



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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July 19, 2016

Mr. Joel Ostroff
Project Manager, Stanley Real Estate, Inc.
2101 4th Avenue, Suite 310
Seattle, Washington 98121

COPY

Re: Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the following Hazardous Waste Site:

- Name: Spic N Span Cleaners
- Address: 652 South Dearborn Street, Seattle, WA
- Facility/Site No.: 54766547
- Cleanup Site ID No.: 3502
- VCP No.: NW2564

Dear Mr. Ostroff:

Thank you for submitting documents regarding your proposed remedial actions for the Spic N Span Cleaners facility (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following releases at the Site:

- Mineral Spirits (stoddard solvent) in Soil and Ground Water.
- PCE (tetrachloroethene) and associate breakdown products in Soil and Ground Water. Breakdown products: TCE (trichloroethene), Cis-1,2 DCE (dichloroethene), and VC (vinyl chloride) associated with the PCE.

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion.

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The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your proposed remedial actions:

1. Aspect Consulting, LLC, Sampling and Analysis Plan, Spic'n Span Cleaners Cleanup Action, February 9, 2016.
2. Aspect Consulting, LLC, Supplemental Data Collection – Spic'n Span Cleaners Site, November 18, 2014.
3. Ecology, Opinion Letter – Spic N Span Cleaners Site, February 25, 2013.
4. Aspect Consulting, LLC, Remedial Investigation, Feasibility Study, and Cleanup Action Plan, Spic'n Span Cleaners, November 16, 2011.

The reports listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at (425) 649-7235 or sending an email to: nwro_public_request@ecy.wa.gov.

The Site is defined by the extent of contamination caused by the following releases:

- Mineral Spirits in Soil and Ground Water
- PCE and associated breakdown products in Soil and Ground Water

The Site is more particularly described in Enclosure A to this letter, which includes a detailed Site diagram. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the releases at the Site, Ecology has determined:**

1. In 2013, Ecology provided an opinion letter (Document #3 above) based on the review of Site characterization work, remedy selection, and proposed cleanup actions for the Site (Document #4 above). In that letter, Ecology concurred that the Remedial Investigation (RI) for the Site was generally complete.

As per additional data presented in 2014 (Document #2 above) however, the RI was not complete at that time. More contamination was discovered during soil and ground water sampling done later in 2013 to support design of an in-situ-thermal treatment system (the selected cleanup action for the Site). Thirty direct-push borings were installed between June 2013 and October 2014 and redefined the extent of contamination at the Site. The borings extended to approximately 30 feet below ground surface (bgs). Soil samples were acquired at two or three discrete depth intervals in each boring. The soil samples (90 total) were all analyzed for volatile organic compounds (VOCs), and 24 samples included analyses for TPH as mineral spirits. A total of 24 grab ground water samples were also acquired and analyzed for VOCs (four samples included analyses for TPH as mineral spirits). The sample regimen was determined by field screening and the previous characterization work at the Site.

The work determined that the northern area of PCE-contaminated soil previously identified extended further to the north onto adjacent property, and approximately doubled the extent of the soil contamination in that area. Ground water was also found to be contaminated with VOCs in that off-Property area. The area of contaminated soil previously identified that also included TPH contamination, was found to extend further to the southeast beneath the building.

2. In the 2013 opinion letter (Document #3), Ecology agreed that the selection of in-situ-thermal remediation utilizing electrical resistivity heating was an appropriate cleanup action for the Site. The opinion was based on review of the RI, feasibility study, and cleanup action plan for the Site (Document #4). A compliance monitoring plan was included in that document, which described sampling procedures undertaken to monitor and demonstrate that cleanup levels are achieved. The procedures included: There will be episodic soil sampling during operation of the thermal system to track system performance. A final sampling event will take place just prior to system shutdown when the rate of contaminant removal has attenuated. Soil samples would be collected at four depth intervals from each of 12 borings placed in areas with the highest levels of contamination in the treatment area. Ground water samples would be acquired from five monitoring wells in the treatment area. The sampling will require standard operating procedures for sampling hot soil and ground water. When soil and ground water cleanup levels are achieved under hot conditions, the thermal treatment system will be turned off and the ground allowed to cool for approximately one year. At that time quarterly ground water monitoring would be conducted in Site wells to further demonstrate compliance with ground water cleanup levels, and also soil vapor samples would be acquired at three locations in the treated area and compared to Ecology's screening levels. Long-term monitoring was proposed to track the attenuation of contaminants in ground water down gradient from the treated area.

