feb-13
Date
PCE
TCE
cis-1,2-DCE
Vinyl Chloride


MW-1B
Cocentration (ug/L)
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Feb-05
Aug-05
Feb-06
Aug-06
Feb-07
Aug-07
Feb-08
Aug-08
Feb-09
Aug-09
Feb-10
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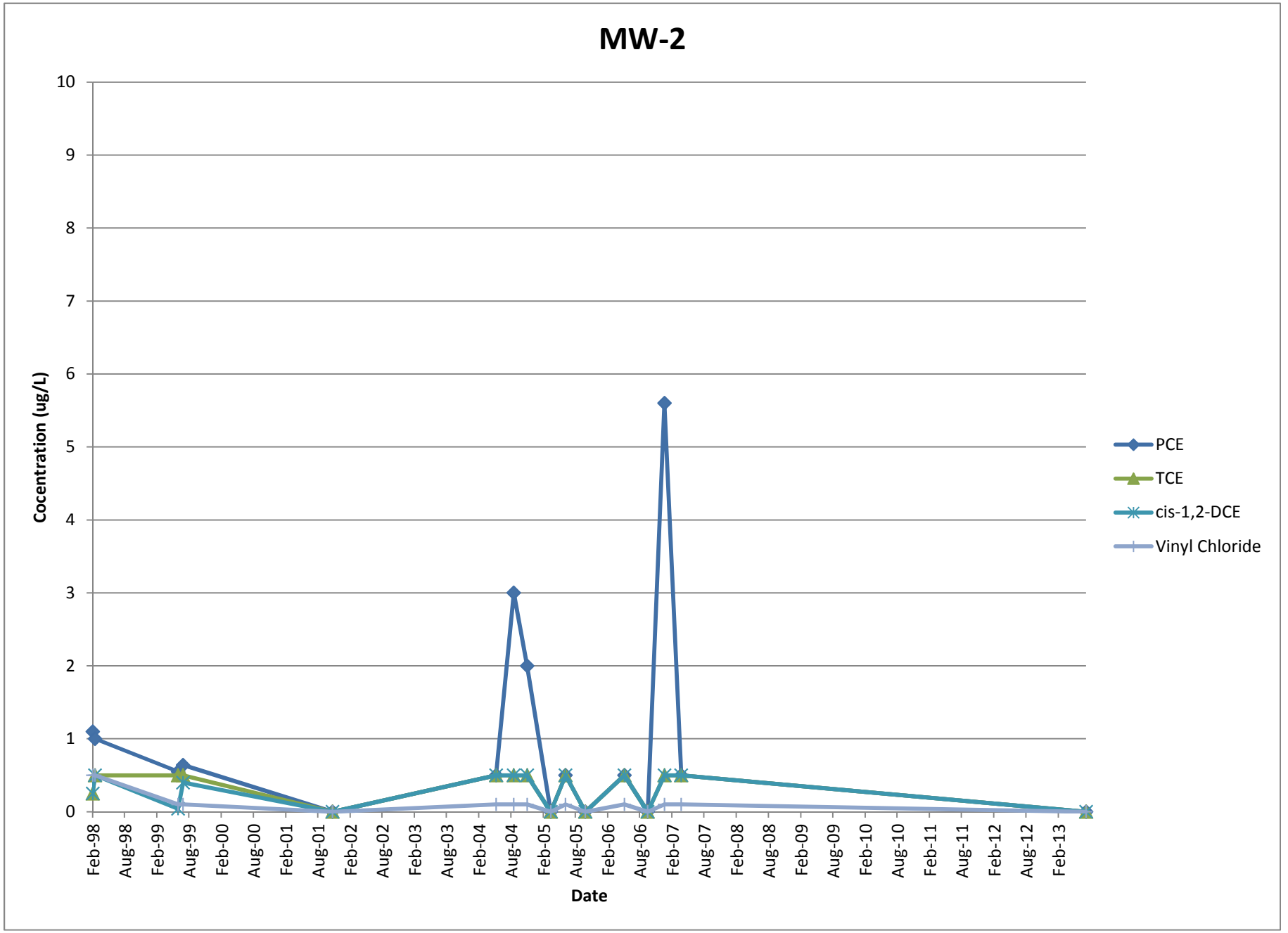
Feb-13
Date
PCE
TCE
cis-1,2-DCE
Vinyl Chloride


MW-2
Cocentration (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Feb-05
Aug-05
Feb-06
Aug-06
Feb-07
Aug-07
Feb-08
Aug-08
Feb-09
Aug-09
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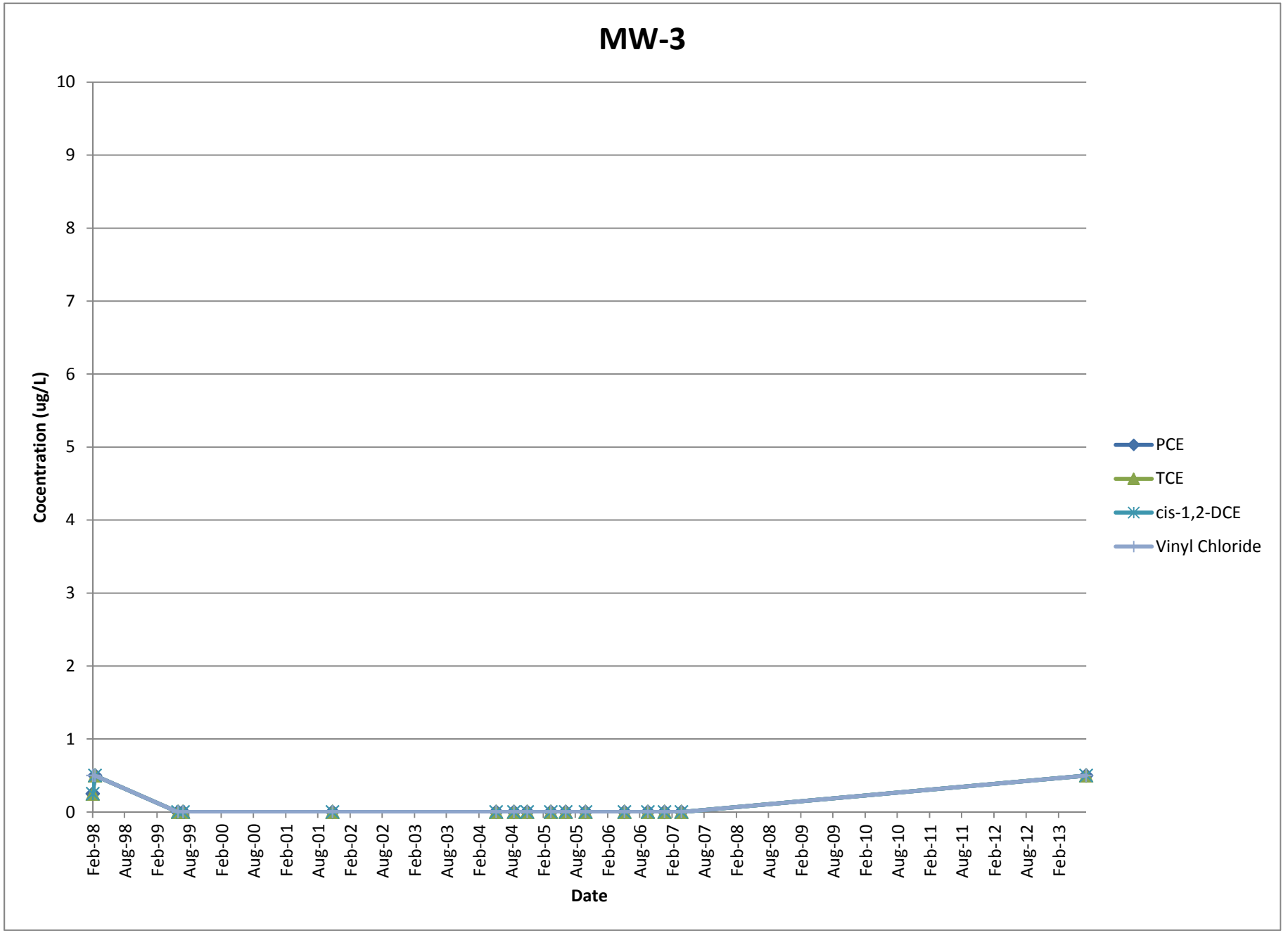
Feb-13
Date
PCE
TCE
cis-1,2-DCE
Vinyl Chloride


MW-3
Cocentration (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Feb-05
Aug-05
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Feb-08
Aug-08
Feb-09
Aug-09
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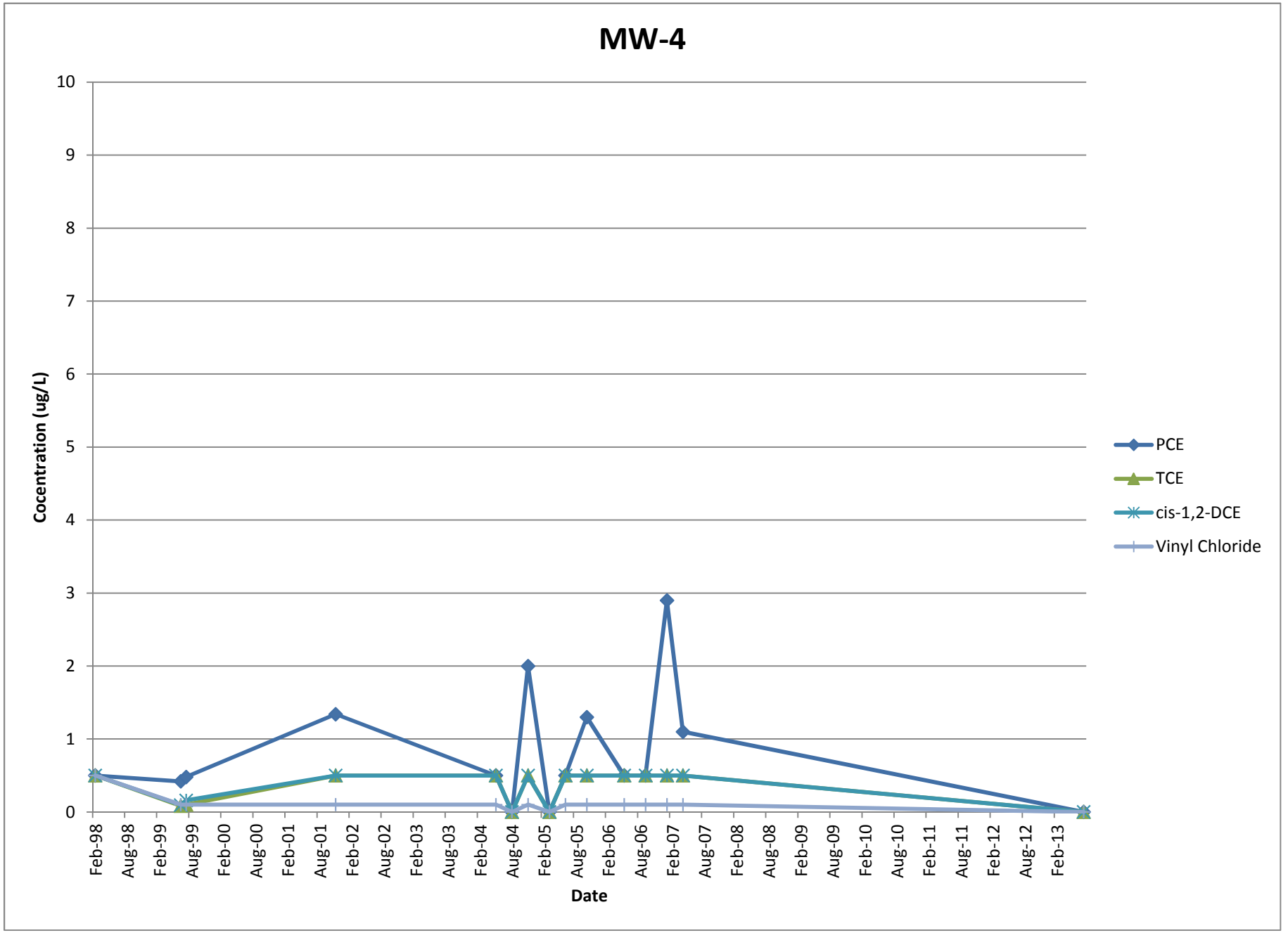
Date
PCE
TCE
cis-1,2-DCE
Vinyl Chloride


