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August 1, 2025

Project 238000343.R01

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**Reference: Preliminary Cleanup Levels**

Williams Northwest Pipeline – Mount Vernon Compressor Station  
15498 Lange Road  
Mount Vernon, Washington  
Facility Site ID: 2684  
Cleanup Site ID: 4766

Ms. Song:

At the request of Williams Northwest Pipeline (NWP), Stantec Consulting Services Inc. (Stantec) has prepared this *Preliminary Cleanup Levels*, dated August 1, 2025, to propose preliminary cleanup levels (PCULs) for the NWP Mount Vernon Compressor Station (C/S) Site (Site). The Site is located at 15498 Lange Road, Mount Vernon, Washington. Stantec and NWP are formally requesting the Washington State Department of Ecology to provide a written opinion on 1) the proposed PCULs as described in this document and their appropriate use at the Site as it progresses through the Remedial Investigation process, and 2) the concurrent acceptance of the Site into the Voluntary Cleanup Program.

Please contact Mr. Ryan Pozzuto, Stantec's Project Manager for this Site at (206) 550-6681 or [ryan.pozzuto@stantec.com](mailto:ryan.pozzuto@stantec.com), or Mr. Aaron Galer, Williams NWP Project Manager for this Site at (801) 584-6746 or [aaron.galer@williams.com](mailto:aaron.galer@williams.com), with questions.

Regards,

**STANTEC CONSULTING SERVICES INC.**

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c. w/ attachment  
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# Preliminary Cleanup Levels

Williams Northwest Pipeline – Mount Vernon Compressor Station



Prepared for:  
Williams Northwest Pipeline

Prepared by:  
Laina Cole

August 1, 2025

Project/File:  
238000343.R01

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## **Acronyms / Abbreviations**

|                        |                                                                                                                                           |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| AOPC                   | Areas of Potential Concern                                                                                                                |
| CLARC                  | Cleanup Levels and Risk Calculation                                                                                                       |
| C/S                    | Compressor Station                                                                                                                        |
| DRPH                   | Diesel-range petroleum hydrocarbons                                                                                                       |
| Ecology                | Washington State Department of Ecology                                                                                                    |
| Ecology June 2020 memo | Ecology's <i>Preliminary Cleanup Level Master List for Upland Sites Associated with Northwest Pipeline</i> memorandum, dated June 4, 2020 |
| EPI                    | Environmental Partners, Inc.                                                                                                              |
| FS                     | Feasibility study                                                                                                                         |
| GRPH                   | Gasoline-range petroleum hydrocarbons                                                                                                     |
| HRPH                   | Heavy-range petroleum hydrocarbons                                                                                                        |
| MTCA                   | Model Toxics Control Act                                                                                                                  |
| NWP                    | Williams Northwest Pipeline                                                                                                               |
| PQL                    | Practical quantitation limit                                                                                                              |
| PCUL                   | Preliminary cleanup level                                                                                                                 |
| RI                     | Remedial investigation                                                                                                                    |
| Site                   | NWP Mount Vernon C/S Cleanup Site                                                                                                         |
| Stantec                | Stantec Consulting Services Inc.                                                                                                          |
| TCP                    | Toxics Cleanup Program                                                                                                                    |
| TEE                    | Terrestrial Ecological Evaluation                                                                                                         |
| TPH                    | Total petroleum hydrocarbons                                                                                                              |
| VCP                    | Voluntary Cleanup Program                                                                                                                 |



# 1 Introduction

At the request of Williams Northwest Pipeline (NWP), Stantec Consulting Services Inc. (Stantec) has prepared this document to propose preliminary cleanup levels (PCULs) for the NWP Mount Vernon Compressor Station (C/S) Cleanup Site (Site) located in the Washington State Department of Ecology's (Ecology) Northwest Region. The Site is located at 15498 Lange Road, Mount Vernon, Washington. Stantec and NWP are formally requesting Ecology to provide a written opinion on 1) the proposed PCULs as described in this document and their appropriate use at the Site as it progresses through the Remedial Investigation (RI) process, and 2) the concurrent acceptance of the Site into the Voluntary Cleanup Program (VCP).

## 1.1 Site Information

|                                                      |                                                                                                                                                                                                  |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Site Name:</b>                                    | NWP Mount Vernon Compressor Station                                                                                                                                                              |
| <b>Property Address:</b>                             | 15498 Lange Road, Mount Vernon, Washington 98273                                                                                                                                                 |
| <b>Property Coordinates:</b>                         | 48.42070, -122.21369                                                                                                                                                                             |
| <b>Skagit County Assessor Tax Parcels:</b>           | P30336 and P30342                                                                                                                                                                                |
| <b>Section / Township / Range / Quarter-Quarter:</b> | S19 / T34N / R5E / SE1/4-NW1/4                                                                                                                                                                   |
| <b>Cleanup Site ID:</b>                              | 4766                                                                                                                                                                                             |
| <b>Facility Site ID:</b>                             | 2684                                                                                                                                                                                             |
| <b>Project Consultant:</b>                           | Stantec Consulting Services Inc.                                                                                                                                                                 |
| <b>Stantec Contact Information:</b>                  | Ryan Pozzuto<br>Stantec Consulting Services Inc.<br>1687 114 <sup>th</sup> Avenue Southeast, Suite 100<br>Bellevue, Washington 98004<br>Phone: (206) 510-5855<br>Email: ryan.pozzuto@stantec.com |
| <b>NWP Contact Information:</b>                      | Aaron Galer<br>Williams Northwest Pipeline<br>650 South Main Street, Suite 300<br>Salt Lake City, Utah 84101<br>Phone: (801) 854-6746<br>Email: aaron.galer@williams.com                         |
| <b>Current Property Owner:</b>                       | NW Pipeline GP                                                                                                                                                                                   |
| <b>Current Property Use:</b>                         | Natural Gas Compressor Station                                                                                                                                                                   |

## 2 Objective

The PCUL values have the utility of supporting Site-specific decisions with respect to the nature and extent of contamination, as well as the potential for future remedial actions. The PCUL selection process



followed the guidance outlined in Ecology's *Preliminary Cleanup Level Master List for Upland Sites Associated with Northwest Pipeline* memorandum, dated June 4, 2020 (Ecology June 2020 memo) from the Toxics Cleanup Program (TCP) Policy Technical Support Unit to site managers in the TCP Northwest Regional Office, Southwest Regional Office, and Central Regional Office (Ecology, 2020).

Background and relevant supporting information for the proposed PCULs developed under the Model Toxics Control Act (MTCA) (Ecology, 2013) are described in Sections 2 through 4 and presented in Appendix A.

### **3 Ecology June 2020 Memo – Verification of PCULs**

The initial phase of PCUL selection was a thorough and comprehensive review of the Ecology June 2020 memo and associated tables. No issues were identified during review of the Ecology June 2020 memo that required clarification from Ecology. Values for some contaminants were revised based on the availability of updated values from the Cleanup Levels and Risk Calculation (CLARC) data tables (Ecology, 2025). The step-by-step procedure for developing PCULs outlined in the Ecology June 2020 memo was straightforward and logical. The provided tables were prepared for a master list of contaminants for the five remaining NWP Compressor Station Cleanup Sites, including Chehalis C/S (Southwest Region), Plymouth C/S (Central Region), Mount Vernon C/S (Northwest Region), Snohomish C/S (Northwest Region), and Sumas C/S (Northwest Region). This document specifically focuses on PCULs for the Mount Vernon C/S Site.

## **4 Pathway Analysis**

The process for developing PCULs for the Site focused on the evaluation and selection of appropriate values (calculated and default MTCA cleanup levels) and Site-specific considerations such as the presence or absence of exposure pathways and other unique environmental characteristics. Historical reports and supporting information for the Site were evaluated to determine whether certain exposure pathways, or release mechanisms (contaminant releases between environmental media) could reasonably be eliminated, thus informing the PCUL determination process.

### **4.1 Surface Water**

Surface water does not occur on or immediately adjacent to the Site. The nearest surface water is the East Fork Nookachamps Creek flowing northwest located approximately 0.2 mile north and 0.2 mile east of the Site (Plate 1).

Based on the characterization of subsurface conditions, groundwater flow direction at the Site is to the north, northwest, and west (Appendix B; TRC, 2021). Considering that groundwater flow direction is away from or parallel to the East Fork Nookachamps Creek, a hydraulic connection between groundwater and this waterbody is unlikely. Further, there are no known discharges of groundwater (impacted by



contaminants or otherwise) to surface water at the Site, including, but not limited to, the East Fork Nookachamps Creek, (e.g., migration and seepage) or indirect connections via groundwater interception and draining to surface water.

Due to the lack of surface water on or near the Site, and absence of groundwater-surface water connections, surface water PCULs are not proposed for the Site.

## **4.2 Groundwater**

Based on the presence of contaminants in groundwater, groundwater cleanup levels that are protective of drinking water beneficial uses were considered during the establishment of proposed groundwater PCULs.

## **4.3 Soil**

Based on the presence of contaminants in soils (surface and subsurface), soil cleanup levels that are protective of human health and terrestrial ecological receptors were considered during the establishment of proposed soil PCULs. Additionally, natural background concentrations, provided in the Ecology June 2020 memo and confirmed by Ecology's *Natural Background Soil Metals Concentrations in Washington State* (Ecology, 1994), and the Site-specific chromium background value (EPI, 2018; Ecology, 2019) were considered during the establishment of proposed soil PCULs.

Based on the presence of contaminants in soils (surface and subsurface) and groundwater, the existence of shallow groundwater, and observed saturated conditions at depths ranging from 10 to 12 feet below ground surface (TRC, 2021), the MTCA Method B values for soil, protective of the saturated and unsaturated zones calculated values (via 3-phase modeling), were considered during the establishment of proposed soil PCULs.

# **5 PCUL Selection**

The Ecology June 2020 memo presented a master list of 58 individual hazardous substances and mixtures that have been analyzed at the remaining NWP C/S Cleanup Sites. Per Ecology's direction, PCULs are being proposed for the contaminants that were analyzed at the Site with the understanding that only a subset have been identified as actual contaminants of concern (i.e., petroleum hydrocarbons and metals) during the RI process.

Soil and groundwater PCULs for the Site were default values or values calculated using the MTCA methods and confirmed with values provided in the CLARC tables (Ecology, 2025). The PCULs were then selected based on an evaluation of Site conditions, historical nature and extent characterizations, previous reports, natural background of metals in Washington state, and coordination with Ecology. The PCULs presented in the Ecology June 2020 memo are considered protective values for the five C/S sites.



These values were considered during the selection of Site PCULs with upward adjustments for practical quantitation limits (PQLs) or natural background, as appropriate.

The rationale for the selection of each PCUL (soil and groundwater) is presented in Appendix A. The target criterion for each contaminant provides a basis or reference for each PCUL selection (also presented in Appendix A). The groundwater target criterion and associated PCUL for each contaminant were selected by Ecology in the June 2020 memo. Ecology's groundwater PCUL selections were evaluated by NWP and no adjustments are suggested. The soil target criterion selections for PCULs were based on Site-specific characteristics (biological, chemical, and physical) and typically reflect the following order of preference: 1) human health (lowest of cancer and non-cancer protection and MTCA Method A under unrestricted land use), 2) leaching model (MTCA Method B soil protective of groundwater), and 3) ecological risk values (default and Site-specific Terrestrial Ecological Evaluation (TEE) values).

PCULs are proposed for only those contaminants that have been analyzed in environmental media at the Site. In addition, PCULs were determined for total petroleum hydrocarbons as gasoline-range petroleum hydrocarbons (GRPH) and total petroleum hydrocarbons (TPH); the latter represented as a combination of diesel-range petroleum hydrocarbons (DRPH) and heavy-range petroleum hydrocarbons (HRPH), per Ecology direction.

Metals (arsenic, cadmium, and lead) and total polychlorinated biphenyls have been analyzed in groundwater; however, arsenic is the only contaminant currently being evaluated in the groundwater monitoring program (Appendix C; TRC, 2021). Certain contaminants have been detected in soil but not historically analyzed in groundwater (e.g., volatile organic compounds and carcinogenic polycyclic aromatic hydrocarbons). However, these contaminants were eliminated from further consideration in groundwater PCUL selections since maximum concentrations in soil were determined to be less than the soil PCULs considered protective of groundwater. A partial collection of maps illustrating contaminants detected in soil are presented in Appendix D. Maps illustrating contaminants detected in soil presented by Environmental Partners, Inc. (EPI) in their *Remedial Investigation and Cleanup Action Plan* (EPI, 2012) are not available in Site records.

## **5.1 Site-Specific Analytical Data**

Site-specific analytical data were compiled from historical reports to develop a comprehensive data set for the Site. The treatment of soil samples collected during remedial actions and reported in EPI's *Interim Remedial Action Report*, dated January 5, 2017 (EPI, 2017) are noted as follows: 1) final performance samples represent samples collected at the final limits of the excavation area and were therefore, included in the data set; and 2) performance samples collected in material subsequently excavated and removed from the Site during remedial actions were not included.

The comprehensive Site-specific data set is comprised of analytical data from the *Remedial Investigation and Cleanup Action Plan* (EPI, 2012), *Interim Remedial Action Report* (EPI, 2017), and *2019 Annual Groundwater Monitoring Report* (TRC, 2021).



## **5.2 Future Data Gap Analysis and Feasibility Study**

Following Ecology approval of Site-specific PCULs for soil and groundwater, the comprehensive data set will be screened. Summary descriptive statistics (e.g., number of PCUL exceedances, frequency of PCUL exceedance, etc.) will be closely examined, along with other Site-specific information, to support the identification of potential data gaps. Particular attention will be given to Remedial Areas and associated Areas of Potential Concern (AOPCs). The Site has been thoroughly characterized during several environmental investigations since 1991 (Skagit County, 2000); however, screening the data set with Ecology-approved PCULs (which establish the “permanent solution” during the RI) will provide the necessary information to determine the sufficiency of available groundwater and soil sampling data. Identified data gaps will inform the need for additional Site characterization phases, if warranted. Further, any new Site data generated during the RI will be screened against approved PCULs to provide an improved understanding of the nature and extent of contaminants and appropriate future remedies or other Site-specific decisions.

Following completion of the RI, PCULs will be adjusted to cleanup levels based on cleanup solutions and remedy selections during the Feasibility Study (FS). NWP will work with Ecology to eliminate hazards and establish remedies at the Site for residual contaminants in soil and groundwater following remedial actions, if warranted. The cost and protectiveness of each remedy proposed during the FS will be evaluated; and deed restrictions, conditional points of compliance, and institutional controls (alternate remedies) will be evaluated against the permanent solution (PCULs established during the RI). Institutional controls will be handled by the Ecology Site Manager in the disproportionate cost analysis.

## **6 Request for Opinion**

This memorandum is being submitted with a corresponding Site-specific VCP application, along with supporting documentation (i.e., VCP Agency Determination Checklist, VCP Agreement, and site maps). Stantec and NWP are formally requesting Ecology to provide a written opinion on 1) the proposed PCULs as described herein and their appropriate use at the Site as it progresses through the RI process; and 2) the concurrent acceptance of the Site into the VCP.



## 7 References

Environmental Partners, Inc. (EPI). October 5, 2012. *Remedial Investigation and Cleanup Action Plan, Northwest Pipeline GP, Mount Vernon Compressor Station, 15498 Lange Road, Mount Vernon, Washington 98273.*

Environmental Partners, Inc. (EPI). January 5, 2017. *Interim Remedial Action Report, Mount Vernon Compressor Station, 15498 Lange Road, Mount Vernon, Washington 98273.*

Environmental Partners, Inc. (EPI). September 5, 2018. *Chromium Assessment Report, Northwest Pipeline LLC, Mount Vernon Compressor Station, 15498 Lange Road, Mount Vernon, Washington 99273.*

Skagit County Health Department (Skagit County). August 2000. Site assessed/ranked for August 2000 Site Register using Worksheets 1 (Summary Score Sheet), 2 (Route Documentation), 4 (Surface Water Route), and 6 (Groundwater Route).