3. In the opinion letter (Document #3), Ecology stated that the compliance monitoring plan included in Document #4 was acceptable. However, since the extent of the contamination was found to be greater than the extent known in 2011, the thermal treatment area has consequently expanded. The treatment area as perceived in 2011 and its current configuration are shown respectively in attached Figure 12 (NOV-2011) and attached Figure 1 (JAN-2016).

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The compliance monitoring plan as outlined in 2011 was no longer adequate, and a revised compliance monitoring plan was prepared and presented in the Sampling and Analysis Plan (Document #1 above). You requested Ecology's review and approval of the revised compliance monitoring plan presented in the Sampling and Analysis Plan (SAP). It should be noted however that Ecology cannot formally approve documents submitted through the VCP (Chapter 173-340-210 WAC). The following is Ecology's advisory opinion as allowed through the VCP.

4. After review of the SAP document, Ecology notes that revisions to the original compliance monitoring plan included the following:

- a. The number of soil borings to be sampled at four depth intervals during treatment was increased from 12 to 14.
- b. Boring coverage was reduced in the central part of the treatment area apparently to accommodate increased coverage in the northern expanded portion of the treatment area (ostensibly because of higher soil concentrations there).
- c. The number of ground water monitoring wells to be sampled during treatment in the treatment area was increased from five to seven (two wells were installed in the expanded northern portion of the treatment area). Furthermore, six monitoring wells located outside the treatment area will also be sampled while treatment is in progress. After the thermal treatment stops and the ground cools, quarterly sampling will begin in all 13 monitoring wells at the Site.
- d. The number of soil vapor extraction points to be sampled at this time was increased from three to four to cover the northern area.

It is Ecology's understanding that with these revisions, the sampling procedures outlined in the original compliance monitoring plan remain the same. As described, the revised compliance sampling now provides adequate coverage of the Site, and the sampling procedures are appropriate. Ecology considers that the revised compliance monitoring plan presented in the SAP is acceptable.

5. There is an office building east of the expanded northern area of contamination. The data presented in Document #2 show there are concentrations of PCE in soil above the Method A cleanup level in that area. Also, there are VOC concentrations in ground water (PCE, TCE, and VC) above ground water screening levels for vapor intrusion less than 100 feet from the building. As per Chapter 173-340-740(3)(C)(III) WAC and Ecology's draft Guidance for Evaluating Soil Vapor Intrusion, October 2009 (with updates February 2016 and April 2016), the potential for subsurface vapor intrusion into this building should be evaluated.

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6. There has been no data entry into Ecology's environmental information management (EIM) system database for this Site. As per Policy 840 this must be accomplished before any other documents are submitted to Ecology for review.

This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (425) 649-7251 or by E-mail at roger.nyc@ccy.wa.gov.

Sincerely,



Roger K. Nye
NWRO Toxics Cleanup Program

Enclosure: A - Description and Diagrams of the Site

cc: Jeremy Porter, Aspect Consulting LLC
Sonia Fernandez, Ecology

Enclosure A

Site Description and Diagrams

This section provides Ecology's understanding and interpretation of site conditions, and is the basis for the opinions expressed in the body of the letter.

Site: Soil and ground water are contaminated with mineral spirits and VOCs on properties located northeast and southwest of the intersection of South Dearborn Street and Maynard Avenue South in downtown Seattle. The contamination is associated with a dry-cleaning facility located on a Property at 652 South Dearborn Street. Soil and ground water contamination extend onto an adjacent property to the north, and ground water contamination extends to the southwest onto four other properties. The extent of the contamination in soil and groundwater by mineral spirits and by PCE (and associated degradation products) comprises the Site.

