SITE INSPECTION

FORMER LANDFILL COMPLEX

YAKIMA TRAINING CENTER
YAKIMA, WASHINGTON 98901

FINAL

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LIST OF ACRONYMS

-	Negative
+	Positive
µg/kg	Micrograms per kilogram
BaPeq	Benzo(a)pyrene equivalent
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cPAHs	Carcinogenic PAHs
DGM	Digital geophysical mapping
DoD	Department of Defense
DQCR	Daily Contractor's Quality Control Report
DQO	Data quality objectives
DRO	Diesel range organics
ECY	Washington Department of Ecology
EDD	Electronic data deliverable
EIMS	Environmental information management system
ELAP	Environmental laboratory approval program
FLC	Former Landfill Complex
FUDS	Formerly Used Defense Site
GIS	Geographical information system
GPS	Global positioning system
GRO	Gasoline range organic
LCS	Laboratory control sample
LOQ	Limit of quantitation
LUC	Land use controls
mg/kg	Milligram per kilogram
mm	Millimeter
mS/m	MilliSiemens per meter
MS	Matrix spike
MSD	Matrix spike duplicate
MTCA	Model Toxics Control Act
^{o}C	Degrees Celsius
^{o}F	Degrees Fahrenheit
OGC	Office of the Garrison Commander, Fort Lewis
PAH	Polycyclic aromatic hydrocarbons
PAL	Project action limit
PCB	Polychlorinated biphenyls
PCE	Tetrachloroethene
PID	Photoionization detector
PNNL	Pacific Northwest National Laboratory
POL	Petroleum, oil, and lubrication
ppt	Parts per thousand
QC	Quality control
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RSL	Regional Screening Levels

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LIST OF ACRONYMS (CONTINUED)

SI	Site Inspection
SOP	Standard Operating Procedures
SVOC	Semi-volatile organic compounds
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TCE	Trichloroethylene
TCL	Target compound list
TCLP	Toxicity characteristic leaching procedure
TEF	Toxic equivalency factors
TPH	Total petroleum hydrocarbons
TPMC	TerranearPMC
UFP-QAPP	Uniform Federal Policy-Quality Assurance Project Plan
ug/m^3	Micrograms per meter cubed
US	United States
USACE	Army Corps of Engineers
USEPA	US Environmental Protection Agency
USGS	United States Geological Survey
UXO	Unexploded ordinance
VOC	Volatile organic compounds
VSP	Visual Sample Plan
WAARNG	Washington Army National Guard
WAC	Washington Administrative Code
YTC	Yakima Training Center

1.0 INTRODUCTION

The Joint Base Lewis-McChord Installation Restoration Program authorized the conduct of a Site Inspection (SI) for the Former Landfill Complex (FLC) in the vicinity of Solid Waste Management Unit (SWMU) 57 within the Yakima Training Center (YTC), Washington (Figure 1-1). Site inspection activities were focused on an approximately 20-acre area within the FLC that is referred to as the study area in this SI Report. This effort was conducted as Task Order 0001 under Contract Number W912DW-11-D-1037; government project management and technical oversight was provided by the US Army and USACE.

1.1 SCOPE OF WORK AND PROJECT OBJECTIVE

The overall scope and objective of the SI is to determine whether a remedial investigation is necessary by confirming the presence/absence of chemical impacts in soil associated with the former Department of Defense (DoD) burning and landfilling activities within the study area. The specific scope of work completed is discussed in detail in Chapter 2.0. The SI was conducted in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (US Environmental Protection Agency [USEPA] 1992, 2005), the Department of the Army Installation Environmental Program Management Guide (2002), AR 200-1 and Model Toxics Control Act (MTCA) Cleanup Regulation Chapter 173-340 Washington Administrative Code (WAC); MTCA Chapter 70.105D Revised Code of Washington (RCW) and Uniform Environmental Covenants Act, Chapter 64.70 RCW. Soil data were compared to environmental cleanup levels shown in Method A Soil Cleanup Levels for Unrestricted Land Uses, MTCA Cleanup Regulation 173-340-900.

1.2 SITE LOCATION AND DESCRIPTION

The YTC is located in south-central Washington in Yakima and Kittitas Counties (Pomona, Washington, U. S. Geological Survey [USGS] 7.5-Minute Topographic Quadrangle Maps 2013) approximately five miles north of the city of Yakima (Figure 1-1). The YTC facility occupies over 323,000 acres and is divided into the Cantonment Area and the Down Range Area. The FLC is located in Yakima County within the western portion of the YTC Cantonment Area (Township 14N, Range 19E, Section 21).

The FLC includes SWMU 57 extending south to the northwestern border of Building 870. SWMU 57 is approximately three acres in size and the area surrounding the SWMU is approximately 24 acres (Figure 1-2). The area surrounding the FLC is predominately open, undeveloped high desert to the north and northeast with developed buildings to the south and west. The Roza District Irrigation Channel forms the approximate eastern boundary of the study area.

The study area within the FLC is approximately 20 acres. It is situated from approximately the northern border of SWMU 57 and extends to the south to the developed area adjacent to Building 870. This study area is the focus of this SI because construction of a National Guard Barracks and dining facilities, referred to as DFAC, was proposed in this portion of the FLC. The study area is centered at approximately 46^{o}40’55.77”N and 120^{o}27’4.64”W.

The study area slopes gently towards the west with an elevation difference of approximately 50 feet between the upgradient study area boundary to the northeast (the Roza Irrigation Canal) and downgradient boundary to the southwest (8th Street). Sagebrush is the primary vegetation on site.

1.2.1 Site History and Operations

Beginning in 1941, YTC has been used for training artillery, infantry, and engineering units. The study area was initially identified as the 1954-1968 Landfill/Burn Pits. The Decision Document for SWMU 57 (OGC, 2007) indicates that municipal solid waste generated in the Cantonment Area and training areas was burned and disposed of in up to seven unlined pits between 1954 and 1968. The Relative Risk Evaluation reported that the landfill was activated in 1954; the landfill closure date is less certain because this document reports that landfilling was discontinued at SWMU 57 in 1968 when SWMU 55 was activated (Pacific Northwest National Laboratory [PNNL], 1996). The pits were backfilled with at least 1.5 feet of soil over the waste materials.

Information regarding the use of the FLC is limited and predominantly applies to the trenches that are identified as SWMU 57. SWMU 57 was operated from 1954 to 1974 as a waste disposal landfill that included municipal refuse, hazardous waste from vehicle maintenance, batteries, paint cans, and empty oil containers. The waste was placed in open unlined trenches that were north-south oriented and frequently burned (Hart Crowser 2003). Although three trenches were identified in 1966 aerial photographs, site visits and investigation indicated as many as seven trenches may be present as well as a disposal area south of SWMU 57 which was identified in 1974 aerial photographs. This area is now identified as the FLC (Figure 1-2).

Based on the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) (Hart Crowser 2003), the Decision Document (OGC 2007) identified that the selected remedy for FLC in the vicinity of SWMU 57 was to implement LUCs. The LUCs restricted residential use that could pose unacceptable risk associated with potential use of groundwater. Appendix A presents historical documents relevant to this SI.

1.2.2 Adjacent and Future Land Use

The small town of East Selah, Washington lies approximately two miles to the southwest of the site. The area to the west of the study area is currently undergoing development by the DoD and may be characterized as light industrial. The area to the east mainly consists of undeveloped land (Figure 1-3).

1.2.3 Nearby Population

The population of Yakima County, WA was 24,830 in 2015 and with a density of 56.6 people per square mile. The population increased 2.3% between 2000 and 2015 (Appendix B, US Census Bureau 2016). The median age in 2010 was 31.7 years. The largest fraction of private sector jobs are within healthcare followed by manufacturing and construction.

1.2.4 Climate

Yakima, Washington has a high desert climate with cold winters and hot summers. The area experiences an average annual precipitation of eight inches of rainfall and 23 inches of snowfall. Because of the low precipitation and high evapotranspiration rates in the area, surface drainages on the site are not sustained year-round. Average January temperatures range from 23 degrees Fahrenheit (^{o}F) to 39^{o}F, while July averages from 53^{o}F to 88^{o}F.

1.2.5 Local Water Supply

YTC provides potable water for buildings in the vicinity of the study area. The primary source of public drinking water at YTC is groundwater extracted from the Pomona wells; some surrounding landowners also use groundwater as their primary source (Appendix B). Local river water, diverted through the Roza Irrigation canal, is used for irrigation purposes. Use of ground water within the study area is restricted by the implementation of land use controls (LUCs) (OGC 2007).

A search of the Washington Department of Ecology (ECY) state well log viewer geographical information system (GIS) performed in 2016 identified the following: 20 water wells within one mile of the study area, and 438 wells within three miles of the study area (ECY 2016). The majority of the wells within three miles of the site are located on the western side of the Yakima River. A listing of the registered wells is presented in Appendix B.

1.2.6 Surface Water

The study area is located in a semi-arid climate within an upland area. Although there is an irrigation channel along the eastern boundary of the site, it is located topographically higher than the site and does not receive runoff from the site. Surface water drains toward the southwest and is captured by existing stormwater management features on the adjacent developed lots; flows in surface water features are usually associated with storm water runoff. No natural surface water features exist within the study area or adjacent parcels. A small pond exists south of Firing Center Road, approximately one half mile from the study area.

1.2.7 Regional and Local Geology

The study area lies within Columbia Basin terrain, in the western part of the Columbia Plateau of the Yakima Fold Belt which is a transitional zone between the Cascade Mountains and the Columbia Plateau basalts. The fold belt is characterized by a series of elongated, generally asymmetrical tightly folded southeast-trending synclines and anticlines.

The fold belt is largely comprised of a sequence of the Columbia River Basalt Group interbedded with the sedimentary Ellensburg Formation. The Columbia River Group is from the Miocene epoch and is over 4,000 feet thick in the area of YTC. Each basalt formation within the Columbia River Group consists of several individual flows. Interbedded within and over the basalt sequences are sedimentary units of the Ellensburg Formation which represent deposition during quiescent periods between eruptions. Overlying this sequence are various Quaternary to recent deposits of fanglomerates, loess, alluvium and landslide deposits.

Within the FLC, the depth to the fold belt is predicted to be approximately 100 feet below ground surface (bgs) with Quaternary or recent deposits representing the surface materials. SWMU 57 is reported to be located on the top of a hill on the north side of a syncline.

Groundwater aquifers within the Columbia River Basalts are best developed within the tops of the basalt flows, where rapid cooling formed permeable, rubbly basalt. These aquifers are typically confined by the basalt flows and generally receive recharge from the exposures in the foothills of the Cascade Mountains. The USGS has also identified the possible existence of an aquifer in the sedimentary units overlying the basalt group, primarily in the Ellensburg Formation. Groundwater flow direction is controlled by the structural orientation of the anticlines and synclines and is generally from the ridges toward the synclinal valleys and then toward the Yakima River. As of 2003, no wells had been completed in the overburden materials within the

Cantonment Area. The depth to groundwater in the Cantonment Area is predicted to be 100 to 200 feet bgs and therefore, is not considered to be a media of concern for this SI.

1.2.8 Sensitive Environments

No sensitive environments were identified at the study area. A map presenting sensitive environments and the Army Checklist for Important Ecological Places is presented in Appendix C.

1.2.9 Previous Investigations

Three previous investigations have been undertaken to support the identification of SWMU 57 and the LUCs implemented in accordance with the Decision Document (OGC 2007). Site investigations were performed (Ecology & Environment, 1993) at several locations in the Cantonment Area that provided information regarding the potential for groundwater contamination associated with SWMU 57. The site investigation report suggested that it was unlikely that groundwater had been impacted by SWMU 57.

A RCRA Facility Assessment (RFA) was performed for YTC in 1995 (SAIC, 1995); SWMU 57 was one of 77 SWMUs and 38 areas of concern identified. The findings from this RFA were used to conduct a Relative Risk Site Evaluation for YTC (PNNL, 1996). This evaluation summarized the previous information and concluded that potential risks associated with site conditions were low.

An RFI was conducted at SWMU 57 (Hart Crowser, 2003) to evaluate conditions within the soil at the former landfill/burn pits. Results indicated that soil impacts existed to depths of at least six feet bgs as a result of previous DoD site activities. Soil data indicated that concentrations of antimony, cadmium, copper, lead and tetrachloroethene (PCE) were detected at concentrations greater than soil cleanup levels for unrestricted land use. There were no exceedances of screening levels for other constituents of potential concern from the following analytical suite: total petroleum hydrocarbons (TPH), metals, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs) (with the exception of PCE). Although four test pits were excavated to a depth of six feet bgs, the vertical and horizontal extent of impacts was not fully delineated.

Based on the outcome of these investigations, LUCs were selected as the remedy in the Decision Document dated March 10, 2007. LUCs were selected to prevent unmitigated future residential landuse of the SWMU and buffer area and unplanned excavation within the landfill/burn pit boundary. LUC implementation is described in the Land Use Control Plan dated May 2007. This plan remains in effect and requires excavation permit approval to ensure that LUC objectives are met.

During pre-construction geotechnical testing in 2012-2013 for the construction of National Guard barracks adjacent to Building 870, test pits encountered burn residue and waste that appears to be similar to what was encountered within SWMU 57. The results of the geotechnical evaluation indicated that 12 of the 26 test pits (Figure 1-4) completed within and adjacent to the foot print of the proposed National Guard barracks contained buried waste at depths ranging from 1.2 - 8 feet bgs; waste thickness ranged from trace - 6.5 feet and, although previous studies indicated that a soil cover exists within SWMU 57, wastes in this area were observed at the surface. These results indicate that the distribution of waste is greater than the previously identified SWMU 57.

2.0 SITE INSPECTION ACTIVITIES

Field work performed as part of the current SI was completed in accordance with the Work Plan (TerranearPMC [TPMC] 2016a), and in compliance with all current applicable USACE requirements and Standard Operating Procedures (SOPs). The field work was conducted during June and October 2016.

2.1 SAMPLING AND FIELD PROCEDURES

The procedures for field activities and scope of work conducted are discussed in the following sections.

2.1.1 On-site Reconnaissance

The initial on-site activity consisted of a site walk-over of the land comprising the study area. The reconnaissance activities included identification of current surface features, such as spools of wire, metallic debris or fencing, with the potential to obscure the geophysical study results or document environmental impacts potentially associated with former disposal activities. Historical aerial photography was reviewed in advance of the walk-over, and specific areas of interest were evaluated. The site reconnaissance was conducted concurrent with the geophysical survey field activities to provide real-time input for selection of soil and sediment sampling locations.

2.1.2 Geophysical Survey

A geophysical survey was completed to provide subsurface information about the site (e.g., locations of buried debris and underground lines and/or structures) to support the delineation of the lateral extent of subsurface debris and to assist in focusing the soil sampling on areas that have the highest likelihood of chemical impacts as a result of previous site activities.

The geophysical investigation was conducted using the Geonics, Ltd. EM31-MK2 operated in vertical dipole mode. Terrain conductivity (i.e., quadrature) and in-phase response data were recorded and analyzed for the presence of potential metallic debris. Data were collected along profiles with a spacing of 20 feet (6.1 meters) and extended across the accessible portions of the 20-acre study area (Figure 2-1). Additional information about the geophysical survey methodology is presented in Appendix D.

2.1.3 Soil Gas Sampling

Passive diffusion samplers were installed to collect soil gas samples to determine the presence or absence of VOCs in soil. The passive diffusion AGI Samplers were used in this investigation; (Gore® Survey Products Group was recently acquired, these samplers were trademarked as GORE-SORBER® modules). For consistency with the workplan, for the remainder of this report, the passive diffusion samplers will be referred to as GORE-SORBER samplers.

The GORE-SORBER samplers were installed within the proposed National Guard Barracks and DFAC building footprints simultaneous with the geophysical survey (Figure 2-2). Twenty GORE-SORBERs sampling modules were collected from the 2 - 3 foot bgs depth interval and spaced on an approximately 50-foot grid within the building footprints.

Sample spacing and number was derived using the software package Visual Sample Plan (VSP) to establish the following statistically-based sampling strategy that provided a 98 percent

confidence level that there would not be a false negative result. Two sample duplicates (i.e., Field Duplicates) were deployed with the samplers to provide verification of sample reproducibility.

The GORE-SORBER samplers were installed by driving a one half-inch wide steel bar into the ground to the desired depth. Upon reaching the target depth (2.5 - 3 feet bgs), the bar was removed and the GORE-SORBER sampler module was removed from its sample vial and lowered into the hole, suspended on a retrieval string. The hole was sealed at the ground surface with a cork and the location was identified with a marked pin flag. Sample locations were recorded using global positioning system (GPS).

The GORE-SORBER samplers remained in the soil at the FLC for five days prior to retrieval. After sampler recovery, they were returned to their sample vials for shipment to the laboratory; analysis was performed by AGI, LLC.

Qualitative results providing presence/absence information were made available to the Army and USACE on an expedited analytical turnaround time (six working days after sampler retrieval). Additional information about the soil gas sampling is provided in Appendix E.

2.1.4 Soil Sampling

Twenty surface soil samples were collected from locations across the study area. Two subsurface soil samples were collected from each of 25 test pit locations within the study area. Although soil sampling methodologies and analytical suites are similar, the strategy for sample location is different between surface and subsurface samples. Sample locations were opened using a backhoe or decontaminated shovel, and samples were collected using disposable trowels.

2.1.4.1 Surface Soil Sampling

Historical site information suggests that a soil cover was placed on top of the waste material, however, test pits excavated in 2012 encountered waste material at the surface. As a result, 20 surface soil samples were collected from 6 - 12 inches below the land surface/vegetation root mass to characterize the presence or absence of Target Compound List (TCL) VOCs, TCL semivolatile organic compounds (SVOCs)/ PAHs, TCL pesticides, TCL PCB, TCL herbicides, target analyte list (TAL) metals, and TPH by gasoline range organic (GRO)/ diesel range organics (DRO). Surface soil samples were biased to locations that indicate potential impacts. In most instances, the excavator was used to access the sample interval and disposable sampling scoops were employed to retrieve the sample.

2.1.4.2 Test Pits and Subsurface Soil Sampling

Test pit locations were identified based on the results of the geophysical survey and soil gas analysis. Test pit locations were biased toward locations with anomalies and/or locations where elevated soil gas concentrations were identified. During excavation, photographs of the test pits and debris and/or burn residue encountered were taken and cataloged for inclusion in the SI report.

Fifty subsurface soil samples were collected from the test pits to characterize potential chemical impacts resulting from former landfilling and/or burning activities on the original land surface and/or in excavation features identified by the geophysical survey. The depth and location of

sample collection was determined in the field and biased to the depth interval and location where impacts were likely to be present.

Representative soil samples were collected from the interval that was representative of waste material/ burn residue or just above the hard pack if no debris was encountered. Samples were collected from the sidewall or bottom at depths where there was the greatest indication of contamination based on soil gas or visual indicators. Sampling personnel did not enter excavations; samples were collected from the undisturbed contents of the excavator bucket.

The test pits were approximately one backhoe bucket in width and completed to refusal or a maximum depth of 12 feet bgs. Where visual observations suggested that additional excavation of the sidewall or bottom would be warranted, additional excavation was performed. Two subsurface soil samples were collected from the locations within the test pit where contamination was anticipated based on visual indicators. At locations where there was no evidence of contamination, the samples were collected from bottom of the test pit.

Samples collected from each test pit were submitted for TCL VOCs, TCL SVOCs/PAHs, TCL Pesticides, TCL PCBs, TCL Herbicides, TAL metals, and TPH by the analysis of GRO and DRO compounds. These samples were placed in the appropriate laboratory-supplied sample containers, labeled for proper identification, and packed in an iced cooler for transport.

Five samples were collected to characterize the potential for the soil to represent a RCRA waste to allow the Army to assess future waste management alternatives for the onsite soils. Waste characterization included toxicity characteristic leaching procedure (TCLP) VOC, TCLP SVOC, and TCLP metals as well as ignitibility, reactivity, and corrosivity. Samples locations were selected in the field where the following factors indicated greatest potential for contamination: the geophysical survey results, soil gas sample results, and field observations including visual indicators.

2.1.5 Land Surveying

All soil sampling locations were surveyed utilizing a Trimble™ GPS unit to determine horizontal coordinates referenced to the Washington State Plane Coordinate System for inclusion on project figures and drawings.

2.1.6 QC Sampling

To ensure the reliability of field sampling procedures and materials, field quality control (QC) samples (e.g., duplicate, matrix spike [MS], and matrix spike duplicate [MSD] samples) were collected consistent with the soil sampling SOP at locations: YTCFLC-SO-15D, YTCFLC-SS-42-2D, YTCFLC-SS-50-2D, YTCFLC-SS-54-1D, YTCFLC-SS-57-1D, YTCFLC-SS-60-2D; MS/MSD samples were collected at the following locations: YTCFLC-SO-09, YTCFLC-SO-17, YTCFLC-SO-20, YTCFLC-SS-41-02, YTCFLC-SS-45-02, YTCFLC-SS-61-02.

2.1.7 Sample Custody, Preservation, Packaging, and Shipping

Samples were pre-assigned a unique sample number and entered into the project database environmental information management system (EIMS) by the project chemist prior to the start of fieldwork. Upon collection, each sample container was labeled, sealed in a plastic bag, placed in an ice-cooled cooler, and the activities recorded on a Daily Contractor's Quality Control Report (DQCR) or in the field logbook. Samples were packed in coolers, chilled to four degrees Celsius (^{o}C), sealed with signed and dated custody seals on the outside of the coolers,

and express shipped to the laboratory. The laboratory and the project data manager were notified of sample shipments the day the coolers were sent.

2.1.8 Decontamination Procedures

Because sample collection was completed using dedicated and disposable (e.g., one time use) plastic trowels, decontamination of sampling equipment was not required.

2.1.9 Documentation

All field activities were documented on DQCRs and the field logbook to maintain a record of the progress of the field work and to allow the reconstruction of events that occurred during the SI. Field documentation forms used during the SI, in addition to the official DQCRs, include: test pit logs and analysis request/COC record.

2.2 SAMPLE ANALYSIS

The data management process included all aspects of data review and data validation. All data associated with this SI underwent several evaluations in the laboratory and by TPMC personnel prior to inclusion in this report. Analyses were performed by AGI, LLC and SGS Laboratories using USEPA methods and met the QC requirements described in the referenced SW-846 methods, environmental laboratory approval program (ELAP), and the Work Plan/ Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) (TPMC, 2016).

2.3 DATA MANAGEMENT

Data Packages. Laboratory data packages underwent internal review by the analyst and a peer or supervisor review prior to submittal to TPMC. The Project Chemist reviewed the data packages for completeness against the Work Plan/ UFP-QAPP (TPMC, 2016) and reviewed the hardcopy results from the data package against the electronic data deliverable (EDD) results.

Data Validation. An evaluation of the data was conducted to determine whether the project objectives were met using the automated data review program ADR.net. Specific issues addressed included precision, accuracy, and representativeness, such as matrix spike/matrix spike duplicate, and blank sample results. An evaluation of completeness was performed and data deficiencies were identified and rectified or documented for the report.

Soil gas samples were intended to provide a qualitative indication of the presence or absence of target analytes in soil. As a result, the GORE-SORBER results were qualitatively reviewed by the Project Chemist to assess whether there were indications of conditions that would impact data usability. Examples of elements that were reviewed include performance of laboratory control sample (LCS) recoveries and duplicate sample results.

Subsurface and surface soil data were validated using the electronic data validation program ADR.net. During the data validation process, qualifiers were added to the data, as necessary. Laboratory analytical data reports and data validation results can be found in Appendix G.

Data validation was based on the QC acceptance criteria specified in Worksheet #37 of the Work Plan/UFP-QAPP (TPMC, 2016a) and followed the QC guidance outlined in *Test Methods for Evaluation of Solid Waste* (USEPA, 1986). These guidelines mimic the most current editions of *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, 2008) and *USEPA Contract Laboratory Program National*

Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2010) for data obtained outside the USEPA's contract laboratory program. Following completion of the data validation, ADR.net compiled the data review report.