TRC Environmental Corporation (TRC). May 21, 2021. *2019 Annual Groundwater Monitoring Report, Mount Vernon Compressor Station, 15498 Lange Road, Mount Vernon, Washington 98273.*

Washington State Department of Ecology (Ecology). October 1994. *Natural Background Soil Metals Concentrations in Washington State.* Publication #94-115.

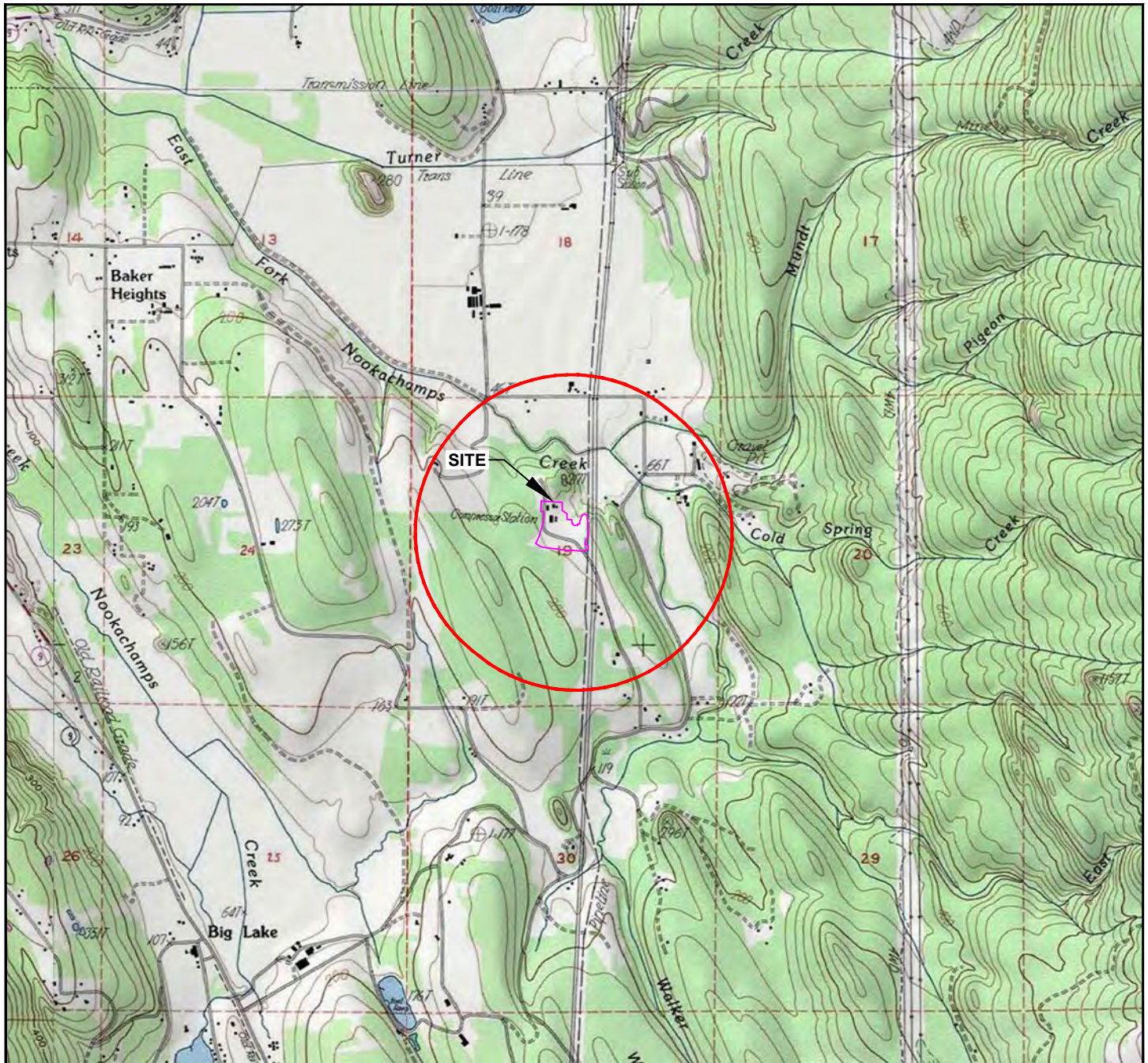
Washington State Department of Ecology (Ecology). Revised November 2013. *Model Toxics Control Act Statute and Regulation.* Publication No. 94-06.  
<https://apps.ecology.wa.gov/publications/documents/9406.pdf>.

Washington State Department of Ecology (Ecology). October 7, 2019. *Further Action at the following Site: Northwest Pipeline GP Mt Vernon C/S, 15498 Lange Road, Mount Vernon, WA 98273, Facility/Site No. 2684, Cleanup Site ID 4766, VCP Project No. NW2008.*

Washington State Department of Ecology (Ecology). June 4, 2020. *Preliminary Cleanup Level Master List for Upland Sites associated with Northwest Pipeline.* Prepared by Ecology Toxics Cleanup Program (TCP) Policy and Technical Support Unit for TCP – Northwest Regional Office, Southwest Regional Office, and Central Regional Office.

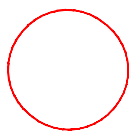
Washington State Department of Ecology (Ecology). Updated February 2025. Cleanup Levels and Risk Calculation (CLARC) Data Tables. <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Contamination-clean-up-tools/CLARC/Data-tables>.





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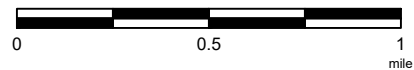
## EXPLANATION



1/2-mile distance  
from facility boundary



## APPROXIMATE SCALE



SOURCE:  
Modified from maps provided by  
© 2013 National Geographic Society, i-cubed and  
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## SITE LOCATION MAP

NWP Mount Vernon Compressor Station  
15498 Lange Road  
Mount Vernon, Washington

**PROJECT NO.**

203724173

**PLATE**

1

## Appendix A PCUL Tables



TABLE 1  
PRELIMINARY CLEANUP LEVELS – SOIL  
NWP Mount Vernon Compressor Station  
15498 Lange Road  
Mount Vernon, Washington  
Page 1 of 2

| Contaminant Group      | Contaminants           | Max Conc. (mg/kg) | Soil Values                                               |                                             |                                          |                                                                          |                                                              |                            | TEE Values         |                    |                  |                                  | Final TEE Values | Site-Specific TEES Based on Bioassays |                    |                  | PQL (mg/kg) | Proposed Preliminary Cleanup Level (mg/kg) | Rationale for PCUL Selection                                                                          |
|------------------------|------------------------|-------------------|-----------------------------------------------------------|---------------------------------------------|------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------|--------------------|--------------------|------------------|----------------------------------|------------------|---------------------------------------|--------------------|------------------|-------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------|
|                        |                        |                   | Soil Method A Unrestricted Land Use (Table 740-1) (mg/kg) | Soil Method B Noncancer (Eq. 740-1) (mg/kg) | Soil Method B Cancer (Eq. 740-2) (mg/kg) | Soil Protective of Groundwater Vadose @ 13 degrees C (Eq. 747-1) (mg/kg) | Soil Protective of Groundwater Saturated (Eq. 747-1) (mg/kg) | Natural Background (mg/kg) | Plants (mg/kg)     | Soil Biota (mg/kg) | Wildlife (mg/kg) | RAIS SO EPA R5 Benchmark (mg/kg) | Final (mg/kg)    | Plants (mg/kg)                        | Soil Biota (mg/kg) | Wildlife (mg/kg) |             |                                            |                                                                                                       |
| Petroleum Hydrocarbons | GRPH                   | 0.93              | 30 / 100 <sup>a</sup>                                     | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | 120                | 120                | 1,000            | NA                               | 120              | 210                                   | NA                 | NA               | 5           | 120                                        | Protection of soil biota at gravel capped Site (i.e., no plants)                                      |
|                        | DRPH + HRPB            | 1,000             | 2,000                                                     | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | 1,600 <sup>b</sup> | 260                | 2,000            | NA                               | 260              | 170                                   | 1,100              | NA               | 25          | 1,100                                      | Site-specific protection of soil biota at gravel capped Site (i.e., no plants)                        |
| VOCs                   | Benzene                | ND <sup>c</sup>   | 0.03                                                      | 320                                         | 18                                       | 0.027                                                                    | 0.0017                                                       | NA                         | NA                 | NA                 | 524              | NA                               | 524              | NA                                    | NA                 | NA               | 0.005       | 0.027 / 0.005                              | Protection of groundwater; PQL selected for saturated zone PCUL as PCUL is lower than the PQL         |
|                        | Toluene                | 0.047             | 7                                                         | 6,400                                       | NA                                       | 4.5                                                                      | 0.27                                                         | NA                         | 200                | NA                 | 736              | NA                               | 736              | NA                                    | NA                 | NA               | 0.005       | 4.5 / 0.27                                 | Protection of groundwater for vadose / saturated zone                                                 |
|                        | Ethylbenzene           | 0.17              | 6                                                         | 8,000                                       | NA                                       | 5.9                                                                      | 0.34                                                         | NA                         | NA                 | NA                 | NA               | 5                                | 5                | NA                                    | NA                 | NA               | 0.005       | 5 / 0.34                                   | TEE for vadose / Protection of groundwater saturated zone                                             |
|                        | Total Xylenes          | 14                | 9                                                         | 16,000                                      | NA                                       | 14                                                                       | 0.83                                                         | NA                         | NA                 | NA                 | 9.58             | NA                               | 9.58             | NA                                    | NA                 | NA               | 0.005       | 9.58 / 0.83                                | TEE for vadose / Protection of groundwater saturated zone                                             |
|                        | Acetone                | 0.35              | NA                                                        | 72,000                                      | NA                                       | 29                                                                       | 2.1                                                          | NA                         | NA                 | NA                 | 47.2             | NA                               | 47.2             | NA                                    | NA                 | NA               | 0.015       | 29 / 2.1                                   | Protection of groundwater for vadose / saturated zone                                                 |
|                        | 2-Butanone             | 0.28              | NA                                                        | 48,000                                      | NA                                       | 20                                                                       | 1.4                                                          | NA                         | NA                 | NA                 | 5,870            | NA                               | 5,870            | NA                                    | NA                 | NA               | 0.02        | 20 / 1.4                                   | Protection of groundwater for vadose / saturated zone                                                 |
|                        | Isopropylbenzene       | 0.081             | NA                                                        | 8,000                                       | NA                                       | 15                                                                       | 0.79                                                         | NA                         | NA                 | NA                 | NA               | NA                               | NA               | NA                                    | NA                 | NA               | 0.002       | 15 / 0.79                                  | Protection of groundwater for vadose / saturated zone                                                 |
|                        | 4-Methyl-2-pentanone   | 0.11              | NA                                                        | 6,400                                       | NA                                       | 2.7                                                                      | 0.19                                                         | NA                         | NA                 | NA                 | 57.3             | NA                               | 57.3             | NA                                    | NA                 | NA               | 0.01        | 2.7 / 0.19                                 | Protection of groundwater for vadose / saturated zone                                                 |
|                        | 1,1-Dichloroethane     | 0.0015            | NA                                                        | 16,000                                      | 180                                      | 0.041                                                                    | 0.0026                                                       | NA                         | NA                 | NA                 | 58.4             | NA                               | 58.4             | NA                                    | NA                 | NA               | 0.001       | 0.041 / 0.0026                             | Protection of groundwater for vadose / saturated zone                                                 |
|                        | cis-1,2-Dichloroethene | 0.0021            | NA                                                        | 160                                         | NA                                       | 0.079                                                                    | 0.0052                                                       | NA                         | NA                 | NA                 | 58.4             | NA                               | 58.4             | NA                                    | NA                 | NA               | 0.002       | 0.078 / 0.0052                             | Protection of groundwater for vadose / saturated zone                                                 |
|                        | 1,1,1-Trichloroethane  | 0.0045            | 2                                                         | 160,000                                     | NA                                       | 1.5                                                                      | 0.084                                                        | NA                         | NA                 | NA                 | 2,680            | NA                               | 2,680            | NA                                    | NA                 | NA               | 0.002       | 1.49 / 0.084                               | Protection of groundwater for vadose / saturated zone                                                 |
|                        | Trichloroethene        | 0.0025            | 0.03                                                      | 40                                          | 12                                       | 0.025                                                                    | 0.0015                                                       | NA                         | NA                 | NA                 | 7.82             | NA                               | 7.82             | NA                                    | NA                 | NA               | 0.002       | 0.025 / 0.0019                             | Protection of groundwater for vadose / saturated zone                                                 |
|                        | Ethylene glycol        | <16               | NA                                                        | 160,000                                     | NA                                       | 130                                                                      | 9.2                                                          | NA                         | NA                 | NA                 | NA               | NA                               | NA               | NA                                    | NA                 | NA               | NA          | 130 / 9.2                                  | Protection of groundwater for vadose / saturated zone                                                 |
|                        | Propylene glycol       | <16               | NA                                                        | 1,600,000                                   | NA                                       | 1,300                                                                    | 92                                                           | NA                         | NA                 | NA                 | NA               | NA                               | NA               | NA                                    | NA                 | NA               | NA          | 1,300 / 92                                 | Protection of groundwater for vadose / saturated zone                                                 |
| cPAHs                  | Benzo(a)pyrene         | 0.022             | 0.1                                                       | 24                                          | 0.19                                     | 3.9                                                                      | 0.19                                                         | NA                         | NA                 | 18                 | 12               | NA                               | 12               | NA                                    | NA                 | NA               | 0.05        | 0.19                                       | Protection of human receptors for direct contact cancer; Protection of groundwater for saturated zone |
|                        | Benzo(a)anthracene     | 0.016             | NA                                                        | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | NA                 | 18                 | 1.1              | NA                               | 1.1              | NA                                    | NA                 | NA               | 0.05        | 1.1                                        | Protection of wildlife                                                                                |
|                        | Benzo(b)fluoranthene   | 0.034             | NA                                                        | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | NA                 | 18                 | 1.1              | NA                               | 1.1              | NA                                    | NA                 | NA               | 0.05        | 1.1                                        | Protection of wildlife                                                                                |
|                        | Benzo(k)fluoranthene   | 0.013             | NA                                                        | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | NA                 | 18                 | 1.1              | NA                               | 1.1              | NA                                    | NA                 | NA               | 0.05        | 1.1                                        | Protection of wildlife                                                                                |
|                        | Chrysene               | 0.023             | NA                                                        | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | NA                 | 18                 | 1.1              | NA                               | 1.1              | NA                                    | NA                 | NA               | 0.05        | 1.1                                        | Protection of wildlife                                                                                |
|                        | Dibenz(a,h)anthracene  | <0.0090           | NA                                                        | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | NA                 | 18                 | 1.1              | NA                               | 1.1              | NA                                    | NA                 | NA               | 0.05        | 1.1                                        | Protection of wildlife                                                                                |
|                        | Indeno(1,2,3-cd)pyrene | 0.011             | NA                                                        | NA                                          | NA                                       | NA                                                                       | NA                                                           | NA                         | NA                 | 18                 | 1.1              | NA                               | 1.1              | NA                                    | NA                 | NA               | 0.05        | 1.1                                        | Protection of wildlife                                                                                |
| cPAH TEQ               | Total TEQ              | 0.029             | 0.1                                                       | 24                                          | 0.19                                     | 3.9                                                                      | 0.19                                                         | NA                         | NA                 | 18                 | 12               | NA                               | 12               | 0.11                                  | 0.11               | NA               | 0.05        | 0.19                                       | Protection of human receptors for direct contact cancer; Protection of groundwater for saturated zone |