Property and Area Description: The Property containing the dry cleaning facility is 0.3 acres in size, is paved, and the building housing the facility covers about half of the Property. The Property is located in the International District approximately 1,500 feet east of Safeco Field. The area consists of extensive mixed residential, commercial, and light industrial land use, and the land surface is completely covered by streets, parking lots, and buildings. There is no habitat in this completely developed setting.

Property History and Current Use: The Property was vacant as of 1938 based historical aerial photographs. The dry cleaning facility was constructed in 1963 and is currently still operating. No information was provided regarding use of the Property during the period 1940 to 1960.

Sources of Contamination: Both Stoddard solvent (mineral spirits) and PCE were used in the dry-cleaning operations at the facility and were released over time from the cleaning equipment and the underground storage tanks. The facility no longer uses Stoddard solvent, but continues to use PCE in modern closed-loop equipment.

Physiographic Setting: The elevation of the Site is 50 feet above mean sea level. The land is flat and slopes gradually down towards Elliott Bay located approximately 2,600 feet to the west.

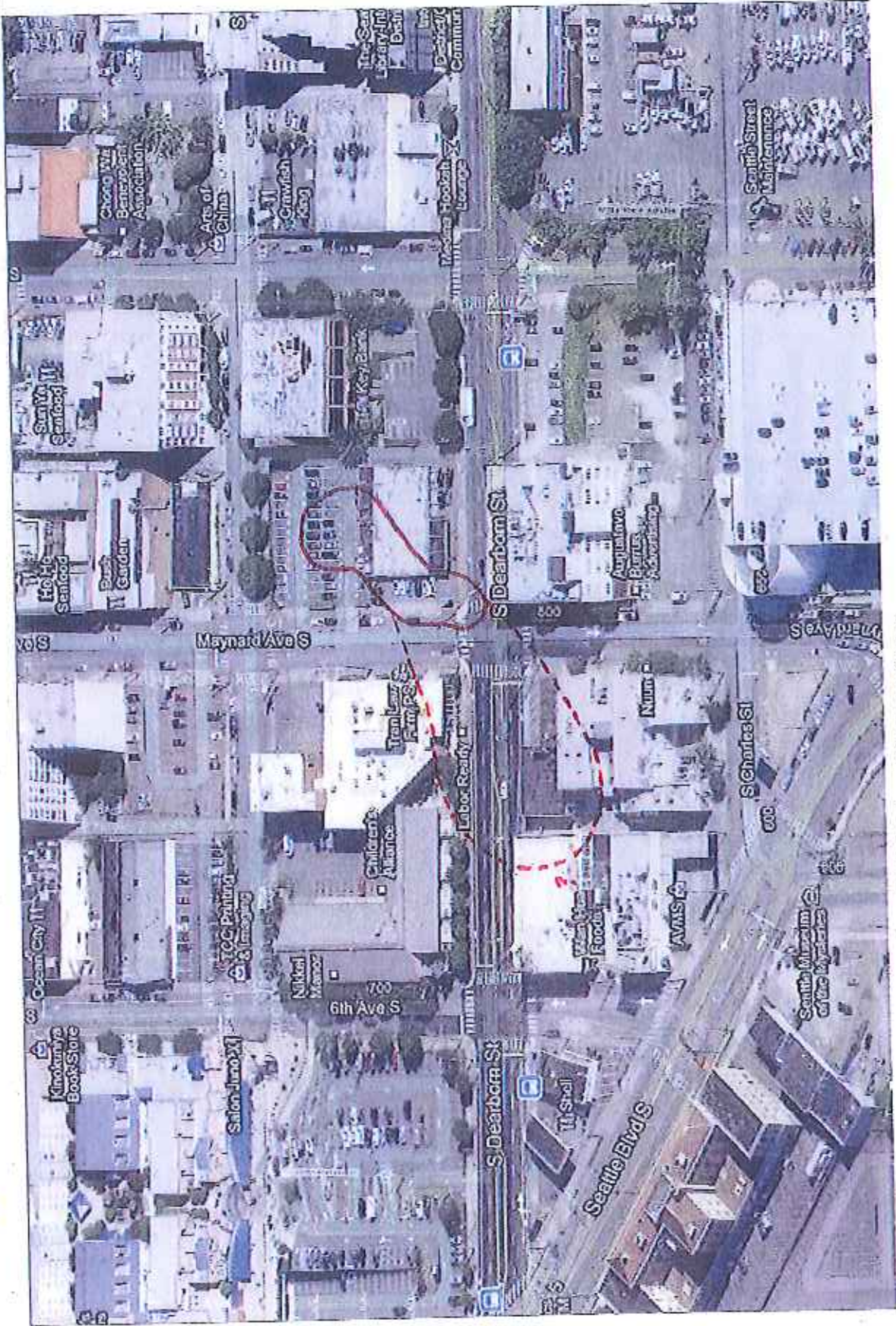
Geology: A surficial layer of gravelly sand fill material two or three feet thick is underlain by an assemblage of sandy silt and silty sand units (interpreted as more fill material) extending down to roughly 20 feet bgs. A sand deposit (tide flat deposit) is consistently encountered from about 20 to 25 feet bgs. A very dense formation (silty sand with gravel) interpreted as till is encountered beneath the sand deposit to the maximum depth of exploration (35 feet bgs).