2.4 SCREENING VALUES

Analytical data generated during this SI have been screened against regulatory threshold values to provide a frame of reference for the analytical results. Project action limits (PALs) for residential direct contact were selected as the primary levels for the soil exposure pathway for this SI effort. State of Washington MTCA Cleanup Regulation, Method A Soil Cleanup Levels for Unrestricted Land Uses were used to compare soil analytical results. In absence of a State of Washington regulatory limit, USEPA Regional Screening Levels (RSLs) for residential landuse were used to evaluate the analytical results. The screening values used for this assessment are presented in Table 2-1.

2.5 DEVIATIONS FROM THE SAMPLING PLAN

Deviations from the Final Work Plan were undertaken to accommodate field conditions and to achieve the data completeness objectives defined by the performance work statement (PWS) (USACE 2016). The following paragraphs describe deviations that occurred during the sampling activities.

One minor deviation from the procedures identified in the Work Plan was implemented during the collection of soil gas samples. The Work Plan noted that the soil gas samples would be accompanied by a trip blank throughout the sampling event. In the field, fewer sampling modules were available than were specified by the UFP-QAPP, thus the modules that were planned to be used as trip blanks were installed as sample duplicates. Trip blanks were provided to accompany the modules from their extraction in the field to the laboratory. Additional discussion of the potential impact of this deviation on the qualitative soil gas data is discussed in Section 3.6.

Recollection of samples was undertaken at numerous locations because two of the analytical suites, VOCs and TPH GRO, have a short holding time and delays in express shipments resulted in samples arriving at the lab after the holding times for extraction. Sample shipment and receipt was monitored by the project chemist daily and in instances where samples exceeded the holding time, the field team reinstalled the test pits and collected new sample volume for the affected analysis. In these instances, report data tables provide two sampling dates for the sample.

A modification to the field work was required when an inert ordnance item was encountered at test pit 57 on June 30, 2016. As a result of this encounter, the field work was suspended until an addendum was prepared for the Final Work Plan to address potential unexploded ordinance (UXO) encounters (TPMC 2016b). The second phase of the soil sampling occurred with UXO escort to ensure safe implementation of the planned work.

During the sampling hiatus associated with the UXO escort planning and contracting, the laboratory, located in San Jose California, performing the TPH analysis ceased operations. This operational change required that TPMC change the laboratory for TPH analysis. Through the project laboratory, SGS Accutest, Analytical Resources, Inc. located in Tukwila Washington was contracted to perform the TPH GRO/DRO analysis. This laboratory has both current ELAP and Washington ECY laboratory certifications thus this change did not impact the data quality described in the Final Work Plan.

3.0 INSPECTION RESULTS

TPMC mobilized to the field for the SI activities at the study area in June 2016 and remobilized in October 2016. Field activities included a site reconnaissance, a geophysical survey, soil gas sample collection, and collection of surface and subsurface soil samples.

3.1 ON-SITE RECONNAISSANCE RESULTS

The reconnaissance effort was conducted on June 1, 2016. The site is a mix of open bare ground, open area with grasses and sagebrush, scrub/shrubby areas and is bisected by two dirt 2-track roads (Figure 1-2). In the northern portion of the study area, linear berms or hummocks were observed within the vicinity of SWMU 57. The western boundary of the study area is clearly delineated by a newly installed street. Visual site reconnaissance identified the presence of spools of concertina wire, Connex storage boxes and debris on the ground surface in the southern portion of the site. This large amount of metal debris and the materials associated with current installation operations would have represented significant cultural interference for the EM-31 survey equipment. In preparation for the geophysical survey, installation personnel removed these features and fencing present in the same area. Identification of surface features that may have been associated with former landfilling and/or burning activities were not discernable.

3.2 GEOPHYSICAL SURVEY RESULTS

The geophysical survey was completed to provide subsurface information about the site (e.g., potential locations of buried debris and underground lines) to support the delineation of the lateral extent of subsurface debris and to assist in focusing the soil sampling on areas that have the highest likelihood of chemical impacts associated with previous site activities. The geophysical report is presented in Appendix D. Figures 3-1 and 3-2 show a map of EM31-MK2 digital geophysical mapping (DGM) quadrature and in-phase response across the investigation area. Data from both of the EM-31 surveys were evaluated initially in the field and digitally recorded for subsequent mapping and reporting purposes (Appendix D).

The conductivity data identified disturbed subsurface materials throughout most of the eastern portion of the study area. Background apparent conductivity was approximately 6 - 28 milliSiemens per meter (mS/m). An area of elevated apparent conductivity greater than 30 mS/m is present and is consistent with possible disturbed areas with subsurface debris (Figure 3-1). As observed on the response map, the limits of the area of elevated conductivity appears to extend beyond the survey boundary to the east and southeast.

In-phase data provide an indication of subsurface metallic debris. Figure 3-2 presents several localized areas with elevated responses of greater than positive (+) 2 parts per thousand (ppt) and negative (-) 2 ppt, which indicate subsurface metallic responses. Lack of in-phase response within the area of elevated conductivity would be consistent with nonmetallic or less metallic debris in those areas. The in-phase results indicate that there are linear features that may indicate filled trenches within both SWMU 57 and the southern portion of the study area. Within SWMU 57, the elevated responses correspond to the linear depressed topography features observed during the site reconnaissance.

The EM-31 survey also served to locate potential underground utilities. Figure 3-3 presents the geophysical results with annotation describing the potential sources of the anomalies. Based on

these results, the approximate boundary of previous landfill activity has been inferred (Figure 3-4)

3.3 SOIL GAS SAMPLE RESULTS

Passive soil gas sampling was performed using GORE-SORBER samplers to collect time-integrated soil vapor via a buried sorbent-based collector. The modules were deployed were analyzed for a select list of VOCs and several SVOCs. The purpose of this sampling was to establish the presence or absence of VOCs in soil gas. However, because the trip blanks accompanied the sampler only on the return portion of the samplers' trip, quantitative results were provided by AGI, LLC to allow for an assessment of whether detections were likely to be related to trip conditions rather than site conditions.

Table 3-1 presents the soil vapor analysis as mass results; these are the ELAP accredited analytical results. Because a trip blank did not accompany the samplers to the site, results have conservatively been segregated between detections that may be assumed to be site-related (greater than 5x the limit of quantitation [LOQ]) and constituents that were detected but definitive presence on site cannot be determined (less than 5x the LOQ). There were no detections for any analytes in 11 of the 22 samplers; these results may act as a surrogate for a field blank and suggest that samplers were not impacted by contamination during travel to the site. The trip blanks did not contain any detections indicating that there was no introduction of contaminants during the return trip to the laboratory. Both of these qualitative factors suggest that all detected analytes may be site related. Table 3-2 presents the soil gas results as calculated concentrations in soil gas; Appendix E presents the analytical data report for the soil gas sampling.

Two chlorinated solvents, trichloroethylene (TCE) and PCE were detected in samplers located within the footprint of the proposed barracks. The maximum concentration was TCE detected at 405 micrograms per meter cubed (ug/m^3) at YTCFLC-SG-06 near the northern end of the proposed Barracks building. Three petroleum, oil, and lubrication (POL) compounds, ethylbenzene, m,p- and o-xylene were detected within the footprint of the proposed DFAC building. POL compounds were also detected within the footprint of the barracks at YTCFLC-SG-08 and YTCFLC-SG-12. Concentrations of ethylbenzene and xylenes at YTCFLC-SG-07/07D similar to YTCFLC-SG-12 but were less than 5x the LOQ.

3.4 SOIL SAMPLING SITE SELECTION

As described in Section 2.1.4, following review of the geophysical data, and in conjunction with the observations noted during the concurrent site reconnaissance, 25 test pit and 20 surface soil sampling locations were selected. As noted in Section 3.2, the geophysical data identified metal targets and/or disturbed subsurface materials throughout the area of investigation. Therefore, clearly defined areas of high priority sampling sites were not identified. In addition to the use of current site reconnaissance and geophysical data, the approximate locations of test pits excavated in CY2012 for Washington Army National Guard (WAARNG) were used to assist in the location of sampling sites. A copy of the 2012 geotechnical report and historical aerials for the area are provided in Appendix A (USACE 2015). Field observations (e.g., presence of staining, debris on the surface) were recorded on the Soil Test Pit logs (Appendix F). Summary descriptions of the debris encountered and refusal depths are presented in Table 3-3.

Data have been presented in the following sections in summary form; all of the results from the SI sampling event are presented in Appendix G. Laboratory data are presented in Appendix H and the associated data validation report for soil analysis is presented in Appendix I.

Photographic documentation of the individual sampling sites and the general land surface at the former landfill complex is provided in Appendix J.

3.5 SURFACE SOIL SAMPLE RESULTS

Twenty surface soil samples were collected at the study area (Figure 3-5). A summary of the results of the surface soil analysis are presented in Tables 3-4 and 3-5. To ease data evaluation across the site, analytes are presented on these tables if they were detected in either surface or subsurface soil regardless of whether they were detected in the surface interval.

3.5.1 VOCs

Only acetone was detected from the VOC analyte list in surface soils (Table 3-4); however, the detected concentration did not exceed the PAL. Acetone has been considered laboratory contaminants and/or laboratory artifacts, and therefore; this detection is considered potential false positives and likely does not reflect site conditions.

3.5.2 SVOCs

There were no SVOC detections in surface soil samples.

3.5.3 PAHs

The results of PAH screening against PALs are presented in Table 3-4. Although there were detections of many PAH compounds, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene, there were no exceedances of PALs. In addition, consistent with Washington MTCA regulation, carcinogenic PAHs (cPAHs) were evaluated for toxic equivalency to benzo(a)pyrene. Toxic equivalency factors (TEFs) were applied to cPAHs to derive a total benzo(a)pyrene equivalent (BaPeq) concentration for each sample. None of the benzo(a)pyrene-equivalents exceeded the PALs.

3.5.4 TPH GRO/DRO

TPH DRO and motor oil range compounds were detected in 15 of the 20 sample locations at concentrations less than the PALs (Table 3-4). There were no detections of TPH GRO in surface soils.

3.5.5 Pesticides

Several pesticide compounds were detected in surface soil, including: chlordane, alpha-chlordane, gamma-chlordane, dieldrin, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, endosulfan sulfate, endrin ketone, heptachlor and heptachlor epoxide. However, none of the concentrations in surface soil exceeded the PALs.

3.5.6 PCBs

The PCB, Aroclor 1254, was detected in one surface soil sample collected at the study area. The residential direct exposure PAL of 240 micrograms per kilogram (µg/kg) was not exceeded in any of the soil samples collected (Table 3-4).

3.5.7 Herbicides

Herbicide analytes were not detected in surface soil samples.

3.5.8 Metals

Two metals, lead and thallium, were detected at concentrations greater than their respective residential PALs (Table 3-5). Lead was detected at a concentration exceeding the MTCA level of 250 milligram per kilogram (mg/kg) in one location and the RSL-based PAL for thallium was exceeded at two locations. Thallium does not have a clear relationship to previous DoD activities, thus exceedances of the RSL are not considered to be site-related.

3.6 SUBSURFACE SOIL SAMPLE RESULTS

Fifty subsurface soil samples were collected at the twenty five test pit locations within the study area (Figure 3-5). During test pit installation, a 105 millimeter (mm) inert projectile was unearthed at test pit #57 (a photograph of this item is shown in Appendix J, photograph 27); subsequent test pit activities were performed with UXO escort to ensure safe conditions. During the reinstallation of test pit #57, an empty, smashed shell casing, believed to be an M105, was encountered. The item was determined to be of no hazard because it was empty and the primer was removed prior to burial. In most cases, the contact between debris material and native soil was readily identified and residues from the prior activities could be discerned. At 11 of the 25 test pit locations, no debris or staining was encountered and all but two test pits were terminated when hard packed sandstone resulted in excavator refusal.

As presented on Table 3-3, staining without debris was identified in two test pits and debris was identified in 12 test pits. At test pit #52, an approximately 3-foot void between 4 - 7 feet bgs with drum fragments at the bottom was encountered. The photoionization detector (PID) did not return any detections when soil from the test pit was placed into a bag to screen the off gas. The soil appeared to have partially cemented around the drums. This location returned a strong anomaly response in the EM-31 inphase geophysical survey. Observations associated with debris have been overlain on the EM-31 subsurface anomaly map to assess the potential spatial extent of buried waste (Figure 3-5); results indicate that the geophysics provided a good indicator of the location of buried waste across the site. A summary of the subsurface samples collected is presented on Table 3-6. A record of the soil conditions and debris encountered was recorded on the test pit logs (Appendix F) and photographic documentation of the debris encountered is presented in Appendix J.

The results of the subsurface soil laboratory analysis are presented in Tables 3-7 and 3-8. Data were compared to the PALs described in the work plan (TPMC 2016a).

3.6.1 VOCs

Two VOCs (acetone and TCE) were detected in subsurface soils (Table 3-7); however, none of the detected concentrations exceeded the PALs for residential direct exposure. The acetone has been considered laboratory contaminant and/or laboratory artifact, and therefore; this results are considered potential false positive and likely do not reflect site conditions. The detection of trichloroethylene, although below the PAL, was in the general vicinity of the study area where GORE-SORBER samplers detected TCE.

3.6.2 SVOCs

The SVOCs bis(2-ethylhexyl)phthalate, and 2,4-dinitrotoluene were detected in one location each; however, these constituents did not exceed their respective residential direct exposure PALs.

3.6.3 PAHs

The results of PAH screening against PALs are presented in Table 3-7. Noncarcinogenic constituents were compared to residential PALs. Although there were detections of many noncarcinogenic PAH compounds, including 2-methylnaphthalene, benzo(g,h,i)perylene, fluoranthene, naphthalene, phenanthrene, and pyrene, there were no exceedances of PALs. TEFs were applied to cPAHs to derive a B(a)Peq for each sample. The BaPeq did not exceeded the residential PALs in any of the subsurface soil samples.

3.6.4 TPH GRO/DRO

TPH compounds were not detected at concentrations greater than the PAL (Table 3-7) at any of the 32 locations where TPH DRO or motor oil range hydrocarbons were detected. TPH GRO was not detected in subsurface soils.

3.6.5 Pesticides

Pesticide compounds were detected at 31 subsurface sampling locations within the study area. Analytes detected included: aldrin, delta-BHC, chlordane, alpha-chlordane, gamma-chlordane, dieldrin, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, endosulfan sulfate, and heptachlor. None of the detections exceeded PALs.

3.6.6 PCBs

Aroclors 1016, 1254, and 1260, were detected in subsurface soil samples collected at the study area (Table 3-7). The residential direct exposure PAL was not exceeded in any of the soil samples collected.

3.6.7 Herbicides

Two herbicide compounds, 2,4,5-TP (Silvex) and pentachlorophenol were detected in subsurface soils. Neither herbicide compound was detected at concentrations greater than screening levels.

3.6.8 Metals

Several metals were detected at concentrations greater than PALs (Table 3-8). Arsenic, iron, lead, and thallium were detected at levels exceeding the residential direct exposure PALs. Concentrations of arsenic were detected at a concentration slightly above the action level in one sample within test pit #54. Thallium concentrations exceeded the residential RLS-based PAL in 12 samples; all concentrations were less than the detection limit for the State of Washington background metals concentrations in soil (Washington ECY 1994) and are not believed to be indicative of a release. Concentrations of iron and lead in soil greater than PALs were detected in test pits #51, 52, 53, 57, 58, and 64. These test pits fall within the former SWMU #57 boundary or in the vicinity of the proposed barracks building. As described above, lead was

also detected at a concentration greater than the PAL in surface soil at SO-11, which is surrounded by test pits 51, 52, 53, and in the vicinity of test pit 64.

3.6.9 Waste Characterization

Waste characterization samples were collected from five locations to assess future waste management alternatives for the onsite soils. Five soil samples were analyzed for RCRA waste characteristics including: TCLP VOC, TCLP SVOC, and TCLP metals as well as ignitibility, reactivity, and corrosivity. Soils do not show any characteristics of a RCRA waste, as presented in Table 3-9.

3.7 DATA VALIDATION RESULTS

Data validation was performed using the automated ADR.net software program. Results of the data validation are presented in digital form in Appendix H.

Data were evaluated against specific criteria to verify the achievement of precision, accuracy, representativeness, completeness and comparability goals established to meet the project data quality objectives (DQO). To verify that these DQOs were met, sampling and handling procedures, laboratory analysis and reporting, and any nonconformances and discrepancies in the data were examined using ADR.net to determine compliance with the appropriate methods and applicable procedures. The results of this review are presented in Appendix I.

3.8 WASTE VOLUME ESTIMATION

Data collected during the SI were used to assess a potential hazard ranking and the waste volume that could be generated during construction activities like those planned for new barracks and dining facility buildings. Appendix K provides the waste volume calculations and Appendix L provides the relative risk evaluation.

The waste volume was estimated based upon the information pertaining to waste content collected during the SI. Available plans lacked limits of disturbance or building envelopes, thus this assessment focused on the footprint of the buildings, driveways and pathways. Portions of the building footprint where test pits were present and did not contain debris were excluded from these calculations. Because the delineation of buried waste was not exhaustive, the estimates of areal extent within the buildings and paved areas should be considered a rough estimate. In addition, for this assessment, no consideration of the potential costs associated with UXO, or UXO escort support has been incorporated pending a future US Army Hazard Assessment associated with the discovery of two inert shells unearthed in the northern portion of the study area during the SI investigation. Based on the results of the test pitting, this assessment evaluated potential excavation and disposal costs for removal of between 0.7 and 1.6 acres to a depth of five ft. Since the soil excavation would be part of a larger construction effort, it is difficult to estimate the cost to remove because of potential rate limitations. As such, the cost of waste excavation would be included in any construction estimate and therefore is not included at this time. Using a range of between $50 - $70/ton for nonhazardous waste disposal depending on transportation distance and individual landfill costs, an order of magnitude cost for disposal of the total volume would be between $615,000 and $1,480,000. Again, it should be pointed out that these costs assume excavation to 5 ft bgs which is believe to be a conservative estimate for most of the potential surface disturbance required to construct buildings on this site.

4.0 CONCLUSIONS

4.1 SUMMARY

An SI was conducted within the study area portion of the Former Landfill Complex at the Yakima Training Center in Yakima, Washington. The general scope of the SI at the study area included: mobilization to the site, completion of the SI activities, and preparation of this SI report. The field activities were completed during two field activity intervals, the first in June 2016 and returned to complete activities in October 2016.

The YTC is located in south-central Washington in Yakima and Kittitas Counties approximately five miles north of the city of Yakima. The FLC is located in Yakima County within the western portion of the YTC Cantonment Area and contains SWMU 57, it lies northwest of Building 870. SWMU 57 is approximately three acres in size and the area surrounding the SWMU is approximately 24 acres. The area surrounding the FLC is predominately open, undeveloped high desert to the north and northeast with developed buildings to the south and west.

The study area within the FLC is approximately 20 acres and is centered at approximately 46°40'55.77"N and 120°27'4.64"W. It is situated from approximately the northern border of SWMU 57 and extends to the south to the developed area adjacent to Building 870. This study area is the focus of this SI because construction of a National Guard Barracks and DFAC was proposed in this portion of the FLC. The Roza District Irrigation Channel forms the approximate eastern boundary of the study area. Use of ground water within the study area is restricted by the implementation of LUCs.

The objective of the SI was to confirm the presence/absence of chemical impacts associated with the former DoD activities in soil at the study area. The SI was conducted in accordance with the requirements of CERCLA, the Department of the Army FUDS Program and WAC Chapter 173-340, Model Toxics Control Act Regulation. Soil data were compared to environmental cleanup levels specified by Chapter 173-340 WAC Method A levels and, where these levels were not available, data were compared to USEPA RSLs for residential direct contact.

The geophysical survey was completed to provide subsurface information about the site to support the delineation of the lateral extent of subsurface debris and to assist in focusing the soil sampling on areas that have the highest likelihood of chemical impacts associated with previous site activities. The conductivity data identified disturbed subsurface materials throughout most of the eastern portion of the study area. An area of elevated apparent conductivity is consistent with possible disturbed areas with subsurface debris. The limits of the area of elevated conductivity appear to extend beyond the survey boundary to the east and southeast. The in-phase geophysical results indicate that there are linear features that may indicate filled trenches within both SWMU 57 and the southern portion of the study area. Within SWMU 57, the elevated responses correspond to the linear depressed topography features observed during the site reconnaissance.

Passive soil gas sampling was performed using GORE-SORBER samplers to collect time-integrated soil vapor via a buried sorbent-based collector. The modules were deployed and analyzed for a select list of VOCs and several SVOCs. There were no detections for any analytes in 11 of the 22 samplers. Two chlorinated solvents, TCE and PCE were detected in samplers located within the footprint of the proposed barracks. The maximum concentration was TCE detected at 405 ug/m^3 near the northern end of the proposed Barracks building.

Three POL compounds, ethylbenzene, m,p- and o-xylene were detected within the footprint of the proposed DFAC building and the proposed barracks.

Following review of the geophysical data and soil gas sampling, soil sampling was performed on 25 test pits and 20 surface locations. Analysis was performed for TCL VOCs, TCL SVOCs including PAHs, TPH GRO/ DRO, TCL pesticides/ PCBs/ herbicides and TAL metals. Surface soil sampling identified only one concentration of a potentially DoD-related constituents, lead, that exceeded regulatory levels for the soil exposure pathway. Fifty subsurface soil samples were collected at the twenty five test pit locations within the study area. During test pit installation, within the boundaries of the SWMU #57, two inert projectiles were encountered in test pit #57; one was described as a 105 mm projectile, the other was predicted to be a smashed, empty M105 shell with the primer removed; however the condition of the projectile made positive identification difficult. Debris including glass, cans, metal, wood and ash were observed in 12 of the test pits. Visible staining was observed, red or green, in five test pits. One test pit, #52, had an approximately three foot void with drum fragments at the bottom of the void. Subsurface soil sample results indicated few exceedances of PALs. Only iron and lead exceedances are believe to be related to DoD activities; exceedances were encountered in six test pits. Waste characterization samples collected from five locations indicate that the debris would not require disposal as a hazardous waste. Debris comprised of glass, cans, ash and metallic shards could be landfilled, based on the available characterization sampling.

4.2 RECOMMENDATIONS

The SI geophysical, soil gas, and soil chemical data set developed indicates that the study area has impacts related to the former DoD disposal activities. Current LUCs are in place that restrict disturbance of the land's surface or development of the study area and are protective under the current land use; in the event that development activities would be undertaken at this location, further characterization would be warranted.

Waste materials encountered within the SWMU 57 boundary included inert shell casings and elevated concentrations of lead and iron. Concentrations of lead in several locations outside the SWMU 57 boundary also exceed the residential cleanup regulation for unrestricted residential landuse (Method A). However, under current land use, exposure that mimics the Method A exposure scenario does not exist within the study area, thus under current conditions, no unacceptable exposure is anticipated to occur. Concentrations of iron in subsurface soils exceeded residential RSLs; however, no current exposure to subsurface soils is anticipated to exist.

In the event that LUCs were removed, additional evaluation of potential soil gas concentrations of TCE and PCE and further assessment of potential contamination associated with past landfilling activities would be warranted within the planned development area.

Based on the findings of this SI, if landuse of the FLC would change, the following specific recommendations include:

- The hazard status of the site with respect to UXO should be determined.
- LUCs should be expanded beyond the current controls to address potential exposure to soil.
- LUCs applicable to land disturbance in SWMU 57 could be extended to the entirety of the FLC.

- Perform additional remedial investigation to assess potential risks posed by site conditions and the potential source of soil gas.
- Perform a background study to assess whether iron and thallium may be representative of localized background conditions, rather than related to previous DoD activities.