TABLE 1  
PRELIMINARY CLEANUP LEVELS – SOIL  
NWP Mount Vernon Compressor Station  
15498 Lange Road  
Mount Vernon, Washington  
Page 2 of 2

| Contaminant Group | Contaminants         | Max Conc. (mg/kg) | Soil Values                                               |                                             |                                          |                                                                          |                                                              |                            | TEE Values     |                    |                  |                                  | Final TEE Values | Site-Specific TEEs Based on Bioassays |                    |                  | PQL (mg/kg) | Proposed Preliminary Cleanup Level (mg/kg) | Rationale for PCUL Selection                                                                  |
|-------------------|----------------------|-------------------|-----------------------------------------------------------|---------------------------------------------|------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------|----------------|--------------------|------------------|----------------------------------|------------------|---------------------------------------|--------------------|------------------|-------------|--------------------------------------------|-----------------------------------------------------------------------------------------------|
|                   |                      |                   | Soil Method A Unrestricted Land Use (Table 740-1) (mg/kg) | Soil Method B Noncancer (Eq. 740-1) (mg/kg) | Soil Method B Cancer (Eq. 740-2) (mg/kg) | Soil Protective of Groundwater Vadose @ 13 degrees C (Eq. 747-1) (mg/kg) | Soil Protective of Groundwater Saturated (Eq. 747-1) (mg/kg) | Natural Background (mg/kg) | Plants (mg/kg) | Soil Biota (mg/kg) | Wildlife (mg/kg) | RAIS SO EPA R5 Benchmark (mg/kg) | Final (mg/kg)    | Plants (mg/kg)                        | Soil Biota (mg/kg) | Wildlife (mg/kg) |             |                                            |                                                                                               |
| Metals            | Arsenic              | 1,700             | 20                                                        | 4.8                                         | 0.031                                    | 2.9                                                                      | 0.15                                                         | 7                          | 10             | 60                 | 132              | NA                               | 10               | 58.9                                  | 270                | 47               | 4.5         | 60                                         | Protection of soil biota at gravel capped Site (i.e., no plants)                              |
|                   | Cadmium              | 5.4               | 2                                                         | 80                                          | NA                                       | 0.69                                                                     | 0.035                                                        | 1                          | 4              | 20                 | 14               | NA                               | 4                | NA                                    | NA                 | NA               | 0.1         | 14                                         | Protection of wildlife at gravel capped Site (i.e., no plants)                                |
|                   | Copper               | 680               | NA                                                        | 3,200                                       | NA                                       | 280                                                                      | 14                                                           | 36                         | 100            | 50                 | 217              | NA                               | 50               | NA                                    | NA                 | NA               | 0.2         | 50                                         | Protection of soil biota at gravel capped Site (i.e., no plants)                              |
|                   | Chromium III         | 150               | 2,000                                                     | 120,000                                     | NA                                       | NA                                                                       | NA                                                           | 103.4                      | 42             | 42                 | 67               | NA                               | 42               | NA                                    | NA                 | NA               | 0.5         | 120,000                                    | Protection of human receptors noncancer                                                       |
|                   | Chromium, Hexavalent | <3.0              | 19                                                        | 72                                          | 1.2                                      | 0.54                                                                     | 0.027                                                        | NA                         | 42             | 42                 | 67               | NA                               | 42               | NA                                    | NA                 | NA               | NA          | 0.54 / 0.027                               | Protection of groundwater for vadose / saturated zone                                         |
|                   | Lead                 | 1,300             | 250                                                       | NA                                          | NA                                       | 3,000                                                                    | 150                                                          | 24                         | 50             | 500                | 118              | NA                               | 50               | 130                                   | 232                | 350              | 0.1         | 232                                        | Site-specific protection of soil biota at gravel capped Site (i.e., no plants)                |
|                   | Mercury              | 0.77              | 2                                                         | NA                                          | NA                                       | 2.1                                                                      | 0.1                                                          | 0.07                       | 0.3            | 0.1                | 5.5              | NA                               | 0.1              | 5.1                                   | 14                 | 31               | NA          | 2.1 / 0.1                                  | Protection of groundwater for vadose / saturated zone                                         |
|                   | Nickel               | 75                | NA                                                        | 1,600                                       | NA                                       | 420                                                                      | 21                                                           | 48                         | 30             | 200                | 980              | NA                               | 30               | NA                                    | NA                 | NA               | 0.1         | 200                                        | Protection of soil biota at gravel capped Site (i.e., no plants)                              |
|                   | Zinc                 | 3,900             | NA                                                        | 24,000                                      | NA                                       | 6,000                                                                    | 300                                                          | 85                         | 86             | 200                | 360              | NA                               | 86               | NA                                    | NA                 | NA               | 5           | 200                                        | Protection of soil biota at gravel capped Site (i.e., no plants)                              |
| PCB               | Total PCB Mixtures   | 206               | 1                                                         | NA                                          | 0.5                                      | 0.34                                                                     | 0.017                                                        | NA                         | 40             | NA                 | 0.65             | NA                               | 0.65             | NA                                    | NA                 | NA               | 0.04        | 0.34 / 0.04                                | Protection of groundwater; PQL selected for saturated zone PCUL as PCUL is lower than the PQL |

SOURCES:

Max concentrations from Environmental Partners, Inc. (EPI) *Remedial Investigation and Cleanup Action Plan* , dated November 14, 2012, and EPI's Interim *Remedial Action Report* , dated January 5, 2017 data (final performance samples). For constituents that were non-detect in all samples, the highest method reporting limit is noted.

The Model Toxics Control Act (MTCA) Method A and MTCA Method B Cleanup Levels were referenced from the Washington State Department of Ecology's (Ecology) *Cleanup Levels and Risk Calculation (CLARC) Data Tables* , updated February 2025.

2020 Memo = Ecology's *Preliminary Cleanup Level Master List for Upland Sites associated with Northwest Pipeline* , dated June 4, 2020.

RAIS SO EPA R5 Benchmark from The Risk Assessment Information System (2022); values as presented in the 2020 Memo.

Natural background concentrations referenced from Ecology's *Natural Background Soil Metals Concentrations in Washington State* , dated October 1994, EPI's *Chromium Assessment Report* , dated September 5, 2018, and Ecology's opinion letter dated October 7, 2019.

EXPLANATION:

cPAHs = Carcinogenic Polycyclic Aromatic Hydrocarbons  
DRPH = Diesel Range Petroleum Hydrocarbons  
GRPH = Gasoline Range Petroleum Hydrocarbons  
HRPH = Heavy Range Petroleum Hydrocarbons  
Max Conc. = Maximum concentration  
mg/kg = milligrams per kilogram  
MTCA = Model Toxics Control Act  
NA = value not available or applicable  
PCB = Polychlorinated Biphenyl  
PCULs = Preliminary Cleanup Levels  
PQL = Practical Quantitation Limit  
RAIS SO EPA R5 Benchmark = Risk Assessment Information System  
TEE = Terrestrial Ecological Evaluation  
TEQ = Total toxic equivalent concentration  
TPH = Total Petroleum Hydrocarbons  
VOCs = Volatile Organic Compounds  
**Bold values** = indicate selected PCULs  
a = MTCA Method A Cleanup Level is 30 mg/kg when benzene is present and 100 mg/kg when benzene is not present above reporting limits.  
b = Value from Ecology Memorandum 19 Gasoline and Diesel Soil Concentrations Predicted to be Protective of Upland Ecological Receptors, dated August 11, 2017.  
c = No individual compound detected above the practical quanitation limit of the method used.

TABLE 2  
PRELIMINARY CLEANUP LEVELS – GROUNDWATER  
NWP Mount Vernon Compressor Station  
15498 Lange Road  
Mount Vernon, Washington  
Page 1 of 1

| Contaminant Data Group | Contaminants       | Max. Concentration (µg/L) | Groundwater Cleanup Levels |                           |                        |                                          |                           |                                           | Target Cleanup Levels     |                  | PQL (µg/L) | Proposed Preliminary Cleanup Level (µg/L) | Rationale for PCUL Selection |
|------------------------|--------------------|---------------------------|----------------------------|---------------------------|------------------------|------------------------------------------|---------------------------|-------------------------------------------|---------------------------|------------------|------------|-------------------------------------------|------------------------------|
|                        |                    |                           | Method A (µg/L)            | Method B Noncancer (µg/L) | Method B Cancer (µg/L) | Federal Maximum Contaminant Level (µg/L) | Natural Background (µg/L) | WA State Maximum Contaminant Level (µg/L) | Soil to GW Pathway (µg/L) | Target Criterion |            |                                           |                              |
| Metals                 | Arsenic, Total     | 200                       | 5                          | 0.96                      | 0.0027                 | 10                                       | 8                         | 10                                        | 5                         | Background       | 0.5        | 8                                         | Background                   |
|                        | Arsenic, Dissolved | 64.7                      |                            |                           |                        |                                          |                           |                                           |                           |                  |            |                                           |                              |
|                        | Cadmium, Total     | <5                        | 5                          | 8                         | NA                     | 5                                        | NA                        | 5                                         | 5                         | MCL              | 0.1        | 5                                         | MCL                          |
|                        | Cadmium, Dissolved | <5                        |                            |                           |                        |                                          |                           |                                           |                           |                  |            |                                           |                              |
|                        | Lead, Total        | 49                        | 15                         | NA                        | NA                     | 15                                       | NA                        | 15                                        | 15                        | MCL              | 0.1        | 15                                        | MCL                          |
|                        | Lead, Dissolved    | 10                        |                            |                           |                        |                                          |                           |                                           |                           |                  |            |                                           |                              |
| PCBs                   | Total PCB Mixture  | ND <sup>a</sup>           | 0.1                        | NA                        | 0.022                  | 0.5                                      | NA                        | 0.5                                       | 0.219                     | MCL              | 0.1        | 0.5                                       | MCL                          |

SOURCES:

Max concentrations from Environmental Partners, Inc. (EPI) *Remedial Investigation and Cleanup Action Plan* , dated November 14, 2012 (2011-2012 data), and EPI's *2019 Annual Groundwater Monitoring Report* , dated May 21, 2021 data (2011-2019 data). For constituents that were non-detect in all samples, the highest method reporting limit is noted.

The Model Toxics Control Act (MTCA) Method A and MTCA Method B Cleanup Levels were referenced from the Washington State Department of Ecology's (Ecology) *Cleanup Levels and Risk Calculation (CLARC) Data Tables* , updated February 2025.

2020 Memo = Ecology's *Preliminary Cleanup Level Master List for Upland Sites associated with Northwest Pipeline* , dated June 4, 2020.

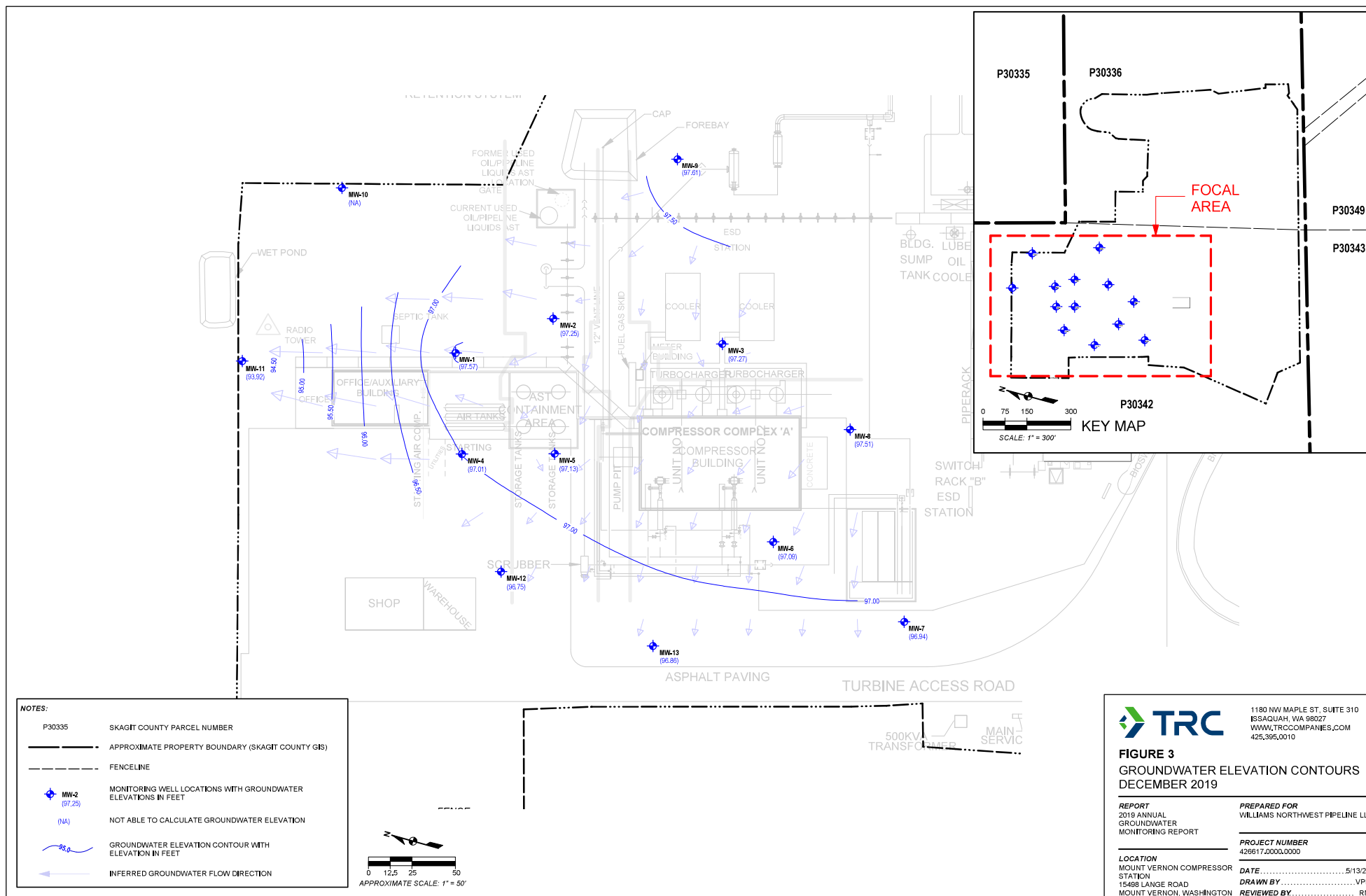
The PCUL for arsenic was adjusted for natural background levels in accordance with Ecology's *Natural Background Groundwater Arsenic Concentrations in Washington State* , dated January 2022.

NOTES:

µg/L = Micrograms per liter  
GW = Groundwater  
MCL = Maximum Contaminant Level  
PQL = Practical Quantitation Limit  
PCULs = Preliminary Cleanup Levels  
NA = Value not available  
**Bold values** = Indicate selected PCULs  
Method A = MTCA Method A Cleanup Level (Table 720-1)  
Method B Noncancer = MTCA Method B Noncancer Cleanup Level (Eq. 720-1)  
Method B Cancer = MTCA Method B Cancer Cleanup Level (Eq. 720-2)  
Federal Maximum Contaminant Level = Federal Maximum Contaminant Level (40 CFR 141)  
WA State Maximum Contaminant Level = Washington State Maximum Contaminant Level (WAC 246-290)  
a = No individual compound detected above the practical quantitation limit of the method used.