Ground Water: There is some variability, but ground water is typically encountered about 20 to 25 feet bgs above native deposits with a flow direction to the west-southwest towards the bay.

Extent of Soil and Ground Water Contamination: Figure 1 (NOV-2014) depicts the horizontal extent of the soil contamination. The soil contamination (PCE) extends vertically to about 25 feet bgs in the source area. A plume of VC in groundwater extends to the west-southwest nearly 300 feet from the area of soil contamination. The width of the plume is approximately 150 feet.



652 South Dearborn Street, Seattle, WA



Spic N Span Cleaners Corp.

Approximate Extent of the Site

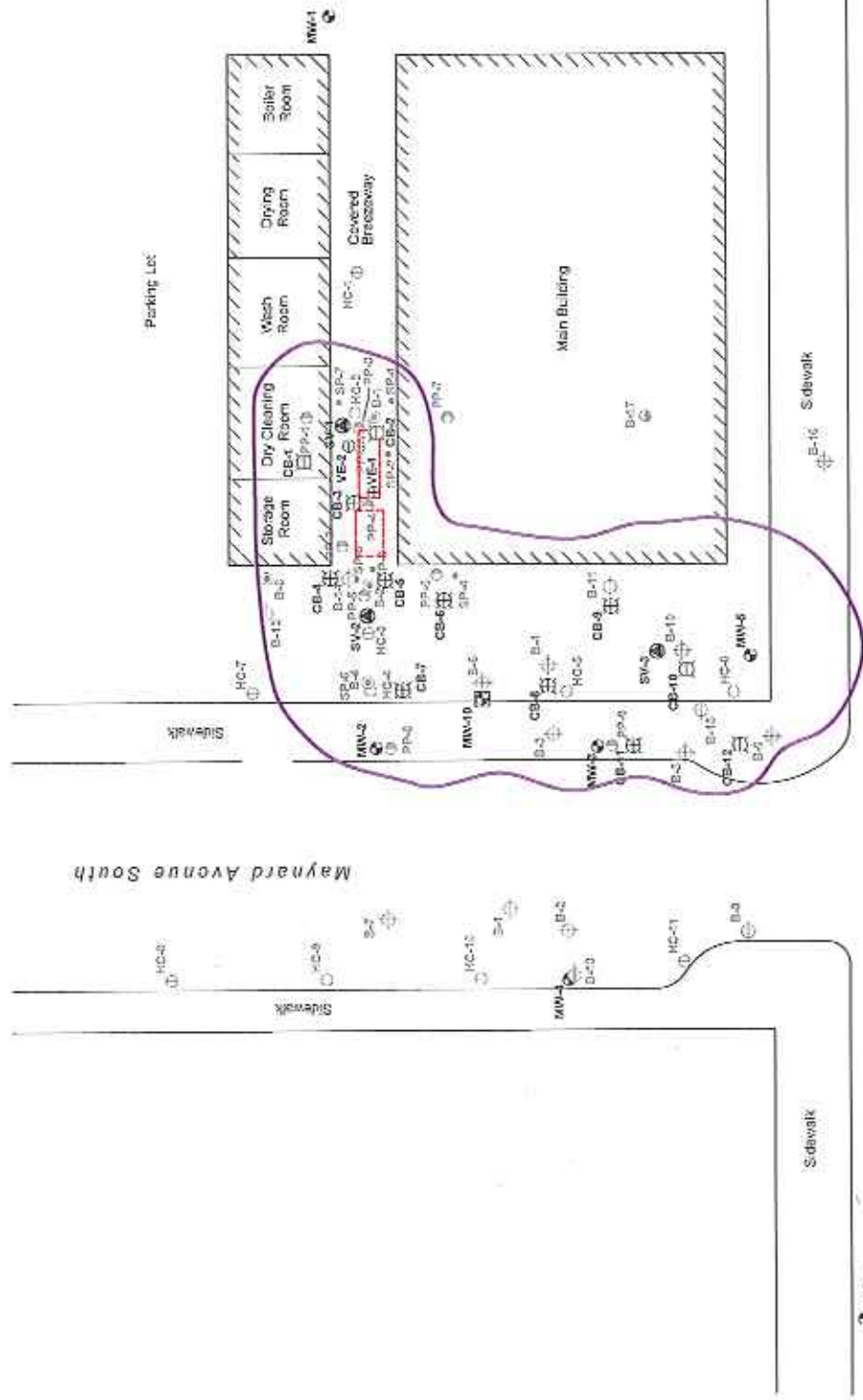
Soil and Groundwater Contamination

Vinyl Chloride in Groundwater

<http://maps.google.com/>

Legend

- Former UST Location
- B-2 Push Probe (Aspect, July 2008)
- B-3 Push Probe (Hart Crewster, June 2005)
- B-4 Push Probe (Hart Crewster, 1997)
- MW-1 Existing Monitoring Well
- SP-4 Sample Point Location
- VE-1 Vapor Extraction Location
- MW-10 Proposed Monitoring Well
- CB-2 Proposed Confirmation Soil Boring
- SV-2 Proposed Confirmation Soil Vapor Sample
- Estimated ERH Treatment Area