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FIGURES

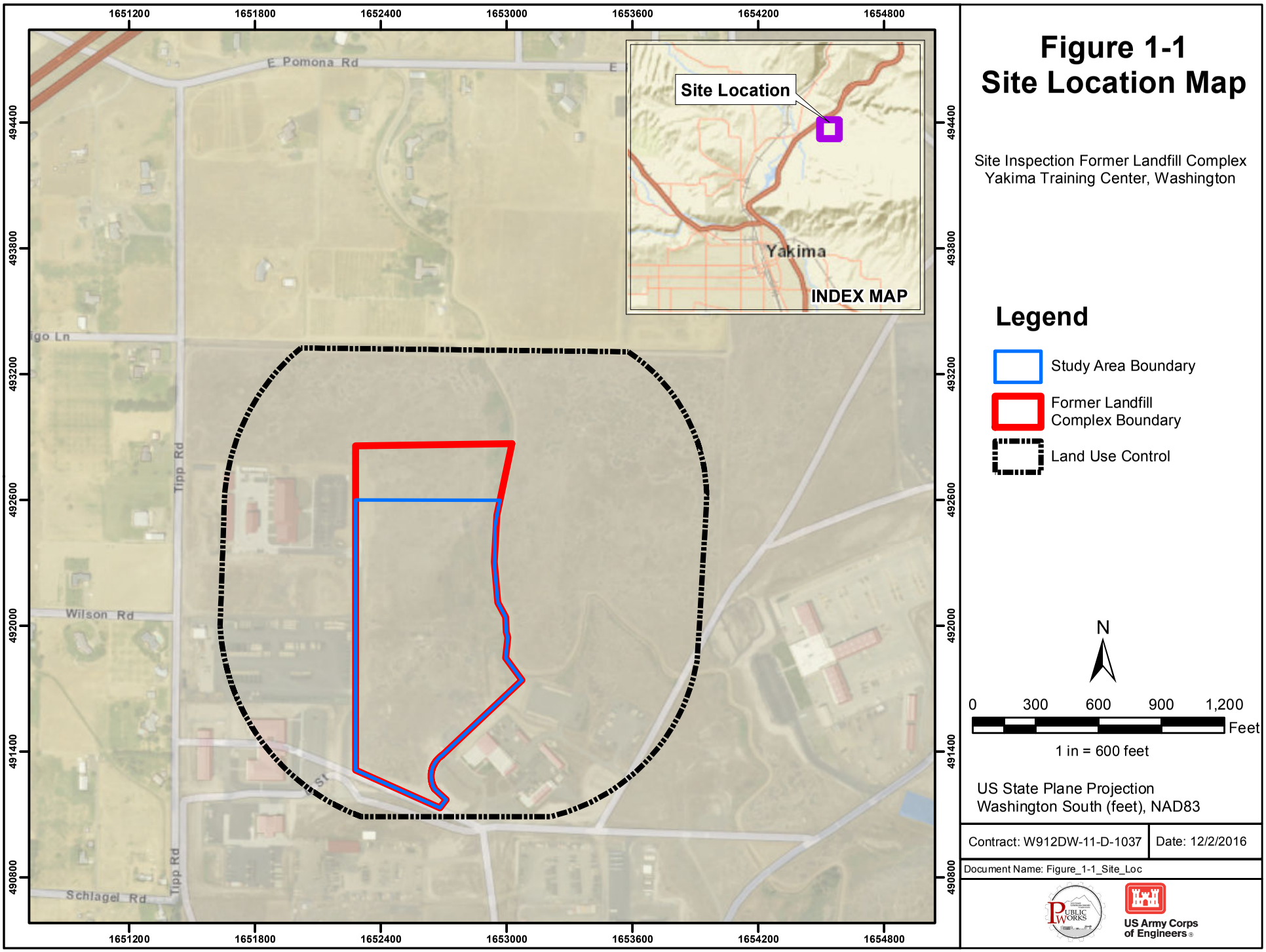

Figure 1-1
Site Location Map

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Study Area Boundary
- Former Landfill Complex Boundary
- Land Use Control

N

0 300 600 900 1,200 Feet

1 in = 600 feet

US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/2/2016

Document Name: Figure_1-1_Site_Loc

Public Works

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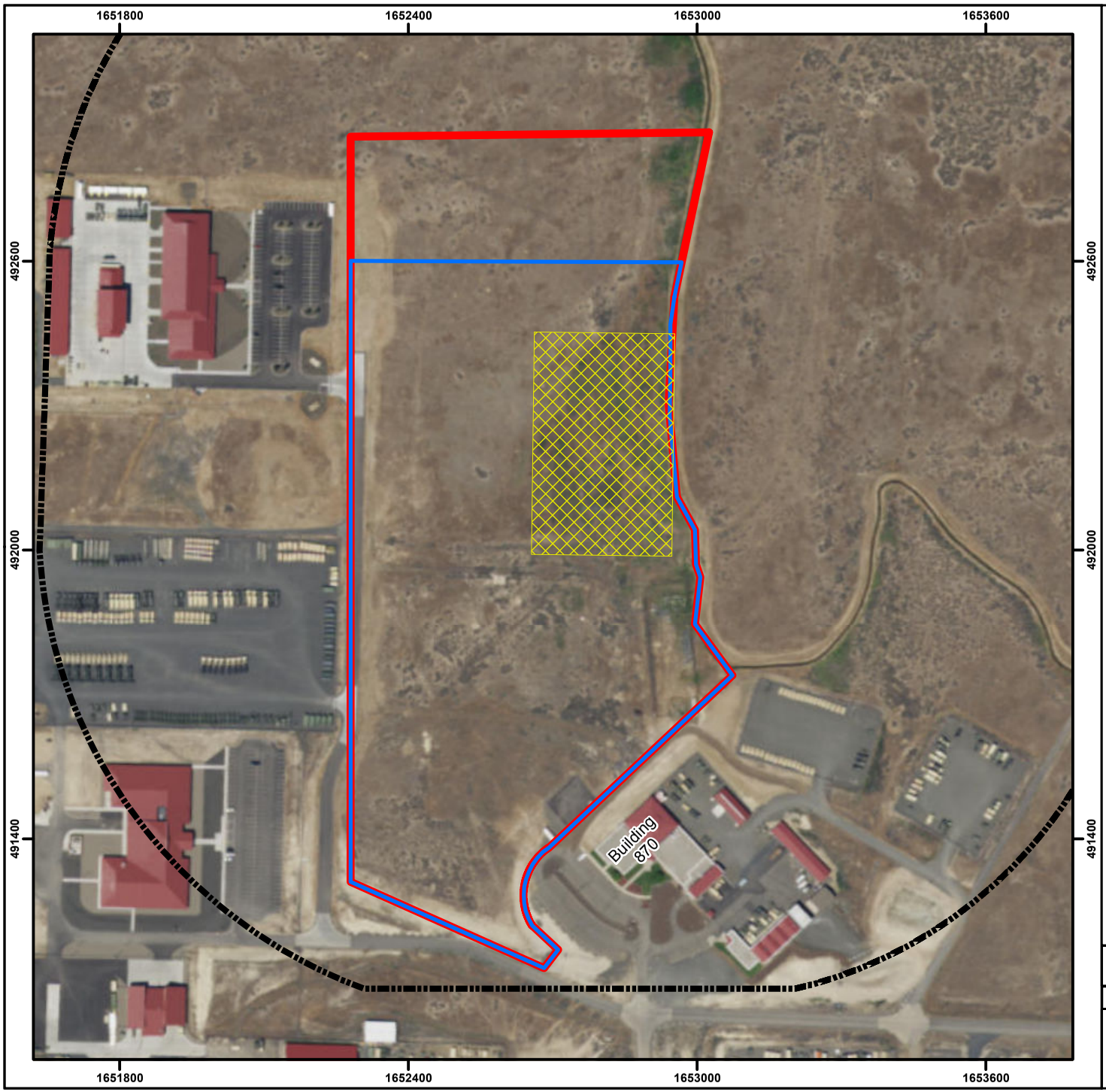

Figure 1-2
Study Area Proximity Map

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Land Use Control
- Former Landfill Complex Boundary
- Study Area Boundary
- SWMU 57 - RCRA Facility Investigation

N

0 150 300 450 600 Feet

1 in = 300 feet

US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/2/2016

Document Name: Figure_1-2_StudyAreaProx

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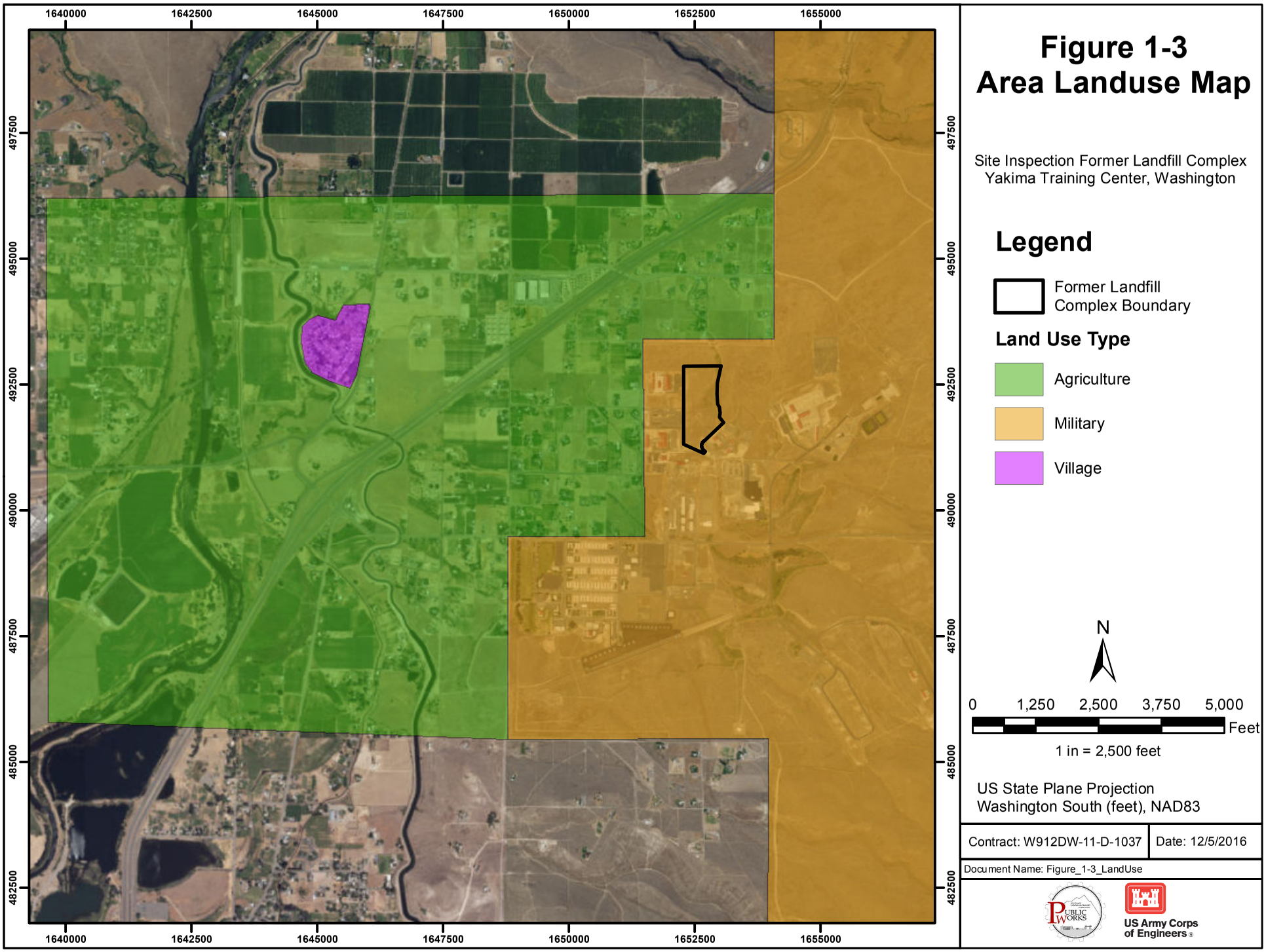

Figure 1-3
Area Landuse Map

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

Former Landfill Complex Boundary

Land Use Type

- Agriculture
- Military
- Village

N

0 1,250 2,500 3,750 5,000 Feet

1 in = 2,500 feet

US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/5/2016

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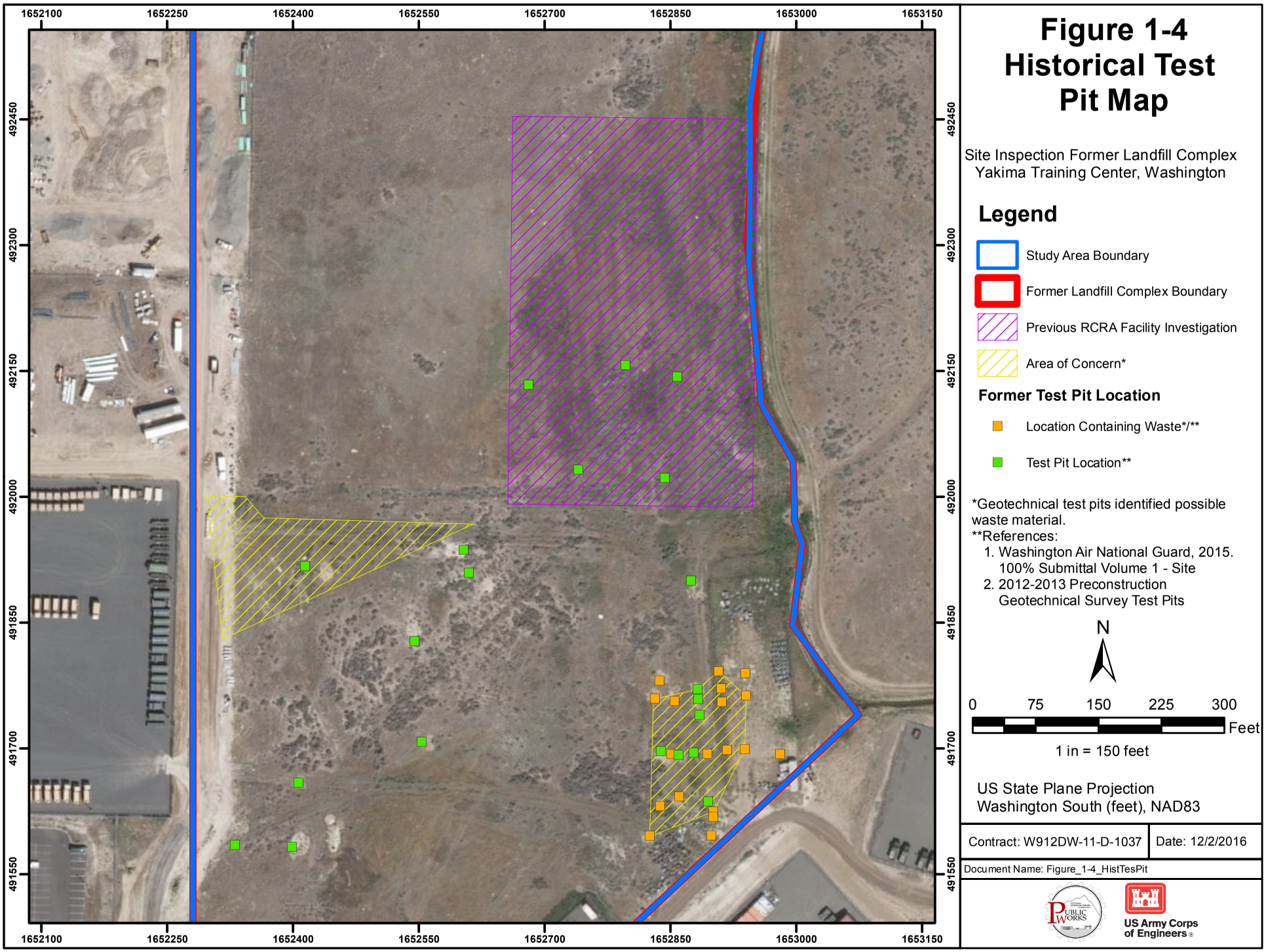

Figure 1-4 Historical Test Pit Map

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Study Area Boundary
- Former Landfill Complex Boundary
- Previous RCRA Facility Investigation
- Area of Concern*

Former Test Pit Location

- Location Containing Waste*/**
- Test Pit Location**

*Geotechnical test pits identified possible waste material.

**References:

1. Washington Air National Guard, 2015. 100% Submittal Volume 1 - Site
2. 2012-2013 Preconstruction Geotechnical Survey Test Pits

N

0 75 150 225 300 Feet

1 in = 150 feet

US State Plane Projection
Washington South (feet), NAD83

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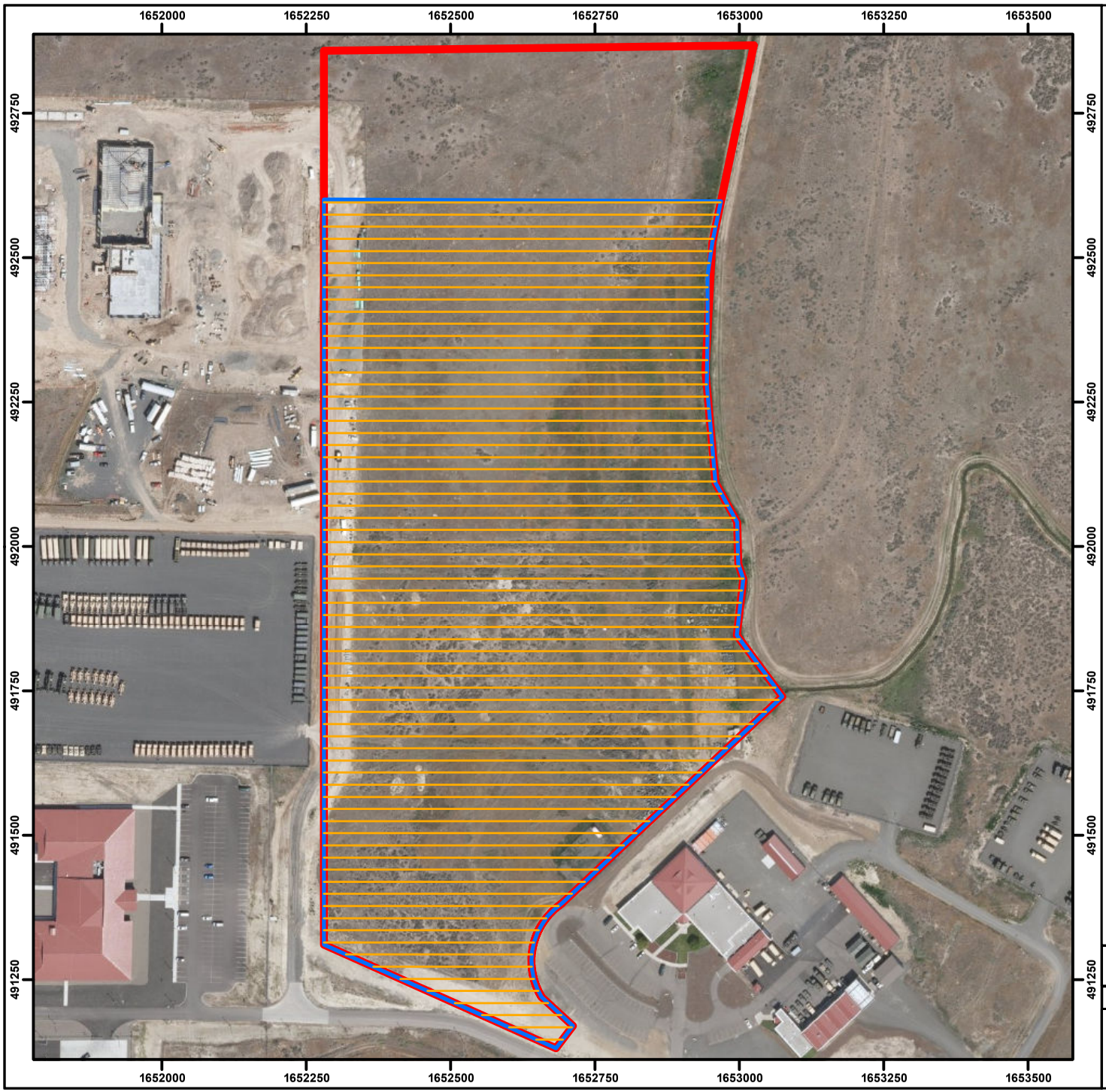

Figure 2-1 Geophysical Survey Area

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Former Landfill Complex Boundary
- Study Area
- Transects

N

0 125 250 375 500 Feet

1 in = 250 feet

US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/2/2016

Document Name: Figure_2-1_GeophysSurveyArea

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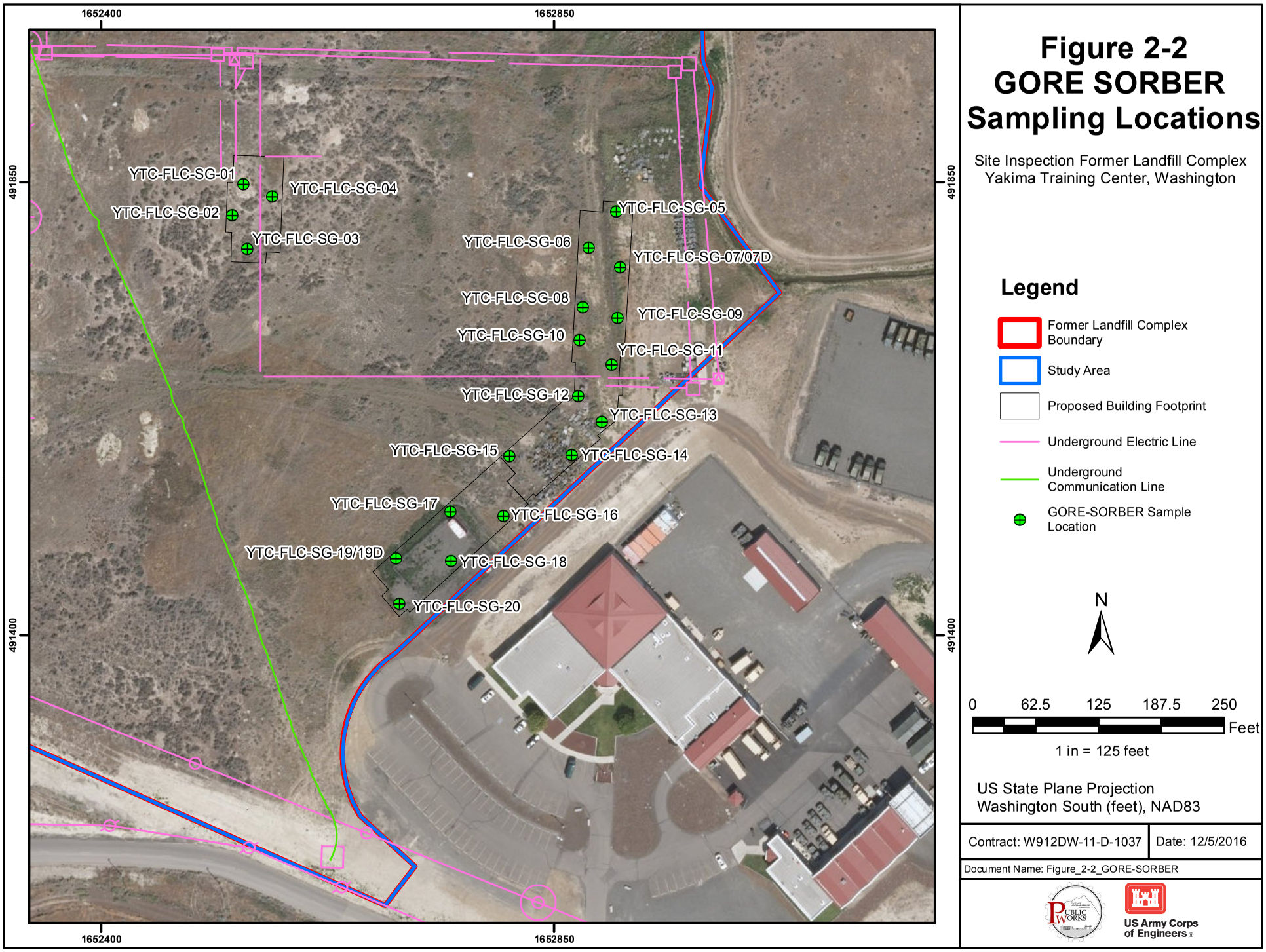


Figure 2-2
GORE SORBER Sampling Locations

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Former Landfill Complex Boundary
- Study Area
- Proposed Building Footprint
- Underground Electric Line
- Underground Communication Line
- GORE-SORBER Sample Location