## **Appendix B Groundwater Elevations and Inferred Flow Direction**





## **Appendix C Groundwater Contamination Map**

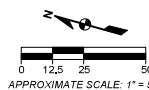


| SAMPLE ID                                   | DATE SAMPLED | DISSOLVED ARSENIC |
|---------------------------------------------|--------------|-------------------|
| MW-1                                        | 12/9/19      | <2                |
| MW-2                                        | 12/10/19     | 41.2              |
| MW-3                                        | 12/10/19     | 2.27              |
| MW-4                                        | 12/10/19     | 2.57              |
| MW-5                                        | 12/10/19     | 2.48              |
| MW-6                                        | 12/10/19     | <2                |
| MW-7                                        | 12/10/19     | <2                |
| MW-8                                        | 12/10/19     | <2                |
| MW-9                                        | 12/10/19     | <2                |
| MW-10                                       | 12/10/19     | 11.4              |
| MW-11                                       | 12/9/19      | 3.56              |
| MW-12                                       | 12/10/19     | 8.23              |
| MW-13                                       | 12/10/19     | 3.4               |
| MTCA METHOD A CLEANUP LEVEL FOR GROUNDWATER |              | 5                 |

**TABLE NOTES:**  
ALL RESULTS PRESENTED IN MICROGRAMS PER LITER (µg/L)

**BOLD** RESULT WITH BLUE BACKGROUND EXCEEDS THE LABORATORY METHOD DETECTION LIMIT

**BOLD** RESULT WITH PINK BACKGROUND EXCEEDS THE CLEANUP LEVEL



**NOTES:**

--- FENCELINE

DISSOLVED ARSENIC CONCENTRATION

PINK HALO INDICATES SAMPLE LOCATION WITH CONCENTRATION EXCEEDING THE CUL

BLUE HALO INDICATES SAMPLE LOCATION WITH CONCENTRATION EXCEEDING THE MDL

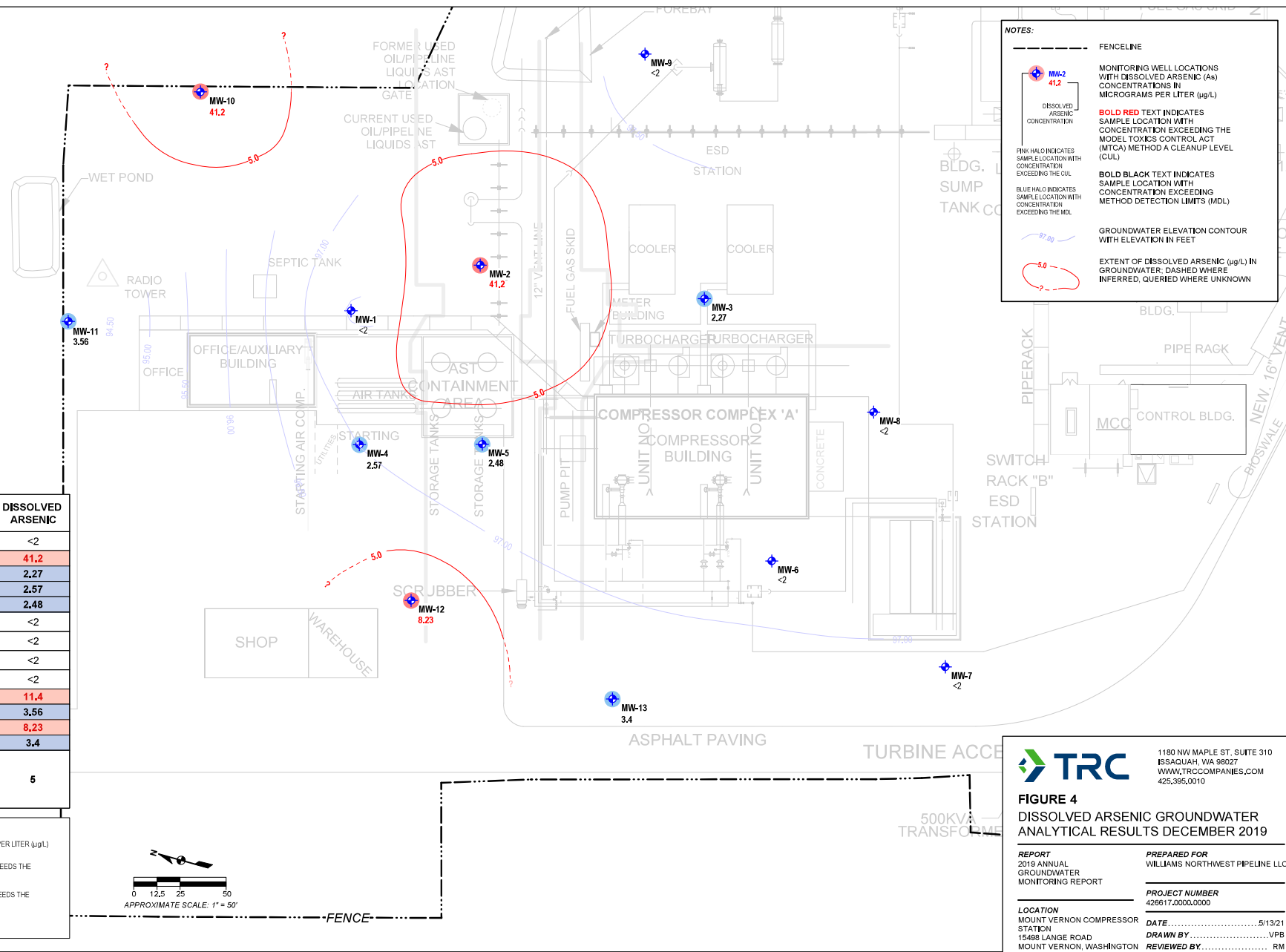
--- 97.00 ---  
GROUNDWATER ELEVATION CONTOUR WITH ELEVATION IN FEET

EXTENT OF DISSOLVED ARSENIC (µg/L) IN GROUNDWATER; DASHED WHERE INFERRED, QUERIED WHERE UNKNOWN

**MONITORING WELL LOCATIONS WITH DISSOLVED ARSENIC (As) CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L)**

**BOLD RED TEXT INDICATES SAMPLE LOCATION WITH CONCENTRATION EXCEEDING THE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL (CUL)**

**BOLD BLACK TEXT INDICATES SAMPLE LOCATION WITH CONCENTRATION EXCEEDING METHOD DETECTION LIMITS (MDL)**



1180 NW MAPLE ST, SUITE 310  
BESSEMER, WA 98027  
WWW.TRCCOMPANIES.COM  
425.395.0010

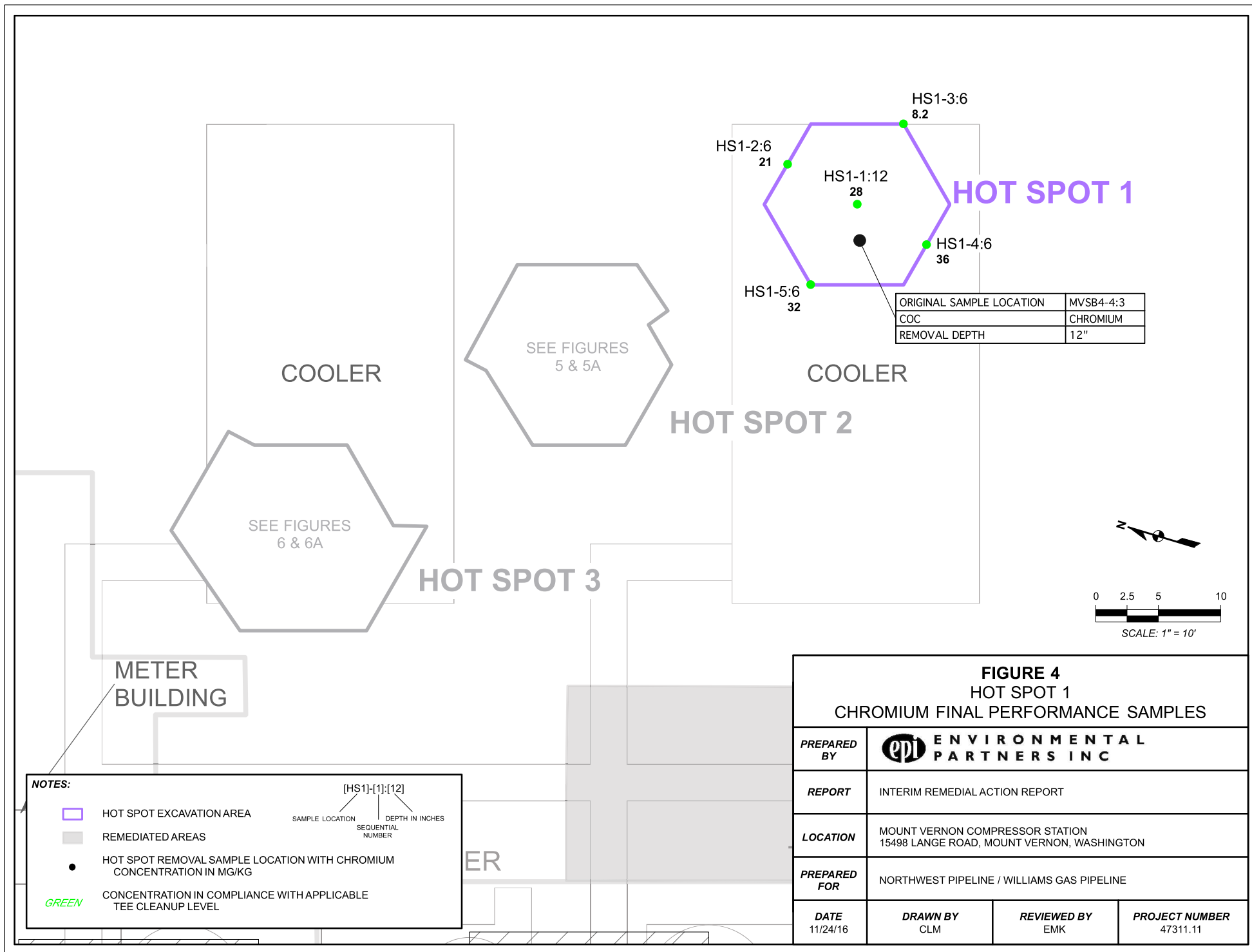
**FIGURE 4**  
**DISSOLVED ARSENIC GROUNDWATER ANALYTICAL RESULTS DECEMBER 2019**

|                                                                                                    |                                                        |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>REPORT</b><br>2019 ANNUAL GROUNDWATER MONITORING REPORT                                         | <b>PREPARED FOR</b><br>WILLIAMS NORTHWEST PIPELINE LLC |
| <b>LOCATION</b><br>MOUNT VERNON COMPRESSOR STATION<br>15498 LANGE ROAD<br>MOUNT VERNON, WASHINGTON | <b>PROJECT NUMBER</b><br>426617.0000.0000              |
| <b>DATE</b><br>5/13/21                                                                             | <b>DRAWN BY</b><br>VPB                                 |
| <b>REVIEWED BY</b><br>RM                                                                           |                                                        |

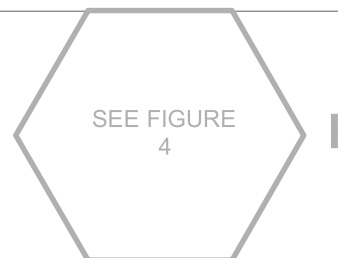
## Appendix D Soil Contamination Maps



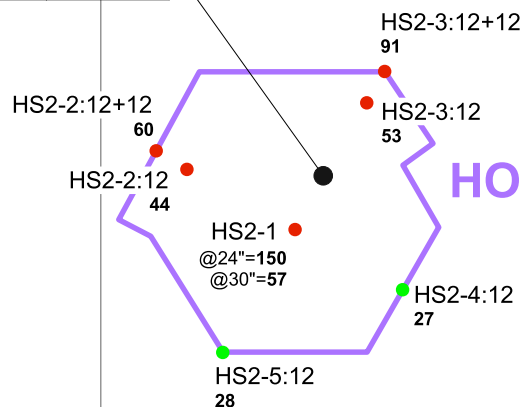




|                          |            |
|--------------------------|------------|
| ORIGINAL SAMPLE LOCATION | MVSB3-6:18 |
| COC                      | CHROMIUM   |
| REMOVAL DEPTH            | 30"        |



HOT SPOT 1



HOT SPOT 2

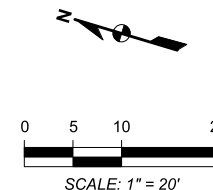
COOLER

COOLER

SEE FIGURES 6 & 6A

HOT SPOT 3

METER BUILDING



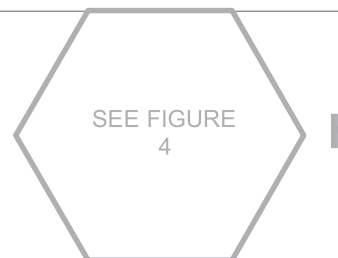
**NOTES:**

- HOT SPOT EXCAVATION AREA
  - REMEDIATED AREAS
  - HOT SPOT REMOVAL SAMPLE LOCATION WITH CHROMIUM CONCENTRATION IN MG/KG
  - GREEN CONCENTRATION IN COMPLIANCE WITH APPLICABLE TEE CLEANUP LEVEL
  - RED CONCENTRATION EXCEEDS THE TEE ECOLOGICAL INDICATOR CONCENTRATIONS (TABLE 749-3)
- [HS2]-[1]:[12][+12]
- SAMPLE LOCATION
- SEQUENTIAL NUMBER
- DEPTH IN INCHES
- HORIZONTAL DISTANCE OF REDIG, RELATIVE TO ORIGINAL SIDEWALL, IN INCHES

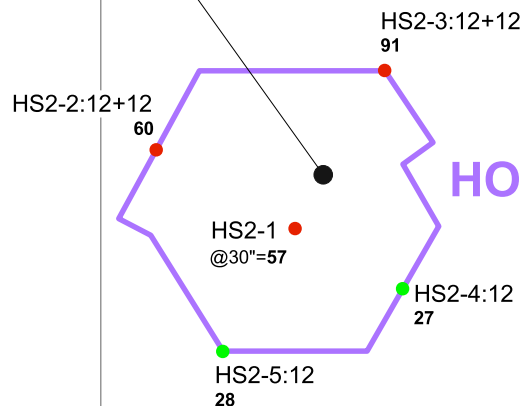
**FIGURE 5**  
HOT SPOT 2  
CHROMIUM PERFORMANCE SAMPLES

|                 |                                                                                                                         |                    |                            |
|-----------------|-------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------|
| PREPARED BY     |  <b>ENVIRONMENTAL PARTNERS INC</b> |                    |                            |
| REPORT          | INTERIM REMEDIAL ACTION REPORT                                                                                          |                    |                            |
| LOCATION        | MOUNT VERNON COMPRESSOR STATION<br>15498 LANGE ROAD, MOUNT VERNON, WASHINGTON                                           |                    |                            |
| PREPARED FOR    | NORTHWEST PIPELINE / WILLIAMS GAS PIPELINE                                                                              |                    |                            |
| DATE<br>11/4/16 | DRAWN BY<br>CLM                                                                                                         | REVIEWED BY<br>EMK | PROJECT NUMBER<br>47311.11 |

|                          |            |
|--------------------------|------------|
| ORIGINAL SAMPLE LOCATION | MVSB3-6:18 |
| COC                      | CHROMIUM   |
| REMOVAL DEPTH            | 30"        |