MW-4
Cocentration (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Feb-05
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Date
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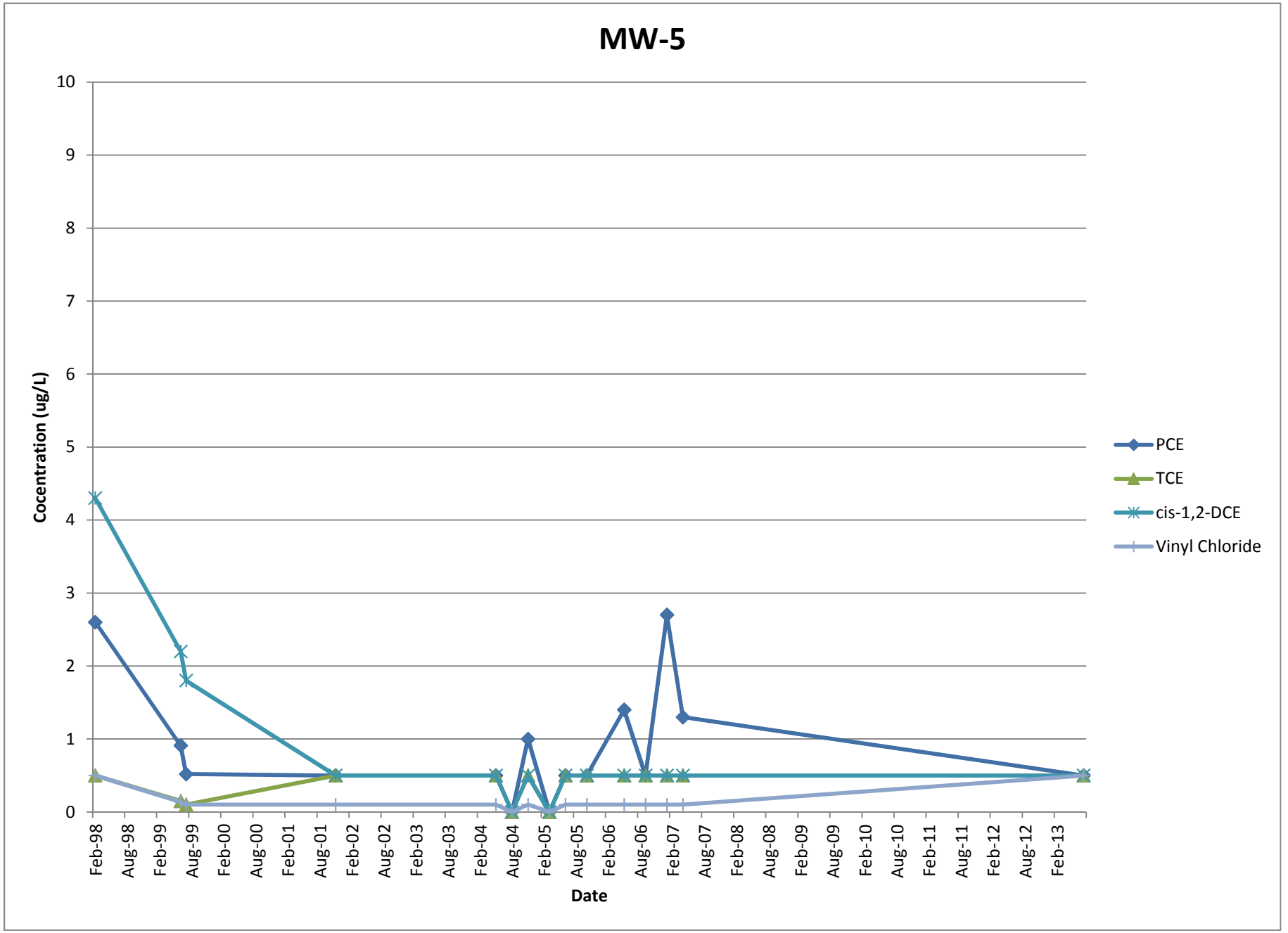
cis-1,2-DCE
Vinyl Chloride


MW-5
Cocentration (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
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Date
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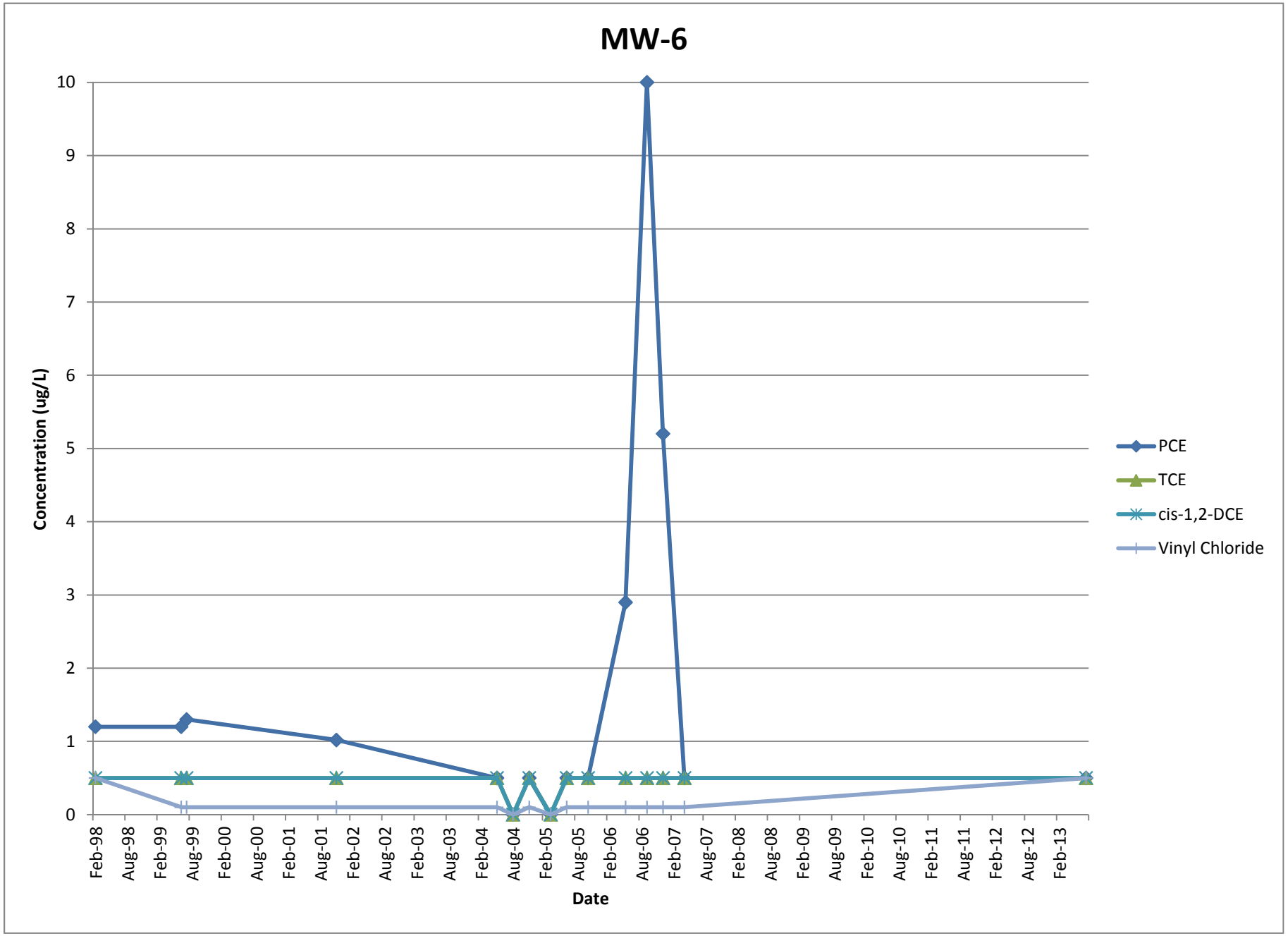
Vinyl Chloride


MW-6
Concentration (ug/L)
10
9
8
7
6
5
4
3
2
1
0
Feb-98
Aug-98
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
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Vinyl Chloride

Attachment C

Apex Standard Operating Procedures

1. PURPOSE AND SCOPE

This Standard Operating Procedure (SOP) provides instructions for standard field screening. Field screening results are used to aid in the selection of soil samples for chemical analysis. This procedure is applicable during all Ash Creek Associates (ACA) soil sampling operations.

Standard field screening techniques include the use of a photoionization detector (PID) to assess for volatile organic compounds (VOCs), for the presence of petroleum hydrocarbons using a sheen test, and for non-aqueous phase liquids (NAPLs) using dyes and UV light. These methods will not detect all potential contaminants, so selection of screening techniques shall be based on an understanding of the site history. The PID is not compound or concentration-specific, but it can provide a qualitative indication of the presence of VOCs. PID measurements are affected by other field parameters such as temperature and soil moisture.

2. EQUIPMENT AND MATERIALS

The following materials are necessary for this procedure:

- PID with calibration gas (record daily calibration/calibration check in field notes)
- Glass jars (with aluminum foil) or resealable bags
- NAPL Dye (such as OilScreen DNAPL-Lens) if needed for NAPL screening
- UV Light Box (if needed for NAPL screening)

3. METHODOLOGY

Each soil sample will be field screened for VOCs using a PID (with a 10.2 eV probe) and for the presence of petroleum hydrocarbons using a sheen test. If the presence of NAPLs is suspected, then screening using dye and UV light is also to be completed. The PID used on site will be calibrated on a daily basis according to the manufacturer's specifications. The PID is also used as a safety tool. The PID can be used to monitor air during activities where vapors may be present in the breathing space. Document all calibration activities and field observations. The field screening procedures are summarized below.

PID Calibration Procedure:

- Zero the PID using ambient air from the general area where the work will be done.
- A standard gas of 100 ppm isobutylene gas is then used to calibrate the PID. If questionable readings are encountered, the PID will be recalibrated using new 100 ppm isobutylene gas.

PID Screening Procedure:

- Place a representative portion (approximately one ounce) of freshly exposed, uncompacted soil into a clean resealable plastic bag or glass jar.
- Seal the bag or jar (with aluminum foil) and shake to expose vapors from the soil matrix.
- Allow the bag to sit to reach ambient temperature.
- Carefully insert the intake port of the PID into the plastic bag or jar.
- Record the sample concentration in the field notes.

Sheen Test Procedure:

- Following the PID screen, add enough water to the bag/jar to cover the sample.
- Observe the water surface for signs of discoloration/sheen and characterize.

No Sheen (NS)	No visible sheen on the water surface
Slight Sheen (SS)	Light, colorless, dull sheen, irregular spread, not rapid. Biological content may produce a slight sheen (typically platy/blocky).
Moderate Sheen (MS)	Light to heavy coverage, may have some color/iridescence, spread is irregular to flowing, few remaining areas of no sheen on water surface.
Heavy Sheen (HS)	Heavy sheen coverage with color/iridescence, spread is rapid, entire water surface may be covered with sheen.

NAPL Dye Procedure:

- Dye can be either liquid form, dissolvable tablet, or spray applied.
- Follow manufacturers instructions for specific product used.
- NAPL testing is completed after other field screening and sample collection is complete.
- For OilScreen DNAPL-Lens dye, the remaining soil sample is sprayed along its length so the soil surface is visibly wetted. A royal blue color of the dye about one minute after spraying would be considered a positive indication of NAPL.