N

0 62.5 125 187.5 250 Feet

1 in = 125 feet

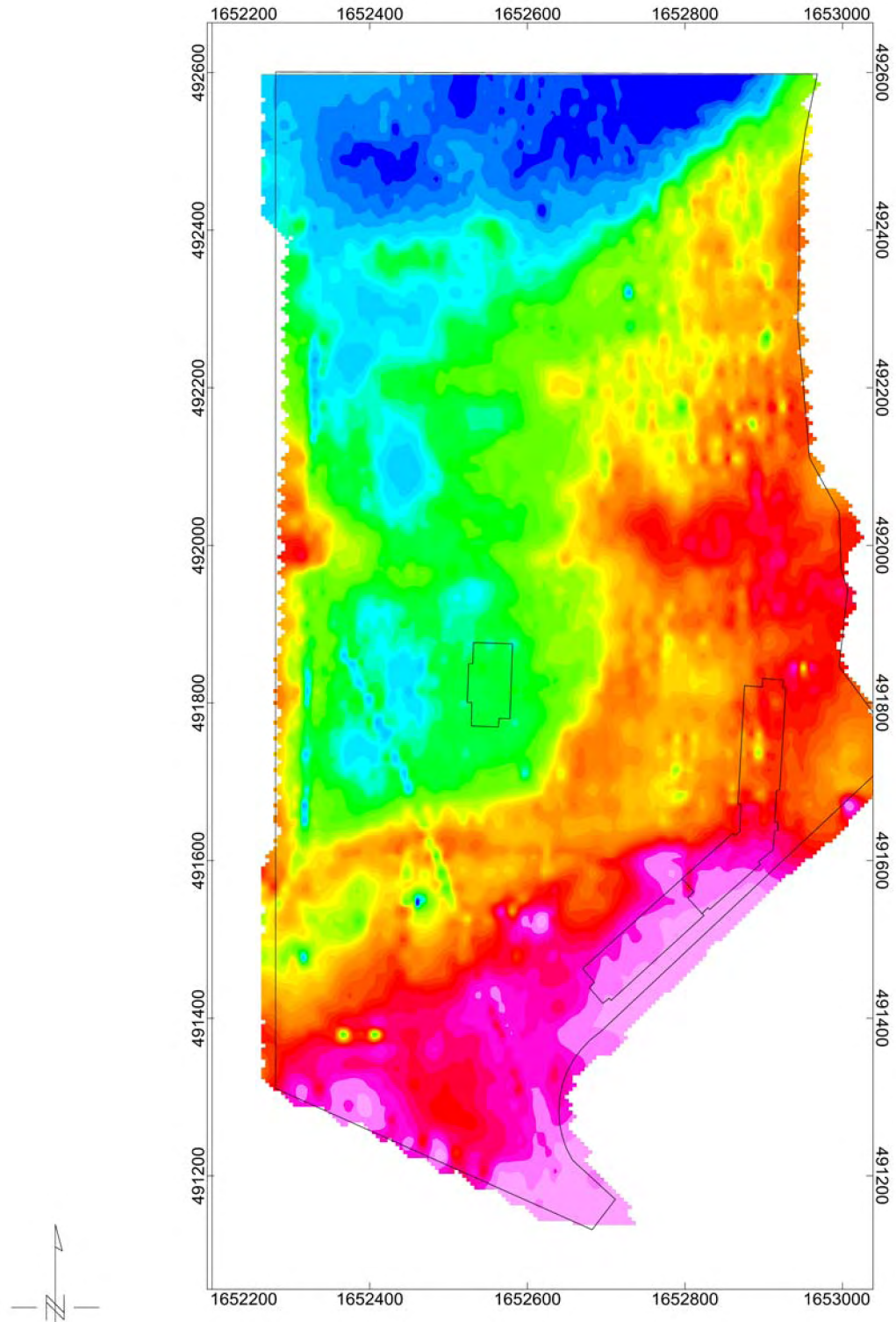
US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/5/2016

Document Name: Figure_2-2_GORE-SORBER

Public Works

US Army Corps of Engineers®



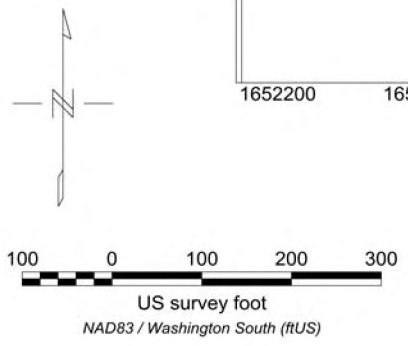


Figure 3-1
EM-31 Conductivity Map

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

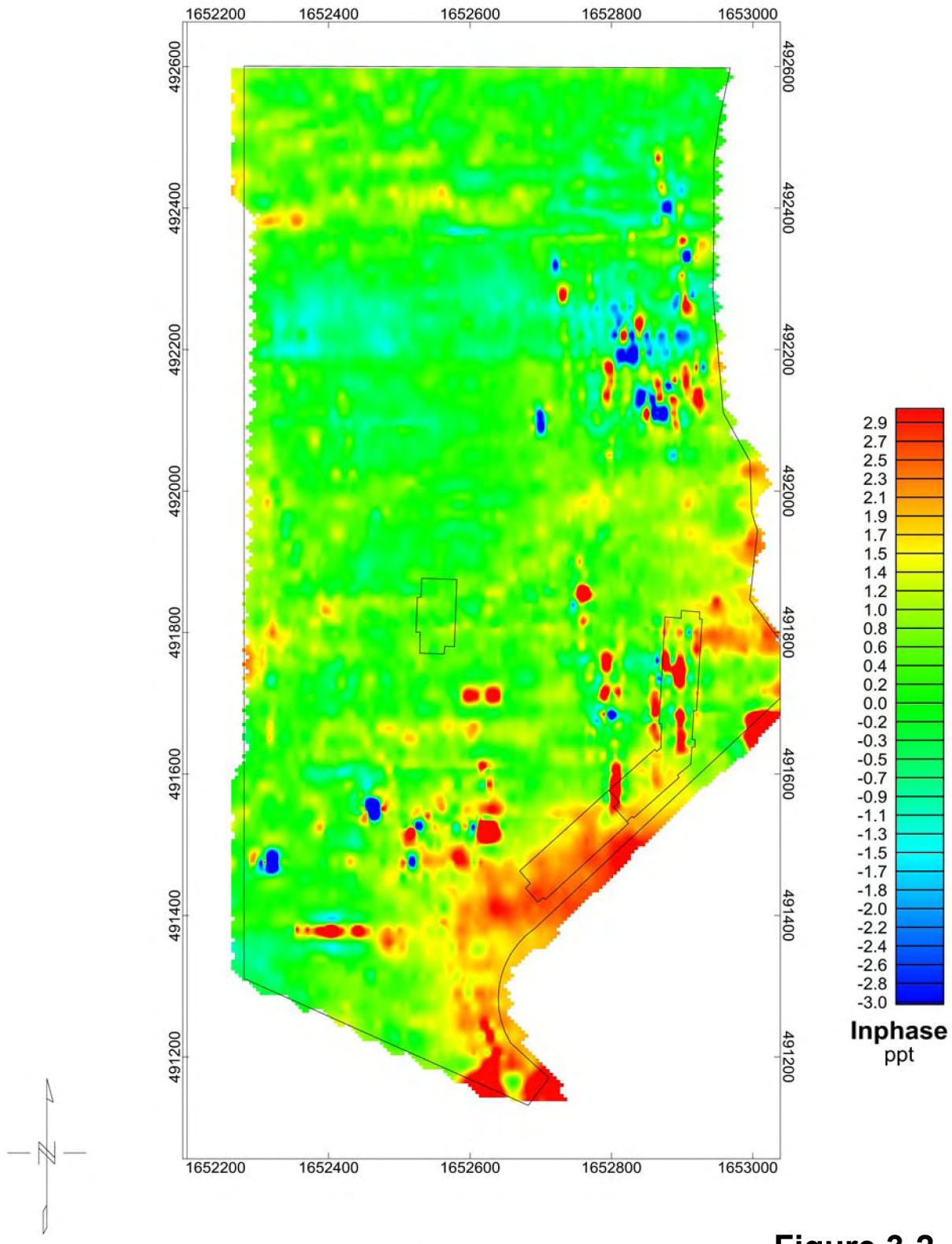
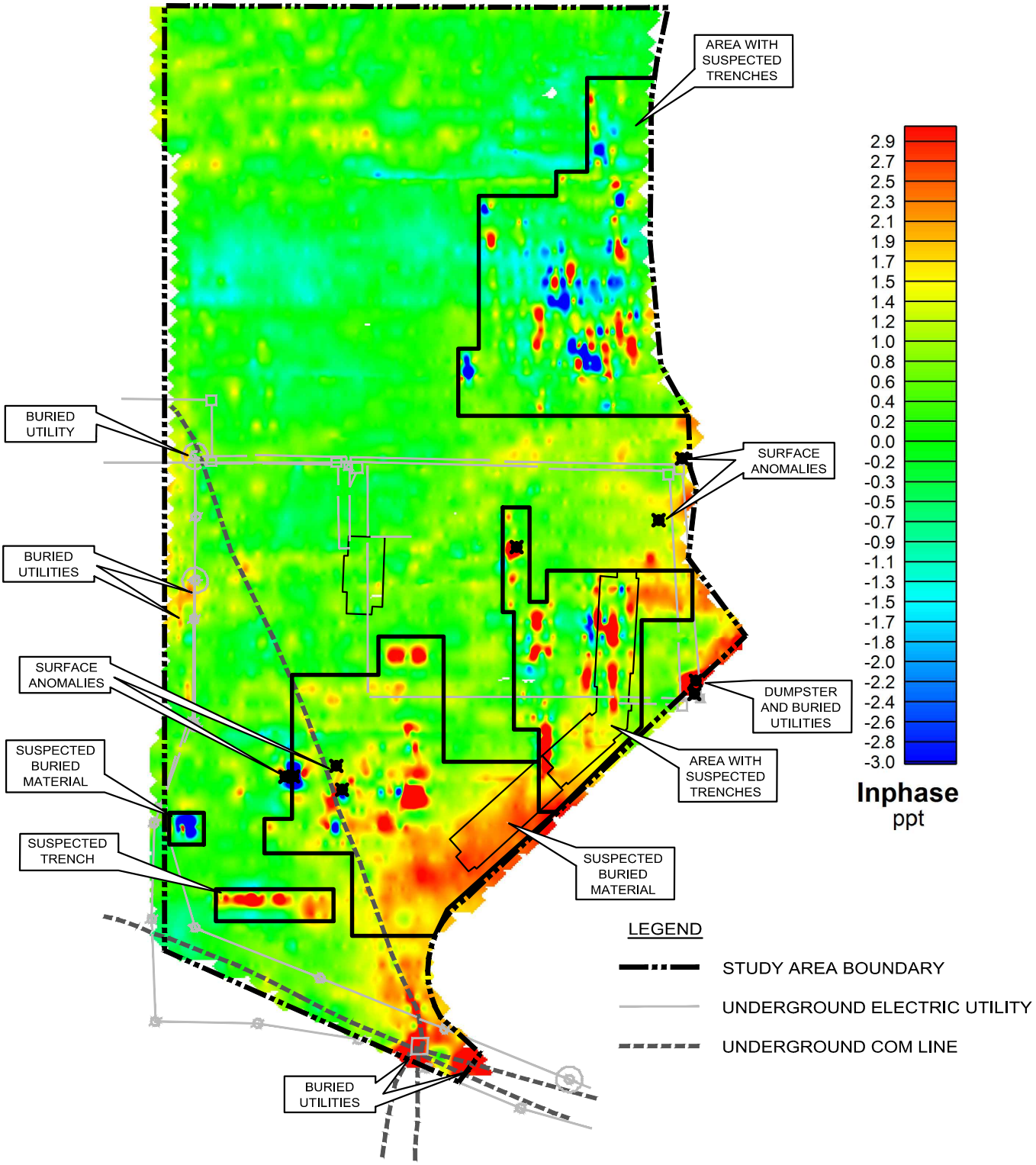


Figure 3-2
EM-31 Inphase Map

Site Inspection Former Landfill Complex
Yakima Training Center, Washington



N

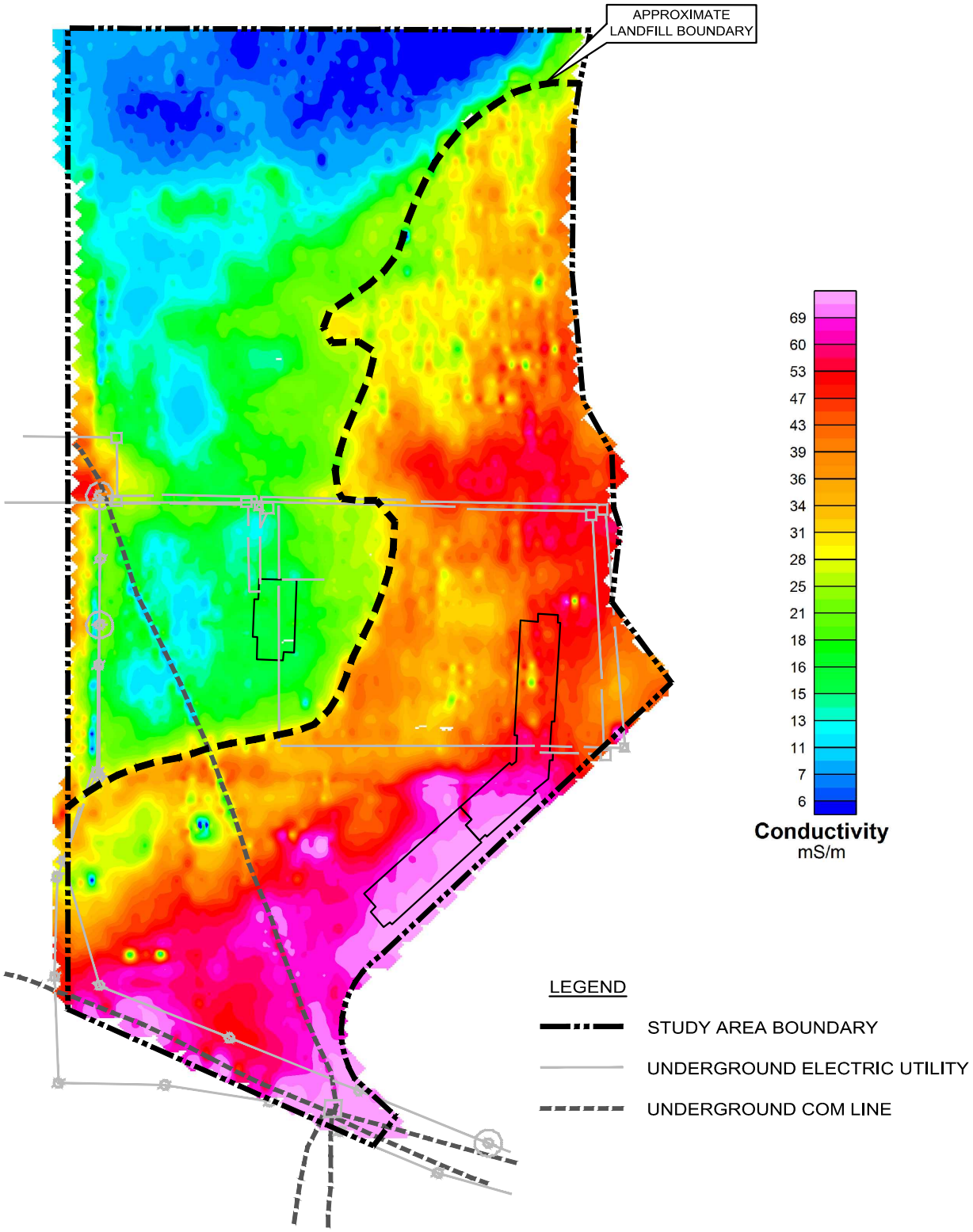
0 100 200 400

SCALE IN FEET

TerranearPMC
222 VALLEY CREEK BLVD.
SUITE 210
EXTON, PA 19341-2843
(610) 862-5000 PHONE
(610) 862-5050 FAX

FIGURE 3-3
SUBSURFACE ANOMALY MAP
BASED ON EM-31 INPHASE
SITE INSPECTION FORMER LANDFILL COMPLEX
YAKIMA TRAINING CENTER, WASHINGTON

PROJECT #:	TASK #:	DRAWING #:	SCALE:	DATE:	DRAWN BY:
46040	01	01A101	1" = 200'	06/15/16	DST



N

0 100 200 400

SCALE IN FEET

FIGURE 3-4
APPROXIMATE LANDFILL BOUNDARY MAP
BASED ON EM-31 CONDUCTIVITY
SITE INSPECTION FORMER LANDFILLL COMPLEX
YAKIMA TRAINING CENTER, WASHINGTON

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PROJECT #:	TASK #:	DRAWING #:	SCALE:	DATE:	DRAWN BY:
46040	01	01A101	1" = 200'	06/15/16	DST

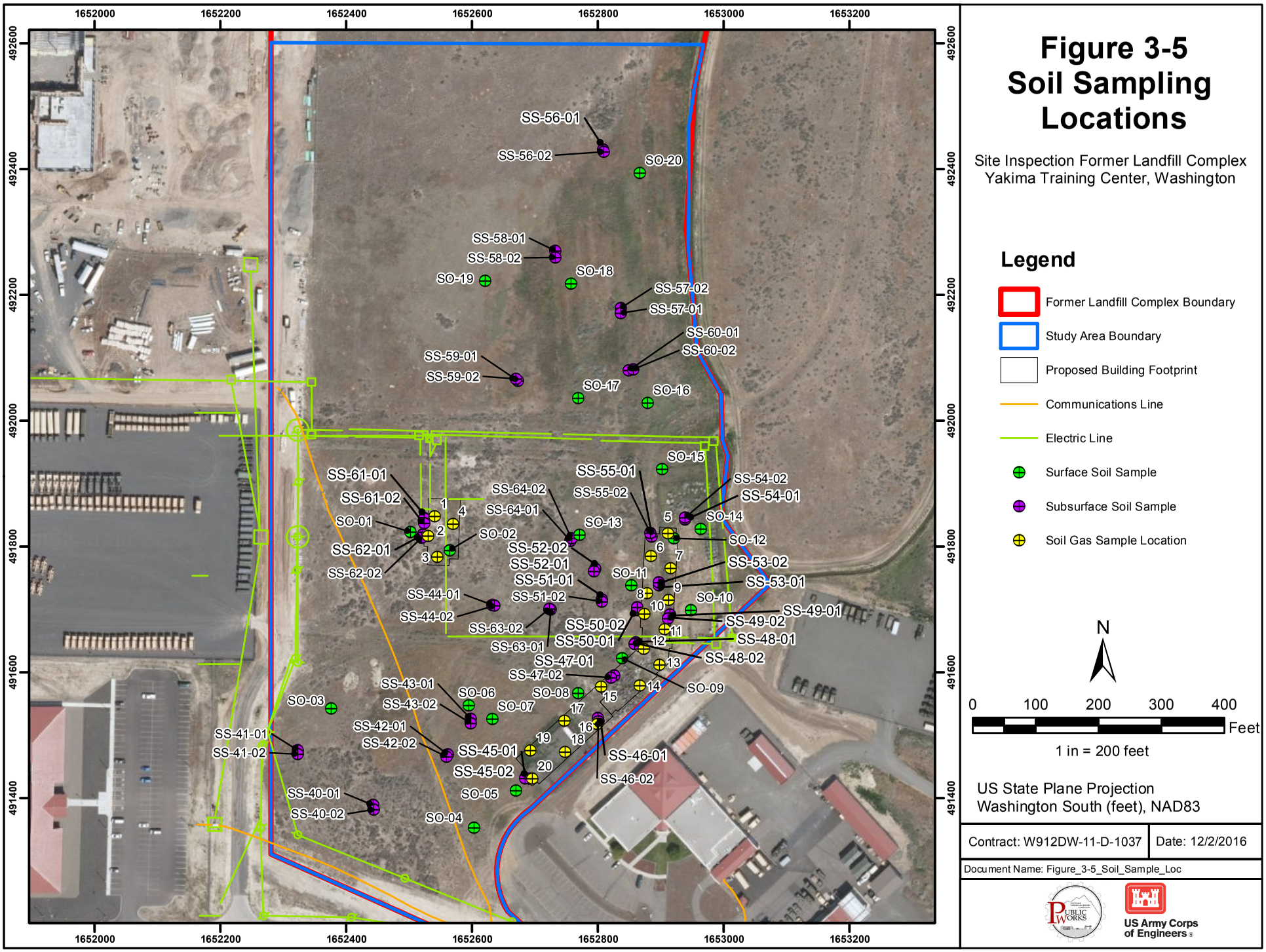

Figure 3-5
Soil Sampling Locations

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Former Landfill Complex Boundary
- Study Area Boundary
- Proposed Building Footprint
- Communications Line
- Electric Line
- Surface Soil Sample
- Subsurface Soil Sample
- Soil Gas Sample Location

N

0 100 200 300 400 Feet

1 in = 200 feet

US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/2/2016

Document Name: Figure_3-5_Soil_Sample_Loc

Public Works

US Army Corps of Engineers

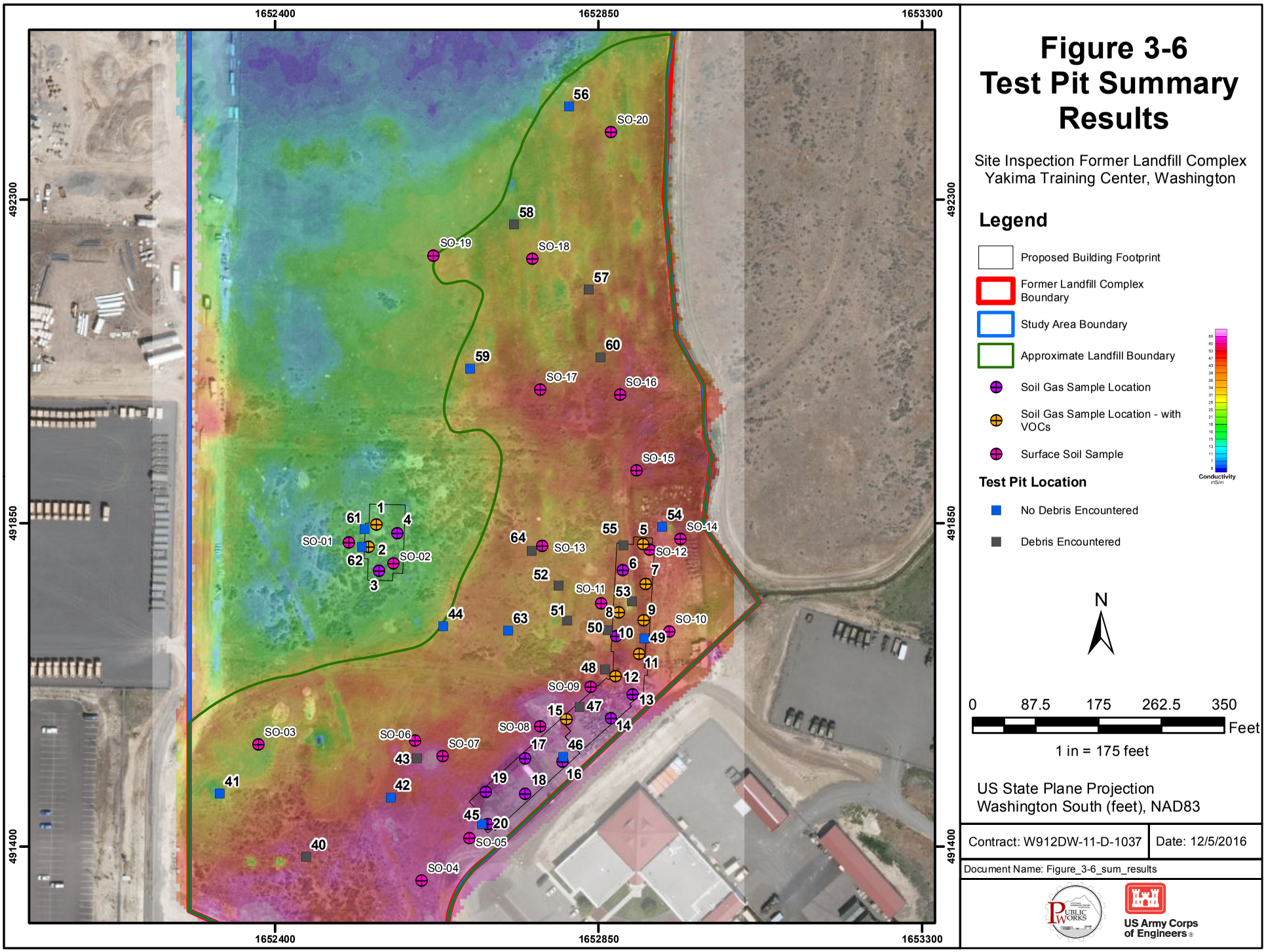

Figure 3-6
Test Pit Summary Results

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Proposed Building Footprint
- Former Landfill Complex Boundary
- Study Area Boundary
- Approximate Landfill Boundary
- Soil Gas Sample Location
- Soil Gas Sample Location - with VOCs
- Surface Soil Sample