HOT SPOT 1

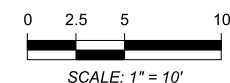


COOLER

COOLER



HOT SPOT 3

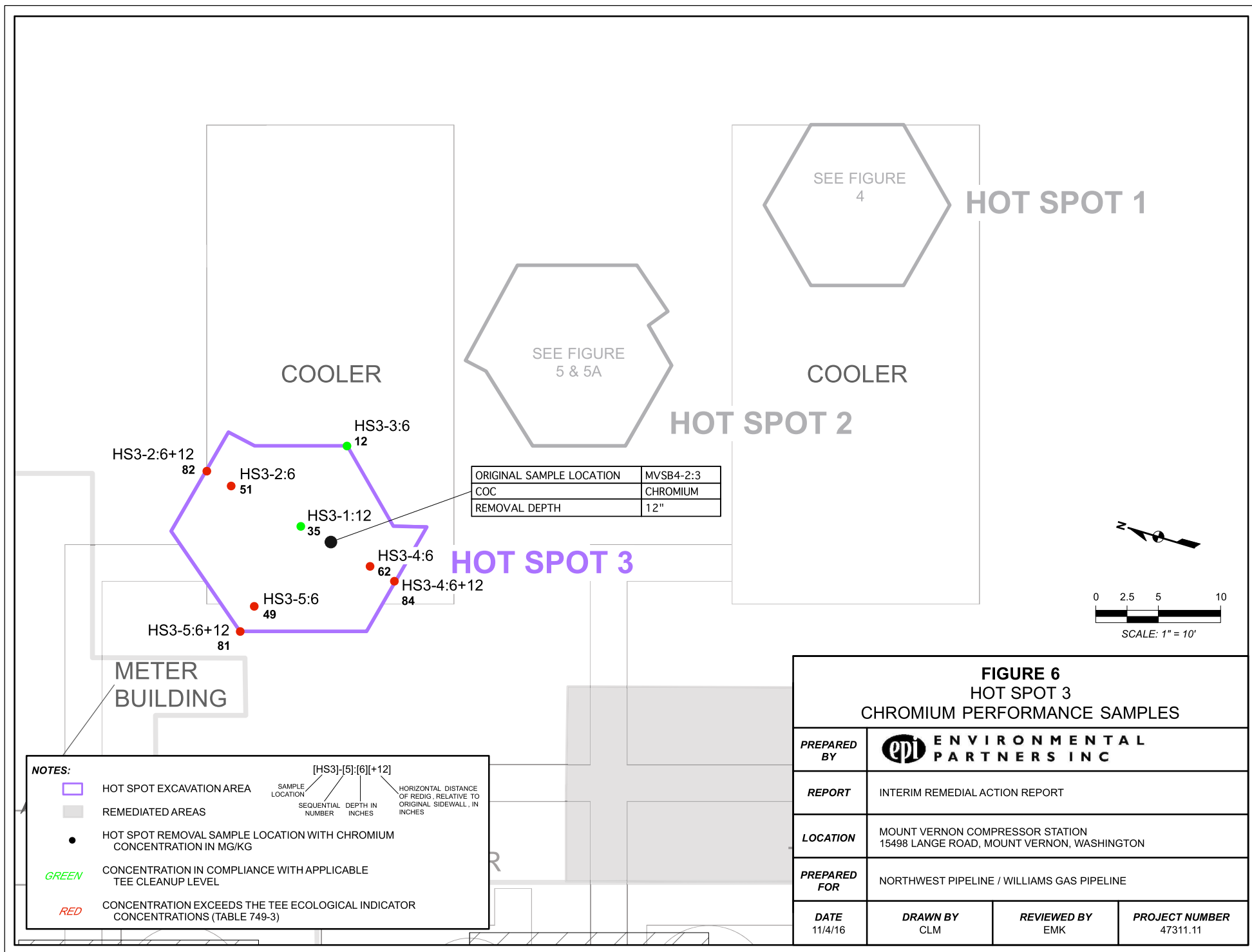


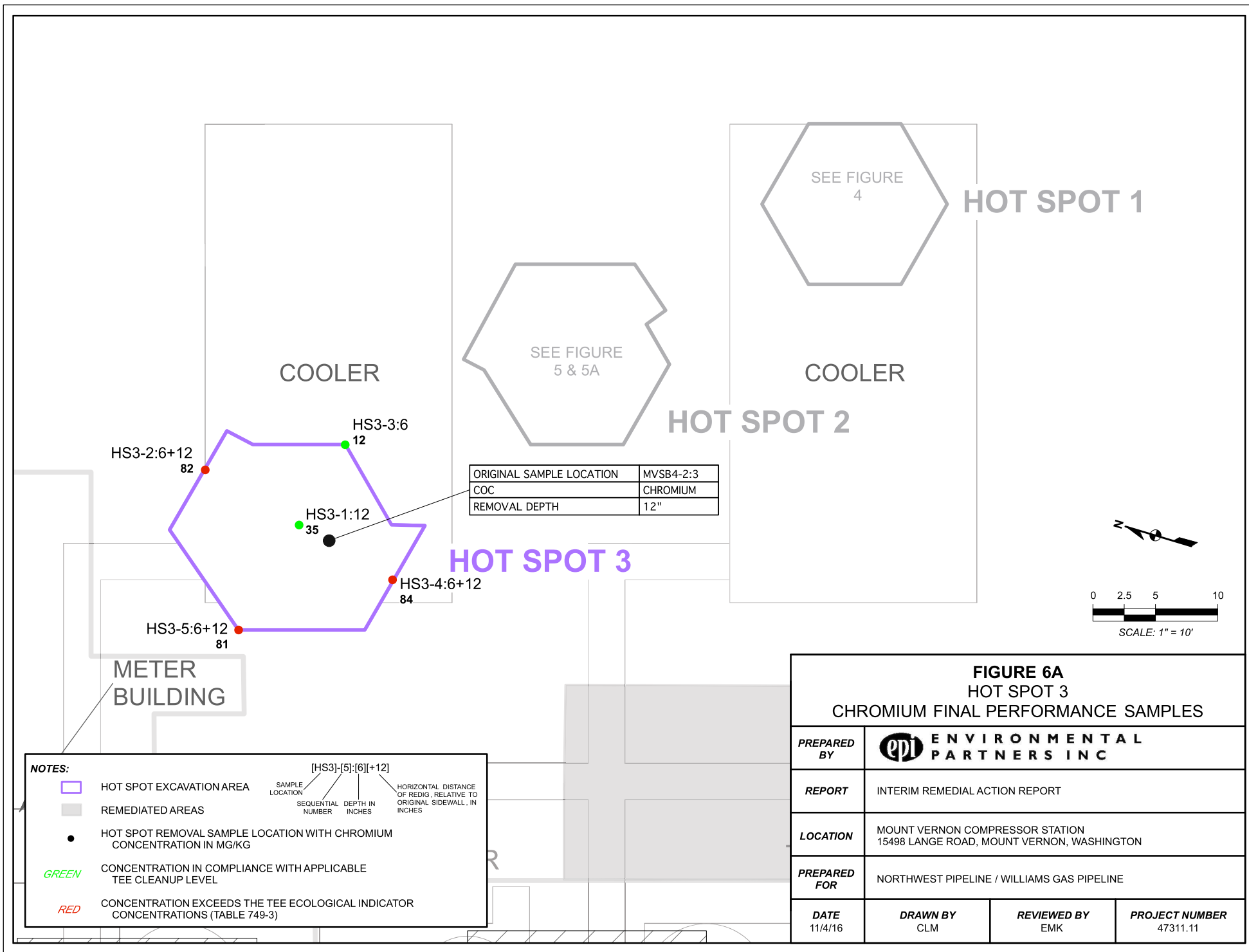
METER BUILDING

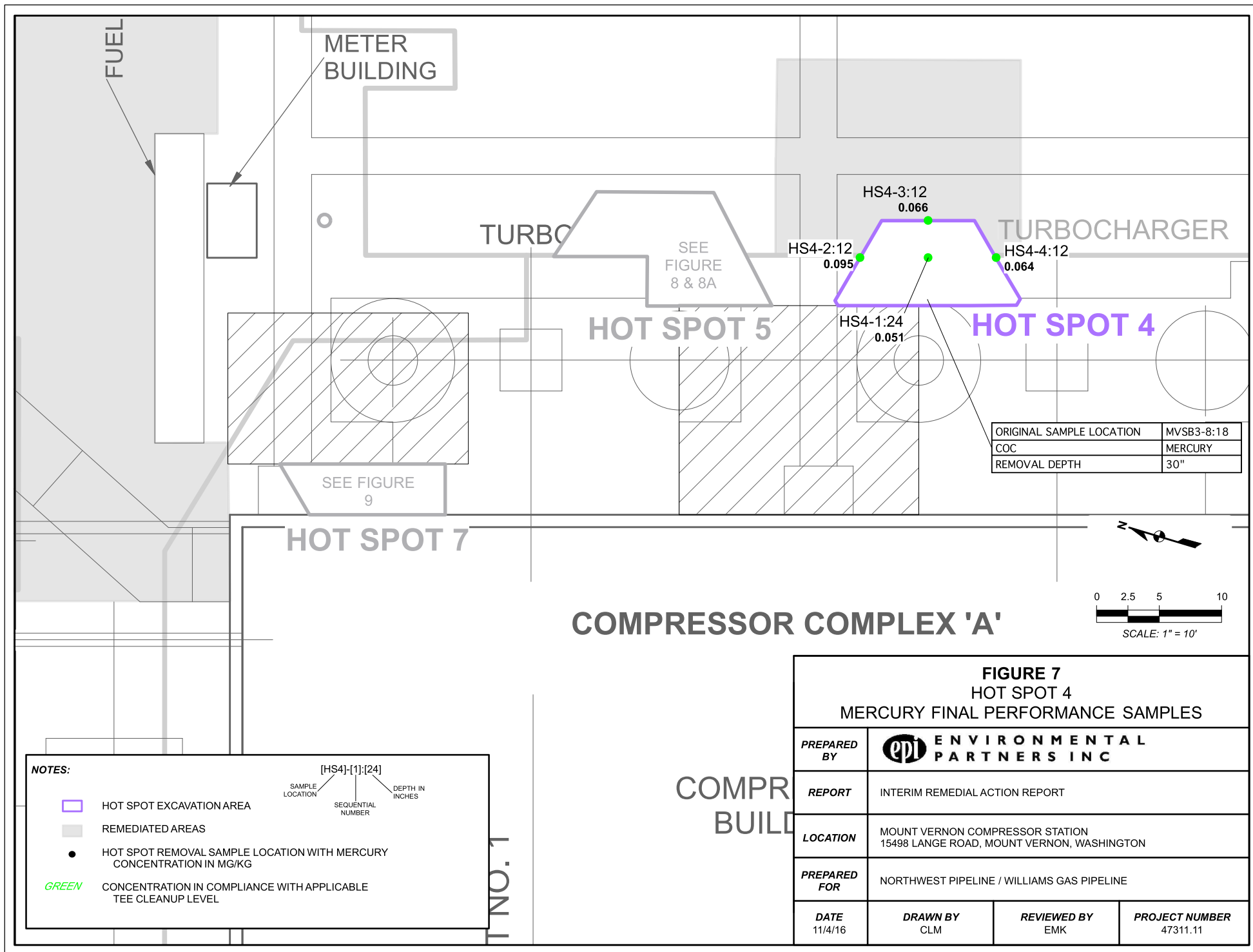
|               |                                                                                 |                      |                                                                        |
|---------------|---------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------|
| <b>NOTES:</b> |                                                                                 |                      |                                                                        |
|               | HOT SPOT EXCAVATION AREA                                                        | [HS2]-[1]:[12]:[+12] |                                                                        |
|               | REMIEDIATED AREAS                                                               | SAMPLE LOCATION      | HORIZONTAL DISTANCE OF REDIG. RELATIVE TO ORIGINAL SIDEWALL, IN INCHES |
|               | HOT SPOT REMOVAL SAMPLE LOCATION WITH CHROMIUM CONCENTRATION IN MG/KG           | SEQUENTIAL NUMBER    | DEPTH IN INCHES                                                        |
| GREEN         | CONCENTRATION IN COMPLIANCE WITH APPLICABLE TEE CLEANUP LEVEL                   |                      |                                                                        |
| RED           | CONCENTRATION EXCEEDS THE TEE ECOLOGICAL INDICATOR CONCENTRATIONS (TABLE 749-3) |                      |                                                                        |