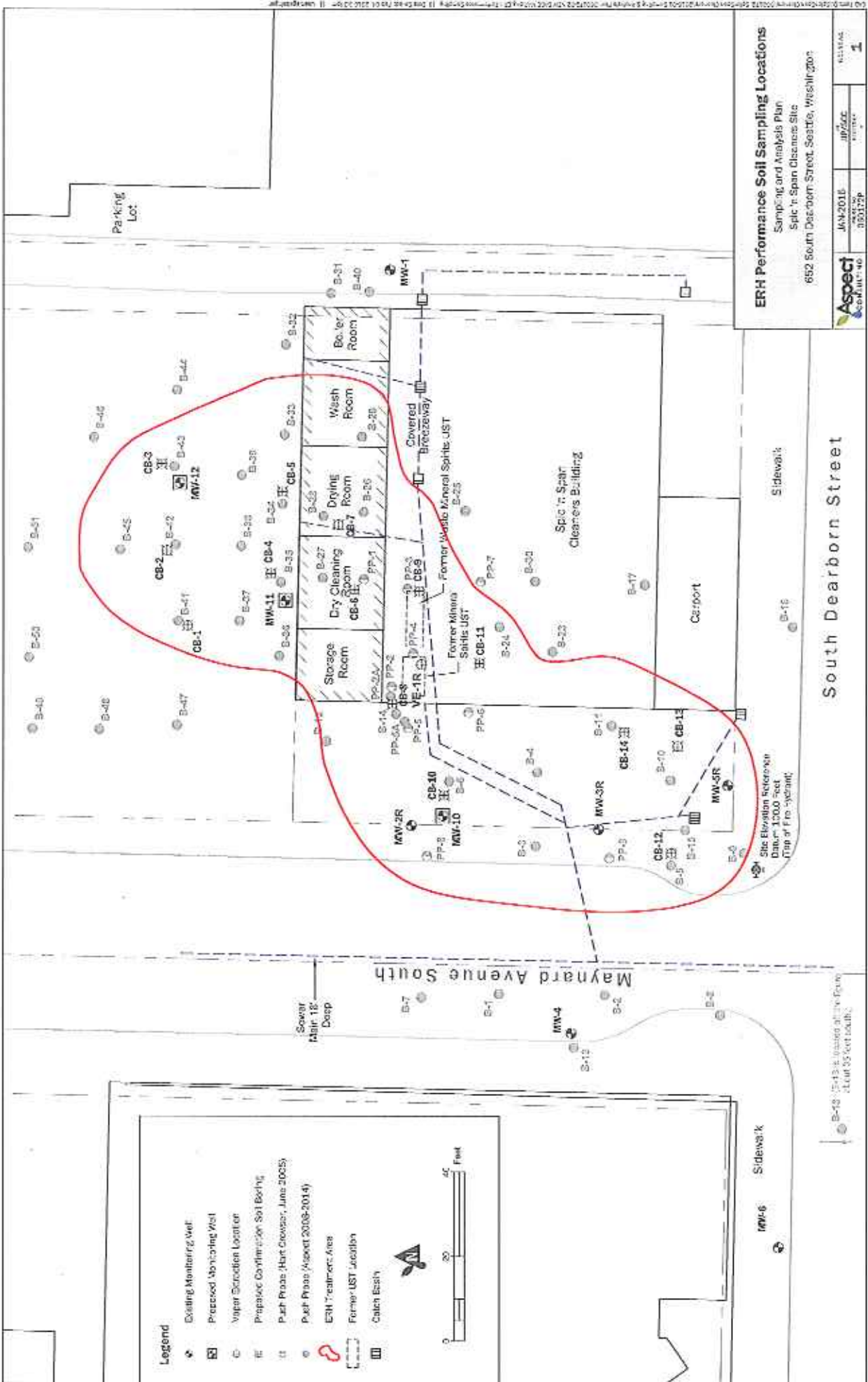
ERH Confirmation Sampling Locations

Spic 'n Scar Cleaners Site
 852 South Dearborn Street, Seattle, Washington

	NOV-2011	DLG/MS	DATE	SCALE
	000129	SEC		
				SHEET NO 12

Legend

- Drilling Monitoring Well
- Proposed Monitoring Well
- Vapor Detection Location
- Prepared Confirmation Soil Boiling
- Push Probe (Hot Crosser, June 2005)
- Push Probe (August 2008-2014)
- ERN Treatment Area
- Former UST Location
- Catch Basin



ERH Performance Soil Sampling Locations
 Sampling and Analysis Plan
 Spic 'n Span Cleaners Site
 652 South Dearborn Street, Seattle, Washington

ASPECT CORPORATION	DATE	REVISION
	JAN 2015	1

South Dearborn Street

Site Elevation Reference
 Datum: 1000 Feet
 (Top of Pro-Sydrant)

Legend

Site Features & Evaluation Focus Areas

- Sewer Line: Approximate location below or City of Seattle side sewer card.
- Collection Basin
- Evaluation Location & Number
- MC-1: Push Probe (Hart Crowder, 1997)
- PP-6: Push Probe (Hart Crowder, June 2009)
- B-37: Push Probe (Aspen 2008-05-16)

Clean-up Levels (Application of GW)

- PCE: 20 mg/kg
- TPH: 97 mg/kg

Extent of PCE, TCE or d6-PCE above cleanup levels

- Extent of PCE, TCE or d6-PCE above cleanup levels
- Extent of TPH above cleanup levels