Conductivity mS/m

Test Pit Location

- No Debris Encountered
- Debris Encountered

N

0 87.5 175 262.5 350 Feet

1 in = 175 feet

US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/5/2016

Document Name: Figure_3-6_sum_results

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TABLES

Table 2-1
Screening Levels for SI Data Evaluation
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Project Action Limit		Residential Landuse
GC/MS Volatiles (SW846 8260B)		
Acetone	ug/kg	61,000,000
Benzene	ug/kg	**30**
Bromochloromethane	ug/kg	150,000
Bromodichloromethane	ug/kg	290
Bromoform	ug/kg	19,000
2-Butanone (MEK)	ug/kg	27,000,000
Carbon Disulfide	ug/kg	770,000
Carbon Tetrachloride	ug/kg	650
Chlorobenzene	ug/kg	280,000
Chloroethane	ug/kg	14,000,000
Chloroform	ug/kg	320
Cyclohexane	ug/kg	6,500,000
Dibromochloromethane	ug/kg	8,300
1,2-Dibromo-3-chloropropane	ug/kg	5
1,2-Dibromoethane	ug/kg	**5**
Dichlorodifluoromethane	ug/kg	87,000
1,2-Dichlorobenzene	ug/kg	1,800,000
1,3-Dichlorobenzene	ug/kg	-
1,4-Dichlorobenzene	ug/kg	2,600
1,1-Dichloroethane	ug/kg	3,600
1,2-Dichloroethane	ug/kg	460
1,1-Dichloroethylene	ug/kg	230,000
cis-1,2-Dichloroethylene	ug/kg	160,000
trans-1,2-Dichloroethylene	ug/kg	1,600,000
1,2-Dichloropropane	ug/kg	1,000
cis-1,3-Dichloropropene	ug/kg	-
trans-1,3-Dichloropropene	ug/kg	-
1,4-Dioxane	ug/kg	5,300
Ethylbenzene	ug/kg	**6,000**
Freon 113	ug/kg	40,000,000
2-Hexanone	ug/kg	200,000
Isopropylbenzene	ug/kg	1,900,000
Methyl Acetate	ug/kg	78,000,000
Methyl Bromide	ug/kg	6,800
Methyl Chloride	ug/kg	110,000
Methylcyclohexane	ug/kg	-
Methylene Chloride	ug/kg	**20**
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000
Methyl Tert Butyl Ether	ug/kg	**100**
Styrene	ug/kg	6,000,000
1,1,2,2-Tetrachloroethane	ug/kg	600
Tetrachloroethylene	ug/kg	**50**
Toluene	ug/kg	7,000
1,2,3-Trichlorobenzene	ug/kg	63,000
1,2,4-Trichlorobenzene	ug/kg	24,000
1,1,1-Trichloroethane	ug/kg	**2,000**
1,1,2-Trichloroethane	ug/kg	1,100
Trichloroethylene	ug/kg	**30**
Trichlorofluoromethane	ug/kg	23,000,000
Vinyl Chloride	ug/kg	59
m,p-Xylene	ug/kg	**9,000**
o-Xylene	ug/kg	**9,000**

Project Action Limit		Residential Landuse
GC/MS Semi-volatiles (SW846 8270D)		
Benzoic Acid	ug/kg	250,000,000
4-Chloro-3-methyl Phenol	ug/kg	6,300,000
2-Chlorophenol	ug/kg	390,000
2,4-Dichlorophenol	ug/kg	190,000
2,4-Dimethylphenol	ug/kg	1,300,000
2,4-Dinitrophenol	ug/kg	130,000
4,6-Dinitro-o-cresol	ug/kg	5,100
2-Methylphenol	ug/kg	3,200,000
3&4-Methylphenol	ug/kg	-
2-Nitrophenol	ug/kg	-
4-Nitrophenol	ug/kg	-
Pentachlorophenol	ug/kg	1,000
Phenol	ug/kg	19,000,000
2,4,5-Trichlorophenol	ug/kg	6,300,000
2,4,6-Trichlorophenol	ug/kg	49,000
Aniline	ug/kg	95,000
Benzidine	ug/kg	1
Benzyl Alcohol	ug/kg	6,300,000
4-Bromophenyl phenyl ether	ug/kg	-
Butyl benzyl phthalate	ug/kg	290,000
Carbazole	ug/kg	-
4-Chloroaniline	ug/kg	2,700
bis(2-Chloroethoxy)methane	ug/kg	190,000
bis(2-Chloroethyl)ether	ug/kg	230
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000
2-Chloronaphthalene	ug/kg	4,800,000
4-Chlorophenyl phenyl ether	ug/kg	-
Dibenzofuran	ug/kg	73,000
1,2-Dichlorobenzene	ug/kg	1,800,000
1,3-Dichlorobenzene	ug/kg	-
1,4-Dichlorobenzene	ug/kg	2,600
3,3'-Dichlorobenzidine	ug/kg	1,200
Diethyl Phthalate	ug/kg	51,000,000
Dimethyl Phthalate	ug/kg	-
Di-n-octyl Phthalate	ug/kg	630,000
Di-n-butyl Phthalate	ug/kg	6,300,000
2,4-Dinitrotoluene	ug/kg	1,700
2,6-Dinitrotoluene	ug/kg	360
1,2-Diphenylhydrazine	ug/kg	680
bis(2-Ethylhexyl)phthalate	ug/kg	39,000
Hexachlorobenzene	ug/kg	210
Hexachlorobutadiene	ug/kg	1,200
Hexachlorocyclopentadiene	ug/kg	1,800
Hexachloroethane	ug/kg	1,800
Isophorone	ug/kg	570,000
2-Nitroaniline	ug/kg	630,000
3-Nitroaniline	ug/kg	-
4-Nitroaniline	ug/kg	27,000
Nitrobenzene	ug/kg	5,100
N-Nitrosodimethylamine	ug/kg	2
N-Nitrosodi-n-propylamine	ug/kg	78
N-Nitrosodiphenylamine	ug/kg	110,000
Pyridine	ug/kg	78,000
1,2,4-Trichlorobenzene	ug/kg	24,000

Table 2-1
Screening Levels for SI Data Evaluation
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Project Action Limit		Residential Landuse
GC/MS Semi-volatiles (SW846 8270D BY SIM)		
Acenaphthene	ug/kg	3,600,000
Acenaphthylene	ug/kg	-
Anthracene	ug/kg	18,000,000
Benzo(a)anthracene	ug/kg	**100**
Benzo(a)pyrene	ug/kg	**100**
Benzo(b)fluoranthene	ug/kg	**100**
Benzo(g,h,i)perylene	ug/kg	-
Benzo(k)fluoranthene	ug/kg	**100**
Chrysene	ug/kg	**100**
Dibenzo(a,h)anthracene	ug/kg	**100**
1,4-Dioxane	ug/kg	5,300
Fluoranthene	ug/kg	2,400,000
Fluorene	ug/kg	2,400,000
Indeno(1,2,3-cd)pyrene	ug/kg	**100**
1-Methylnaphthalene	ug/kg	**5,000**
2-Methylnaphthalene	ug/kg	**5,000**
Naphthalene	ug/kg	**5,000**
Phenanthrene	ug/kg	-
Pyrene	ug/kg	1,800,000
Benzo(a)pyrene equivalents	ug/kg	**100**
GC Volatiles (NWTPH-GX)		
TPH (Gasoline)	mg/kg	**100**
GC Semi-volatiles (NWTPH-DX W SGC)		
TPH (Diesel)	mg/kg	**2,000**
TPH (Motor Oil)	mg/kg	4,000
Pesticides (SW846 8081B)		
Aldrin	ug/kg	39
alpha-BHC	ug/kg	86
beta-BHC	ug/kg	300
delta-BHC	ug/kg	-
gamma-BHC (Lindane)	ug/kg	**10**
Chlordane	ug/kg	1,700
alpha-Chlordane	ug/kg	-
gamma-Chlordane	ug/kg	-
Dieldrin	ug/kg	34
4,4'-DDD	ug/kg	2,300
4,4'-DDE	ug/kg	2,000
4,4'-DDT	ug/kg	**3,000**
Endrin	ug/kg	19,000
Endosulfan sulfate	ug/kg	-
Endrin aldehyde	ug/kg	-
Endrin ketone	ug/kg	-
Endosulfan-I	ug/kg	-
Endosulfan-II	ug/kg	-
Heptachlor	ug/kg	130
Heptachlor epoxide	ug/kg	70
Methoxychlor	ug/kg	320,000
Toxaphene	ug/kg	490

Project Action Limit		Residential Landuse
PCBs (SW846 8082A)		
Aroclor 1016	ug/kg	**1,000**
Aroclor 1221	ug/kg	**1,000**
Aroclor 1232	ug/kg	**1,000**
Aroclor 1242	ug/kg	**1,000**
Aroclor 1248	ug/kg	**1,000**
Aroclor 1254	ug/kg	**1,000**
Aroclor 1260	ug/kg	**1,000**
Herbicides (SW846 8151A)		
2,4-D	ug/kg	700,000
2,4,5-TP (Silvex)	ug/kg	510,000
2,4,5-T	ug/kg	630,000
Dicamba	ug/kg	1,900,000
Dinoseb	ug/kg	63,000
Dalapon	ug/kg	1,900,000
Dichloroprop	ug/kg	-
2,4-DB	ug/kg	510,000
MCPP	ug/kg	63,000
MCPA	ug/kg	32,000
Pentachlorophenol	ug/kg	1,000
Metals Analysis		
Aluminum	mg/kg	77,000
Antimony	mg/kg	31
Arsenic	mg/kg	**20**
Barium	mg/kg	15,000
Beryllium	mg/kg	160
Cadmium	mg/kg	**2**
Calcium	mg/kg	-
Chromium	mg/kg	**2,000**
Cobalt	mg/kg	23
Copper	mg/kg	3,100
Iron	mg/kg	55,000
Lead	mg/kg	**250**
Magnesium	mg/kg	-
Manganese	mg/kg	1,800
Mercury	mg/kg	**2**
Nickel	mg/kg	820
Potassium	mg/kg	-
Selenium	mg/kg	390
Silver	mg/kg	390
Sodium	mg/kg	-
Thallium	mg/kg	0.78
Vanadium	mg/kg	390
Zinc	mg/kg	23,000

Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1×10^{-5} and a hazard index of 1.0 and Washington State MCTA (bolded levels) for hypothetical residential landuse.

Table 3-1
Gore-Sorber Sample Mass Results
Standard Target VOCs/SVOCs
Former Landfill Complet, Yakima Training Center
Yakima, Washington

FIELD		Methyl tert butyl ether	trans-1,2-Dichloroethylene	1,1-Dichloroethane	cis-1,2-Dichloroethylene	Chloroform	1,1,1-Trichloroethane	1,2-Dichloroethane
	DF	ug	ug	ug	ug	ug	ug	ug
LOD =		0.04	0.04	0.04	0.04	0.04	0.04	0.04
LOQ =		0.05	0.05	0.05	0.05	0.05	0.05	0.05
YTCFLC-SG-06	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-05	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-04	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-03	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-02	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-01	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-11	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-10	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-09	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-08	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-07D	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-07	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-18	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-17	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-16	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-15	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-14	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-12	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-13	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-20	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-19D	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-19	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Method Blank	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Method Blank	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Table 3-1
Gore-Sorber Sample Mass Results
Standard Target VOCs/SVOCs
Former Landfill Complet, Yakima Training Center
Yakima, Washington

FIELD		Benzene	Carbon tetrachloride	Trichloroethylene	1,1,2-Trichloroethane	Toluene	Octane	Tetrachloroethylene	Chlorobenzene
	DF	ug	ug	ug	ug	ug	ug	ug	ug
LOD =		0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
LOQ =		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
YTCFLC-SG-06	1	<0.04	<0.04	**1.85**	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-05	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-04	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-03	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-02	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-01	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-11	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	0.12	<0.04
YTCFLC-SG-10	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-09	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	0.05 J	<0.04
YTCFLC-SG-08	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-07D	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-07	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-18	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-17	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-16	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-15	1	<0.04	<0.04	0.11	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-14	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	0.04 J	<0.04
YTCFLC-SG-12	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	**0.45**	<0.04
YTCFLC-SG-13	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-20	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-19D	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
YTCFLC-SG-19	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04
Method Blank	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04 Q
Method Blank	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04 Q	<0.04	<0.04

Table 3-1
Gore-Sorber Sample Mass Results
Standard Target VOCs/SVOCs
Former Landfill Complet, Yakima Training Center
Yakima, Washington

FIELD		1,1,1,2-Tetrachloroethane	Ethylbenzene	m,p-Xylene	o-Xylene	1,1,2,2,-Tetrachloroethane	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene
	DF	ug	ug	ug	ug	ug	ug	ug
LOD =		0.04	0.04	0.04	0.04	0.04	0.04	0.04
LOQ =		0.05	0.05	0.05	0.05	0.05	0.05	0.05
YTCFLC-SG-06	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-05	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-04	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-03	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-02	1	<0.04	**0.32**	**1.69**	**1.55**	<0.04	<0.04	<0.04
YTCFLC-SG-01	1	<0.04	**0.5**	**2.28**	**1.16**	<0.04	<0.04	<0.04
YTCFLC-SG-11	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-10	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-09	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-08	1	<0.04	0.18	**0.89**	**1.32**	<0.04	<0.04	<0.04
YTCFLC-SG-07D	1	<0.04	<0.04	0.11	0.12	<0.04	<0.04	<0.04
YTCFLC-SG-07	1	<0.04	0.05	0.22	0.24	<0.04	<0.04	<0.04
YTCFLC-SG-18	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-17	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-16	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-15	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-14	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-12	1	<0.04	0.05	0.21	**0.39**	<0.04	<0.04	<0.04
YTCFLC-SG-13	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-20	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-19D	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-19	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Method Blank	1	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q
Method Blank	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Table 3-1
Gore-Sorber Sample Mass Results
Standard Target VOCs/SVOCs
Former Landfill Complet, Yakima Training Center
Yakima, Washington

FIELD		1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene	Undecane	Naphthalene	Tridecane	2-Methlynaphthalene	Pentadecane (1)
	DF	ug	ug	ug	ug	ug	ug	ug	ug
LOD =		0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
LOQ =		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
YTCFLC-SG-06	1	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-05	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-04	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-03	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-02	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-01	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-11	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-10	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-09	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-08	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-07D	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-07	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-18	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-17	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-16	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-15	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-14	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-12	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-13	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-20	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
YTCFLC-SG-19D	1	<0.04	<0.04	<0.04	<0.04	<0.04	0.08	<0.04	<0.04
YTCFLC-SG-19	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
TRIP_BLANK	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Method Blank	1	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q
Method Blank	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Notes:

Detected Analyte, concentration less than 5x LOQ
Detected Analyte, concentration greater than 5x LOQ
Q = LCS control parameters failed for the compound (Biased high)
J = Mass value below LOQ but above the LOD, estimated mass value
< = Compound Value is below the LOD
ug = micrograms, relative mass value

(1) Compound is not covered under AGI's scope of accreditation.

Table 3-2
Soil Gas Estimated Concentrations
Former Landfill Complex
Yakima Training Center
Yakima, Washington

FIELD ID	DATE/ TIME INSTALLED	DATE/ TIME RETRIEVED	ANALYTES				
			TCE ug/m^3	PCE ug/m^3	Ethylbenzene ug/m^3	m,p-Xylene ug/m^3	o-Xylene ug/m^3
LOD =			14.0	2.87	1.75	1.61	2.18
LOQ =			17.1	3.57	2.17	2.01	2.69
YTCFLC-SG-06	6/3/16 9:32	6/8/16 11:40	**405**	<2.81	<1.71	<1.58	<2.13
YTCFLC-SG-05	6/3/16 9:22	6/8/16 11:36	<13.8	<2.81	<1.71	<1.57	<2.13
YTCFLC-SG-04	6/3/16 8:37	6/8/16 11:27	<13.8	<2.80	<1.70	<1.57	<2.12
YTCFLC-SG-03	6/3/16 8:45	6/8/16 11:24	<13.8	<2.80	<1.70	<1.57	<2.13
YTCFLC-SG-02	6/3/16 8:15	6/8/16 11:20	<13.8	<2.79	**12.8**	**63.3**	**68.2**
YTCFLC-SG-01	6/3/16 7:45	6/8/16 11:15	<13.7	<2.78	**19.7**	**84.8**	**51.6**
YTCFLC-SG-11	6/3/16 13:32	6/8/16 12:10	<14.1	8.55	<1.75	<1.62	<2.19
YTCFLC-SG-10	6/3/16 13:18	6/8/16 11:56	<14.1	<2.88	<1.75	<1.62	<2.19
YTCFLC-SG-09	6/3/16 13:03	6/8/16 11:52	<14.0	3.44 J	<1.75	<1.62	<2.19
YTCFLC-SG-08	6/3/16 12:50	6/8/16 11:48	<14.0	<2.87	7.68	**34.5**	**60.2**
YTCFLC-SG-07D	6/3/16 10:32	6/8/16 11:45	<13.9	<2.83	<1.72	4.39	6.10
YTCFLC-SG-07	6/3/16 10:22	6/8/16 11:43	<13.9	<2.82	2.30	8.51	12.0
YTCFLC-SG-18	6/3/16 16:09	6/8/16 12:42	<14.2	<2.92	<1.78	<1.64	<2.22
YTCFLC-SG-17	6/3/16 15:41	6/8/16 12:39	<14.2	<2.91	<1.78	<1.64	<2.22
YTCFLC-SG-16	6/3/16 14:58	6/8/16 12:30	<14.1	<2.90	<1.77	<1.63	<2.21
YTCFLC-SG-15	6/3/16 14:42	6/8/16 12:27	34.7	<2.90	<1.77	<1.63	<2.20
YTCFLC-SG-14	6/3/16 14:22	6/8/16 12:24	<14.1	3.10 J	<1.76	<1.63	<2.20
YTCFLC-SG-12	6/3/16 13:45	6/8/16 12:12	<14.1	**31.6**	2.27	8.34	**19.2**
YTCFLC-SG-13	6/3/16 17:00	6/8/16 12:20	<14.3	<2.95	<1.80	<1.66	<2.24
YTCFLC-SG-20	6/3/16 16:42	6/8/16 12:50	<14.2	<2.93	<1.79	<1.65	<2.23
YTCFLC-SG-19D	6/3/16 16:42	6/8/16 12:46	<14.2	<2.93	<1.79	<1.65	<2.23
YTCFLC-SG-19	6/3/16 16:22	6/8/16 12:44	<14.2	<2.92	<1.79	<1.65	<2.23
TRIP_BLANK			<14.0	<2.87	<1.75	<1.61	<2.18
TRIP_BLANK			<14.0	<2.87	<1.75	<1.61	<2.18
Method Blank			<14.0	<2.87	<1.75 Q	<1.61 Q	<2.18 Q
Method Blank			<14.0	<2.87	<1.75	<1.61	<2.18

Notes:

Detected Analyte, concentration less than 5x LOQ

Detected Analyte, concentration greater than 5x LOQ

Q = LCS control parameters failed for the compound (Biased high)

J = Mass value below LOQ but above the LOD, estimated mass value

< = Compound Value is below the LOD

ug = micrograms, relative mass value

Table 3-3
Test Pit Descriptions
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Number	Depth	Refusal Encountered	Date Installed	Observations
40	3	x	10/25/2016	Debris (glass, cans, and misc. debris) encountered at 2.5 ft bgs
41	7	x	10/25/2016	No debris or staining observed.
42	4.5	x	6/27/2016	No debris or staining observed.
43	10		10/25/2016	Rolls of barbed wire enountered 3-10 ft bgs
44	4	x	10/28/2016	No debris or staining observed.
45	4.5	x	6/22/16; 6/29/2016	No debris or staining observed.
46	3.5	x	6/22/16; 6/29/2016	No debris or staining observed.
47	4.5	x	6/22/16; 6/29/2016	Green colored soil 2-2.5 ft bgs; PID readings were normal.
48	7	x	6/22/16; 6/29/2016	Debris (broken glass, glass bottles, rusty cans, misc. metal, small pockets of ash) 5 to 7 ft bgs
49	8	x	6/23/16, 6/28/2016	No debris or staining observed.
50	8	x	6/23/16, 6/28/2016	Debris (glass, metal can and ash) 3 to 8 ft bgs
51	8	x	6/24/2016	Debris (glass, metal can and ash) 2 to 8 ft bgs
52	11		6/24/2016	Debris (glass, metal can and ash) 2 to 4 ft bgs; Void space 4 to 7 ft bgs; drum fragments 7 to 8 ft; PID readings were normal
53	6.5	x	6/27/2016	Iron staining, metal drum rings , steel banding, glass and wood debris 2.5 to 6.5 ft bgs; PID readings were normal
54	5	x	6/27/2016	No debris or staining observed.
55	6	x	6/27/2016	Staining at 2 ft bgs; glass, metal, cans and ash debris 2 to 6 ft bgs.
56	8.5	x	10/31/2016	No debris or staining observed.
57	12	x	6/30/16, 10/28/2016	Orange to brown soil; glass, metal and wood debris; PID readings were normal 1.5 to 7.5 ft bgs. Two (2) inert shells encountered within the debris; one was described as a 105 mm shell, the other as empty and smashed M105 with the primer removed. No debris or staining 7.5 to 12 ft bgs.
58	7	x	10/28/2016	Debris (glass, metal and wood) with red staining due to rusting metal 3 to 5 ft bgs, no odor. No debris or staining 5 to 7 ft bgs.
59	5.5	x	6/29/2016	Soil matrix greenish brown 1.5 to 5.5 bgs; PID readings were normal.
60	9	x	6/30/2016	Orange to brown soil stain; glass and wood debris; PID readings were normal 2 to 9 ft bgs.
61	3	x	10/27/2016; 10/31/2016	No debris or staining observed.
62	4	x	10/27/2016	No debris or staining observed.
63	9	x	6/24/2016	No debris or staining observed.
64	7.5	x	6/27/2016	Debris (metal pieces, glass, ash and assorted trash), soil iron staining encountered 6 to 7.5 ft bgs

Note:
Some test pits were reinstalled to support resampling due to sample loss in shipping. Descriptions are from the first installation date.