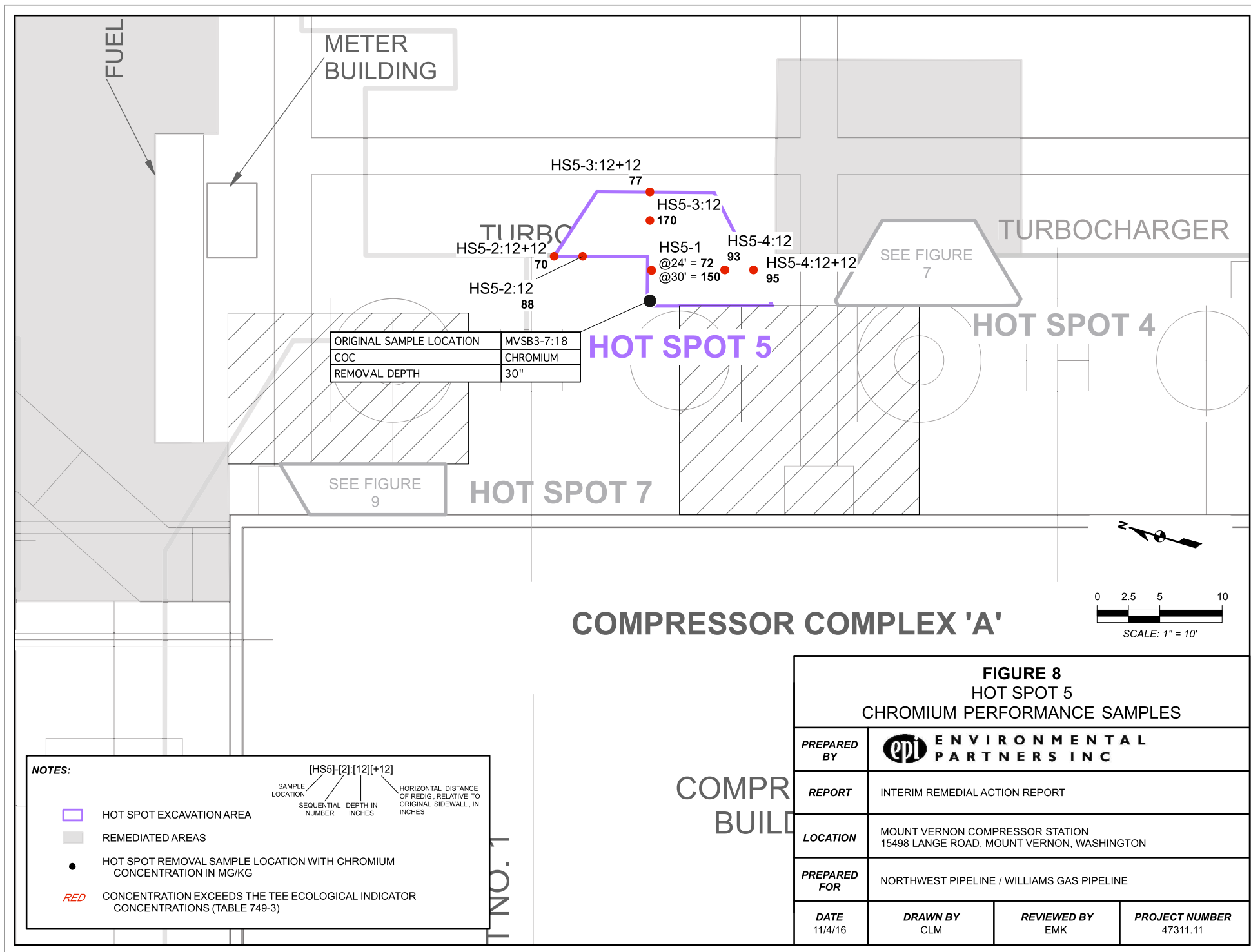
**FIGURE 5A**  
HOT SPOT 2  
CHROMIUM FINAL PERFORMANCE SAMPLES

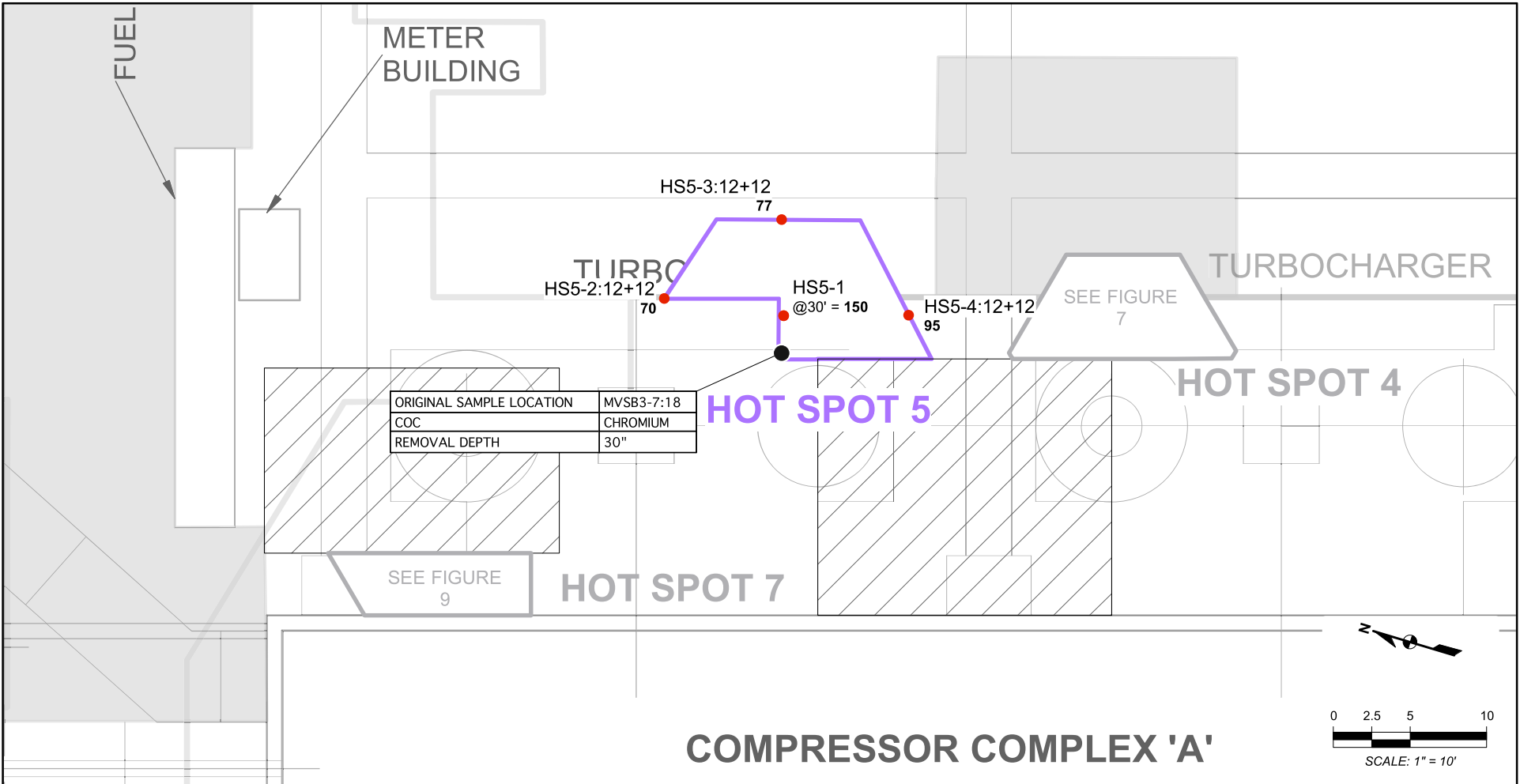
|              |                                                                               |             |                |
|--------------|-------------------------------------------------------------------------------|-------------|----------------|
| PREPARED BY  | ENVIRONMENTAL PARTNERS INC                                                    |             |                |
| REPORT       | INTERIM REMEDIAL ACTION REPORT                                                |             |                |
| LOCATION     | MOUNT VERNON COMPRESSOR STATION<br>15498 LANGE ROAD, MOUNT VERNON, WASHINGTON |             |                |
| PREPARED FOR | NORTHWEST PIPELINE / WILLIAMS GAS PIPELINE                                    |             |                |
| DATE         | DRAWN BY                                                                      | REVIEWED BY | PROJECT NUMBER |
| 11/4/16      | CLM                                                                           | EMK         | 47311.11       |











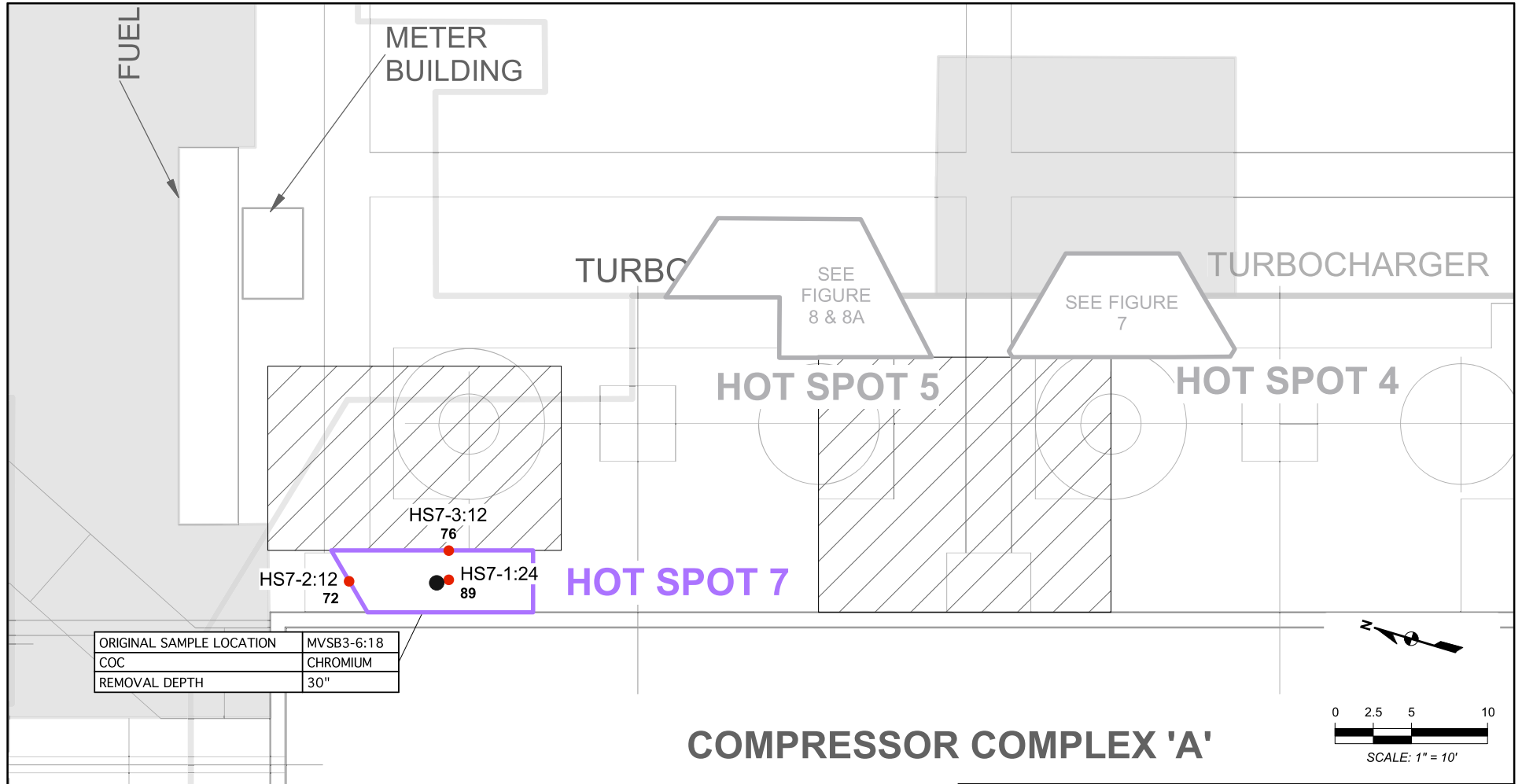
**NOTES:**

- HOT SPOT EXCAVATION AREA
- REMEDIATED AREAS
- HOT SPOT REMOVAL SAMPLE LOCATION WITH CHROMIUM CONCENTRATION IN MG/KG
- RED CONCENTRATION EXCEEDS THE TEE ECOLOGICAL INDICATOR CONCENTRATIONS (TABLE 749-3)

[HS5]-[2]-[12][+12]

SAMPLE LOCATION  
SEQUENTIAL NUMBER  
DEPTH IN INCHES  
HORIZONTAL DISTANCE OF REDIG, RELATIVE TO ORIGINAL SIDEWALL, IN INCHES

| FIGURE 8A<br>HOT SPOT 5<br>CHROMIUM FINAL PERFORMANCE SAMPLES |                                                                                                                  |             |                |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------|----------------|
| PREPARED BY                                                   |  ENVIRONMENTAL PARTNERS INC |             |                |
| REPORT                                                        | INTERIM REMEDIAL ACTION REPORT                                                                                   |             |                |
| LOCATION                                                      | MOUNT VERNON COMPRESSOR STATION<br>15498 LANGE ROAD, MOUNT VERNON, WASHINGTON                                    |             |                |
| PREPARED FOR                                                  | NORTHWEST PIPELINE / WILLIAMS GAS PIPELINE                                                                       |             |                |
| DATE                                                          | DRAWN BY                                                                                                         | REVIEWED BY | PROJECT NUMBER |
| 11/4/16                                                       | CLM                                                                                                              | EMK         | 47311.11       |



**NOTES:**

HOT SPOT EXCAVATION AREA

REMEDIATED AREAS

HOT SPOT REMOVAL SAMPLE LOCATION WITH CHROMIUM CONCENTRATION IN MG/KG

RED

CONCENTRATION IN COMPLIANCE WITH APPLICABLE TEE CLEANUP LEVEL

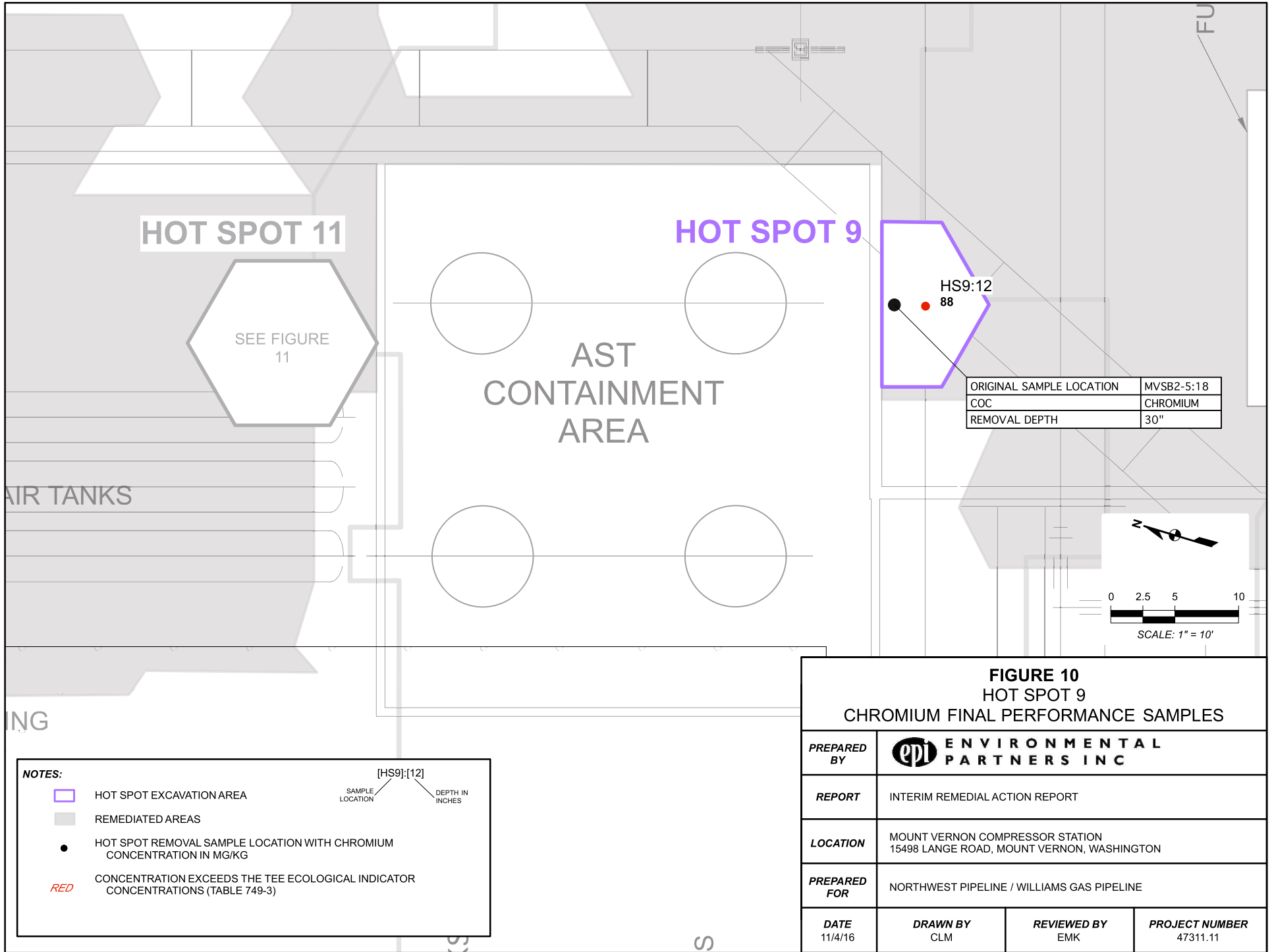
[HS7]-[1]:[24]