Soil Data and Extent of Contamination

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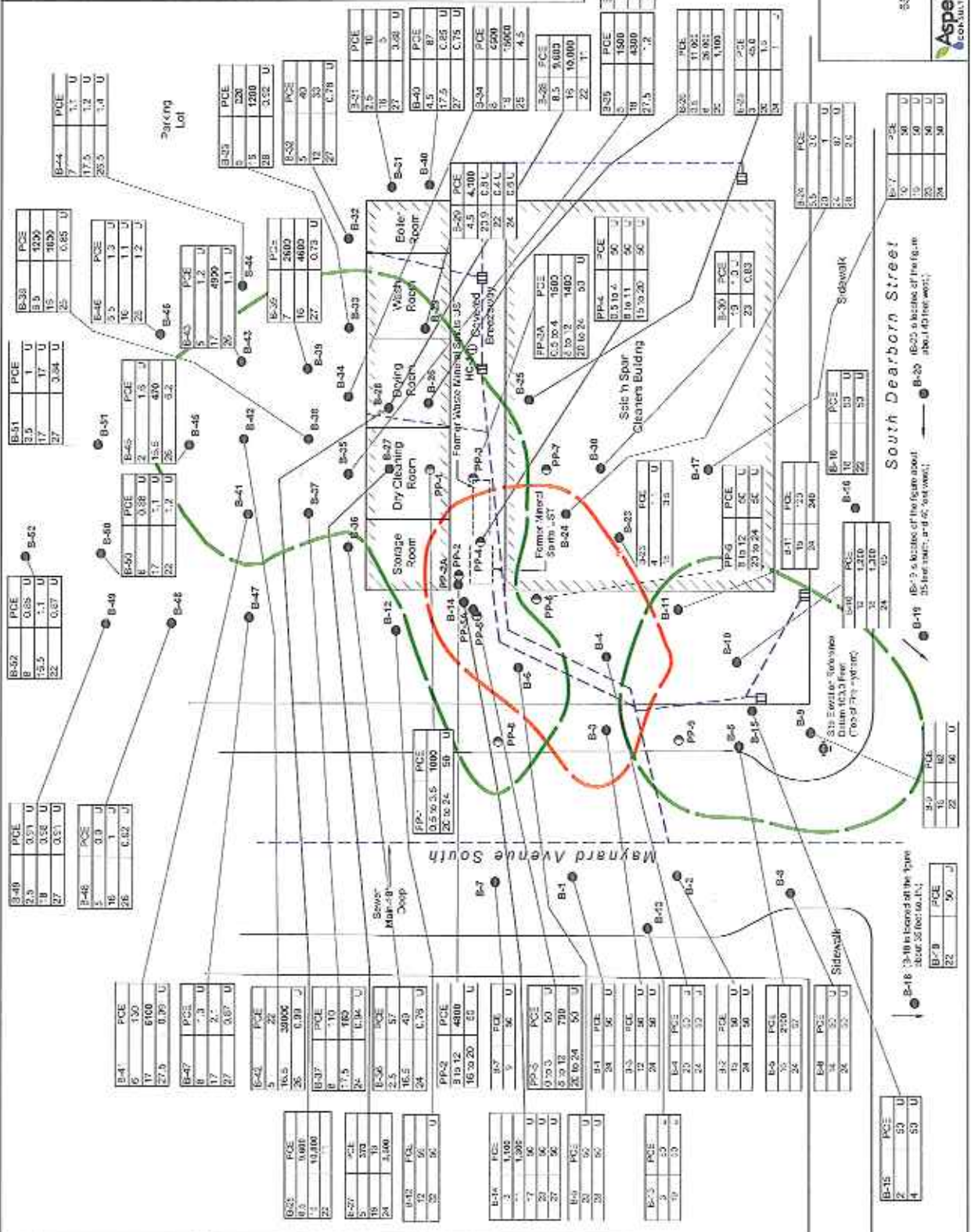
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PCE Soil Data and Extent of Contamination
 Spec'n Seen Cleaners Svb
 552 South Dearborn Street, Seattle, Washington

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ASPECT CONSULTING
 800175P

DATE: 12/17/12

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