UV Light Screening Procedure:

- UV Light Screening involves placement of a portion of the soil sample into a resealable plastic bag (which can be the same as used for PID screening, but before sheen test is performed).
- The sample is then examined in a dark space under UV light using a small, portable UV light box.
- The plastic bag is manipulated during examination to squeeze fluid against the bag beneath the lamp.
- Fluorescence (glowing color) indicates presence of NAPLs.

1. PURPOSE AND SCOPE

This Standard Operating Procedure (SOP) describes the methods used for obtaining surface soil samples for physical and/or chemical analysis. For purposes of this SOP, surface soil (including shallow subsurface soil) is loosely defined as soil that is present within 3 feet of the ground surface at the time of sampling. Various types of sampling equipment are used to collect surface soil samples including spoons, scoops, trowels, shovels, and hand augers.

2. EQUIPMENT AND MATERIALS

The following materials are necessary for this procedure:

- Spoons, scoops, trowels, shovels, and/or hand augers. Stainless steel is preferred.
- Stainless steel bowls
- Field documentation materials
- Decontamination materials
- Personal protective equipment (as required by Health and Safety Plan)

3. METHODOLOGY

Project-specific requirements will generally dictate the preferred type of sampling equipment used at a particular site. The following parameters should be considered: sampling depth, soil density, soil moisture, use of analyses (e.g., chemical versus physical testing), type of analyses (e.g., volatile versus non-volatile). Analytical testing requirements will indicate sample volume requirements that also will influence the selection of the appropriate type of sampling tool. The project sampling plan should define the specific requirements for collection of surface soil samples at a particular site.

Collection of Samples

- Volatile Analyses. Surface soil sampling for volatile organics analysis (VOA) is different than other routine physical or chemical testing because of the potential loss of volatiles during sampling. To limit volatile loss, the soil sample must be obtained as quickly and as directly as possible. If a VOA sample is to collected as part of a multiple analyte sample, the VOA sample portion will be obtained first. The VOA sample should be obtained from a discrete portion of the entire collected sample and should not be composited or homogenized. Sample bottles should be filled to capacity, with no headspace. Specific procedures for collecting VOA samples using the EPA Method 5035 are discussed under a separate SOP.
- Other Analyses. Once the targeted sample interval has been collected, the soil sample will be thoroughly homogenized in a stainless steel bowl prior to bottling. Sample homogenizing is accomplished by manually mixing the entire soil sample in the stainless steel bowl with the sampling tool or with a clean teaspoon or spatula until a uniform mixture is achieved. If packing of the samples into the bottles is necessary, a clean stainless steel teaspoon or spatula may be used.

General Sampling Procedure:

- Decontaminate sampling equipment in accordance with the Sampling and Analysis Plan (SAP) before and after each individual soil sample.
- Remove surface debris that blocks access to the actual soil surface or loosen dense surface soils, such as those encountered in heavy traffic areas. If sampling equipment is used to remove surface debris,

the equipment should be decontaminated prior to sampling to reduce the potential for sample interferences.

- When using a hand auger, push and rotate downward until the auger becomes filled with soil. Usually a 6- to 12-inch long core of soil is obtained each time the auger is inserted. Once filled, remove the auger from the ground and empty into a stainless steel bowl. If a VOA sample is required, the sample should be taken directly from the auger using a teaspoon or spatula and/or directly filling the sample container from the auger. Repeat the augering process until the desired sample interval has been augered and placed into the stainless steel bowl.

Backfilling Sample Locations:

Backfill in accordance with federal and state regulations including OAR 690-240 (e.g., bentonite requirements). The soils from the excavation will be used as backfill unless project-specific or state requirements include the use of clean backfill material.

1. PURPOSE AND SCOPE

This Standard Operating Procedure (SOP) describes the methods for observing and sampling from push-probes (i.e., GeoProbe™). Subsurface soil cores may be obtained using this system for purposes of determining subsurface soil conditions and for obtaining soil samples for physical and/or chemical evaluation. Grab groundwater samples may be collected using temporary well screens. Soil vapor samples may be obtained using temporary well points. Shallow (less than 50 feet), small-diameter (2-inch max) pre-packed wells may also be installed using push-probe equipment. This procedure is applicable during all Apex Companies, LLC (Apex) push-probe activities.

2. EQUIPMENT AND MATERIALS

The following materials are necessary for this procedure:

- Traffic cones, measuring tape, spatula, and buckets/drums
- Sampling equipment (water level probe, pumps, tubing) and laboratory-supplied sample containers
- Field documentation materials
- Decontamination materials
- Personal protective equipment (as required by project Health and Safety Plan)

3. METHODOLOGY

Coring Procedure (Conducted by Drilling Subcontractor):

The sampling procedure includes driving a 2-inch outside-diameter, 5-foot-long, push-probe soil sampler to the desired depth using a combination of hydraulic pressure and mechanical hammer blows. When the sampling depth is reached, the pin attaching the sampler's tip is released (if a tip is used), which allows the tip to slide inside the sampler (Macro-Core Sampler with removable plastic liner). The sampler is driven the length of the sampler to collect a soil core, which is then withdrawn from the exploration. When the sampler is retrieved from the borehole the drive head/cutting shoe is detached and the liner is removed. Soil cores are collected continuously to the full depth of the exploration unless otherwise specified in a project-specific sampling and analysis plan (SAP). Verify that the subcontractor decontaminates the sampling device (per SOP 1.2) prior to its initial use and following collection of each soil sample.

Logging and Soil Sample Collection:

Remove the soil core from the sampler for field screening, description, and placement into sample jars. Soil samples will be collected for field screening and possible chemical analysis on two foot intervals unless otherwise specified in a project-specific SAP. The sampling interval will be determined in the field based on recovery, soil variability, and evidence of contamination. Complete field screening as specified in SOP-2.1. Soil samples should be collected using different procedures for volatile on non-volatile analyses, as follows.

- Volatile Analyses. Sampling for volatile organics analysis (VOA) is different than other routine physical or chemical testing because of the potential loss of volatiles during sampling. To limit volatile loss, the soil sample must be obtained as quickly and as directly as possible. If a VOA sample is to collected as part of a multiple analyte sample, the VOA sample portion will be obtained first. The VOA sample should be obtained from a discrete portion of the entire collected sample and should not be composited or homogenized. Sample bottles should be filled to capacity, with no headspace. Specific procedures for collecting VOA samples using the EPA Method 5035 are discussed in SOP 2.7.
- Other Analyses. Soil samples for non-volatile analyses will be thoroughly homogenized in a stainless steel bowl prior to bottling. Sample homogenizing is accomplished by manually mixing the entire soil

sample in the stainless steel bowl with a clean sampling tool until a uniform mixture is achieved. The sample jar should be filled completely.

Any extra soil generated during probing activities will be placed in Department of Transportation (DOT) approved drums.

Grab Groundwater Sample Collection:

Collect grab groundwater samples using a sampling attachment with a 4 to 5-foot-long temporary screen (decontaminated stainless steel or disposable PVC). Obtain samples using a peristaltic pump with new tubing for each boring. Record field parameters (e.g., temperature, conductivity, and pH) prior to sampling.

Backfilling the Excavation (Conducted by Drilling Subcontractor):

After sampling activities are completed, abandon each exploration in accordance with Oregon Water Resources Department (OWRD) regulations and procedures. The abandonment procedure typically consists of filling the exploration with granular bentonite and hydrating the bentonite with water. Match the surface completion to the surrounding materials.

1. PURPOSE AND SCOPE

This Standard Operating Procedure (SOP) describes the methods for collection of groundwater samples from monitoring wells applying low flow protocols. Low flow sampling is a method of collecting samples that does not require the removal of large volumes of water and therefore does not overly agitate the water, suspend particles, or potentially aspirate VOCs. Typical flow rates for low flow sampling range from 0.1 L/min to 0.5 L/min depending on site characteristics. The groundwater monitoring activities will consist of measuring water levels, purging and sampling groundwater, and measuring groundwater field parameters. This procedure is applicable during all Apex Companies, LLC (Apex) low flow groundwater sampling activities.

2. EQUIPMENT AND MATERIALS

The following materials are necessary for this procedure:

- Traffic cones, tools, keys, and buckets/drums
- Sampling equipment (water level probe, pumps, tubing) and laboratory-supplied sample containers
- Field documentation materials
- Decontamination materials
- Personal protective equipment (as required by project Health and Safety Plan)

3. METHODOLOGY

Water Levels:

Water levels in the wells will be measured and recorded for the purpose of determining groundwater elevations and gradient. The wells will be opened and the water level allowed to equilibrate before the measurements are taken. Measurements of the depth to water will be made to the nearest 0.01 foot using an electronic probe.

Purging:

Purge using low-flow sampling equipment (e.g., peristaltic pump or bladder pump) at a rate no greater than the recharge rate of the groundwater to prevent water table drawdown. Unless specified otherwise in the project-specific sampling and analysis plan (SAP) the sample tubing/pump will be lowered to one foot below the water table (petroleum hydrocarbons) or to the middle of the screened interval (all other analytes). To assess the effectiveness of purging, groundwater field parameters (pH, electrical conductivity, and temperature) will be measured using a flow cell connected to the discharge tubing of the sample pump. Purging will be considered complete when the water quality parameters (i.e., pH, temperature, and specific conductance) stabilize within 10 percent for three consecutive 3-minute intervals. Consult the project-specific SAP for additional parameters and stabilization criteria. Purge water will be placed in Department of Transportation (DOT) approved drums.

Sample Collection:

After the purging of each well is complete, collect groundwater samples for chemical analyses using the same pump used for the well purging.

Low Yield Sampling Procedure:

If a well pumps dry during purging discontinue measurement of water quality parameters. Collect groundwater samples once the water level recovers to 90 percent of the pre-purge water column. Contact project manager in the event of slow recharge conditions. Always collect samples for VOC analysis as soon after recharge as possible.

1. PURPOSE AND SCOPE

This Standard Operating Procedure (SOP) describes procedures for the collection of groundwater level measurements and separate phase hydrocarbon (SPH) measurements. Measurements may be collected as an independent event or in conjunction with groundwater sampling or SPH removal. This SOP is applicable for all Apex Companies, LLC (Apex) sites and projects.

2. EQUIPMENT AND MATERIALS

The following materials are necessary for this procedure:

- Water level or oil/water interface probe (as appropriate);
- Field documentation materials;
- Decontamination materials;
- Bailers or tape/paste (to confirm unusual SPH detections) and
- Personal protective equipment (PPE; as required by project Health and Safety Plan).

3. METHODOLOGY

Preparation. Obtain and review table of well construction details and historical groundwater and SPH levels/thicknesses. Bring tables into the field for ready reference.

Field Procedure. Water level and SPH measurements should be collected upon arrival at the site. Appropriate PPE (as required by the project-specific Health and Safety Plan) should be worn during measurement activities. During groundwater sampling events, measurements should be collected (1) prior to, during, and after purging and sampling. Water level measurements during low-flow sampling are conducted to ensure that drawdown is not occurring during purging/sampling. Low-flow sampling methods are described in SOP 2.5. The following procedures should be followed when collecting groundwater level and SPH measurements from wells:

No SPH in monitoring well

1. The electronic probe should be tested to ensure proper instrument response. If response is inadequate, replace batteries or repair probe as needed.
2. Well covers and caps will be opened and the water level allowed to equilibrate under atmospheric conditions. Observe for indications that water levels may not be at equilibrium such as:
    a. Escaping air upon loosening of well cap; or
    b. Water level above the top of the well screen.

    For either of these conditions, equilibrium should be verified by repeating water level measurements over five-minute intervals until successive equal measurements are obtained. Otherwise allow water levels to equilibrate for a minimum of five minutes before measurements are taken. Unless otherwise indicated in the work scope of site-specific sampling plan, water level measurements should be taken from the most contaminated wells first to avoid cross-contamination.
3. Locate the reference point on the well riser pipe.
4. Slowly lower the probe until the probe signal indicates that water has been contacted.
5. Record the depth-to-water (DTW) probe reading at the reference point. Measurements should be collected to the nearest 0.01 foot.
6. Withdraw the probe and repeat steps 5 and 6. Measurements should agree within a precision of 0.01 feet. Repeat if needed until a precision of 0.01 feet is obtained.
7. If the work scope or site specific sampling plan requires that the depth-to-bottom (DTB) of monitoring wells is measured, then the probe should be lowered to the bottom of the well and the DTB reading at the reference point should be measured to the nearest 0.01 foot.
8. Remove probe and decontaminate probe and leader that have come in contact with well water using alcohol wipes.