SAMPLE LOCATION

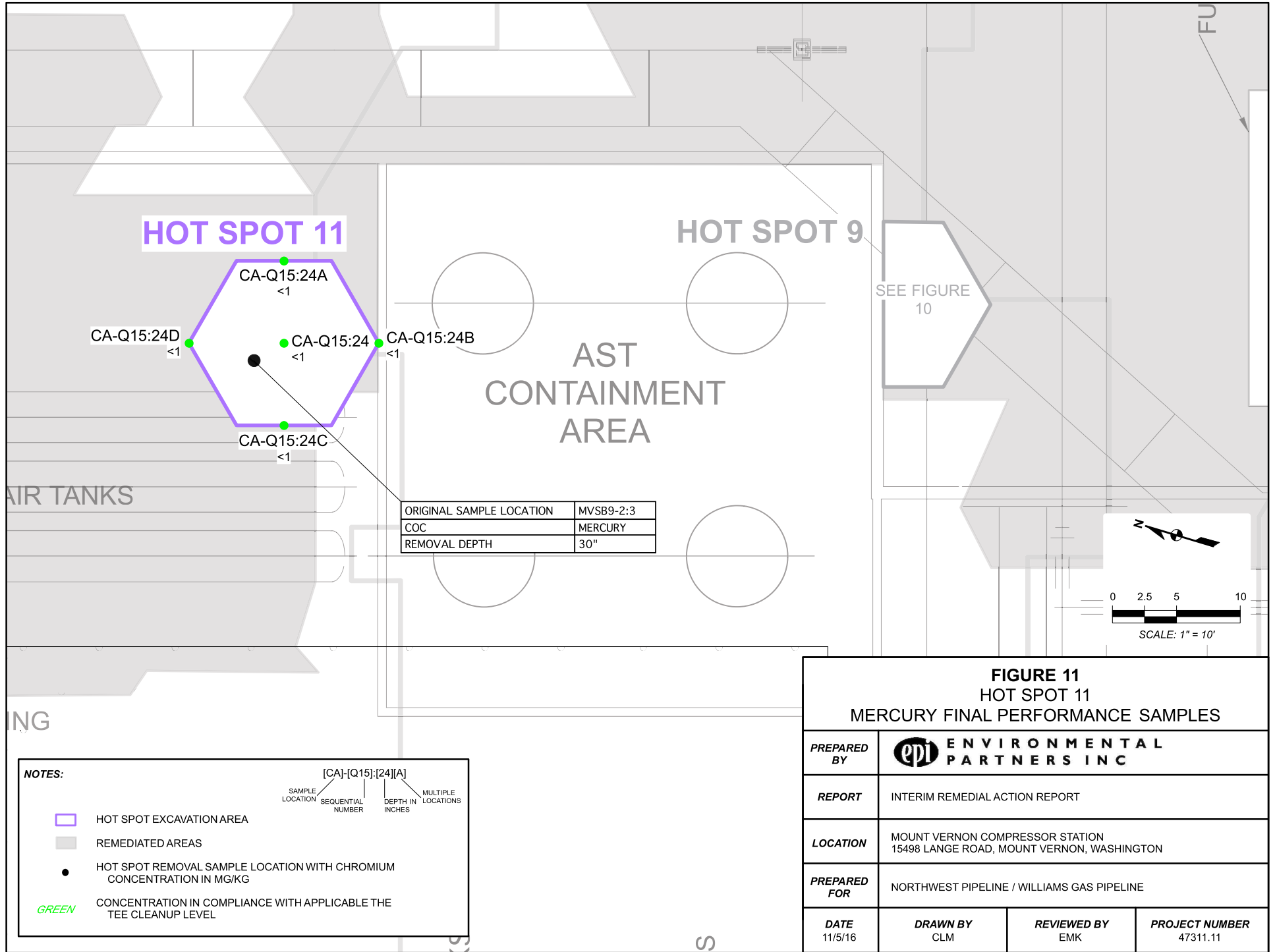
SEQUENTIAL NUMBER

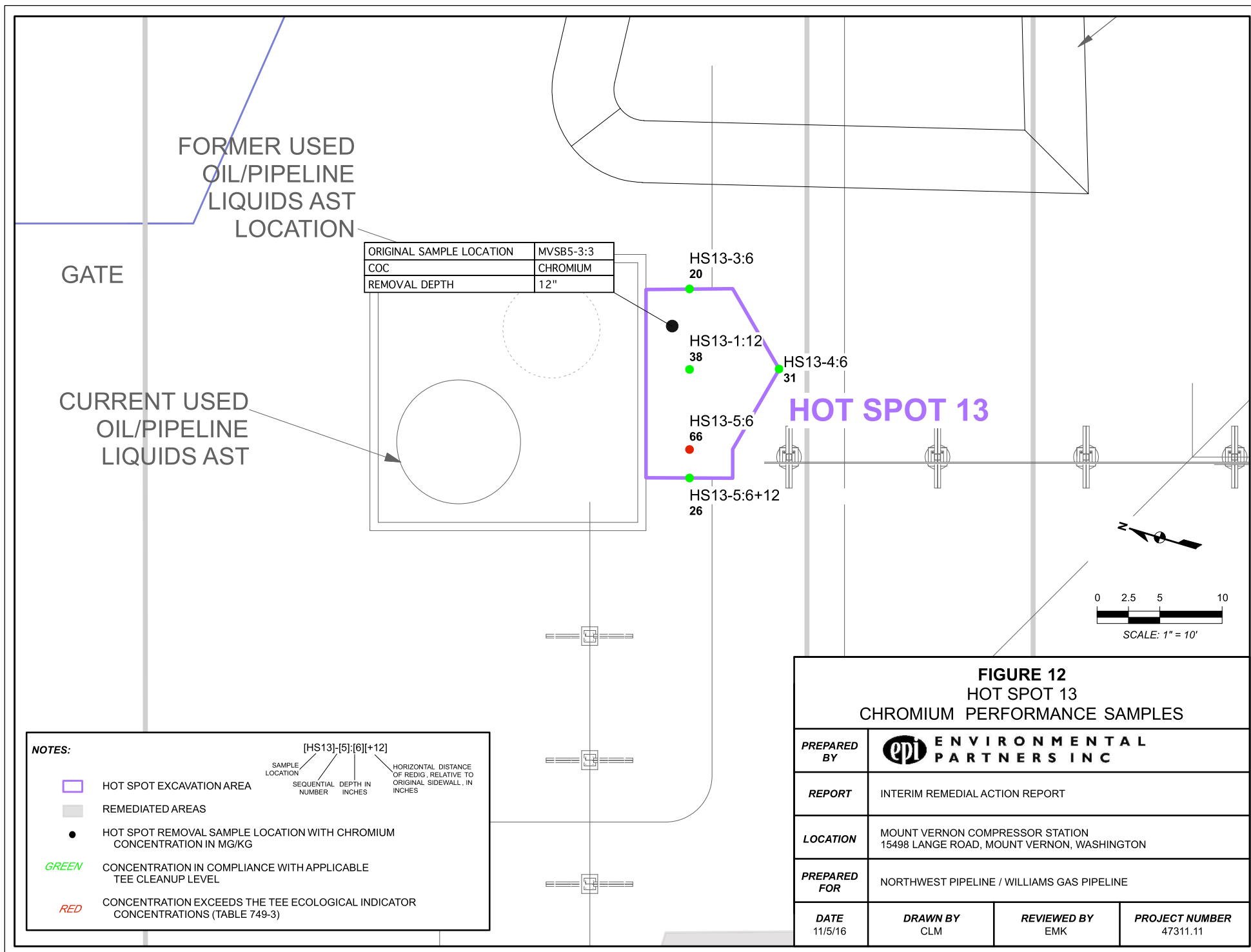
DEPTH IN INCHES

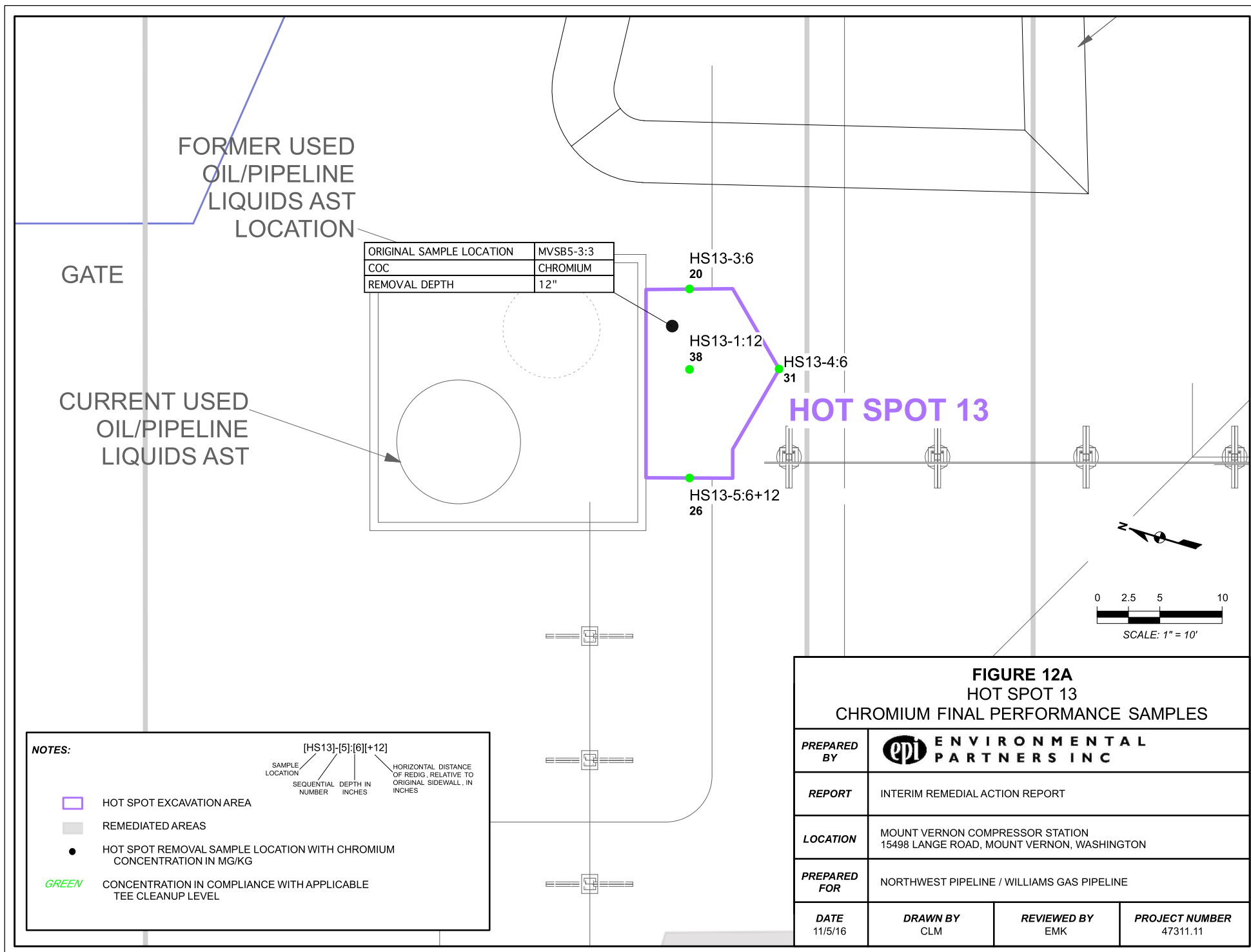
| FIGURE 9<br>HOT SPOT 7<br>CHROMIUM FINAL PERFORMANCE SAMPLES |                                                                               |             |                |
|--------------------------------------------------------------|-------------------------------------------------------------------------------|-------------|----------------|
| PREPARED BY                                                  | <div> <div>epi</div> <div>ENVIRONMENTAL PARTNERS INC</div> </div>             |             |                |
| REPORT                                                       | INTERIM REMEDIAL ACTION REPORT                                                |             |                |
| LOCATION                                                     | MOUNT VERNON COMPRESSOR STATION<br>15498 LANGE ROAD, MOUNT VERNON, WASHINGTON |             |                |
| PREPARED FOR                                                 | NORTHWEST PIPELINE / WILLIAMS GAS PIPELINE                                    |             |                |
| DATE                                                         | DRAWN BY                                                                      | REVIEWED BY | PROJECT NUMBER |
| 11/4/16                                                      | CLM                                                                           | EMK         | 47311.11       |

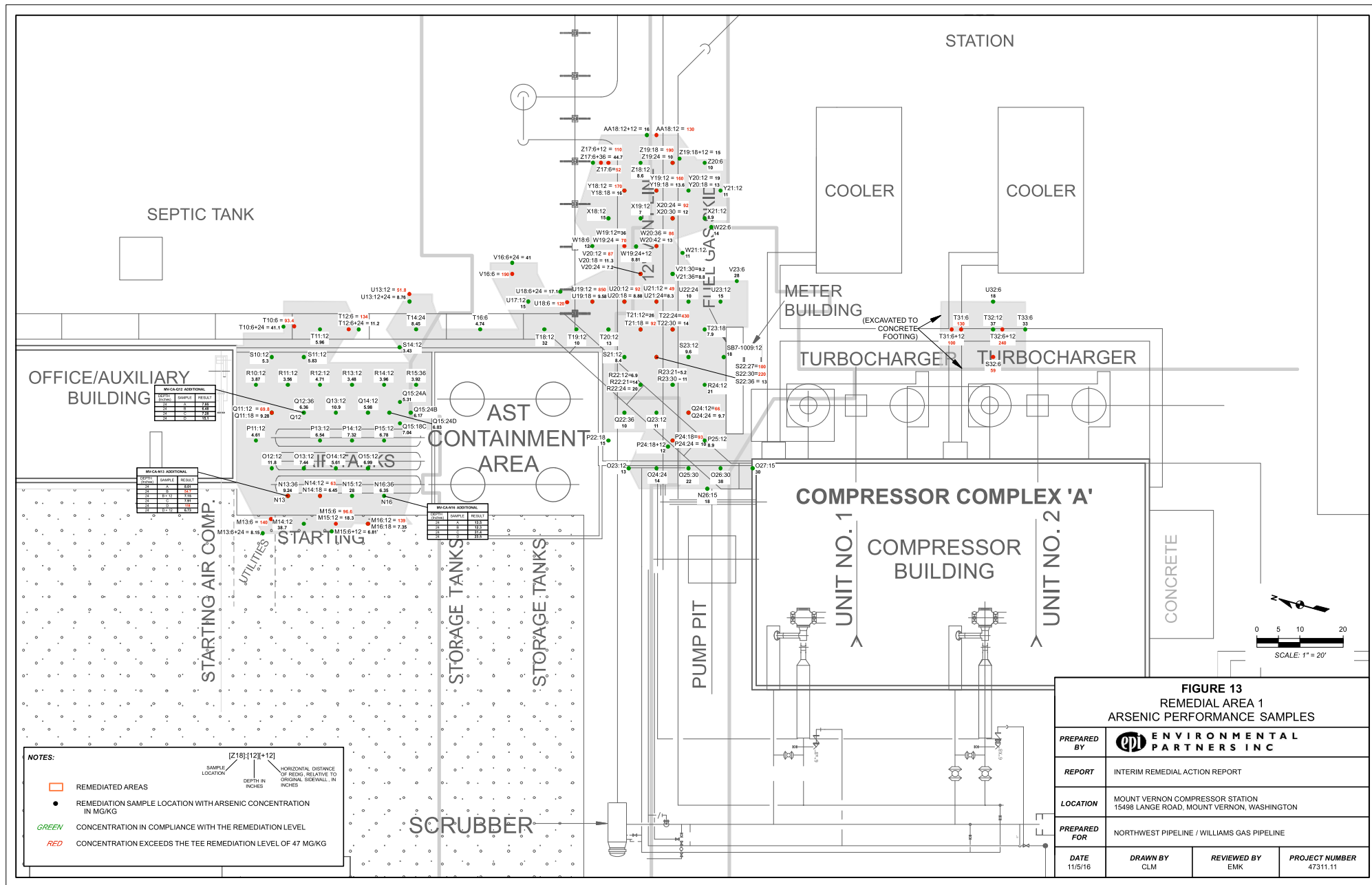


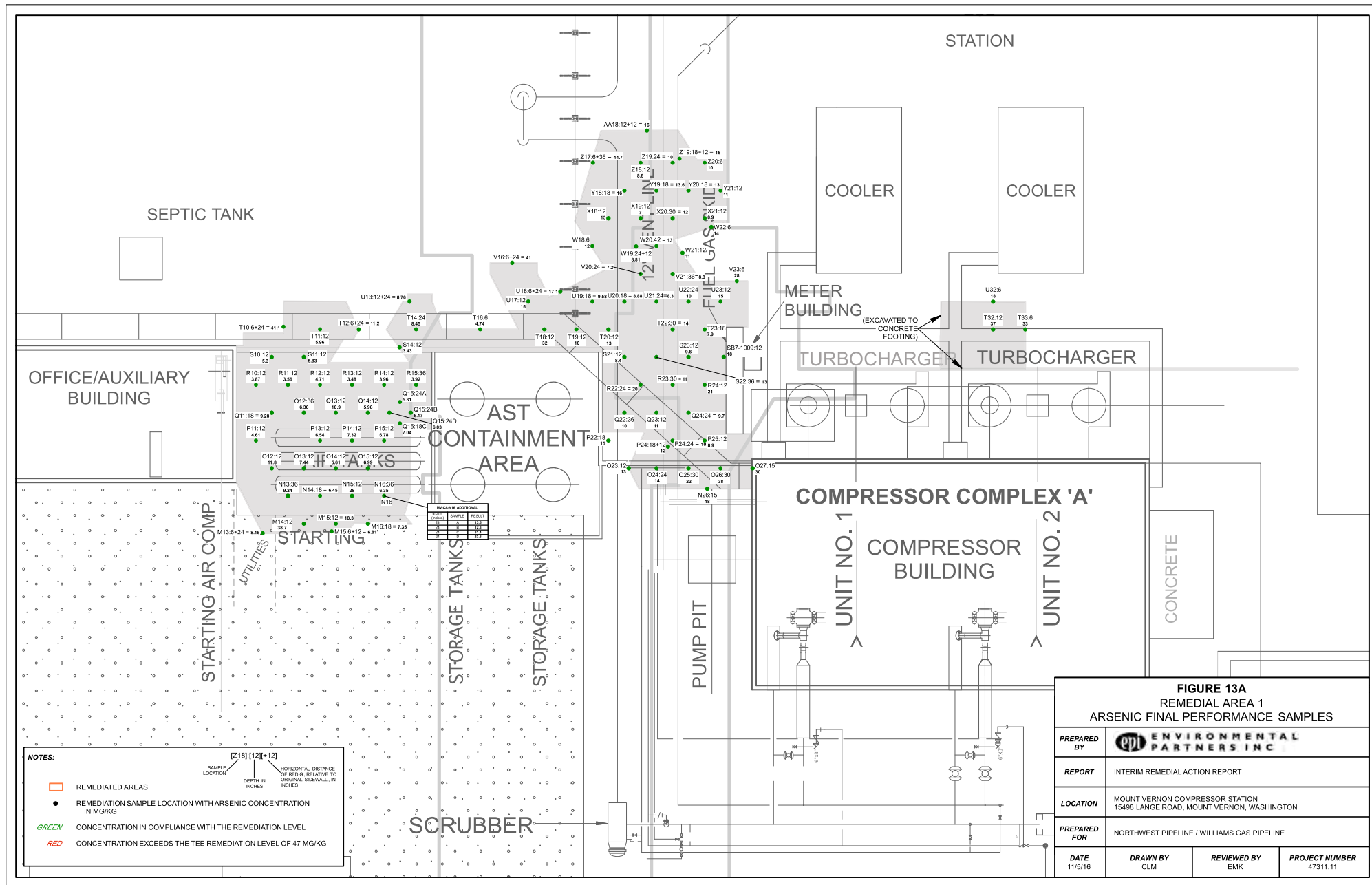
| FIGURE 10<br>HOT SPOT 9<br>CHROMIUM FINAL PERFORMANCE SAMPLES |                                                                               |             |                |
|---------------------------------------------------------------|-------------------------------------------------------------------------------|-------------|----------------|
| PREPARED BY                                                   | epi ENVIRONMENTAL PARTNERS INC                                                |             |                |
| REPORT                                                        | INTERIM REMEDIAL ACTION REPORT                                                |             |                |
| LOCATION                                                      | MOUNT VERNON COMPRESSOR STATION<br>15498 LANGE ROAD, MOUNT VERNON, WASHINGTON |             |                |
| PREPARED FOR                                                  | NORTHWEST PIPELINE / WILLIAMS GAS PIPELINE                                    |             |                |
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| 11/4/16                                                       | CLM                                                                           | EMK         | 47311.11       |