Table 3-4
Surface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Levels	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SO-09-D	YTCFLC-SO-10
Lab Sample ID:			FA38194-10/ 16J0471-05	FA38194-11/ 16J0471-06	FA38083-2/ FA38083-2A/ 16J0428-07	FA35063-4/ FA35063-4R	FA35066-3	FA38083-3/ FA38083-3A/ 16J0428-08	FA38083-4/ FA38083-4A/ 16J0492-07	FA35125-2	FA35125-1	FA35125-3	FA35125-5
Date Sampled:			10/27/2016	10/27/2016	10/25/2016	6/27/2016	6/27/2016	10/25/2016	10/25/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)													
Acetone	ug/kg	61,000,000	24 U	24 U	30 U	27 U	26 U	27 U	40 U	23 U	23 U	25 U	23 U
Trichloroethylene	ug/kg	**30**	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U	3.2 U	1.9 U	1.9 U	2 U	1.9 U
GC/MS Semi-volatiles (SW846 8270D)													
2,4-Dinitrotoluene	ug/kg	1,700	35 U	35 U	37 U	38 U	37 U	36 U	38 U	35 U	34 U	34 U	35 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	120 U	120 U	130 U	130 U	130 U	130 U	130 U	120 U	120 U	120 U	120 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)													
Benzo(a)anthracene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	4.7 J	7.3 U	6.3 J	5.5 J	7 U	6.6 U	6.7 U	7.1 U
Benzo(a)pyrene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	5.9 J	7.3 J	7 J	5.6 J	7 U	6.6 U	6.7 U	7.1 U
Benzo(b)fluoranthene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	6.5 J	11.5 J	7.4 J	7.8 U	7 U	6.6 U	6.7 U	7.1 U
Benzo(g,h,i)perylene	ug/kg	-	6.7 U	6.9 U	7.5 U	7.5 U	14.1 J	5.7 J	7.8 U	7 U	6.6 U	6.7 U	7.1 U
Benzo(k)fluoranthene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	7.5 U	7.3 U	5.6 J	7.8 U	7 U	6.6 U	6.7 U	7.1 U
Chrysene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	4.9 J	5.4 J	8.4 J	4.9 J	7 U	6.6 U	6.7 U	7.1 U
Dibenzo(a,h)anthracene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	7.5 U	7.3 U	7.4 U	7.8 U	7 U	6.6 U	6.7 U	7.1 U
Fluoranthene	ug/kg	2,400,000	34 U	34 U	38 U	37 U	36 U	37 U	39 U	35 U	33 U	33 U	35 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	7.5 U	10.5 J	4.9 J	7.8 U	7 U	6.6 U	6.7 U	7.1 U
2-Methylnaphthalene	ug/kg	**5,000**	34 U	34 U	38 U	37 U	36 U	37 U	39 U	35 U	33 U	33 U	35 U
Naphthalene	ug/kg	**5,000**	34 U	34 U	38 U	37 U	36 U	37 U	39 U	35 U	33 U	33 U	35 U
Phenanthrene	ug/kg	-	34 U	34 U	38 U	37 U	36 U	37 U	39 U	35 U	33 U	33 U	35 U
Pyrene	ug/kg	1,800,000	34 U	34 U	38 U	37 U	36 U	37 U	39 U	35 U	33 U	33 U	35 U
Benzo(a)pyrene equivalents	ug/kg	**100**				8.2	10.6	9.9	7.8				
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)													
TPH (Diesel)	mg/kg	**2,000**	2.62 UJ	2.65 UJ	2.79 UJ	2.32 J	1.24 J	2.71 J	13.6	2.68 J	2.53 J	2.5 J	1.35 J
TPH (Motor Oil)	mg/kg	**4,000**	5.23 U	5.31 U	5.58 U	12.2 J	14 J	5.57 J	6.21 J	18.2	14.1	15.2	12

Table 3-4
Surface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Levels	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SO-09-D	YTCFLC-SO-10
Lab Sample ID:			FA38194-10/ 16J0471-05	FA38194-11/ 16J0471-06	FA38083-2/ FA38083-2A/ 16J0428-07	FA35063-4/ FA35063-4R	FA35066-3	FA38083-3/ FA38083-3A/ 16J0428-08	FA38083-4/ FA38083-4A/ 16J0492-07	FA35125-2	FA35125-1	FA35125-3	FA35125-5
Date Sampled:			10/27/2016	10/27/2016	10/25/2016	6/27/2016	6/27/2016	10/25/2016	10/25/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Pesticides (SW846 8081B)													
Aldrin	ug/kg	39	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
delta-BHC	ug/kg	-	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Chlordane	ug/kg	1,700	9 U	9 U	9.2 U	9.2 U	9.2 U	18 U	9.7 U	178	8.5 U	8.3 U	8.6 U
alpha-Chlordane	ug/kg	-	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	3.2 J	1.1 J	31	0.62 J	0.83 UJ	0.86 U
gamma-Chlordane	ug/kg	-	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	1.3 J	28.5	0.85 U	0.83 U	0.86 U
Dieldrin	ug/kg	34	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	24.4	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
4,4'-DDD	ug/kg	2,300	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	16	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
4,4'-DDE	ug/kg	2,000	0.9 U	0.9 U	0.92 U	5.9	3.4 J	337 J	0.97 U	0.87 U	4.2	6	10.4
4,4'-DDT	ug/kg	**3,000**	0.9 U	0.9 U	0.92 U	5.7	1.2 J	489 J	0.97 U	0.87 U	3 J	2.8 J	4.4
Endrin	ug/kg	19,000	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Endosulfan sulfate	ug/kg	-	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Endrin ketone	ug/kg	-	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Heptachlor	ug/kg	130	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	0.97 U	0.86 J	0.85 U	0.83 U	0.86 U
Heptachlor epoxide	ug/kg	70	0.9 U	0.9 U	0.92 U	0.92 U	0.92 U	1.8 U	0.97 U	2.5	0.85 U	0.83 U	0.86 U
PCBs (SW846 8082A)													
Aroclor 1016	ug/kg	4,100	9 U	9 U	9.2 U	9.2 U	9.2 U	9.2 U	9.7 U	8.7 U	32 U	8.3 U	8.6 U
Aroclor 1254	ug/kg	240	14 U	14 U	15 U	15 U	15 U	18 U	16 U	14 U	40.1 J	13 UJ	14 U
Aroclor 1260	ug/kg	240	9 U	9 U	9.2 U	9.2 U	9.2 U	18 U	9.7 U	8.7 U	32 U	8.3 U	8.6 U
Herbicides (SW846 8151A)													
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U

Table 3-4
Surface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Levels	YTCFLC-SO-11	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SO-14	YTCFLC-SO-15	YTCFLC-SO-15D	YTCFLC-SO-16	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			FA35125-7/ FA38249-5	FA35136-5	FA38194-12/ 16J0471-07	FA35125-4	FA35136-2	FA35136-3	FA35136-4	FA35136-1	FA35165-3	FA35165-2	FA35165-1
Date Sampled:			6/28/2016; 10/28/2016	6/29/2016	10/27/2016	6/28/2016	6/29/2016	6/29/2016	6/29/2016	6/29/2016	6/30/2016	6/30/2016	6/30/2016
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)													
Acetone	ug/kg	61,000,000	26 U	26 U	26 UQ	28 U	26 UJ	20.9 J	24 U	26 U	24 U	25 U	29 U
Trichloroethylene	ug/kg	**30**	2.1 U	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U	2.1 U	1.9 U	2 U	2.3 U
GC/MS Semi-volatiles (SW846 8270D)													
2,4-Dinitrotoluene	ug/kg	1,700	38 U	35 U	36 U	38 U	36 U	35 U	37 U	36 U	36 U	35 U	35 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	120 U	130 U	130 U	130 U	120 U	130 U	130 U	130 U	120 U	120 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)													
Benzo(a)anthracene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(a)pyrene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(b)fluoranthene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(g,h,i)perylene	ug/kg	-	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(k)fluoranthene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Chrysene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Fluoranthene	ug/kg	2,400,000	38 UJ	33 U	35 U	36 U	36 U	35 U	35 U	36 U	35 U	34 UJ	35 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U	7 U	7.2 U	7.1 U	6.8 UJ	7.1 U
2-Methylnaphthalene	ug/kg	**5,000**	38 UJ	33 U	35 U	36 U	36 U	35 U	35 U	36 U	35 U	34 UJ	35 U
Naphthalene	ug/kg	**5,000**	38 UJ	33 U	35 U	36 U	36 U	35 U	35 U	36 U	35 U	34 UJ	35 U
Phenanthrene	ug/kg	-	38 UJ	33 U	35 U	36 U	36 U	35 U	35 U	36 U	35 U	34 UJ	35 U
Pyrene	ug/kg	1,800,000	38 UJ	33 U	35 U	36 U	36 U	35 U	35 U	36 U	35 U	34 UJ	35 U
Benzo(a)pyrene equivalents	ug/kg	**100**											
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)													
TPH (Diesel)	mg/kg	**2,000**	2.41 J	1.91 J	2.71 UJ	3.85	4.8 J	3.18 J	4.5	2.25 J	2.47 J	2.08 J	2.1 J
TPH (Motor Oil)	mg/kg	**4,000**	13.9	12.6	4.74 J	18.3	21	18.1	22.2	7.48	16.8	17.3	19

Table 3-4
Surface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Levels	YTCFLC-SO-11		YTCFLC-SO-12		YTCFLC-SO-13		YTCFLC-SO-14		YTCFLC-SO-15		YTCFLC-SO-15D		YTCFLC-SO-16		YTCFLC-SO-17		YTCFLC-SO-18		YTCFLC-SO-19		YTCFLC-SO-20	
Lab Sample ID:			FA35125-7/ FA38249-5		FA35136-5		FA38194-12/ 16J0471-07		FA35125-4		FA35136-2		FA35136-3		FA35136-4		FA35136-1		FA35165-3		FA35165-2		FA35165-1	
Date Sampled:			6/28/2016; 10/28/2016		6/29/2016		10/27/2016		6/28/2016		6/29/2016		6/29/2016		6/29/2016		6/29/2016		6/30/2016		6/30/2016		6/30/2016	
Matrix:			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Pesticides (SW846 8081B)																								
Aldrin	ug/kg	39	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
delta-BHC	ug/kg	-	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
Chlordane	ug/kg	1,700	9.6	U	9	U	9.2	U	9.3	U	8.9	U	9	U	9.2	U	9.4	U	8.7	U	8.3	U	8.5	U
alpha-Chlordane	ug/kg	-	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
gamma-Chlordane	ug/kg	-	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
Dieldrin	ug/kg	34	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
4,4'-DDD	ug/kg	2,300	0.96	U	0.9	U	0.94	J	27.8		0.89	UJ	20.9	J	45	E	0.94	U	0.87	U	0.83	U	0.85	U
4,4'-DDE	ug/kg	2,000	1.7	J	0.9	U	11.7		1.2	J	5.2		6		2.7	J	1.1	J	4.5		0.83	U	1.4	J
4,4'-DDT	ug/kg	**3,000**	2.8	J	0.9	U	13		1.2	J	2.9	J	3.4	J	4		0.94	U	3.7		0.83	U	3.9	
Endrin	ug/kg	19,000	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
Endosulfan sulfate	ug/kg	-	0.96	U	0.9	U	0.92	U	0.93	U	5.3		6.3		8		0.94	U	0.87	U	0.83	U	0.85	U
Endrin ketone	ug/kg	-	0.96	U	0.9	U	0.92	U	0.93	U	0.89	UJ	3.1	J	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
Heptachlor	ug/kg	130	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
Heptachlor epoxide	ug/kg	70	0.96	U	0.9	U	0.92	U	0.93	U	0.89	U	0.9	U	0.92	U	0.94	U	0.87	U	0.83	U	0.85	U
PCBs (SW846 8082A)																								
Aroclor 1016	ug/kg	4,100	9.6	U	8.8	U	9.2	U	9.3	U	9	U	9	U	9.2	U	9.3	U	8.7	U	8.3	U	8.5	U
Aroclor 1254	ug/kg	240	15	U	14	U	15	U	15	U	14	U	14	U	15	U	15	U	14	U	13	U	-	
Aroclor 1260	ug/kg	240	9.6	U	8.8	U	9.2	U	9.3	U	9	U	9	U	9.2	U	9.3	U	8.7	U	8.3	U	8.5	U
Herbicides (SW846 8151A)																								
2,4,5-TP (Silvex)	ug/kg	510,000	1.9	R	1.8	U	1.8	U	1.9	U	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.7	U	1.8	U
Pentachlorophenol	ug/kg	1,000	1.9	R	1.8	U	1.8	U	1.9	U	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.7	U	1.8	U

Notes:
Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10^{-5} and a hazard index of 1.0 and Washington State MCTA (bolded levels).
Shading denotes detected analytes.
Bold/Italics denotes concentrations that exceed the project action levels.
U = Not Detected
J = Concentration detected below the LOQ
R = Rejected

Table 3-5
Surface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Levels	YTCFLC-SO-01		YTCFLC-SO-02		YTCFLC-SO-03		YTCFLC-SO-04		YTCFLC-SO-05		YTCFLC-SO-06		YTCFLC-SO-07		YTCFLC-SO-08		YTCFLC-SO-09		YTCFLC-SO-09-D		YTCFLC-SO-10	
Lab Sample ID:			FA38194-10		FA38194-11		FA38083-2/ FA38083-2A		FA35063-4		FA35066-3		FA38083-3/ FA38083-3A		FA38083-4/ FA38083-4A		FA35125-2		FA35125-1		FA35125-3		FA35125-5	
Date Sampled:			10/27/2016		10/27/2016		10/25/2016		6/27/2016		6/27/2016		10/25/2016		10/25/2016		6/28/2016		6/28/2016		6/28/2016		6/28/2016	
Matrix:			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Metals analysis																								
Aluminum	mg/kg	77,000	13600		14400		18800	J	24500		18900		15200	J	16700	J	14500	J	14900	J	14400	J	15600	J
Antimony	mg/kg	31	0.95	U	1	U	1.3	UJ	1.3	U	1.1	U	1.1	UJ	1	UJ	1	UJ	0.96	UJ	0.48	J	1.2	UJ
Arsenic	mg/kg	**20**	3.7		3.2		3.7	J	5		2.8		4.9	J	3.5	J	2.2		2.1		2.4		3	
Barium	mg/kg	15,000	131		131		173		153		201		122		142		105	J	153	J	137	J	124	J
Beryllium	mg/kg	160	0.28	J	0.27	J	0.58	J	0.33	J	0.19	J	0.53	J	0.57	J	0.42	J	0.45	J	0.46	J	0.49	J
Cadmium	mg/kg	71	0.19	U	0.2	U	0.26	U	0.24	J	0.15	J	0.22	U	0.21	U	0.21	U	0.19	UJ	0.16	J	0.25	U
Calcium	mg/kg	-	5410		3850		14900	J	7290		7830		17600	J	9260	J	12000	J	4940	J	5900	J	4500	J
Chromium	mg/kg	**2,000**	12.5		12.5		14.9		14.1		14.5		17.1		14.5		9.7	J	13.3	J	13.5	J	17.9	J
Cobalt	mg/kg	23	7.2	J	7.8	J	8.9	J	11.1	J	10.5	J	9.7	J	10.4		10.4		10.1		13.2		10.7	J
Copper	mg/kg	3,100	17.4		16.6		22.2		22.2		21.2		22.1		22.7		24.7	J	20.4	J	24.7	J	22.3	J
Iron	mg/kg	55,000	17800		18300		21200	J	24600		22700		22300	J	22400	J	19900	J	21300	J	28800	J	24400	J
Lead	mg/kg	**250**	7.2		7.4		8.2		20.4		11.6		17.8		7.5		4.9	J	12.4	J	12.1	J	12.5	J
Magnesium	mg/kg	-	4140		3860		7830		6540		5760		7270		5810		5940	J	4040	J	4680	J	3970	J
Manganese	mg/kg	1,800	346		386		373	J	515		697		431	J	483	J	359	J	500	J	662	J	570	J
Mercury	mg/kg	**2**	0.018	J	0.015	J	0.034	J	0.028	J	0.022	J	0.032	J	0.036	J	0.019	J	0.033	J	0.1	J	0.03	J
Nickel	mg/kg	820	12.9		12.2		17.9		14		21.4		23.6		20.5		18.2		13.1		14.5		16.8	
Potassium	mg/kg	-	1800	J	1830	J	2070	J	3160		2930		2030	J	2290		2030	J	2700	J	2870	J	2790	J
Selenium	mg/kg	390	0.95	U	1	U	1.3	U	1.3	U	1.1	U	1.1	U	1	U	1	U	0.96	U	1.1	U	1.2	U
Silver	mg/kg	390	0.5	J	0.56	J	0.52	U	0.47	J	0.48	J	0.44	U	0.42	U	0.42	U	0.39	U	0.43	U	0.5	U
Sodium	mg/kg	-	260	J	284	J	1310	J	361	J	446	J	251	J	334	J	632	J	204	J	208	J	256	J
Thallium	mg/kg	0.78	0.95	U	1	U	1.3	U	***1.1***	***J***	***1.2***	***J***	0.29	J	1	U	1	U	0.96	U	1.1	U	1.2	U
Vanadium	mg/kg	390	34.5		37		40.3		43.4		41.5		55.6		45.3		34.8	J	40.6	J	58.5	J	45.7	J
Zinc	mg/kg	23,000	37.3		38.7		46.7		53.8		44.3		51.5		43.3		39.1	J	46	J	59.3	J	58.7	J
General Chemistry																								
Solids, Percent	%	-	95		94		89.9		88.1		89.2		92.8		88.5		94.8		96.2		96.6		94.8	

Table 3-5
Surface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Levels	YTCFLC-SO-11	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SO-14	YTCFLC-SO-15	YTCFLC-SO-15D	YTCFLC-SO-16	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			FA38249-5	FA35136-5	FA38194-12	FA35125-4	FA35136-2	FA35136-3	FA35136-4	FA35136-1	FA35165-3	FA35165-2	FA35165-1
Date Sampled:			10/28/2016	6/29/2016	10/27/2016	6/28/2016	6/29/2016	6/29/2016	6/29/2016	6/29/2016	6/30/2016	6/30/2016	6/30/2016
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Metals analysis													
Aluminum	mg/kg	77,000	18200	19400	17700	17200 J	16400	17500	17400	16600	11300	13500	14900
Antimony	mg/kg	31	0.41 J	0.33 J	0.9 U	1.3 UJ	1.1 U	1.2 U	1.3 U	1 U	0.79 J	0.89 U	0.45 J
Arsenic	mg/kg	**20**	3.5	3.9	3	2.8	3.2	3.2	2.8	3.2	2.2 J	3.3	2.3
Barium	mg/kg	15,000	163	155	141	142 J	139	145	125	148	89.7	131	114
Beryllium	mg/kg	160	0.47 J	0.63 J	0.35 J	0.57 J	0.54 J	0.56 J	0.53 J	0.59 J	0.46 J	0.49 J	0.54 J
Cadmium	mg/kg	71	0.19 J	0.25 U	0.11 J	0.27 U	0.22 U	0.25 U	0.25 U	0.21 U	0.25 U	0.18 U	0.18 U
Calcium	mg/kg	-	12400	5800	8960	4590 J	4750	4870	10800	6830	7070	6650	6290
Chromium	mg/kg	**2,000**	15.5	22.6	16.4	18.1 J	18	18.9	17.3	19.4	10.7	12.1	14.2
Cobalt	mg/kg	23	10.1 J	11.5 J	9.8	10.9 J	10.2 J	11.1 J	11.2 J	12	15.6	7.6 J	8.3 J
Copper	mg/kg	3,100	27.1	23.6	21.1	23.8 J	19.8	20.7	24.8	21	21.2	18	19
Iron	mg/kg	55,000	25400 C	25400	22200	24800 J	21800	23100	28300	23100	48700	17200	22900
Lead	mg/kg	**250**	***463***	8.3	10.8	8.3 J	7	6.9	9.4	7.8	6.9	6.4	11.2
Magnesium	mg/kg	-	7170	5830	6560	4330 J	4290	4500	6230	5720	5350	3940	5080
Manganese	mg/kg	1,800	450	504	401	542 J	467	507	554	578	1150	359	374
Mercury	mg/kg	**2**	0.081	0.032 J	0.037 J	0.028 J	0.022 J	0.16 J	0.037 J	0.02 J	0.055	0.019 J	0.049
Nickel	mg/kg	820	19.2	22.6	16.6	18.8	17.3	18.3	20	20.6	14.5	12.5	15.8
Potassium	mg/kg	-	2250 J	2150 J	2130	2600 J	2380	2520	1800 J	1900 J	1360 J	1750 J	2380
Selenium	mg/kg	390	1.2 U	1.3 U	0.9 U	1.3 U	1.1 U	1.2 U	1.3 U	1 U	1.3 U	0.89 U	0.88 U
Silver	mg/kg	390	0.73 J	0.51 U	0.75 J	0.53 U	0.43 UJ	0.22 J	0.5 U	0.42 U	0.5 U	0.35 U	0.35 U
Sodium	mg/kg	-	507 J	641 J	393 J	565 J	333 J	351 J	1330 J	522 J	565 J	277 J	711 J
Thallium	mg/kg	0.78	0.27 J	1.3 U	0.9 U	1.3 U	1.1 U	1.2 U	1.3 U	1 U	1.3 U	0.89 U	0.88 U
Vanadium	mg/kg	390	44	52.7	53.5	47.3 J	46.2	49.2	57.5	44.4	64.1	33.7	45.6
Zinc	mg/kg	23,000	45.9	63.8	53.1	91.2 J	46.6	49.7	55.6	47.3	59.8	38.3	56.7
General Chemistry													
Solids, Percent	%	-	87	94.2	91.1	87.2	92.7	93	91	89.9	91.7	96.4	95.1

Notes:
Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10^{-6} and a hazard index of 1.0 and Washington State MCTA (bolded levels).
Shading denotes detected analytes.
Bold/Italics denotes concentrations that exceed the project action levels.
U = Not Detected
J = Concentration detected below the LOQ

Table 3-6
Test Pit Soil Sample Location Summary
Former Landfill Complex
Yakima Training Center
Yakima Washington

Test Pit Location	Sample ID	Date Sampled	Depth	Description
	YTCFLC-SS-40-01	10/25/2016	3	North side of pit
40	YTCFLC-SS-40-02	10/25/2016	3	South side of pit
	YTCFLC-SS-41-01	10/25/2016	7	South side of pit
41	YTCFLC-SS-41-02	10/25/2016	7	North side of pit
	YTCFLC-SS-42-01	6/27/2016	4.25	
	YTCFLC-SS-42-02	6/27/2016	4.25	
42	YTCFLC-SS-42-2D	6/27/2016	4.25	
	YTCFLC-SS-43-01	10/25/2016	10	North side of pit
43	YTCFLC-SS-43-02	10/25/2016	10	South side of pit
	YTCFLC-SS-44-01	10/28/2016	3.5	West side of pit
44	YTCFLC-SS-44-02	10/28/2016	3.5	East side of pit
	YTCFLC-SS-45-01	6/22 & 29/2016	2	Gravel intermixed zone
45	YTCFLC-SS-45-02	6/22 & 29/2016	4.5	Pieces of basalt intermixed
	YTCFLC-SS-46-01	6/22 & 29/2016	2.5	
46	YTCFLC-SS-46-02	6/22 & 29/2016	3.5	
	YTCFLC-SS-47-01	6/28/2016	2.5	Green colored loam
47	YTCFLC-SS-47-02	6/28/2016	4.5	Depth of refusal
	YTCFLC-SS-48-01	6/28/2016	6	Zone of debris
48	YTCFLC-SS-48-02	6/28/2016	7	Depth of refusal
	YTCFLC-SS-49-01	6/28/2016	4	Gravel intermixed zone
49	YTCFLC-SS-49-02	6/28/2016	8	Depth of refusal
	YTCFLC-SS-50-01	6/28/2016	3	Zone of debris
	YTCFLC-SS-50-02	6/28/2016	6	Depth of refusal
50	YTCFLC-SS-50-2D	6/28/2016	6	Depth of refusal
	YTCFLC-SS-51-01	6/24/2016	3	Zone of debris
51	YTCFLC-SS-51-02	6/24/2016	7	Depth of refusal
	YTCFLC-SS-52-01	6/24/2016	8	Depth of drum debris
52	YTCFLC-SS-52-02	6/24/2016	10	Depth of refusal
	YTCFLC-SS-53-01	6/27/2016	2.5	Visible staining
53	YTCFLC-SS-53-02	6/27/2016	6.5	Depth of refusal
	YTCFLC-SS-54-01	6/27/2016	2	
	YTCFLC-SS-5401D	6/27/2016	2	
54	YTCFLC-SS-54-02	6/27/2016	4.5	
	YTCFLC-SS-55-01	6/27/2016	2	Zone of debris
55	YTCFLC-SS-55-02	6/27/2016	5.75	Depth of refusal
	YTCFLC-SS-56-01	10/31/2016	8.5	North side of pit
	YTCFLC-SS-56-02	10/31/2016	8.5	South side of pit
56	YTCFLC-SS-56-02D	10/31/2016	8.5	South side of pit
	YTCFLC-SS-57-1	10/28/2016	5	South side of pit; Inert item and shell casing identified.
	YTCFLC-SS-57-1D	10/28/2016	5	South side of pit
57	YTCFLC-SS-57-2	10/28/2016	5	North side of pit
	YTCFLC-SS-58-01	10/28/2016	5	North side of pit
58	YTCFLC-SS-58-02	10/28/2016	7	South side of pit
	YTCFLC-59-01	6/29/2016	5.5	Greenish brown zone
59	YTCFLC-59-02	6/29/2016	5.5	Greenish brown zone
	YTCFLC-SS-60-01	6/30/2016	4.5	Zone of debris
	YTCFLC-SS-60-02	6/30/2016	8.75	Depth of refusal
60	YTCFLC-SS-60-2D	6/30/2016	8.75	Depth of refusal
	YTCFLC-SS-61-01	10/27 & 31/2016	3	North side of pit
61	YTCFLC-SS-61-02	10/27/2016	3	South side of pit
	YTCFLC-SS-62-01	10/27/2016	4	North side of pit
62	YTCFLC-SS-62-02	10/27/2016	4	South side of pit
	YTCFLC-SS-63-01	6/24/2016	3	
63	YTCFLC-SS-63-02	6/24/2016	6	
	YTCFLC-SS-64-02	6/27/2016	6	Zone of debris
64	YTCFLC-SS-64-01	6/27/2016	7.25	Depth of refusal