SPH in monitoring well

1. Repeat above steps 1 through 5.
2. Slowly lower the oil/water interface probe until the signal indicates that SPH has been contacted (generally a steady tone and signal light).
3. Record the depth-to-product (DTP) probe reading at the reference point. Measurements should be collected to the nearest 0.01 foot.
4. Continue lowering the probe until the signal indicates that water has been contacted (generally an intermittent tone and signal light).
5. Record the DTW probe reading at the reference point. Measurements should be collected to the nearest 0.01 foot.
6. Withdraw the probe and repeat steps 5 and 6. Measurements should agree within a precision of 0.01 feet. Repeat if needed until a precision of 0.01 feet is obtained.
7. Remove probe and initially decontaminate using alcohol wipes then wash/scrub in a detergent (Alconox®) solution, rinse with tap water, and a final deionized water rinse. Describe in field notes unusual characteristics of SPH that may bias thickness readings (e.g. unusually viscous product).
8. If unusual SPH thicknesses are detected (e.g. SPH is detected in well with no prior history of SPH or thicknesses are greater than prior detections), verify presence/thickness using alternative technique (e.g. bailer, tape and water/petroleum colorimetric paste).

Attachment D

Laboratory Report and QA/QC Report

Attachment D – Laboratory Analytical Report and Data Quality Review

This appendix documents the results of a quality assurance/quality control (QA/QC) review of the analytical data for samples collected as part of the groundwater monitoring and a soil vapor intrusion investigation at the former Dirks Fine Dry Cleaning (the Facility). Groundwater monitoring was completed on July 16 and 17, 2013. Soil gas sampling was completed on November 15, 2013 and March 28, 2014. Air sampled was completed on March 28, 2014. Groundwater sample analyses were performed by Test America of Tacoma, Washington. Soil gas sample analyses were performed by Eurofins Air Toxics, Inc., of Folsom, California. Copies of the laboratory reports are included in this attachment.

The QA review included examination and validation of the laboratory summary report, specifically:

- Analytical methods;
- Detection limits;
- Sample holding times;
- Chain of custody (COC) records;
- Surrogates, spikes, and blanks; and
- Duplicates.

The QA review did not include a review of raw data.

Analytical Methods

Groundwater sample were analyzed for volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260B.

Soil gas samples were analyzed for halogenated volatile organic compounds (HVOCs) using EPA Method TO15.

Quality Assurance Objectives and Review

The general QA objectives for this project were to develop and implement procedures for obtaining, evaluating, and confirming the usability of data of a specified quality for monitoring groundwater quality trends and remediation systems performance at the Facility. To collect such information, analytical data must have an appropriate degree of accuracy and reproducibility, samples collected must be representative of actual field conditions, and samples must be collected and analyzed using unbroken COC procedures.

Reporting limits and analytical results for groundwater samples were compared to applicable regulatory cleanup levels and screening levels for each parameter. Precision, accuracy, representativeness, completeness, and comparability parameters used to indicate data quality are defined below.

Reporting Limits. Detection limits are set by the laboratory and are based on instrumentation abilities, sample matrix, and suggested detection limits by the EPA or the Washington State Department of Ecology (Ecology). In some cases, the detection limits may be increased due to high concentrations of analytes in the samples or matrix interferences. Detection limits were generally consistent with industry standards and regulatory standards when possible (if not raised, as previously discussed). Reporting limits were reviewed and are generally acceptable for this project. Reporting limits for individual samples varied based on the magnitude of the chemical impact. It is not expected that any of the raised detection limits compromised the usability of the data.

Holding Times. Samples were analyzed within the appropriate holding times.

Method Blanks. A method blank or laboratory blank is a sample prepared in the laboratory along with the actual samples and analyzed for the same parameters at the same time. It is used to assess if detected analytes may have been the result of contamination of the samples in the laboratory. No analytes were detected in the laboratory method blanks for the groundwater, soil gas, or air analyses.

Laboratory Control Samples. Laboratory Control Samples (LCS) were also analyzed by the laboratories to assess the accuracy of the analytical equipment. LCS are prepared from an analyte-free matrix that is then spiked with known levels of the constituents of interest (COI; i.e., a standard). The concentrations are measured and the results compared to the known spiked levels. This comparison is expressed as percent recovery. The LCS percent recovery was within control limits for the groundwater, soil gas, and air samples.

In addition, a second laboratory control sample (the Laboratory Control Sample Duplicate [LCSD]) was prepared as above and analyzed. The LCSD percent recovery was within control limits for the water and air samples. The LCS and LCSD samples are compared to assess the precision of the analytical method (RPD). The RPD was within acceptable control limits for the groundwater, soil gas, and air samples.

Matrix Spike Analyses. Matrix Spike (MS) analyses are performed on samples submitted to the laboratory that are of the same matrix as the actual sample. The MS is spiked with known levels of the COI. These analyses are used to assess the potential for matrix interference with recovery or detection of the COI and the accuracy of the determination. The spiked sample results are compared to the expected result (i.e., sample concentration plus spike amount) and reported as percent recovery. Several MS and MS duplicates (MSD) were analyzed during the batch analyses for groundwater monitoring events. All MS/MSD samples were within control limits.

For the soil gas and air monitoring samples, the LCS and LCSD samples were used to evaluate the accuracy of analyte recovery. The LCS/LCSD results for the soil gas and air monitoring samples within acceptable recovery limits. No MS or MSD samples were analyzed as part of the soil gas or air sample QC batches.

Surrogate Recovery. Surrogates are organic compounds that are similar in chemical composition to the COI and spiked into environmental and batch quality control samples prior to sample preparation and analysis. Surrogate recoveries for environmental samples are used to evaluate matrix interference on a sample-specific basis. All surrogate recoveries were within control limits.

Field Duplicate. A field duplicate is a second field sample collected from a selected monitoring well or sampling location. Field duplicate samples serve as a check on laboratory quality as well as potential variability of the sample matrix. The field duplicate is analyzed and compared with the first sample to assess the precision of the analytical method. This comparison can be expressed by the RPD between the original and duplicate samples. Groundwater sample MW-3 and MW-3 DUP were collected as a field duplicate. No analytes were detected in either sample, therefore an RPD could not be calculated.

Field duplicates were not collected for air samples.

Conclusion. In conclusion, the overall QA objectives have been met, and the data are of adequate quality for use in this project.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-39385-1
Client Project/Site: Regency - Inglewood Plaza

For:
Apex Companies LLC
3015 SW 1st Avenue
Portland, Oregon 97201

Attn: Mark Havighorst

Pamela R. Johnson

Authorized for release by:
8/6/2013 12:10:21 PM

Pam Johnson, Project Manager I
pamr.johnson@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Job ID: 580-39385-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 7/17/2013 1:54 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0º C.

GC/MS VOA - Method 8260B

Sample Carbon (580-39385-8) was run at 100x dilution for Tetrachloroethene.

Surrogate recovery for the following sample Carbon (580-39385-8) was outside control limits due to the nature of the sample (matrix Carbon); therefore, re-extraction and/or re-analysis was not performed. The data have been qualified "X" and reported.

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 140740 recovered outside control limits 1,2-Dichloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been qualified "*" and reported.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 140740 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria. The data have been qualified "F" and reported.

No other analytical or quality issues were noted.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
X	Surrogate is outside control limits
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: MW-1A
Date Collected: 07/17/13 11:50
Date Received: 07/17/13 13:54

Lab Sample ID: 580-39385-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/30/13 00:17	1
Vinyl chloride	ND		1.0		ug/L			07/30/13 00:17	1
Bromomethane	ND		5.0		ug/L			07/30/13 00:17	1
Chloroethane	ND		5.0		ug/L			07/30/13 00:17	1
Trichlorofluoromethane	ND		1.0		ug/L			07/30/13 00:17	1
1,1-Dichloroethene	ND		1.0		ug/L			07/30/13 00:17	1
Methylene Chloride	ND		3.0		ug/L			07/30/13 00:17	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 00:17	1
1,1-Dichloroethane	ND		1.0		ug/L			07/30/13 00:17	1
cis-1,2-Dichloroethene	**1.1**		1.0		ug/L			07/30/13 00:17	1
Chloroform	ND		1.0		ug/L			07/30/13 00:17	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/30/13 00:17	1
Carbon tetrachloride	ND		1.0		ug/L			07/30/13 00:17	1
1,2-Dichloroethane	ND		1.0		ug/L			07/30/13 00:17	1
Trichloroethene	ND		1.0		ug/L			07/30/13 00:17	1
1,2-Dichloropropane	ND		1.0		ug/L			07/30/13 00:17	1
Bromodichloromethane	ND		1.0		ug/L			07/30/13 00:17	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 00:17	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 00:17	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/30/13 00:17	1
Tetrachloroethene	ND		1.0		ug/L			07/30/13 00:17	1
Dibromochloromethane	ND		1.0		ug/L			07/30/13 00:17	1
Chlorobenzene	ND		1.0		ug/L			07/30/13 00:17	1
Bromoform	ND		1.0		ug/L			07/30/13 00:17	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/30/13 00:17	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/30/13 00:17	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/30/13 00:17	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/30/13 00:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*07/30/13 00:17*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/30/13 00:17*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/30/13 00:17*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*07/30/13 00:17*	*1*
Trifluorotoluene (Surr)	*111*		*80 - 120*		*07/30/13 00:17*	*1*

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: MW-1B
Date Collected: 07/17/13 11:30
Date Received: 07/17/13 13:54

Lab Sample ID: 580-39385-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/30/13 00:39	1
Vinyl chloride	ND		1.0		ug/L			07/30/13 00:39	1
Bromomethane	ND		5.0		ug/L			07/30/13 00:39	1
Chloroethane	ND		5.0		ug/L			07/30/13 00:39	1
Trichlorofluoromethane	ND		1.0		ug/L			07/30/13 00:39	1
1,1-Dichloroethene	ND		1.0		ug/L			07/30/13 00:39	1
Methylene Chloride	ND		3.0		ug/L			07/30/13 00:39	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 00:39	1
1,1-Dichloroethane	ND		1.0		ug/L			07/30/13 00:39	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 00:39	1
Chloroform	ND		1.0		ug/L			07/30/13 00:39	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/30/13 00:39	1
Carbon tetrachloride	ND		1.0		ug/L			07/30/13 00:39	1
1,2-Dichloroethane	ND		1.0		ug/L			07/30/13 00:39	1
Trichloroethene	ND		1.0		ug/L			07/30/13 00:39	1
1,2-Dichloropropane	ND		1.0		ug/L			07/30/13 00:39	1
Bromodichloromethane	ND		1.0		ug/L			07/30/13 00:39	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 00:39	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 00:39	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/30/13 00:39	1
Tetrachloroethene	ND		1.0		ug/L			07/30/13 00:39	1
Dibromochloromethane	ND		1.0		ug/L			07/30/13 00:39	1
Chlorobenzene	ND		1.0		ug/L			07/30/13 00:39	1
Bromoform	ND		1.0		ug/L			07/30/13 00:39	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/30/13 00:39	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/30/13 00:39	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/30/13 00:39	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/30/13 00:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*99*		*80 - 120*		*07/30/13 00:39*	*1*
Toluene-d8 (Surr)	*98*		*85 - 120*		*07/30/13 00:39*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/30/13 00:39*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*07/30/13 00:39*	*1*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*07/30/13 00:39*	*1*

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: MW-3
Date Collected: 07/17/13 09:45
Date Received: 07/17/13 13:54