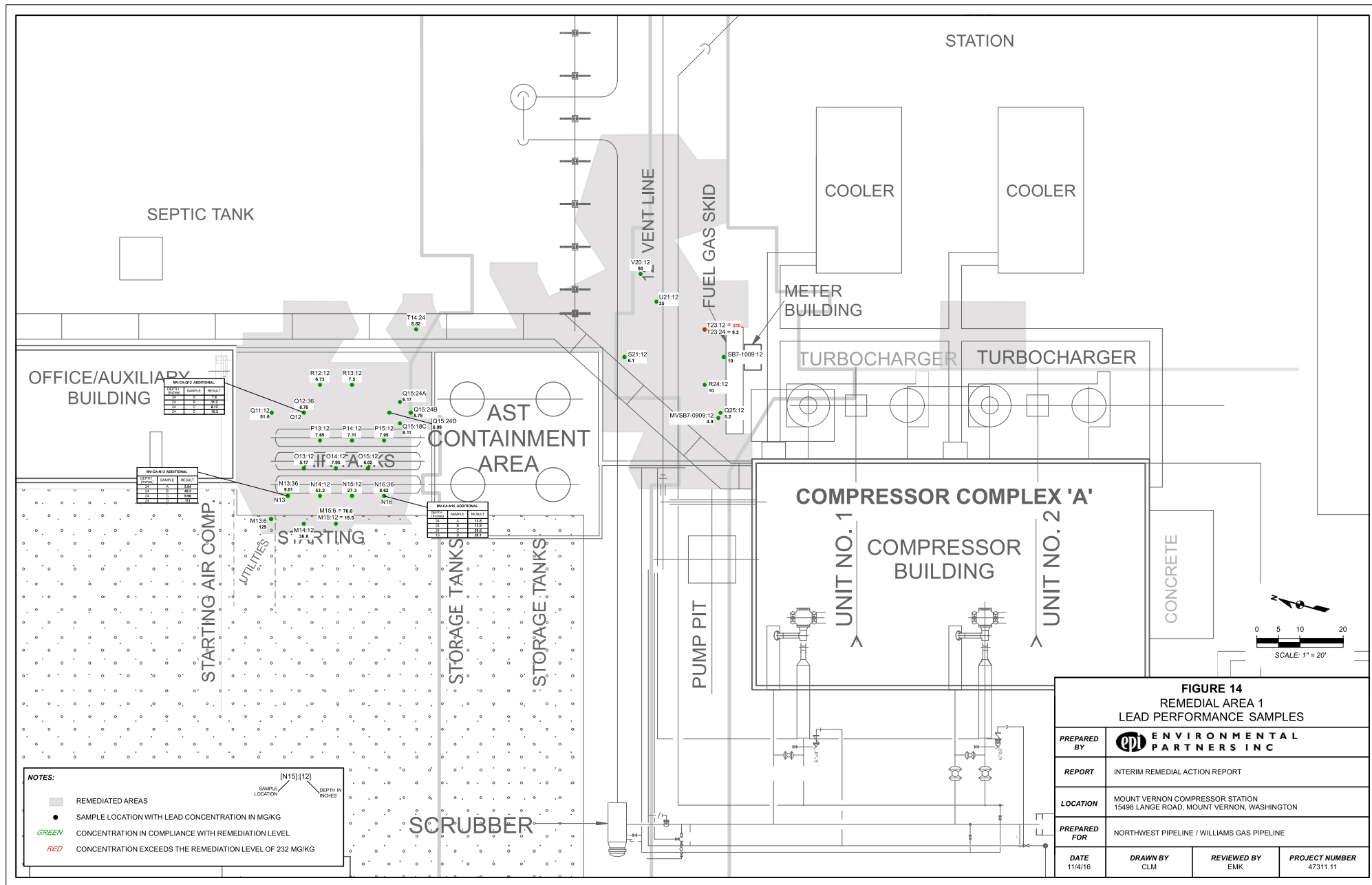


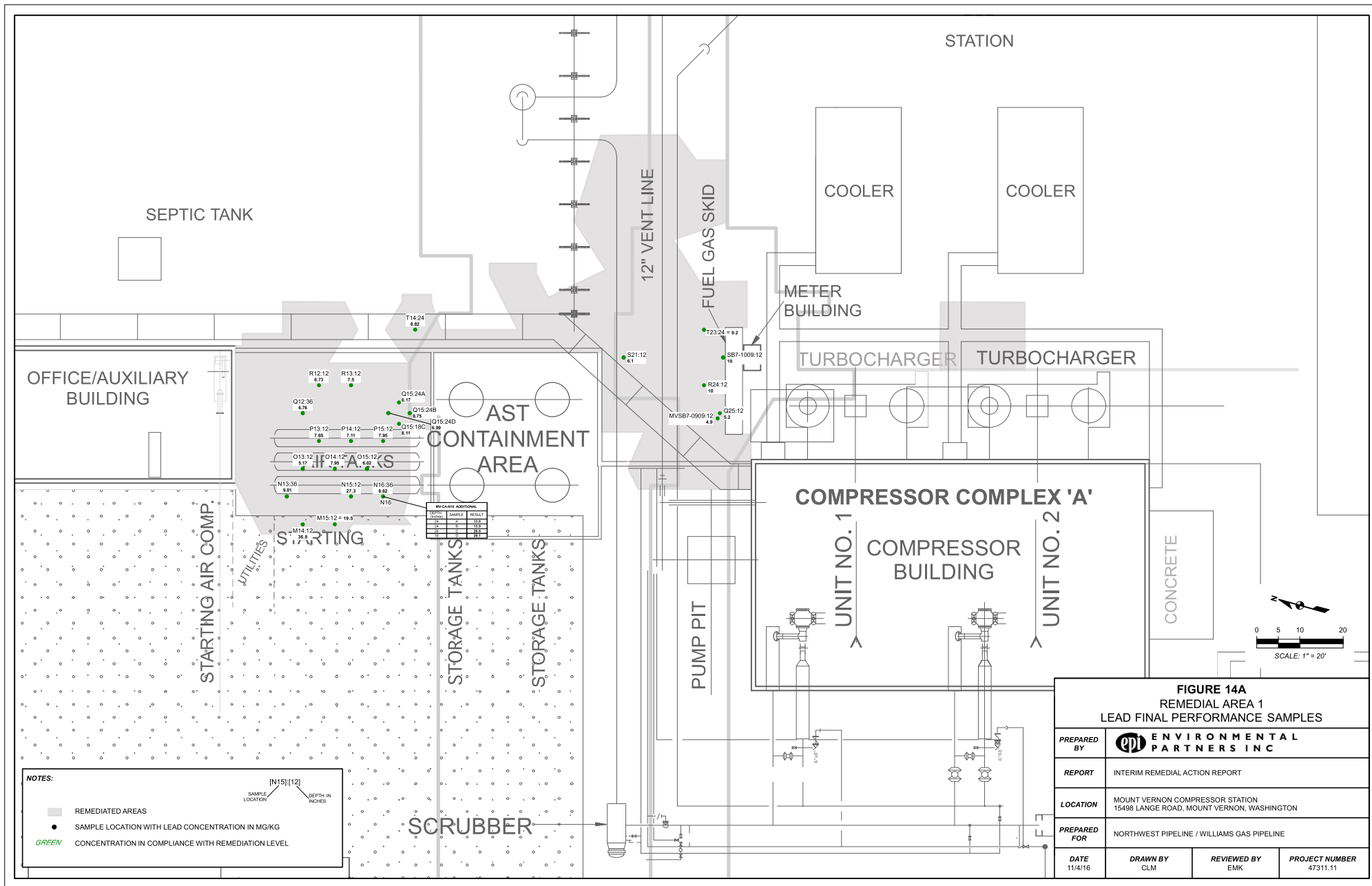


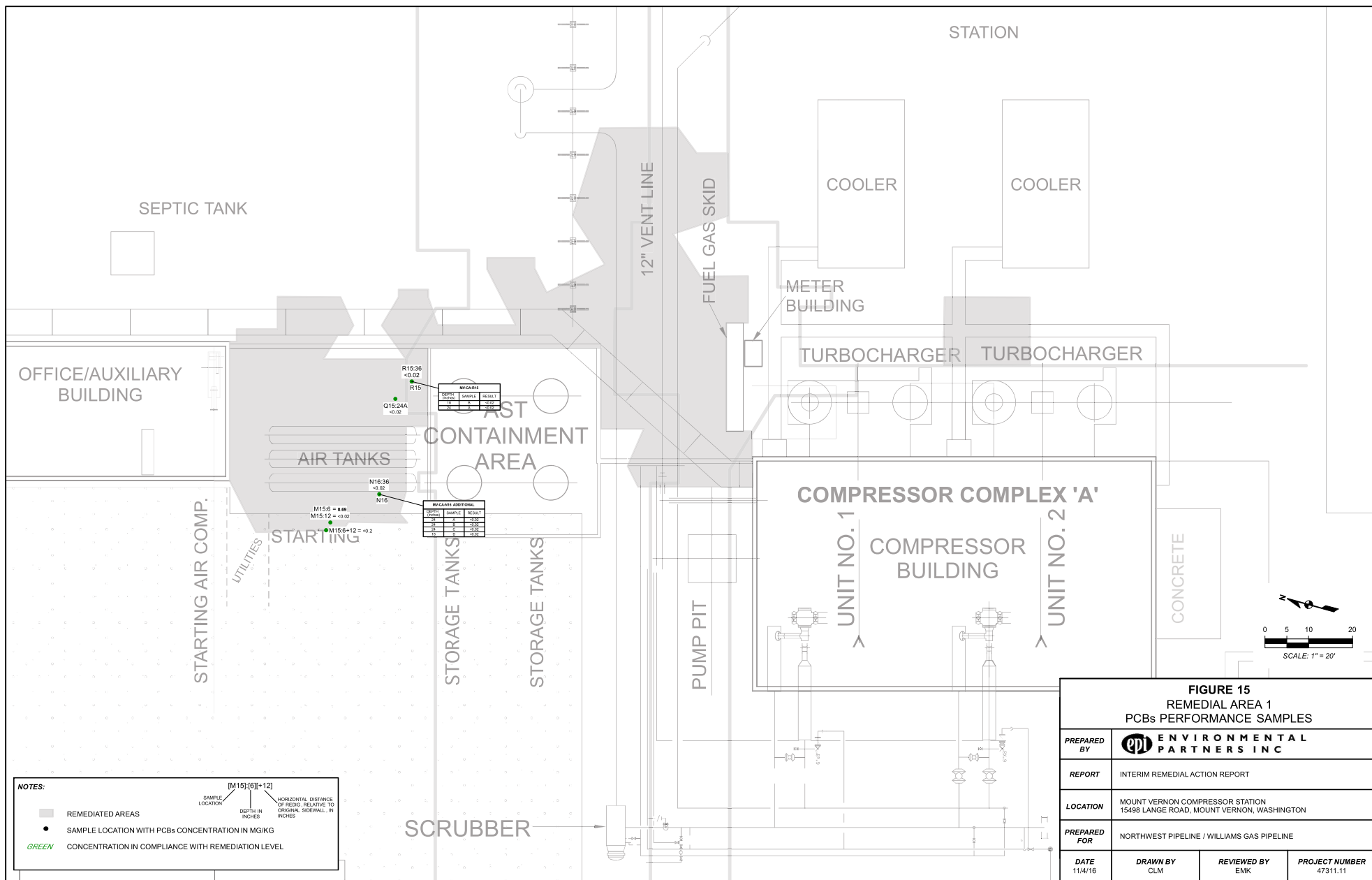


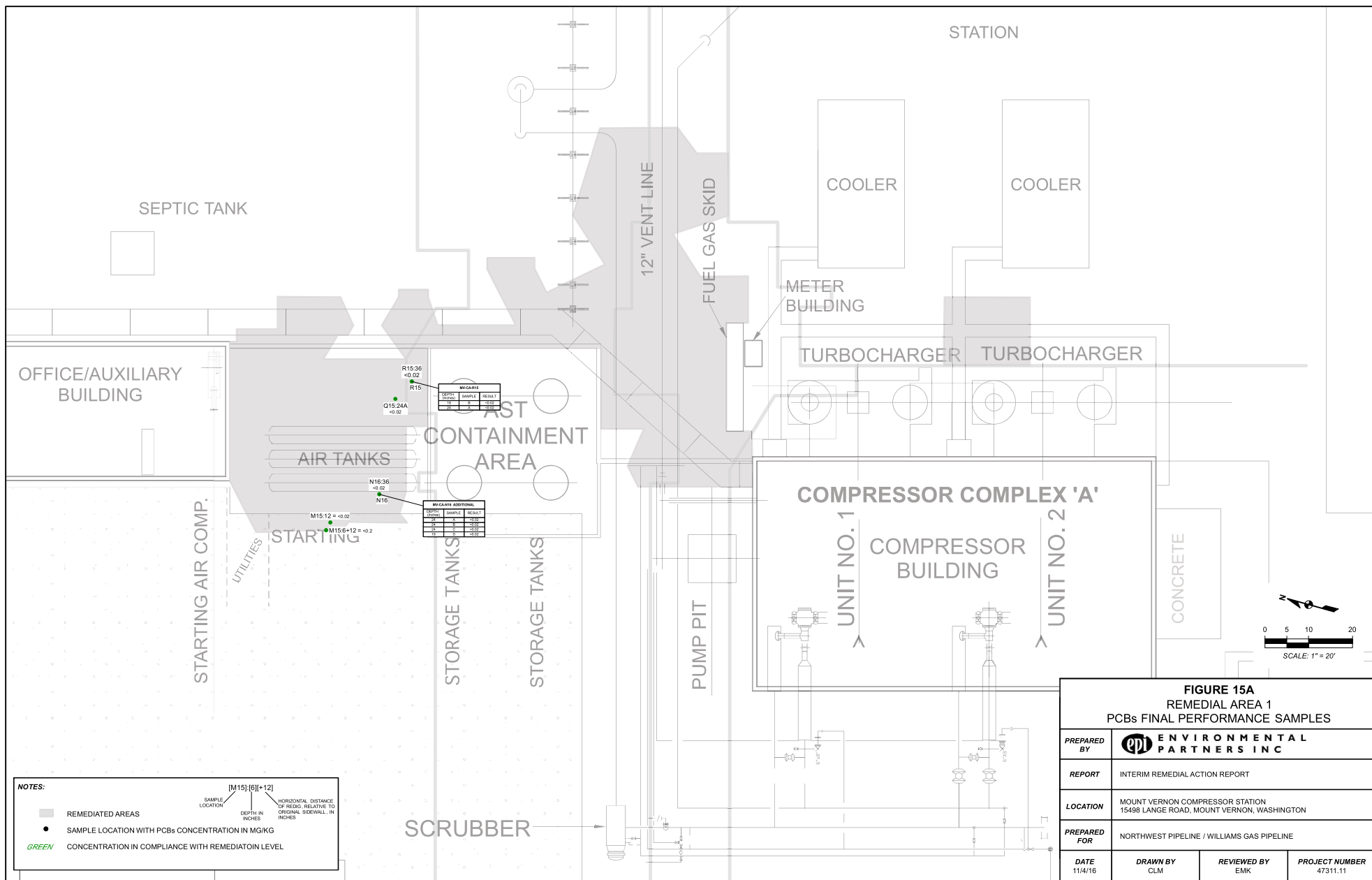














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Stantec is a global leader in sustainable architecture, engineering, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