Table 3-7
Subsurface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			40		41		42			43		44	
Sample ID:		Project Action Levels	YTCFLC-SS-40-01	YTCFLC-SS-40-02	YTCFLC-SS-41-01	YTCFLC-SS-41-02	YTCFLC-SS-42-01	YTCFLC-SS-42-02	YTCFLC-SS-42-2D	YTCFLC-SS-43-01	YTCFLC-SS-43-02	YTCFLC-SS-44-01	YTCFLC-SS-44-02
Lab Sample ID:			FA38124-1/16J0428-01	FA38124-2/ 16J0428-02	FA38124-3/ 16J0428-03	FA38083-1/ FA38083-1A/ 16J0428-04	FA35094-1	FA35094-2	FA35094-3	FA38124-4/ 16J0428-05	FA38124-5/ 16J0428-06	FA38249-1/ 16J0492-01	FA38249-2/ 16J0492-02
Date Sampled:			10/25/2016	10/25/2016	10/25/2016	10/25/2016	6/27/2016	6/27/2016	6/27/2016	10/25/2016	10/25/2016	10/28/2016	10/28/2016
Depth			3	3	7	7	4.25	4.25	4.25	10	10	3.5	3.5
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)													
Acetone	ug/kg	61,000,000	28 U	27 U	32 U	29 U	34 U	35 U	27 U	32 U	25 U	14.4 J	26 U
Trichloroethylene	ug/kg	**30**	2.2 U	2.2 U	2.5 U	2.3 U	2.7 U	2.8 U	2.2 U	2.5 U	2 U	2.6 U	2 U
GC/MS Semi-volatiles (SW846 8270D)													
2,4-Dinitrotoluene	ug/kg	1,700	36 U	37 U	37 U	36 U	37 U	37 U	37 U	41 U	39 U	41 U	39 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	130 U	130 U	130 U	140 U	140 U	140 U	140 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)													
Benzo(a)anthracene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	7.7 J	8.2 UJ	7.9 U
Benzo(a)pyrene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	8.9 J	8.2 UJ	7.9 U
Benzo(b)fluoranthene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	7.9 J	8.2 UJ	7.9 U
Benzo(g,h,i)perylene	ug/kg	-	7.4 U	7.5 U	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	4.5 J	8.2 UJ	7.9 U
Benzo(k)fluoranthene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	8.7 J	8.2 UJ	7.9 U
Chrysene	ug/kg	**100**	7.4 U	3.8 J	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	12.7 J	8.2 UJ	7.9 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	7.6 U	8.2 UJ	7.9 U
Fluoranthene	ug/kg	2,400,000	37 U	37 U	37 U	36 U	36 U	37 U	36 U	42 U	38 U	41 UJ	39 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U	7.3 U	7.4 U	7.2 U	8.3 U	4.4 J	8.2 UJ	7.9 U
2-Methylnaphthalene	ug/kg	**5,000**	37 U	37 U	37 U	36 U	36 U	37 U	36 U	42 U	38 U	41 UJ	39 U
Naphthalene	ug/kg	**5,000**	37 U	37 U	37 U	36 U	36 U	37 U	36 U	42 U	38 U	41 UJ	39 U
Phenanthrene	ug/kg	-	37 U	37 U	37 U	36 U	36 U	37 U	36 U	42 U	38 U	41 UJ	39 U
Pyrene	ug/kg	1,800,000	37 U	37 U	37 U	36 U	36 U	37 U	36 U	42 U	38 U	41 UJ	39 U
Benzo(a)pyrene equivalents	ug/kg	**100**		5.7							12.3		
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)													
TPH (Diesel)	mg/kg	**2,000**	2.74 UJ	3.25 J	2.76 UJ	2.6 J	11.9 J	10.6 J	4.52 J	4.46 J	20.3 J	3.08 U	2.93 U
TPH (Motor Oil)	mg/kg	**4,000**	5.7 J	8.49 J	5.52 U	5.54 U	177 J	174 J	39 J	10.5 J	47.7	6.02 U	5.86 U
Pesticides (SW846 8081B)													
Aldrin	ug/kg	39	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1 U	1.9 U	1 U	0.97 U
delta-BHC	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1 U	1.9 U	1 U	0.97 U
Chlordane	ug/kg	1,700	9.4 U	9.2 U	9.1 U	9.3 U	9.3 U	9.3 U	9 U	10 U	19 U	10 U	9.7 U
alpha-Chlordane	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1 U	1.9 U	1 U	0.97 U
gamma-Chlordane	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	0.82 J	1.7 J	1 U	0.97 U
Dieldrin	ug/kg	34	0.94 U	0.92 U	0.91 U	0.93 U	1.4 J	0.93 U	0.9 U	2.9	5.1	1 U	0.97 U
4,4'-DDD	ug/kg	2,300	0.94 U	1.3 J	0.91 U	0.93 U	1.2 J	0.93 U	0.9 U	0.72 J	2.9 J	1 U	0.97 U
4,4'-DDE	ug/kg	2,000	0.99 J	9.9	0.91 U	0.93 U	12.6	6 J	3.6 J	4.1	15.3	1 U	0.97 U
4,4'-DDT	ug/kg	**3,000**	1.1 J	11.1	0.91 U	0.93 U	17.2 J	3.9 J	4.4 J	18.4	62.1	1 U	0.97 U
Endrin	ug/kg	19,000	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1.2 J	3.4 J	1 U	0.97 U
Endosulfan sulfate	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1 U	1.9 U	1 U	0.97 U
Endrin ketone	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1 U	1.9 U	1 U	0.97 U
Heptachlor	ug/kg	130	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1 U	1.9 U	1 U	0.97 U
Heptachlor epoxide	ug/kg	70	0.94 U	0.92 U	0.91 U	0.93 U	0.93 U	0.93 U	0.9 U	1 U	1.9 U	1 U	0.97 U
PCBs (SW846 8082A)													
Aroclor 1016	ug/kg	4,100	9.4 U	9.2 U	9.1 U	9.3 U	9.3 U	9.3 U	9 U	10 U	9.6 U	10 U	9.7 U
Aroclor 1254	ug/kg	240	15 U	15 U	15 U	15 U	15 U	15 U	14 U	21.3 J	38.7 J	17 U	16 U
Aroclor 1260	ug/kg	240	9.4 U	9.2 U	9.1 U	9.3 U	9.3 U	9.3 U	9 U	16.4 J	22.5 J	10 U	9.7 U
Herbicides (SW846 8151A)													
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	2 U	3.8 J	2.1 UJ	1.9 R
Pentachlorophenol	ug/kg	1,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	2 U	1.9 U	2.1 UJ	1.9 R

Table 3-7
Subsurface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			45		46		47		48		49		50		
Sample ID:			YTCFLC-SS-45-01	YTCFLC-SS-45-02	YTCFLC-SS-46-01	YTCFLC-SS-46-02	YTCFLC-SS-47-01	YTCFLC-SS-47-02	YTCFLC-SS-48-01	YTCFLC-SS-48-02	YTCFLC-SS-49-01	YTCFLC-SS-49-02	YTCFLC-SS-50-01	YTCFLC-SS-50-02	YTCFLC-SS-50-2D
Lab Sample ID:		Project Action Levels	FA35135-1/ FA35031-1	FA35031-2/ FA35135-2	FA35135-3/ FA35031-3	FA35135-4/ FA35031-4	FA35089-5	FA35089-1	FA35094-4	FA35094-5	FA35089-6	FA35089-7	FA35089-3	FA35089-4	FA35089-2
Date Sampled:			6/22 & 29/2016	6/22 & 29/2016	6/22 & 29/2016	6/22 & 29/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016
Depth			2	4.5	2.5	3.5	2.5	4.5	6	7	4	8	3	6	6
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)															
Acetone	ug/kg	61,000,000	20 U	29 U	27 U	27 U	34 U	39 U	24 U	24 U	24 U	23 U	26 U	28 U	23 U
Trichloroethylene	ug/kg	**30**	1.6 U	2.3 U	2.2 U	2.2 U	2.7 U	3.1 U	1.9 U	1.9 U	1.9 U	1.8 U	2.1 U	2.3 U	1.9 U
GC/MS Semi-volatiles (SW846 8270D)															
2,4-Dinitrotoluene	ug/kg	1,700	37 U	37 U	38 U	38 U	41 U	41 U	37 U	37 U	48.3 J	36 U	37 U	37 U	36 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	140 U	140 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)															
Benzo(a)anthracene	ug/kg	**100**	21.2	8.4 J	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(a)pyrene	ug/kg	**100**	24	10.4 J	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(b)fluoranthene	ug/kg	**100**	25	12.2 J	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(g,h,i)perylene	ug/kg	-	15	6 J	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(k)fluoranthene	ug/kg	**100**	8.4 J	4 J	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Chrysene	ug/kg	**100**	19.5	9.3 J	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.6 U	7.5 U	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Fluoranthene	ug/kg	2,400,000	57.9 J	21.3 J	38 U	38 U	41 U	40 U	37 U	36 U	38 U	37 U	37 U	37 U	36 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	14.9 J	6.2 J	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
2-Methylnaphthalene	ug/kg	**5,000**	38 U	38 U	38 U	38 U	41 U	40 U	37 U	36 U	38 U	37 U	37 U	37 U	36 U
Naphthalene	ug/kg	**5,000**	38 U	38 U	38 U	38 U	41 U	40 U	37 U	36 U	38 U	37 U	37 U	37 U	36 U
Phenanthrene	ug/kg	-	27.3 J	38 U	38 U	38 U	41 U	40 U	37 U	36 U	38 U	37 U	37 U	37 U	36 U
Pyrene	ug/kg	1,800,000	50.5 J	19 J	38 U	38 U	41 U	40 U	37 U	36 U	38 U	37 U	37 U	37 U	36 U
Benzo(a)pyrene equivalents	ug/kg	**100**	31.5	13.9											
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)															
TPH (Diesel)	mg/kg	**2,000**	2.66 J	2.08 J	1.52 J	2.3 UJ	1.31 J	2.07 J	3.1 J	1.75 J	3.23 J	1.28 J	4.24 J	5.26 J	7.47 J
TPH (Motor Oil)	mg/kg	**4,000**	8.89 J	10.5 J	6.64 UJ	10 J	14.3 J	17 J	15.6 J	10.3 J	19 J	3.55 UJ	34.9 J	35.5 J	42.1 J
Pesticides (SW846 8081B)															
Aldrin	ug/kg	39	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
delta-BHC	ug/kg	-	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
Chlordane	ug/kg	1,700	9.2 U	9.4 U	9.5 U	9.7 U	10 U	10 U	9.2 U	9 U	9.6 U	9 U	9.1 U	9 U	9 U
alpha-Chlordane	ug/kg	-	0.92 U	1 J	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
gamma-Chlordane	ug/kg	-	0.92 U	1.1 J	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
Dieldrin	ug/kg	34	0.92 U	0.94 U	0.95 U	0.97 U	1 U	2 J	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
4,4'-DDD	ug/kg	2,300	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
4,4'-DDE	ug/kg	2,000	11.4	12.2	1.7 J	1.3 J	1 U	1 U	6	2.3 J	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
4,4'-DDT	ug/kg	**3,000**	7.9	8.7	0.95 U	0.97 U	1 U	3.4 J	7.5 J	2.7 J	4.2	0.9 U	4.3	4.7	5.2
Endrin	ug/kg	19,000	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
Endosulfan sulfate	ug/kg	-	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
Endrin ketone	ug/kg	-	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
Heptachlor	ug/kg	130	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
Heptachlor epoxide	ug/kg	70	0.92 U	0.94 U	0.95 U	0.97 U	1 U	1 U	0.92 U	0.9 U	0.96 U	0.9 U	0.91 U	0.9 U	0.9 U
PCBs (SW846 8082A)															
Aroclor 1016	ug/kg	4,100	9.2 U	9.4 U	9.5 U	9.7 U	10 U	10 U	9.2 U	9 U	9.6 U	9 U	9.1 U	9 U	9 U
Aroclor 1254	ug/kg	240	15 U	15 U	15 U	15 U	16 U	16 U	15 U	14 U	15 U	14 U	14 U	14 U	14 U
Aroclor 1260	ug/kg	240	9.2 U	9.4 U	9.5 U	9.7 U	10 U	10 U	9.2 U	9 U	9.6 U	9 U	9.1 U	9 U	9 U
Herbicides (SW846 8151A)															
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.9 U	1.9 U	1.9 U	2 U	2.1 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.9 U	1.9 U	1.9 U	2 U	2.1 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U

Table 3-7
Subsurface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			51		52		53		54			55	
Sample ID:			YTCFLC-SS-51-01	YTCFLC-SS-51-02	YTCFLC-SS-52-01	YTCFLC-SS-52-02	YTCFLC-SS-53-02	YTCFLC-SS-53-01	YTCFLC-SS-54-01	YTCFLC-SS-5401D	YTCFLC-SS-54-02	YTCFLC-SS-55-01	YTCFLC-SS-55-02
Lab Sample ID:		Project Action Levels	FA35026-1	FA35026-2	FA35026-3	FA35026-4	FA35063-5	FA35063-6	FA35063-3/ FA35063-3R	FA35063-2/ FA35063-2R	FA35063-1/ FA35063-1R	FA35066-1	FA35066-2
Date Sampled:			6/24/2016	6/24/2016	6/24/2016	6/24/2016	6/27/2016	6/27/2016	6/27/2016	6/27/2016	6/27/2016	6/27/2016	6/27/2016
Depth			3	7	8	10	6.5	2.5	2	2	4.5	2	5.75
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)													
Acetone	ug/kg	61,000,000	28 U	29 U	26 U	27 U	31 U	26 U	30 U	26 U	29 U	26 U	26 U
Trichloroethylene	ug/kg	**30**	2.3 U	2 J	2.1 U	2.2 U	2.5 U	2.1 U	2.4 U	2.1 U	2.3 U	2 U	2 U
GC/MS Semi-volatiles (SW846 8270D)													
2,4-Dinitrotoluene	ug/kg	1,700	36 U	36 U	36 U	36 U	37 U	38 U	38 U	38 U	38 U	37 U	39 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U	140 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)													
Benzo(a)anthracene	ug/kg	**100**	5.1 J	7.1 U	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(a)pyrene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(b)fluoranthene	ug/kg	**100**	6.6 J	4.6 J	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(g,h,i)perylene	ug/kg	-	4.2 J	7.1 U	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(k)fluoranthene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Chrysene	ug/kg	**100**	8.7 J	6.8 J	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Fluoranthene	ug/kg	2,400,000	35 U	35 U	35 U	36 U	37 U	38 U	38 U	38 U	38 U	36 U	39 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.4 U	7.6 U	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
2-Methylnaphthalene	ug/kg	**5,000**	35 U	35 U	35 U	36 U	37 U	38 U	38 U	38 U	38 U	36 U	39 U
Naphthalene	ug/kg	**5,000**	35 U	35 U	35 U	36 U	37 U	38 U	38 U	38 U	38 U	36 U	39 U
Phenanthrene	ug/kg	-	35 U	35 U	35 U	36 U	37 U	38 U	38 U	38 U	38 U	36 U	39 U
Pyrene	ug/kg	1,800,000	35 U	35 U	35 U	36 U	37 U	38 U	38 U	38 U	38 U	36 U	39 U
Benzo(a)pyrene equivalents	ug/kg	**100**	5.9	5.5									
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)													
TPH (Diesel)	mg/kg	**2,000**	22 UJ	19 J	1.44 J	3.86 J	1.91 J	2.35 J	2.3 UJ	2.3 UJ	1.85 J	1.78 J	2.4 U
TPH (Motor Oil)	mg/kg	**4,000**	147 J	226 J	12.9 J	20.8 J	12.6	19.1	3.88 UJ	3.98 UJ	3.52 UJ	14.3 J	8.42 UJ
Pesticides (SW846 8081B)													
Aldrin	ug/kg	39	0.88 U	0.91 U	0.9 U	2.5	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
delta-BHC	ug/kg	-	0.88 U	0.91 U	0.9 U	1.1 J	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Chlordane	ug/kg	1,700	8.8 U	9.1 U	9 U	8.9 U	9.2 U	9.5 U	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U
alpha-Chlordane	ug/kg	-	0.88 U	0.81 J	0.9 U	1.3 J	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
gamma-Chlordane	ug/kg	-	0.88 U	4.1	0.9 U	10.2	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Dieldrin	ug/kg	34	1.8	8.4	0.9 U	0.89 U	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
4,4'-DDD	ug/kg	2,300	3.2 J	28 J	0.9 U	1.1 J	0.92 U	0.95 U	2 J	11.8 J	39.3	0.89 U	0.95 U
4,4'-DDE	ug/kg	2,000	17.9	101 J	1.6 J	1.4 J	2.4 J	4.5	0.94 U	0.95 U	0.93 U	5.3	0.95 U
4,4'-DDT	ug/kg	**3,000**	74.5	330 J	0.94 J	11.8	5.8	6.4	0.94 U	0.95 U	0.93 U	4.4	0.95 U
Endrin	ug/kg	19,000	0.88 U	0.91 U	0.9 U	0.89 U	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Endosulfan sulfate	ug/kg	-	0.88 U	0.91 U	0.9 U	1 J	0.92 U	0.95 U	3.6 J	5	8.3	0.89 U	0.95 U
Endrin ketone	ug/kg	-	0.88 U	0.91 U	0.9 U	0.89 U	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Heptachlor	ug/kg	130	0.88 U	0.91 U	0.9 U	0.89 U	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.88 J	0.95 U
Heptachlor epoxide	ug/kg	70	0.88 U	0.91 U	0.9 U	0.89 U	0.92 U	0.95 U	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
PCBs (SW846 8082A)													
Aroclor 1016	ug/kg	4,100	8.8 U	9.1 U	9 U	8.9 U	9.2 U	9.5 U	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U
Aroclor 1254	ug/kg	240	14 U	15 U	14 U	14 U	15 U	15 U	15 U	15 U	15 U	14 U	15 U
Aroclor 1260	ug/kg	240	8.8 U	9.1 U	9 U	8.9 U	9.2 U	9.5 U	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U
Herbicides (SW846 8151A)													
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	1.8 U	1.8 U	1.9 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.9 U	1.8 U	1.8 U	1.9 U

Table 3-7
Subsurface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			56				57				58				59				60			
Sample ID:			YTCFLC-SS-56-01	YTCFLC-SS-56-02	YTCFLC-SS-56-2D	YTCFLC-SS-57-1	YTCFLC-SS-57-1D	YTCFLC-SS-57-2	YTCFLC-SS-58-01	YTCFLC-SS-58-02	YTCFLC-59-01	YTCFLC-59-02	YTCFLC-SS-60-01	YTCFLC-SS-60-02	YTCFLC-SS-60-2D
Lab Sample ID:		Project Action Levels	FA38316-1/ 16K0007-03	FA38316-2/ 16K0007-04	FA38316-3/ 16K0007-07	FA38249-7/ 16J0492-05	FA38249-10/ 16J0492-08	FA38249-8/ 16J0492-06	FA38249-3/ 16J0492-03	FA38249-4/ 16J0492-04	FA35133-3	FA35133-4	FA35164-1	FA35164-2	FA35164-3
Date Sampled:			10/31/2016	10/31/2016	10/31/2016	10/28/2016	10/28/2016	10/28/2016	10/28/2016	10/28/2016	6/29/2016	6/29/2016	6/30/2016	6/30/2016	6/30/2016
Depth			8.5	8.5	8.5	5	5	5	5	7	5.5	5.5	4.5	8.75	8.75
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)															
Acetone	ug/kg	61,000,000	30 U	28 U	25 U	30 U	31 U	32 U	28 U	27 U	21 U	25 U	23 U	23 U	23 U
Trichloroethylene	ug/kg	**30**	2.4 U	2.2 U	2 U	2.4 U	2.4 U	2.6 U	2.2 U	2.2 U	1.7 U	2 U	1.8 U	1.8 U	1.8 U
GC/MS Semi-volatiles (SW846 8270D)															
2,4-Dinitrotoluene	ug/kg	1,700	40 U	41 U	40 U	39 U	39 U	39 U	36 U	39 U	38 U	39 U	39 U	38 U	38 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	140 U	140 U	140 U	104 J	140 UJ	140 U	130 U	140 U	130 U	140 U	140 U	130 U	130 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)															
Benzo(a)anthracene	ug/kg	**100**	8 U	8.2 U	7.9 U	7.9 J	4.9 J	7.9 U	7.3 U	7.7 U	7.3 U	7.4 U	7.5 UJ	7.7 U	7.3 U
Benzo(a)pyrene	ug/kg	**100**	8 U	8.2 U	7.9 U	39.4 J	5 J	7.9 U	7.3 U	4.2 J	7.3 U	7.4 U	6.8 J	7.7 U	7.3 U
Benzo(b)fluoranthene	ug/kg	**100**	8 U	8.2 U	7.9 U	84.7 J	7 J	7.9 U	7.3 U	5.3 J	7.3 U	7.4 U	7.5 UJ	7.7 U	7.3 U
Benzo(g,h,i)perylene	ug/kg	-	8 U	8.2 U	7.9 U	57.3 J	6.2 J	4.3 J	7.3 U	6.5 J	7.3 U	7.4 U	11.3 J	7.7 U	7.3 U
Benzo(k)fluoranthene	ug/kg	**100**	8 U	8.2 U	7.9 U	51.5 J	7.9 UJ	7.9 U	7.3 U	5.1 J	7.3 U	7.4 U	7.5 UJ	7.7 U	7.3 U
Chrysene	ug/kg	**100**	8 U	8.2 U	7.9 U	23.7 J	7.9 J	7.9 U	7.3 U	7.6 J	7.3 U	7.4 U	4.6 J	7.7 U	7.3 U
Dibenzo(a,h)anthracene	ug/kg	**100**	8 U	8.2 U	7.9 U	21.8 J	7.9 UJ	7.9 U	7.3 U	7.7 U	7.3 U	7.4 U	7.5 UJ	7.7 U	7.3 U
Fluoranthene	ug/kg	2,400,000	40 U	41 U	39 U	39 UJ	40 U	39 U	36 U	38 U	36 U	37 U	38 UJ	38 U	36 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	8 U	8.2 U	7.9 U	57.4 J	5.2 J	7.9 U	7.3 U	7.7 U	7.3 U	7.4 U	7.5 UJ	7.7 U	7.3 U
2-Methylnaphthalene	ug/kg	**5,000**	40 U	41 U	39 U	39 UJ	40 U	39 U	36 U	38 U	36 U	37 U	38 UJ	38 U	36 U
Naphthalene	ug/kg	**5,000**	40 U	41 U	39 U	39 UJ	40 U	39 U	36 U	38 U	36 U	37 U	38 UJ	38 U	36 U
Phenanthrene	ug/kg	-	40 U	41 U	39 U	39 UJ	21.5 J	39 U	36 U	38 U	36 U	37 U	38 UJ	38 U	36 U
Pyrene	ug/kg	1,800,000	40 U	41 U	39 U	39 UJ	40 U	39 U	36 U	38 U	36 U	37 U	38 UJ	38 U	36 U
Benzo(a)pyrene equivalents	ug/kg	**100**				62.0	7.6	6.0		6.5			8.7		
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)															
TPH (Diesel)	mg/kg	**2,000**	2.88 U	3.09 U	3.08 U	10.9 U	10.3 U	5.78 U	2.66 U	7.13 U	1.89 J	1.75 J	27.6	2.53 J	2.31 J
TPH (Motor Oil)	mg/kg	**4,000**	5.77 U	6.18 U	6.16 U	31.4	32.6	11.5	5.51 U	14.1	7.69	13.1	198	21.3	18.6
Pesticides (SW846 8081B)															
Aldrin	ug/kg	39	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
delta-BHC	ug/kg	-	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Chlordane	ug/kg	1,700	9.9 U	11 U	10 U	19 U	19 U	97 U	9.3 U	9.2 U	9.6 U	9.9 U	9.8 U	9.4 U	9.2 U
alpha-Chlordane	ug/kg	-	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
gamma-Chlordane	ug/kg	-	0.99 U	1.1 U	1 U	1.9 UJ	1.8 J	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Dieldrin	ug/kg	34	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
4,4'-DDD	ug/kg	2,300	0.99 U	1.1 U	1 U	3.8 J	25 J	56.4	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
4,4'-DDE	ug/kg	2,000	0.99 U	1.1 U	1 U	1.4 J	5.9 J	9.7 U	2.3 J	0.92 U	0.96 U	0.99 U	2.4 J	0.94 UJ	2.1 J
4,4'-DDT	ug/kg	**3,000**	0.99 U	1.1 U	1 U	1.9 UJ	7.5 J	9.7 U	2.8 J	0.92 U	0.96 U	0.99 U	6	1.5 J	3 J
Endrin	ug/kg	19,000	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Endosulfan sulfate	ug/kg	-	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Endrin ketone	ug/kg	-	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Heptachlor	ug/kg	130	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Heptachlor epoxide	ug/kg	70	0.99 U	1.1 U	1 U	1.9 U	1.9 U	9.7 U	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
PCBs (SW846 8082A)															
Aroclor 1016	ug/kg	4,100	9.9 U	11 U	11 U	9.6 J	10.1 J	9.7 U	9.3 U	9.2 U	9.6 U	9.7 U	9.8 U	9.5 U	9.4 U
Aroclor 1254	ug/kg	240	16 U	17 U	17 U	20 J	35 J	15 U	15 U	15 J	15 U	16 U	16 U	15 U	15 U
Aroclor 1260	ug/kg	240	9.9 U	11 U	11 U	8.8 J	16.5 J	9.7 U	9.3 U	9.2 U	9.6 U	9.7 U	9.8 U	9.5 U	9.4 U
Herbicides (SW846 8151A)															
2,4,5-TP (Silvex)	ug/kg	510,000	2 U	2.1 U	2 U	2 U	1.9 U	1.9 UJ	1.9 R	2 R	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U
Pentachlorophenol	ug/kg	1,000	2 U	2.1 U	2 U	3.5 J	4.9	2.3 J	1.9 R	2 R	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U