Lab Sample ID: 580-39385-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/30/13 01:02	1
Vinyl chloride	ND		1.0		ug/L			07/30/13 01:02	1
Bromomethane	ND		5.0		ug/L			07/30/13 01:02	1
Chloroethane	ND		5.0		ug/L			07/30/13 01:02	1
Trichlorofluoromethane	ND		1.0		ug/L			07/30/13 01:02	1
1,1-Dichloroethene	ND		1.0		ug/L			07/30/13 01:02	1
Methylene Chloride	ND		3.0		ug/L			07/30/13 01:02	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 01:02	1
1,1-Dichloroethane	ND		1.0		ug/L			07/30/13 01:02	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 01:02	1
Chloroform	ND		1.0		ug/L			07/30/13 01:02	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/30/13 01:02	1
Carbon tetrachloride	ND		1.0		ug/L			07/30/13 01:02	1
1,2-Dichloroethane	ND		1.0		ug/L			07/30/13 01:02	1
Trichloroethene	ND		1.0		ug/L			07/30/13 01:02	1
1,2-Dichloropropane	ND		1.0		ug/L			07/30/13 01:02	1
Bromodichloromethane	ND		1.0		ug/L			07/30/13 01:02	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 01:02	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 01:02	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/30/13 01:02	1
Tetrachloroethene	ND		1.0		ug/L			07/30/13 01:02	1
Dibromochloromethane	ND		1.0		ug/L			07/30/13 01:02	1
Chlorobenzene	ND		1.0		ug/L			07/30/13 01:02	1
Bromoform	ND		1.0		ug/L			07/30/13 01:02	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/30/13 01:02	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:02	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:02	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*07/30/13 01:02*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/30/13 01:02*	*1*
Ethylbenzene-d10	*103*		*80 - 120*		*07/30/13 01:02*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*07/30/13 01:02*	*1*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*07/30/13 01:02*	*1*

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: MW-3 DUP
Date Collected: 07/17/13 09:45
Date Received: 07/17/13 13:54

Lab Sample ID: 580-39385-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/30/13 01:24	1
Vinyl chloride	ND		1.0		ug/L			07/30/13 01:24	1
Bromomethane	ND		5.0		ug/L			07/30/13 01:24	1
Chloroethane	ND		5.0		ug/L			07/30/13 01:24	1
Trichlorofluoromethane	ND		1.0		ug/L			07/30/13 01:24	1
1,1-Dichloroethene	ND		1.0		ug/L			07/30/13 01:24	1
Methylene Chloride	ND		3.0		ug/L			07/30/13 01:24	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 01:24	1
1,1-Dichloroethane	ND		1.0		ug/L			07/30/13 01:24	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 01:24	1
Chloroform	ND		1.0		ug/L			07/30/13 01:24	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/30/13 01:24	1
Carbon tetrachloride	ND		1.0		ug/L			07/30/13 01:24	1
1,2-Dichloroethane	ND		1.0		ug/L			07/30/13 01:24	1
Trichloroethene	ND		1.0		ug/L			07/30/13 01:24	1
1,2-Dichloropropane	ND		1.0		ug/L			07/30/13 01:24	1
Bromodichloromethane	ND		1.0		ug/L			07/30/13 01:24	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 01:24	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 01:24	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/30/13 01:24	1
Tetrachloroethene	ND		1.0		ug/L			07/30/13 01:24	1
Dibromochloromethane	ND		1.0		ug/L			07/30/13 01:24	1
Chlorobenzene	ND		1.0		ug/L			07/30/13 01:24	1
Bromoform	ND		1.0		ug/L			07/30/13 01:24	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/30/13 01:24	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:24	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:24	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*97*		*80 - 120*		*07/30/13 01:24*	*1*
Toluene-d8 (Surr)	*98*		*85 - 120*		*07/30/13 01:24*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/30/13 01:24*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*07/30/13 01:24*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/30/13 01:24*	*1*

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: MW-5
Date Collected: 07/17/13 11:05
Date Received: 07/17/13 13:54

Lab Sample ID: 580-39385-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/30/13 01:46	1
Vinyl chloride	ND		1.0		ug/L			07/30/13 01:46	1
Bromomethane	ND		5.0		ug/L			07/30/13 01:46	1
Chloroethane	ND		5.0		ug/L			07/30/13 01:46	1
Trichlorofluoromethane	ND		1.0		ug/L			07/30/13 01:46	1
1,1-Dichloroethene	ND		1.0		ug/L			07/30/13 01:46	1
Methylene Chloride	ND		3.0		ug/L			07/30/13 01:46	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 01:46	1
1,1-Dichloroethane	ND		1.0		ug/L			07/30/13 01:46	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 01:46	1
Chloroform	ND		1.0		ug/L			07/30/13 01:46	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/30/13 01:46	1
Carbon tetrachloride	ND		1.0		ug/L			07/30/13 01:46	1
1,2-Dichloroethane	ND		1.0		ug/L			07/30/13 01:46	1
Trichloroethene	ND		1.0		ug/L			07/30/13 01:46	1
1,2-Dichloropropane	ND		1.0		ug/L			07/30/13 01:46	1
Bromodichloromethane	ND		1.0		ug/L			07/30/13 01:46	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 01:46	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 01:46	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/30/13 01:46	1
Tetrachloroethene	ND		1.0		ug/L			07/30/13 01:46	1
Dibromochloromethane	ND		1.0		ug/L			07/30/13 01:46	1
Chlorobenzene	ND		1.0		ug/L			07/30/13 01:46	1
Bromoform	ND		1.0		ug/L			07/30/13 01:46	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/30/13 01:46	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:46	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:46	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/30/13 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*		*07/30/13 01:46*	*1*
Toluene-d8 (Surr)	*98*		*85 - 120*		*07/30/13 01:46*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/30/13 01:46*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*07/30/13 01:46*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/30/13 01:46*	*1*

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: MW-6
Date Collected: 07/17/13 10:30
Date Received: 07/17/13 13:54

Lab Sample ID: 580-39385-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/30/13 02:09	1
Vinyl chloride	ND		1.0		ug/L			07/30/13 02:09	1
Bromomethane	ND		5.0		ug/L			07/30/13 02:09	1
Chloroethane	ND		5.0		ug/L			07/30/13 02:09	1
Trichlorofluoromethane	ND		1.0		ug/L			07/30/13 02:09	1
1,1-Dichloroethene	ND		1.0		ug/L			07/30/13 02:09	1
Methylene Chloride	ND		3.0		ug/L			07/30/13 02:09	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 02:09	1
1,1-Dichloroethane	ND		1.0		ug/L			07/30/13 02:09	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/30/13 02:09	1
Chloroform	ND		1.0		ug/L			07/30/13 02:09	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/30/13 02:09	1
Carbon tetrachloride	ND		1.0		ug/L			07/30/13 02:09	1
1,2-Dichloroethane	ND		1.0		ug/L			07/30/13 02:09	1
Trichloroethene	ND		1.0		ug/L			07/30/13 02:09	1
1,2-Dichloropropane	ND		1.0		ug/L			07/30/13 02:09	1
Bromodichloromethane	ND		1.0		ug/L			07/30/13 02:09	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 02:09	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			07/30/13 02:09	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/30/13 02:09	1
Tetrachloroethene	ND		1.0		ug/L			07/30/13 02:09	1
Dibromochloromethane	ND		1.0		ug/L			07/30/13 02:09	1
Chlorobenzene	ND		1.0		ug/L			07/30/13 02:09	1
Bromoform	ND		1.0		ug/L			07/30/13 02:09	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/30/13 02:09	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/30/13 02:09	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/30/13 02:09	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/30/13 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*		*07/30/13 02:09*	*1*
Toluene-d8 (Surr)	*98*		*85 - 120*		*07/30/13 02:09*	*1*
Ethylbenzene-d10	*101*		*80 - 120*		*07/30/13 02:09*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*07/30/13 02:09*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*07/30/13 02:09*	*1*

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: Carbon
Date Collected: 07/16/13 10:15
Date Received: 07/17/13 13:54

Lab Sample ID: 580-39385-8
Matrix: Waste

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		3400		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Vinyl chloride	ND		69		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Bromomethane	ND		1200		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Chloroethane	ND		3400		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Trichlorofluoromethane	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,1-Dichloroethene	ND		170		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Methylene Chloride	ND		140		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
trans-1,2-Dichloroethene	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,1-Dichloroethane	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
cis-1,2-Dichloroethene	**3600**		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Chloroform	**340**		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,1,1-Trichloroethane	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Carbon tetrachloride	ND		170		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,2-Dichloroethane	ND		140		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Trichloroethene	**4800**		140		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,2-Dichloropropane	ND	*	100		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Bromodichloromethane	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
cis-1,3-Dichloropropene	ND		140		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
trans-1,3-Dichloropropene	ND		140		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,1,2-Trichloroethane	ND		100		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Dibromochloromethane	ND		170		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Chlorobenzene	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
Bromoform	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,1,2,2-Tetrachloroethane	ND		86		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,3-Dichlorobenzene	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,4-Dichlorobenzene	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1
1,2-Dichlorobenzene	ND		340		ug/Kg		07/24/13 10:57	07/24/13 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*	*07/24/13 10:57*	*07/24/13 21:33*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/24/13 10:57*	*07/24/13 21:33*	*1*
Ethylbenzene-d10	*102*		*70 - 120*	*07/24/13 10:57*	*07/24/13 21:33*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 120*	*07/24/13 10:57*	*07/24/13 21:33*	*1*
Trifluorotoluene (Surr)	*40*	*X*	*65 - 140*	*07/24/13 10:57*	*07/24/13 21:33*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**3300000**		17000		ug/Kg		07/24/13 10:57	07/26/13 09:54	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*98*		*80 - 120*	*07/24/13 10:57*	*07/26/13 09:54*	*100*
Toluene-d8 (Surr)	*97*		*80 - 120*	*07/24/13 10:57*	*07/26/13 09:54*	*100*
Ethylbenzene-d10	*98*		*70 - 120*	*07/24/13 10:57*	*07/26/13 09:54*	*100*
4-Bromofluorobenzene (Surr)	*97*		*70 - 120*	*07/24/13 10:57*	*07/26/13 09:54*	*100*
Trifluorotoluene (Surr)	*44*	*X*	*65 - 140*	*07/24/13 10:57*	*07/26/13 09:54*	*100*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-140744/1-A
Matrix: Waste
Analysis Batch: 140740

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		400		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Vinyl chloride	ND		8.0		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Bromomethane	ND		140		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Chloroethane	ND		400		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Trichlorofluoromethane	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,1-Dichloroethene	ND		20		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Methylene Chloride	ND		16		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
trans-1,2-Dichloroethene	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,1-Dichloroethane	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
cis-1,2-Dichloroethene	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Chloroform	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,1,1-Trichloroethane	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Carbon tetrachloride	ND		20		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,2-Dichloroethane	ND		16		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Trichloroethene	ND		16		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,2-Dichloropropane	ND		12		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Bromodichloromethane	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
cis-1,3-Dichloropropene	ND		16		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
trans-1,3-Dichloropropene	ND		16		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,1,2-Trichloroethane	ND		12		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Tetrachloroethene	ND		20		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Dibromochloromethane	ND		20		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Chlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
Bromoform	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,1,2,2-Tetrachloroethane	ND		10		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,3-Dichlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,4-Dichlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1
1,2-Dichlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/24/13 11:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*	*07/24/13 10:57*	*07/24/13 11:49*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/24/13 10:57*	*07/24/13 11:49*	*1*
Ethylbenzene-d10	*104*		*70 - 120*	*07/24/13 10:57*	*07/24/13 11:49*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 120*	*07/24/13 10:57*	*07/24/13 11:49*	*1*
Trifluorotoluene (Surr)	*105*		*65 - 140*	*07/24/13 10:57*	*07/24/13 11:49*	*1*

Lab Sample ID: MB 580-140744/1-A
Matrix: Waste
Analysis Batch: 140907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		400		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Vinyl chloride	ND		8.0		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Bromomethane	ND		140		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Chloroethane	ND		400		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Trichlorofluoromethane	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,1-Dichloroethene	ND		20		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Methylene Chloride	ND		16		ug/Kg		07/24/13 10:57	07/26/13 09:09	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-140744/1-A
Matrix: Waste
Analysis Batch: 140907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,1-Dichloroethane	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
cis-1,2-Dichloroethene	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Chloroform	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,1,1-Trichloroethane	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Carbon tetrachloride	ND		20		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,2-Dichloroethane	ND		16		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Trichloroethene	ND		16		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,2-Dichloropropane	ND		12		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Bromodichloromethane	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
cis-1,3-Dichloropropene	ND		16		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
trans-1,3-Dichloropropene	ND		16		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,1,2-Trichloroethane	ND		12		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Tetrachloroethene	ND		20		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Dibromochloromethane	ND		20		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Chlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
Bromoform	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,1,2,2-Tetrachloroethane	ND		10		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,3-Dichlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,4-Dichlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1
1,2-Dichlorobenzene	ND		40		ug/Kg		07/24/13 10:57	07/26/13 09:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Fluorobenzene (Surr)	*100*		*80 - 120*	*07/24/13 10:57*	*07/26/13 09:09*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/24/13 10:57*	*07/26/13 09:09*	*1*
Ethylbenzene-d10	*102*		*70 - 120*	*07/24/13 10:57*	*07/26/13 09:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 120*	*07/24/13 10:57*	*07/26/13 09:09*	*1*
Trifluorotoluene (Surr)	*103*		*65 - 140*	*07/24/13 10:57*	*07/26/13 09:09*	*1*

Lab Sample ID: LCS 580-140744/2-A
Matrix: Waste
Analysis Batch: 140740

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	799	781		ug/Kg		98	50 - 130
Vinyl chloride	801	847		ug/Kg		106	60 - 125
Bromomethane	801	738		ug/Kg		92	30 - 160
Chloroethane	800	791		ug/Kg		99	40 - 155
Trichlorofluoromethane	799	643		ug/Kg		80	25 - 185
1,1-Dichloroethene	791	775		ug/Kg		98	65 - 135
Methylene Chloride	800	835		ug/Kg		104	55 - 140
trans-1,2-Dichloroethene	801	885		ug/Kg		110	65 - 135
1,1-Dichloroethane	800	837		ug/Kg		105	75 - 125
cis-1,2-Dichloroethene	801	800		ug/Kg		100	65 - 125
Chloroform	800	871		ug/Kg		109	70 - 125
1,1,1-Trichloroethane	814	783		ug/Kg		96	70 - 135
Carbon tetrachloride	803	891		ug/Kg		111	65 - 135
1,2-Dichloroethane	793	825		ug/Kg		104	70 - 135

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-140744/2-A
Matrix: Waste
Analysis Batch: 140740

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	793	850		ug/Kg		107	75 - 125
1,2-Dichloropropane	800	1080	*	ug/Kg		135	70 - 120
Bromodichloromethane	809	661		ug/Kg		82	70 - 130
cis-1,3-Dichloropropene	790	844		ug/Kg		107	70 - 125
trans-1,3-Dichloropropene	798	825		ug/Kg		103	65 - 125
1,1,2-Trichloroethane	802	883		ug/Kg		110	60 - 125
Tetrachloroethene	799	799		ug/Kg		100	65 - 140
Dibromochloromethane	810	826		ug/Kg		102	65 - 130
Chlorobenzene	800	839		ug/Kg		105	75 - 125
Bromoform	808	697		ug/Kg		86	55 - 135
1,1,2,2-Tetrachloroethane	794	867		ug/Kg		109	55 - 130
1,3-Dichlorobenzene	801	820		ug/Kg		102	70 - 125
1,4-Dichlorobenzene	801	808		ug/Kg		101	70 - 125
1,2-Dichlorobenzene	800	821		ug/Kg		103	75 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*
Ethylbenzene-d10	*103*		*70 - 120*
4-Bromofluorobenzene (Surr)	*103*		*70 - 120*
Trifluorotoluene (Surr)	*100*		*65 - 140*

Lab Sample ID: 580-39427-A-1-A MS
Matrix: Waste
Analysis Batch: 140740

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 140744

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	ND		1060	1100		ug/Kg		104	50 - 130
Vinyl chloride	ND		1060	1160		ug/Kg		110	60 - 125
Bromomethane	ND		1060	1140		ug/Kg		107	30 - 160
Chloroethane	ND		1060	2360	F	ug/Kg		223	40 - 155
Trichlorofluoromethane	ND		1060	1990	F	ug/Kg		188	25 - 185
1,1-Dichloroethene	ND		1050	1370		ug/Kg		131	65 - 135
Methylene Chloride	ND		1060	1130		ug/Kg		107	55 - 140
trans-1,2-Dichloroethene	ND		1060	1180		ug/Kg		111	65 - 135
1,1-Dichloroethane	ND		1060	1080		ug/Kg		102	75 - 125
cis-1,2-Dichloroethene	ND		1060	1060		ug/Kg		100	65 - 125
Chloroform	ND		1060	1170		ug/Kg		111	70 - 125
1,1,1-Trichloroethane	ND		1080	1070		ug/Kg		100	70 - 135
Carbon tetrachloride	ND		1060	1190		ug/Kg		112	65 - 135
1,2-Dichloroethane	ND		1050	1090		ug/Kg		104	70 - 135
Trichloroethene	ND		1050	1150		ug/Kg		109	75 - 125
1,2-Dichloropropane	ND		1060	1120		ug/Kg		105	70 - 120
Bromodichloromethane	ND		1070	891		ug/Kg		83	70 - 130
cis-1,3-Dichloropropene	ND		1050	1130		ug/Kg		108	70 - 125
trans-1,3-Dichloropropene	ND		1060	1120		ug/Kg		106	65 - 125
1,1,2-Trichloroethane	ND		1060	1140		ug/Kg		107	60 - 125
Tetrachloroethene	ND		1060	1000		ug/Kg		95	65 - 140

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-39427-A-1-A MS
Matrix: Waste
Analysis Batch: 140740

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 140744

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dibromochloromethane	ND		1070	1110		ug/Kg		104	65 - 130		
Chlorobenzene	ND		1060	1230		ug/Kg		116	75 - 125		
Bromoform	ND		1070	965		ug/Kg		90	55 - 135		
1,1,2,2-Tetrachloroethane	ND		1050	1200		ug/Kg		114	55 - 130		
1,3-Dichlorobenzene	ND		1060	1100		ug/Kg		103	70 - 125		
1,4-Dichlorobenzene	ND		1060	1090		ug/Kg		103	70 - 125		
1,2-Dichlorobenzene	ND		1060	1090		ug/Kg		103	75 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Fluorobenzene (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*
Ethylbenzene-d10	*111*		*70 - 120*
4-Bromofluorobenzene (Surr)	*110*		*70 - 120*
Trifluorotoluene (Surr)	*107*		*65 - 140*

Lab Sample ID: 580-39427-A-1-B MSD
Matrix: Waste
Analysis Batch: 140740

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 140744

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	ND		1060	1140		ug/Kg		108	50 - 130	3	30
Vinyl chloride	ND		1060	1230		ug/Kg		116	60 - 125	6	30
Bromomethane	ND		1060	1050		ug/Kg		99	30 - 160	8	30
Chloroethane	ND		1060	1020	F	ug/Kg		97	40 - 155	79	30
Trichlorofluoromethane	ND		1060	909	F	ug/Kg		86	25 - 185	75	30
1,1-Dichloroethene	ND		1050	1050		ug/Kg		100	65 - 135	26	30
Methylene Chloride	ND		1060	1200		ug/Kg		113	55 - 140	6	30
trans-1,2-Dichloroethene	ND		1060	1250		ug/Kg		118	65 - 135	6	30
1,1-Dichloroethane	ND		1060	1150		ug/Kg		109	75 - 125	6	30
cis-1,2-Dichloroethene	ND		1060	1160		ug/Kg		110	65 - 125	9	30
Chloroform	ND		1060	1200		ug/Kg		113	70 - 125	2	30
1,1,1-Trichloroethane	ND		1080	1100		ug/Kg		102	70 - 135	2	30
Carbon tetrachloride	ND		1060	1230		ug/Kg		115	65 - 135	3	30
1,2-Dichloroethane	ND		1050	1100		ug/Kg		105	70 - 135	1	30
Trichloroethene	ND		1050	1140		ug/Kg		109	75 - 125	0	30
1,2-Dichloropropane	ND		1060	1150		ug/Kg		108	70 - 120	3	30
Bromodichloromethane	ND		1070	923		ug/Kg		86	70 - 130	4	30
cis-1,3-Dichloropropene	ND		1050	1140		ug/Kg		109	70 - 125	1	30
trans-1,3-Dichloropropene	ND		1060	1140		ug/Kg		108	65 - 125	2	30
1,1,2-Trichloroethane	ND		1060	1170		ug/Kg		110	60 - 125	3	30
Tetrachloroethene	ND		1060	1190		ug/Kg		113	65 - 140	17	30
Dibromochloromethane	ND		1070	1160		ug/Kg		108	65 - 130	4	30
Chlorobenzene	ND		1060	1120		ug/Kg		106	75 - 125	9	30
Bromoform	ND		1070	964		ug/Kg		90	55 - 135	0	30
1,1,2,2-Tetrachloroethane	ND		1050	1170		ug/Kg		111	55 - 130	3	30
1,3-Dichlorobenzene	ND		1060	1090		ug/Kg		103	70 - 125	1	30
1,4-Dichlorobenzene	ND		1060	1050		ug/Kg		99	70 - 125	3	30
1,2-Dichlorobenzene	ND		1060	1070		ug/Kg		101	75 - 120	1	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-39427-A-1-B MSD
Matrix: Waste
Analysis Batch: 140740

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 140744

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Fluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*
Ethylbenzene-d10	*105*		*70 - 120*
4-Bromofluorobenzene (Surr)	*103*		*70 - 120*
Trifluorotoluene (Surr)	*109*		*65 - 140*

Lab Sample ID: MB 580-141110/21
Matrix: Water
Analysis Batch: 141110

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/29/13 22:00	1
Vinyl chloride	ND		1.0		ug/L			07/29/13 22:00	1
Bromomethane	ND		5.0		ug/L			07/29/13 22:00	1
Chloroethane	ND		5.0		ug/L			07/29/13 22:00	1
Trichlorofluoromethane	ND		1.0		ug/L			07/29/13 22:00	1
1,1-Dichloroethene	ND		1.0		ug/L			07/29/13 22:00	1
Methylene Chloride	ND		3.0		ug/L			07/29/13 22:00	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			07/29/13 22:00	1
1,1-Dichloroethane	ND		1.0		ug/L			07/29/13 22:00	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			07/29/13 22:00	1
Chloroform	ND		1.0		ug/L			07/29/13 22:00	1
1,1,1-Trichloroethane	ND		1.0		ug/L			07/29/13 22:00	1
Carbon tetrachloride	ND		1.0		ug/L			07/29/13 22:00	1
1,2-Dichloroethane	ND		1.0		ug/L			07/29/13 22:00	1
Trichloroethene	ND		1.0		ug/L			07/29/13 22:00	1
1,2-Dichloropropane	ND		1.0		ug/L			07/29/13 22:00	1
Bromodichloromethane	ND		1.0		ug/L			07/29/13 22:00	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			07/29/13 22:00	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			07/29/13 22:00	1
1,1,2-Trichloroethane	ND		1.0		ug/L			07/29/13 22:00	1
Tetrachloroethene	ND		1.0		ug/L			07/29/13 22:00	1
Dibromochloromethane	ND		1.0		ug/L			07/29/13 22:00	1
Chlorobenzene	ND		1.0		ug/L			07/29/13 22:00	1
Bromoform	ND		1.0		ug/L			07/29/13 22:00	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			07/29/13 22:00	1
1,3-Dichlorobenzene	ND		1.0		ug/L			07/29/13 22:00	1
1,4-Dichlorobenzene	ND		1.0		ug/L			07/29/13 22:00	1
1,2-Dichlorobenzene	ND		1.0		ug/L			07/29/13 22:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluorobenzene (Surr)	*98*		*80 - 120*		*07/29/13 22:00*	*1*
Toluene-d8 (Surr)	*99*		*85 - 120*		*07/29/13 22:00*	*1*
Ethylbenzene-d10	*102*		*80 - 120*		*07/29/13 22:00*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*07/29/13 22:00*	*1*
Trifluorotoluene (Surr)	*105*		*80 - 120*		*07/29/13 22:00*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-141110/18
Matrix: Water
Analysis Batch: 141110

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	20.0	22.1		ug/L		110	40 - 125
Vinyl chloride	20.1	23.1		ug/L		115	50 - 145
Bromomethane	20.1	19.3		ug/L		96	30 - 145
Chloroethane	20.0	21.5		ug/L		107	60 - 135
Trichlorofluoromethane	20.0	25.0		ug/L		125	60 - 145
1,1-Dichloroethene	19.8	22.5		ug/L		114	70 - 130
Methylene Chloride	20.1	20.5		ug/L		102	55 - 140
trans-1,2-Dichloroethene	20.1	22.6		ug/L		113	60 - 140
1,1-Dichloroethane	20.1	22.0		ug/L		110	70 - 135
cis-1,2-Dichloroethene	20.1	21.2		ug/L		106	70 - 125
Chloroform	20.1	21.5		ug/L		107	65 - 135
1,1,1-Trichloroethane	20.4	22.9		ug/L		112	65 - 130
Carbon tetrachloride	20.1	19.3		ug/L		96	65 - 140
1,2-Dichloroethane	19.9	20.4		ug/L		103	70 - 130
Trichloroethene	19.9	22.3		ug/L		112	70 - 125
1,2-Dichloropropane	20.1	21.5		ug/L		107	75 - 125
Bromodichloromethane	20.3	19.2		ug/L		95	75 - 120
cis-1,3-Dichloropropene	19.8	19.7		ug/L		99	70 - 130
trans-1,3-Dichloropropene	20.0	18.1		ug/L		91	55 - 140
1,1,2-Trichloroethane	20.1	21.3		ug/L		106	75 - 125
Tetrachloroethene	20.0	25.4		ug/L		127	45 - 150
Dibromochloromethane	20.3	18.1		ug/L		89	60 - 135
Chlorobenzene	20.0	20.0		ug/L		100	80 - 120
Bromoform	20.2	14.8		ug/L		73	70 - 130
1,1,2,2-Tetrachloroethane	19.9	20.5		ug/L		103	65 - 130
1,3-Dichlorobenzene	20.1	21.9		ug/L		109	75 - 125
1,4-Dichlorobenzene	20.1	20.9		ug/L		104	75 - 125
1,2-Dichlorobenzene	20.1	21.9		ug/L		109	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Fluorobenzene (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*100*		*85 - 120*
Ethylbenzene-d10	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*
Trifluorotoluene (Surr)	*112*		*80 - 120*

Lab Sample ID: LCSD 580-141110/19
Matrix: Water
Analysis Batch: 141110

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	20.0	22.1		ug/L		110	40 - 125	0	30
Vinyl chloride	20.1	22.4		ug/L		112	50 - 145	3	30
Bromomethane	20.1	19.7		ug/L		98	30 - 145	2	30
Chloroethane	20.0	21.7		ug/L		108	60 - 135	1	30
Trichlorofluoromethane	20.0	25.3		ug/L		126	60 - 145	1	30
1,1-Dichloroethene	19.8	22.8		ug/L		115	70 - 130	1	30
Methylene Chloride	20.1	20.6		ug/L		103	55 - 140	0	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-141110/19
Matrix: Water
Analysis Batch: 141110

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene			20.1	23.0		ug/L		114	60 - 140	1	30
1,1-Dichloroethane			20.1	21.9		ug/L		109	70 - 135	0	30
cis-1,2-Dichloroethene			20.1	22.4		ug/L		112	70 - 125	5	30
Chloroform			20.1	22.0		ug/L		110	65 - 135	2	30
1,1,1-Trichloroethane			20.4	23.4		ug/L		115	65 - 130	2	30
Carbon tetrachloride			20.1	20.2		ug/L		100	65 - 140	4	30
1,2-Dichloroethane			19.9	20.1		ug/L		101	70 - 130	2	30
Trichloroethene			19.9	23.0		ug/L		115	70 - 125	3	30
1,2-Dichloropropane			20.1	22.1		ug/L		110	75 - 125	3	30
Bromodichloromethane			20.3	19.5		ug/L		96	75 - 120	2	30
cis-1,3-Dichloropropene			19.8	19.8		ug/L		100	70 - 130	1	30
trans-1,3-Dichloropropene			20.0	18.6		ug/L		93	55 - 140	3	30
1,1,2-Trichloroethane			20.1	21.4		ug/L		107	75 - 125	1	30
Tetrachloroethene			20.0	27.2		ug/L		136	45 - 150	7	30
Dibromochloromethane			20.3	18.2		ug/L		90	60 - 135	1	30
Chlorobenzene			20.0	20.5		ug/L		102	80 - 120	2	30
Bromoform			20.2	15.1		ug/L		75	70 - 130	2	30
1,1,2,2-Tetrachloroethane			19.9	20.5		ug/L		103	65 - 130	0	30
1,3-Dichlorobenzene			20.1	22.2		ug/L		110	75 - 125	1	30
1,4-Dichlorobenzene			20.1	21.4		ug/L		107	75 - 125	2	30
1,2-Dichlorobenzene			20.1	22.2		ug/L		110	70 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Fluorobenzene (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*99*		*85 - 120*
Ethylbenzene-d10	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*
Trifluorotoluene (Surr)	*112*		*80 - 120*

Lab Chronicle

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: MW-1A
Lab Sample ID: 580-39385-1
Date Collected: 07/17/13 11:50
Matrix: Water
Date Received: 07/17/13 13:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141110	07/30/13 00:17	EB1	TAL SEA

Client Sample ID: MW-1B
Lab Sample ID: 580-39385-2
Date Collected: 07/17/13 11:30
Matrix: Water
Date Received: 07/17/13 13:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141110	07/30/13 00:39	EB1	TAL SEA

Client Sample ID: MW-3
Lab Sample ID: 580-39385-3
Date Collected: 07/17/13 09:45
Matrix: Water
Date Received: 07/17/13 13:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141110	07/30/13 01:02	EB1	TAL SEA

Client Sample ID: MW-3 DUP
Lab Sample ID: 580-39385-4
Date Collected: 07/17/13 09:45
Matrix: Water
Date Received: 07/17/13 13:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141110	07/30/13 01:24	EB1	TAL SEA

Client Sample ID: MW-5
Lab Sample ID: 580-39385-5
Date Collected: 07/17/13 11:05
Matrix: Water
Date Received: 07/17/13 13:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141110	07/30/13 01:46	EB1	TAL SEA

Client Sample ID: MW-6
Lab Sample ID: 580-39385-6
Date Collected: 07/17/13 10:30
Matrix: Water
Date Received: 07/17/13 13:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	141110	07/30/13 02:09	EB1	TAL SEA

Lab Chronicle

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Client Sample ID: Carbon

Lab Sample ID: 580-39385-8

Date Collected: 07/16/13 10:15
Matrix: Waste
Date Received: 07/17/13 13:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			140744	07/24/13 10:57	MMH	TAL SEA
Total/NA	Analysis	8260B		1	140740	07/24/13 21:33	EB1	TAL SEA
Total/NA	Prep	5035	DL		140744	07/24/13 10:57	MMH	TAL SEA
Total/NA	Analysis	8260B	DL	100	140907	07/26/13 09:54	MMH	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-04-14
California	NELAP	9	01115CA	01-31-14
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-13
USDA	Federal		P330-11-00222	05-20-14
Washington	State Program	10	C553	02-17-14

Sample Summary

Client: Apex Companies LLC
Project/Site: Regency - Inglewood Plaza

TestAmerica Job ID: 580-39385-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-39385-1	MW-1A	Water	07/17/13 11:50	07/17/13 13:54
580-39385-2	MW-1B	Water	07/17/13 11:30	07/17/13 13:54
580-39385-3	MW-3	Water	07/17/13 09:45	07/17/13 13:54
580-39385-4	MW-3 DUP	Water	07/17/13 09:45	07/17/13 13:54
580-39385-5	MW-5	Water	07/17/13 11:05	07/17/13 13:54
580-39385-6	MW-6	Water	07/17/13 10:30	07/17/13 13:54
580-39385-8	Carbon	Waste	07/16/13 10:15	07/17/13 13:54

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

Client	Client Contact	Date	Chain of Custody Number
Apex Companies, LLC	Mark Marighorst MMarighorst@apexcos.com	07/17/2013	19516
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page**
3015 SW First AVE	(503) 924-4704 EXT 120	39385	1 of 1
City / State / Zip Code	**Sampler**	**Lab Contact**	
Portland / OR / 97201	Matt Thoenes		
Project Name and Location (State)	**Billing Contact**		
Regency – Inglewood Plaza (WA)			
Contract/Purchase Order/Quote No.			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Carbon	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: HVOCs (EPA 8260B)	TCLP	Special Instructions/ Conditions of Receipt
1 MW-1A	07/17/2013	1150		X							X			X		
2 MW-1B	07/17/2013	1130		X							X			X		
3 MW-3	07/17/2013	0945		X							X			X		
MW-3 DUP	07/17/2013	0945		X							X			X		
MW-5	07/17/2013	1105		X							X			X		
MW-6	07/17/2013	1030		X							X			X		
TRIP BLANK				X							X			X		
8 CARBON	07/16/2013	1015					X	X						X	X	

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580-39385 Chain of Custody

Client drop
MedRed/whi wet/but
A1TB = 1.0/1.5 w/o

Cooler: ☐ Yes ☐ No Cooler Temp: _____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal by Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time
1. Relinquished By Sign/Print: Matt Thoenes	07/17/2013	1354
2. Relinquished By Sign/Print:		
3. Relinquished By Sign/Print:		

	Date	Time
1. Received By Sign/Print: Tom Blankinship	7/17/13	1354
2. Received By Sign/Print:		
3. Received By Sign/Print:		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0210)

8/6/2013

Login Sample Receipt Checklist

Client: Apex Companies LLC

Job Number: 580-39385-1

Login Number: 39385

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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12/10/2013
Mr. Mark Havighorst
Apex Companies, LLC (formerly Ash Creek Associates)
3015 SW 1st Avenue

Portland OR 97201

Project Name: INGLEWOOD PLAZA
Project #:
Workorder #: 1311402

Dear Mr. Mark Havighorst

The following report includes the data for the above referenced project for sample(s) received on 11/20/2013 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1311402

Work Order Summary

CLIENT:	Mr. Mark Havighorst Apex Companies, LLC (formerly Ash Creek Associates) 3015 SW 1st Avenue Portland, OR 97201	**BILL TO:**	Mr. Mike Whitson Apex Companies, LLC (formerly Ash Creek Associates) 3015 SW 1st Avenue Portland, OR 97201
PHONE:	503-924-4704	**P.O. #**	
FAX:	503-924-4707	**PROJECT #**	INGLEWOOD PLAZA
DATE RECEIVED:	11/20/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	12/10/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VS-3	TO-15	10.4 "Hg	4.9 psi
02A	VS-4	TO-15	9 "Hg	3.7 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 12/10/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

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LABORATORY NARRATIVE
EPA Method TO-15
Apex Companies, LLC (formerly Ash Creek Associates)
Workorder# 1311402

Two 6 Liter Summa Canister samples were received on November 20, 2013. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample VS-4 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VS-3

Lab ID#: 1311402-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.0	2.0	6.9	14

Client Sample ID: VS-4

Lab ID#: 1311402-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	2.6	640	17	4300

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Client Sample ID: VS-3

Lab ID#: 1311402-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3120914**	**Date of Collection: 11/15/13 7:19:00 AM**	
Dil. Factor:	**2.04**	**Date of Analysis: 12/9/13 06:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Trichloroethene	1.0	Not Detected	5.5	Not Detected
Tetrachloroethene	1.0	2.0	6.9	14

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: VS-4

Lab ID#: 1311402-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3120915**	**Date of Collection: 11/15/13 7:21:00 AM**	
Dil. Factor:	**5.11**	**Date of Analysis: 12/9/13 06:47 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.6	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	2.6	Not Detected	10	Not Detected
Trichloroethene	2.6	Not Detected	14	Not Detected
Tetrachloroethene	2.6	640	17	4300

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1311402-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3120908**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/9/13 01:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1311402-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3120902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/9/13 08:58 AM**	

Compound	%Recovery
Vinyl Chloride	85
cis-1,2-Dichloroethene	96
Trichloroethene	92
Tetrachloroethene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCS

Lab ID#: 1311402-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3120903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/9/13 09:49 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
cis-1,2-Dichloroethene	114	70-130
Trichloroethene	102	70-130
Tetrachloroethene	101	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCSD

Lab ID#: 1311402-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3120904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/9/13 10:19 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	94	70-130
cis-1,2-Dichloroethene	119	70-130
Trichloroethene	100	70-130
Tetrachloroethene	101	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	96	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager MARK HAVIGHORST

Collected by: (Print and Sign) CHRIS LINK

Company APEX COMPANIES LLC Email MHAVIGHORST@APEXCOS.com

Address 3015 SW FIRST AVE City PORTLAND State OR Zip 97201

Phone 503-924-4704 x120 Fax 503-943-6357

Project Info:
P.O. #
Project #
Project Name INGLEWOOD PLAZA

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	VS-3	913	11/15/13	0717/0719	TO-15 (PCE, TCE, DCE, VC)	-30	-12		
02A	VS-4	12041	11/15/13	0720/0721	TO-15 (PCE, TCE, DCE, VC)	-30	-13		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
MARK HAVIGHORST	11/18/2013 1305		11/20/13 1205
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
Ted Ex		NA	Good	Yes No None	1311402

Form 1293 rev.11

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4/16/2014

Mr. Mark Havighorst
Apex Companies, LLC (formerly Ash Creek Associates)
3015 SW 1st Avenue

Portland OR 97201

Project Name: INGLEWOOD PLAZA
Project #: 11277.200
Workorder #: 1404071A

Dear Mr. Mark Havighorst

The following report includes the data for the above referenced project for sample(s) received on 4/3/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1404071A

Work Order Summary

CLIENT:	Mr. Mark Havighorst Apex Companies, LLC (formerly Ash Creek Associates) 3015 SW 1st Avenue Portland, OR 97201	**BILL TO:**	Mr. Mark Havighorst Apex Companies, LLC (formerly Ash Creek Associates) 3015 SW 1st Avenue Portland, OR 97201
PHONE:	503-924-4704	**P.O. #**	
FAX:	503-924-4707	**PROJECT #**	11277.200 INGLEWOOD PLAZA
DATE RECEIVED:	04/03/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/16/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	AA-1	Modified TO-15 SIM	6.0 "Hg	5 psi
02A	AA-2	Modified TO-15 SIM	6.0 "Hg	5 psi
03A	OA-1	Modified TO-15 SIM	8.0 "Hg	5 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 04/16/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Apex Companies, LLC (formerly Ash Creek Associates)
Workorder# 1404071A

Three 6 Liter Summa Canister (SIM Certified) samples were received on April 03, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on samples AA-1 and AA-2 due to the presence of high level non-target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: AA-1

Lab ID#: 1404071A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.067	0.37	0.46	2.5

Client Sample ID: AA-2

Lab ID#: 1404071A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.067	0.51	0.46	3.4

Client Sample ID: OA-1

Lab ID#: 1404071A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.037	0.28	0.25	1.9

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Client Sample ID: AA-1

Lab ID#: 1404071A-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e041118sim**	**Date of Collection: 3/28/14 4:45:00 PM**	
Dil. Factor:	**3.36**	**Date of Analysis: 4/11/14 09:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.034	Not Detected	0.086	Not Detected
cis-1,2-Dichloroethene	0.067	Not Detected	0.27	Not Detected
Trichloroethene	0.067	Not Detected	0.36	Not Detected
Tetrachloroethene	0.067	0.37	0.46	2.5

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: AA-2

Lab ID#: 1404071A-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e041119sim**	**Date of Collection: 3/28/14 4:45:00 PM**	
Dil. Factor:	**3.36**	**Date of Analysis: 4/11/14 10:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.034	Not Detected	0.086	Not Detected
cis-1,2-Dichloroethene	0.067	Not Detected	0.27	Not Detected
Trichloroethene	0.067	Not Detected	0.36	Not Detected
Tetrachloroethene	0.067	0.51	0.46	3.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: OA-1

Lab ID#: 1404071A-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e041120sim**	**Date of Collection: 3/28/14 4:45:00 PM**	
Dil. Factor:	**1.83**	**Date of Analysis: 4/11/14 11:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected
Trichloroethene	0.037	Not Detected	0.20	Not Detected
Tetrachloroethene	0.037	0.28	0.25	1.9

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1404071A-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e041106sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/14 11:31 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: CCV

Lab ID#: 1404071A-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e041102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/14 08:32 AM**	

Compound	%Recovery
Vinyl Chloride	103
cis-1,2-Dichloroethene	110
Trichloroethene	89
Tetrachloroethene	97

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCS

Lab ID#: 1404071A-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e041103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/14 09:16 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	107	70-130
cis-1,2-Dichloroethene	124	70-130
Trichloroethene	100	70-130
Tetrachloroethene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCSD

Lab ID#: 1404071A-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e041104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/11/14 10:01 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	104	70-130
cis-1,2-Dichloroethene	123	70-130
Trichloroethene	99	70-130
Tetrachloroethene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager MARK HAVIGHORST

Collected by: (Print and Sign) MIKE WHITSON

Company APEX COMPANIES Email MHAVIGHORST@APEXLOS.COM

Address 3015 SW 1ST AVE City PORTLAND State OR Zip 97201

Phone (503) 924-4704 Fax

Project Info:

P.O. #

Project # 11277.200

Project Name INGLEWOOD PLAZA

Turn Around Time:

☑ Normal

☐ Rush

specify

Lab Use Only
Pressurized by: JC
Date: 4 3 14
Pressurization Gas: (N) He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	AA-1	30849 2560	03-28-14	0845-1645	TO-15	>-30	-7.5	60"	3psi
02A	AA-2	34357	03-28-14	0845-1645	TO-15	>-30	-7.5	60"	↓
03A	OA-1	944	03-28-14	0845-1645	TO-15	-23	-9	8.0"	↓
~~04A~~	VS-5	356260	03-28-14	1020-1035	TO-15	-28	-3	25"	15psi
~~05A~~	VS-6	IL1586	03-28-14	1020-1035	TO-15	-28	-3	35"	↓

JM 12/14

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	04-01-14/1100	[signature] ATT	4.3.14 1010
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1404071

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4/17/2014

Mr. Mark Havighorst
Apex Companies, LLC (formerly Ash Creek Associates)
3015 SW 1st Avenue

Portland OR 97201

Project Name: INGLEWOOD PLAZA
Project #: 11277.200
Workorder #: 1404071B

Dear Mr. Mark Havighorst

The following report includes the data for the above referenced project for sample(s) received on 4/3/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1404071B

Work Order Summary

CLIENT:	Mr. Mark Havighorst Apex Companies, LLC (formerly Ash Creek Associates) 3015 SW 1st Avenue Portland, OR 97201	**BILL TO:**	Mr. Mark Havighorst Apex Companies, LLC (formerly Ash Creek Associates) 3015 SW 1st Avenue Portland, OR 97201
PHONE:	503-924-4704	**P.O. #**	
FAX:	503-924-4707	**PROJECT #**	11277.200 INGLEWOOD PLAZA
DATE RECEIVED:	04/03/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	04/17/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
04A	VS-5	Modified TO-15	2.5 "Hg	15 psi
05A	VS-6	Modified TO-15	3.5 "Hg	15 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 04/17/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Apex Companies, LLC (formerly Ash Creek Associates)
Workorder# 1404071B

Two 1 Liter Summa Canister (100% Certified) samples were received on April 03, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Sample VS-5 was transferred from Low Level analysis to full scan TO-15 due to high levels of target compounds.

Dilution was performed on samples VS-5 and VS-6 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VS-5

Lab ID#: 1404071B-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	4.4	1000	30	7100

Client Sample ID: VS-6

Lab ID#: 1404071B-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.57	2.2	3.1	12
Tetrachloroethene	0.57	150	3.9	1000

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Client Sample ID: VS-5

Lab ID#: 1404071B-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041408**	**Date of Collection: 3/28/14 4:45:00 PM**	
Dil. Factor:	**8.80**	**Date of Analysis: 4/14/14 12:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	4.4	Not Detected	11	Not Detected
cis-1,2-Dichloroethene	4.4	Not Detected	17	Not Detected
Trichloroethene	4.4	Not Detected	24	Not Detected
Tetrachloroethene	4.4	1000	30	7100

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: VS-6

Lab ID#: 1404071B-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**e041220**	**Date of Collection: 3/28/14 4:45:00 PM**	
Dil. Factor:	**5.72**	**Date of Analysis: 4/12/14 09:02 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.57	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.57	Not Detected	2.3	Not Detected
Trichloroethene	0.57	2.2	3.1	12
Tetrachloroethene	0.57	150	3.9	1000

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1404071B-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**e041206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/12/14 09:34 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1404071B-06B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041407**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/14 11:45 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: CCV

Lab ID#: 1404071B-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**e041203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/12/14 07:17 AM**	

Compound	%Recovery
Vinyl Chloride	107
cis-1,2-Dichloroethene	104
Trichloroethene	101
Tetrachloroethene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: CCV

Lab ID#: 1404071B-07B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/14 08:33 AM**	

Compound	%Recovery
Vinyl Chloride	75
cis-1,2-Dichloroethene	91
Trichloroethene	91
Tetrachloroethene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	108	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1404071B-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**e041204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/12/14 08:00 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	108	70-130
cis-1,2-Dichloroethene	118	70-130
Trichloroethene	114	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1404071B-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**e041205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/12/14 08:41 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	106	70-130
cis-1,2-Dichloroethene	119	70-130
Trichloroethene	106	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1404071B-08B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/14 09:24 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	79	70-130
cis-1,2-Dichloroethene	104	70-130
Trichloroethene	92	70-130
Tetrachloroethene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1404071B-08BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3041404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/14 09:43 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	77	70-130
cis-1,2-Dichloroethene	104	70-130
Trichloroethene	89	70-130
Tetrachloroethene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager MARK HAVIGHORST

Collected by: (Print and Sign) MIKE WHITSON

Company APEX COMPANIES Email MHAVIGHORST@APEXLOS.COM

Address 3015 SW 1ST AVE City PORTLAND State OR Zip 97201

Phone (503) 924-4704 Fax

Project Info:
P.O. #
Project # 11277.200
Project Name INGLEWOOD PLAZA

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
~~01A~~	AA-1	30849 2560	03-28-14	0845-1645	TO-15	>-30	-7.5		
02A	AA-2	34357	03-28-14	0845-1645	TO-15	>-30	-7.5		
~~03A~~	OA-1	944	03-28-14	0845-1645	TO-15	-23	-9		
04A	VS-5	35626	03-28-14	1020-1035	TO-15	-28	-3		
05A	VS-6	11586	03-28-14	1020-1035	TO-15	-28	-3		

DM 3/14

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	04-01-14/1100	[signature]	4.3.14 1010
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No (None)	1404071

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