Table 3-7
Subsurface Soil Analytical Results
Organic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			61		62		63		64	
Sample ID:			YTCFLC-SS-61-01	YTCFLC-SS-61-02	YTCFLC-SS-62-01	YTCFLC-SS-62-02	YTCFLC-SS-63-01	YTCFLC-SS-63-02	YTCFLC-SS-64-02	YTCFLC-SS-64-01
Lab Sample ID:		Project Action Levels	FA38194-1/ 16J0471-01	FA38194-2/ 16J0471-02	FA38194-3/ 16J0471-03	FA38194-4/ 16J0471-04	FA35026-5	FA35026-6	FA35062-1	FA35062-2
Date Sampled:			10/27/2016	10/27/2016	10/27/2016	10/27/2016	6/24/2016	6/24/2016	6/27/2016	6/27/2016
Depth			3	3	4	4	3	6	6	7.25
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)										
Acetone	ug/kg	61,000,000	30 U	29 U	25 U	43 U	26 U	26 U	28 U	35 U
Trichloroethylene	ug/kg	**30**	2.4 U	2.3 U	2 U	3.4 U	2.1 U	2.1 U	2.2 U	2.8 U
GC/MS Semi-volatiles (SW846 8270D)										
2,4-Dinitrotoluene	ug/kg	1,700	38 U	37 U	36 U	36 U	37 U	37 U	37 U	36 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)										
Benzo(a)anthracene	ug/kg	**100**	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(a)pyrene	ug/kg	**100**	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(b)fluoranthene	ug/kg	**100**	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(g,h,i)perylene	ug/kg	-	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(k)fluoranthene	ug/kg	**100**	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Chrysene	ug/kg	**100**	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Fluoranthene	ug/kg	2,400,000	38 U	36 U	36 U	37 U	37 U	37 U	38 U	37 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.6 U	7.2 U	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
2-Methylnaphthalene	ug/kg	**5,000**	38 U	36 U	36 U	37 U	37 U	37 U	69.4 J	37 U
Naphthalene	ug/kg	**5,000**	38 U	36 U	36 U	37 U	37 U	37 U	65.2 J	37 U
Phenanthrene	ug/kg	-	38 U	36 U	36 U	37 U	37 U	37 U	38 U	37 U
Pyrene	ug/kg	1,800,000	38 U	36 U	36 U	37 U	37 U	37 U	38 U	37 U
Benzo(a)pyrene equivalents	ug/kg	**100**							5.7	
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)										
TPH (Diesel)	mg/kg	**2,000**	2.74 UJ	2.75 UJ	2.65 UJ	2.68 UJ	1.35 J	1.79 J	1.63 J	2.2 U
TPH (Motor Oil)	mg/kg	**4,000**	4.23 J	5.49 U	5.3 U	5.37 U	7.5 UJ	14.5 J	18 J	10.8 J
Pesticides (SW846 8081B)										
Aldrin	ug/kg	39	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
delta-BHC	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
Chlordane	ug/kg	1,700	9.1 U	9.5 U	8.7 U	8.7 U	9 U	9.4 U	9.1 U	9.1 U
alpha-Chlordane	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
gamma-Chlordane	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
Dieldrin	ug/kg	34	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.82 J	0.91 U
4,4'-DDD	ug/kg	2,300	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
4,4'-DDE	ug/kg	2,000	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	1.4 J	0.82 J
4,4'-DDT	ug/kg	**3,000**	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	12	2 J
Endrin	ug/kg	19,000	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
Endosulfan sulfate	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
Endrin ketone	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
Heptachlor	ug/kg	130	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
Heptachlor epoxide	ug/kg	70	0.91 U	0.95 U	0.87 U	0.87 U	0.9 U	0.94 U	0.91 U	0.91 U
PCBs (SW846 8082A)										
Aroclor 1016	ug/kg	4,100	9.1 U	9.5 U	8.7 U	8.7 U	9 U	9.4 U	9.1 U	8.8 U
Aroclor 1254	ug/kg	240	15 U	15 U	14 U	14 U	14 U	15 U	15 U	14 U
Aroclor 1260	ug/kg	240	9.1 U	9.5 U	8.7 U	8.7 U	9 U	9.4 U	9.1 U	8.8 U
Herbicides (SW846 8151A)										
2,4,5-TP (Silvex)	ug/kg	510,000	1.9 U	1.9 U	1.7 U	1.8 U	1.8 U	1.9 U	1.9 UJ	1.8 U
Pentachlorophenol	ug/kg	1,000	1.9 U	1.9 U	1.7 U	1.8 U	1.8 U	1.9 U	1.9 UJ	1.8 U

Notes:
Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10-5 and a hazard index of 1.0 and Washington State MCTA (bolded levels).
Shading denotes detected analytes.
Bold/Italics denotes concentrations that exceed the project action levels.
U = Not Detected
J = Concentration detected below the LOQ
R = Rejected

Table 3-8
Suburface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			40		41		42				43	
Sample ID:			YTCFLC-SS-40-01	YTCFLC-SS-40-02	YTCFLC-SS-41-01	YTCFLC-SS-41-02	YTCFLC-SS-42-01	YTCFLC-SS-42-02	YTCFLC-SS-42-2D	YTCFLC-SS-43-01	YTCFLC-SS-43-02
Lab Sample ID:		Project Action Levels	FA38124-1	FA38124-2	FA38124-3	FA38083-17 FA38083-18	FA35094-1	FA35094-2	FA35094-3	FA38124-4	FA38124-5
Date Sampled:			10/25/2016	10/25/2016	10/25/2016	10/25/2016	6/27/2016	6/27/2016	6/27/2016	10/25/2016	10/25/2016
Depth			3	3	7	7	4.25	4.25	4.25	10	10
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Metals analysis											
Aluminum	mg/kg	77,000	32700 J	26000 J	20400 J	18400 J	30600	28200	31600	25200 J	21600 J
Antimony	mg/kg	31	0.63 J	1.2 J	0.64 J	1.3 UJ	1.1 U	1 UJ	0.31 J	0.68 J	0.92 J
Arsenic	mg/kg	**20**	4.5 J	7.8 J	4.4 J	3.3 J	5.2	6.7	4.9	4.9 J	4.7 J
Barium	mg/kg	15,000	216 J	210 J	155 J	121	279	214	235	170 J	182 J
Beryllium	mg/kg	160	0.62 J	0.52 J	0.6 J	0.55 J	0.6 J	0.57 J	0.6 J	0.64 J	0.64 J
Cadmium	mg/kg	71	0.26 UJ	0.31 J	0.26 UJ	0.25 U	0.21 U	0.21 UJ	0.14 J	0.27 UJ	0.27 UJ
Calcium	mg/kg	-	17800 J	18800 J	7440 J	9900 J	16600	27100	23900	11200 J	12000 J
Chromium	mg/kg	**2,000**	14.1	22	18.7	16.4	14.9	14.8	17.1	15.2	19.7
Cobalt	mg/kg	23	12.4 J	10.7 J	10.9 J	9.4 J	9.8 J	12.1	12.5	10.7 J	12.3 J
Copper	mg/kg	3,100	27.1 J	50 J	20.4 J	19.4	39.4	41.1	53.8	22.2 J	35.2 J
Iron	mg/kg	55,000	23100 J	31400 J	24800 J	24400 J	24700	24700	28700	28400 J	39100 J
Lead	mg/kg	**250**	12.9	238	7.5	6.2	19.1	19.1 J	37.1 J	13.3	32.9
Magnesium	mg/kg	-	10800 J	8810 J	6630 J	6700	10500	11100	12000	9220 J	7530 J
Manganese	mg/kg	1,800	407 J	515 J	450 J	380 J	310	384	387	392 J	569 J
Mercury	mg/kg	**2**	0.12	0.088	0.04 J	0.13	0.13	0.12	0.11	0.071	0.065
Nickel	mg/kg	820	17 J	19.6 J	19.3 J	17	15.1 J	16 J	16.2	13.7 J	21.2 J
Potassium	mg/kg	-	2630	2880	2190 J	1460 J	3010	2540	2800	2310 J	2480 J
Selenium	mg/kg	390	1.3 U	1.3 U	1.3 U	1.3 U	1.1 U	1 U	1.1 U	1.3 U	1.4 U
Silver	mg/kg	390	0.51 U	0.3 J	0.52 U	0.51 U	0.42 U	0.42 U	0.44 U	0.53 U	0.55 U
Sodium	mg/kg	-	1340 J	1270 J	1270 J	1270 J	1320 J	1080 J	1210 J	1220 J	884 J
Thallium	mg/kg	0.78	1.3 U	1.3 U	0.29 J	1.3 U	1.1 U	1 U	1.1 U	1.3 U	0.45 J
Vanadium	mg/kg	390	43 J	42.2 J	45.9 J	44.6	48.2	56.5	71.5	58.5	54.9 J
Zinc	mg/kg	23,000	57 J	286 J	47.4 J	49.9	71	64.4	83.9	69	991 J
General Chemistry											
Solids, Percent	%	-	90.7	90.6	90.6	91.6	89.4	89.9	91.3	82.3	86.6

Table 3-8
Suburface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			44		45		46		47		48	
Sample ID:			YTCFLC-SS-44-01	YTCFLC-SS-44-02	YTCFLC-SS-45-01	YTCFLC-SS-45-02	YTCFLC-SS-46-01	YTCFLC-SS-46-02	YTCFLC-SS-47-01	YTCFLC-SS-47-02	YTCFLC-SS-48-01	YTCFLC-SS-48-02
Lab Sample ID:		Project Action Levels	FA38249-1	FA38249-2	FA35135-1/ FA35021-1	FA35031-2/ FA35135-2	FA35135-3/ FA35021-3	FA35135-4/ FA35031-4	FA35089-5	FA35089-1	FA35094-4	FA35094-5
Date Sampled:			10/28/2016	10/28/2016	6/22 & 29/2016	6/22 & 29/2016	6/22 & 29/2016	6/22 & 29/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016
Depth			3.5	3.5	2	4.5	2.5	3.5	2.5	4.5	6	7
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Metals analysis												
Aluminum	mg/kg	77,000	22800	18300	21000 J	19700 J	24300 J	27700 J	37500	33800	19900	21300
Antimony	mg/kg	31	1.5 U	1.3 U	1.2 UJ	1 UJ	1 UJ	1.1 UJ	1.2 U	1.1 U	1.1 U	1.5 J
Arsenic	mg/kg	**20**	4	2.2 J	3.9	3.9	1.9 J	1.5 J	2.1 J	2.6	3.9	3.5
Barium	mg/kg	15,000	347	113	167	155	203	230	386	492	166	206
Beryllium	mg/kg	160	0.61 J	0.48 J	0.18 J	0.15 J	0.3 J	0.4 J	0.86 J	0.75 J	0.55 J	0.58 J
Cadmium	mg/kg	71	0.31 U	0.25 U	0.34 J	0.27 J	0.21 J	0.19 J	0.24 U	0.22 U	0.22 U	0.18 J
Calcium	mg/kg	-	56600	6750	8970 J	7370 J	7010 J	13800 J	16700	26800	8740	11200
Chromium	mg/kg	**2,000**	11.9	13.6	15.3	14.2	17.9	16.9	21.5	19.5	23	18.6
Cobalt	mg/kg	23	9.8 J	9.3 J	10.6 J	10.6	11.2	10.7 J	12.3	11.7	10.4 J	11 J
Copper	mg/kg	3,100	23.6	18.4	23.2 J	20.7 J	22.1 J	24.2 J	42.3	36.7	32.7	207
Iron	mg/kg	55,000	38200	32600	25800 J	24800 J	27100 J	26700 J	31100	28100	25400	28900
Lead	mg/kg	**250**	6.4	9.4	24.9 J	23.8 J	13.6 J	11.2 J	8.7	10	22.2	107
Magnesium	mg/kg	-	13000	6940	6690	6070	7320	9730	16300	15500	6310	7490
Manganese	mg/kg	1,800	245	312	536 J	504 J	464 J	335 J	245	342	426	636
Mercury	mg/kg	**2**	0.13	0.098	0.11 J	0.042 J	0.027 J	0.047 J	0.076	0.098	0.045	0.057
Nickel	mg/kg	820	12.2	12.5	14.6	16.3	15.5	14.8	24.1 J	18.5 J	19.3	18.5
Potassium	mg/kg	-	1920 J	966 J	3080	3080	3850	3890	2860	2960	2240	3210
Selenium	mg/kg	390	1.5 U	1.3 U	1.2 U	1 U	1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.4 U
Silver	mg/kg	390	0.62 U	0.51 U	0.58 J	0.51 J	0.66 J	0.58 J	0.47 U	0.45 U	0.43 U	0.54 U
Sodium	mg/kg	-	2370 J	1550 J	616 J	607 J	667 J	1500 J	2410	2220	995 J	1310 J
Thallium	mg/kg	0.78	1.5 U	0.66 J	***1.1 J***	***0.97 J***	***0.96 J***	0.61 J	1.2 U	1.1 U	1.1 U	1.4 U
Vanadium	mg/kg	390	73.9	119	50.1	48.4	63.7	65.6	70.3	69.9	50.9	52.8
Zinc	mg/kg	23,000	42.5	46.2	55.4	50.4	55.2	57	71.5	65.9	257	796
General Chemistry												
Solids, Percent	%	-	79.5	86.2	87.6	88.3	87.8	86.3	81.4	80.1	89.9	91.2

Table 3-8
Suburface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			49		50		51		52	
Sample ID:		Project Action Levels	YTCFLC-SS-49-01	YTCFLC-SS-49-02	YTCFLC-SS-50-01	YTCFLC-SS-50-02	YTCFLC-SS-50-2D	YTCFLC-SS-51-01	YTCFLC-SS-51-02	YTCFLC-SS-52-01	YTCFLC-SS-52-02
Lab Sample ID:			FA35089-6	FA35089-7	FA35089-3	FA35089-4	FA35089-2	FA35026-1	FA35026-2	FA35026-3	FA35026-4
Date Sampled:			6/28/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016	6/24/2016	6/24/2016	6/24/2016	6/24/2016
Depth			4	8	3	6	6	3	7	8	10
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Metals analysis											
Aluminum	mg/kg	77,000	21000	21100	21700	20100	17200	18200 J	25000 J	15700 J	16300 J
Antimony	mg/kg	31	0.96 U	0.92 U	1 U	0.27 J	0.7 J	0.99 UJ	18.7 J	0.93 UJ	18.9 J
Arsenic	mg/kg	**20**	3.3	1.8	3.2	3.4 J	5.4 J	3.1 J	7.3 J	2.8 J	7.2 J
Barium	mg/kg	15,000	151	176	179	173	156	149 J	368 J	135 J	140 J
Beryllium	mg/kg	160	0.61 J	0.46 J	0.6 J	0.55 J	0.48 J	0.55 J	0.51 J	0.49 J	0.49 J
Cadmium	mg/kg	71	0.19 U	0.18 U	0.21 U	0.92	0.66 J	0.21 J	3.9 J	0.25 J	1.2 J
Calcium	mg/kg	-	11000	8290	11300	12100	10400	8580 J	15900 J	7010 J	7160 J
Chromium	mg/kg	**2,000**	20.7	17	18.9	23.6	31.5	28.2 J	61 J	18.4 J	40.1 J
Cobalt	mg/kg	23	11	9.6	10.8	11.2	11.1 J	10.2	19.5	11.2	17.7
Copper	mg/kg	3,100	26.3	21.4	35.4	103 J	1010 J	109 J	498 J	38.5 J	126 J
Iron	mg/kg	55,000	26300	22700	25500	30400 J	47500 J	22900 J	***102000 J***	26600 J	***72800 J***
Lead	mg/kg	**250**	15.9	4.8	14.9	69.9	77.3	68.5 J	***4130 J***	21 J	157 J
Magnesium	mg/kg	-	7590	7540	7540	7080	6400	5930 J	8430 J	5150 J	5160 J
Manganese	mg/kg	1,800	477	394	427	464	574	441 J	1300 J	550 J	1160 J
Mercury	mg/kg	**2**	0.044	0.022 J	0.067	0.064	0.063	0.11	0.071	0.064	0.064
Nickel	mg/kg	820	22.1 J	17.2 J	19.1 J	20.6 J	30.3 J	18.6 J	65 J	19.8 J	42.6 J
Potassium	mg/kg	-	2110	1950	2500	2610	2400	2300 J	4340 J	1700 J	1780 J
Selenium	mg/kg	390	0.96 U	0.92 U	1 U	1 U	1.2 U	0.99 UJ	5.4 UJ	0.93 UJ	2.4 UJ
Silver	mg/kg	390	0.39 U	0.37 U	0.42 U	0.34 J	0.35 J	0.4 U	1.5 J	0.19 J	0.38 U
Sodium	mg/kg	-	1310 J	1540 J	777 J	658 J	700 J	422 J	1800 J	717 J	903 J
Thallium	mg/kg	0.78	0.96 U	0.92 U	1 U	1 U	1.2 U	0.99 UJ	***3.9 J***	0.37 J	2.4 UJ
Vanadium	mg/kg	390	57.8	64.6	57.6	57	56.3	52.3 J	51.4 J	49.2 J	46.8 J
Zinc	mg/kg	23,000	66.3	43.5	63.7	137	158	88.2 J	809 J	649 J	781 J
General Chemistry											
Solids, Percent	%	-	87.2	90.3	90.2	90.1	91.7	92.7	91.5	91.7	92.2

Table 3-8
Suburface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:			53				54				55				56				56			
Sample ID:			YTCFLC-SS-53-02		YTCFLC-SS-53-01		YTCFLC-SS-54-01		YTCFLC-SS-5401D		YTCFLC-SS-54-02		YTCFLC-SS-55-01		YTCFLC-SS-55-02		YTCFLC-SS-56-01		YTCFLC-SS-56-02		YTCFLC-SS-56-02D	
Lab Sample ID:		Project Action Levels	FA35063-5		FA35063-6		FA35063-3		FA35063-2		FA35063-1		FA35066-1		FA35066-2		FA38316-1		FA38316-2		FA38316-3	
Date Sampled:			6/27/2016		6/27/2016		6/27/2016		6/27/2016		6/27/2016		6/27/2016		6/27/2016		10/31/2016		10/31/2016		10/31/2016	
Depth			6.5		2.5		2		2		4.5		2		5.75		8.5		8.5		8.5	
Matrix:			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Metals analysis																						
Aluminum	mg/kg	77,000	19500		21200		17400		16300		19700		17000		23900		17500	J	15600	J	15400	J
Antimony	mg/kg	31	3.1	J	1.3	U	1.3	UJ	5.5	J	1.3	U	0.32	J	1.3	U	1.4	UJ	1.5	UJ	1.1	UJ
Arsenic	mg/kg	**20**	8.4		3.4		3.6	J	***24.1***	***J***	3.5		7.9		4.6		2.4	J	3.6	J	2.5	J
Barium	mg/kg	15,000	451		161		130		111		164		156		249		80.2		133		124	
Beryllium	mg/kg	160	0.46	U	0.15	J	0.26	U	0.25	U	0.26	U	0.18	J	0.3	J	0.53	J	0.42	J	0.38	J
Cadmium	mg/kg	71	3.8		0.18	J	0.26	UJ	0.69	J	0.26	U	0.31	J	0.15	J	0.28	U	0.29	U	0.22	U
Calcium	mg/kg	-	15700		12900		18900		16600		17200		8270		14200		10500	J	33500	J	29900	J
Chromium	mg/kg	**2,000**	34.2		22.3		17		16.8		19.4		21.7		21.4		16.3		20.2		16.2	
Cobalt	mg/kg	23	15.4	J	10.3	J	8.7	J	10.4	J	10	J	11		10.6	J	7.7	J	9.4	J	8.6	J
Copper	mg/kg	3,100	243		25.6		22.1		20.8		25.2		30.1		35.2		19.5		18.7		18.4	
Iron	mg/kg	55,000	***75200***		27400		21500		20600		24300		24000		26200		22100	J	22300	J	19500	J
Lead	mg/kg	**250**	***405***		16.3		8.4	J	17.2	J	9.7		36.5		10.8		5	J	5.8	J	4.8	
Magnesium	mg/kg	-	5050		8050		7610		6440		8090		5900		11300		9950		11500		10000	
Manganese	mg/kg	1,800	1030		459		400		407		458		543		388		284	J	409	J	380	J
Mercury	mg/kg	**2**	0.021	J	0.05		0.039	J	0.039	J	0.031	J	0.031	J	0.092		0.022	J	0.018	J	0.013	J
Nickel	mg/kg	820	62.9		22.9		18.9		20.2		20.5		20.6		38.9		16.8		25.3		20	
Potassium	mg/kg	-	2340	J	2260	J	1970	J	1870	J	2150	J	2000		2030	J	1680	J	1690	J	1620	J
Selenium	mg/kg	390	2.3	U	1.3	U	1.3	UJ	17.8	J	1.3	U	0.91	U	1.3	U	1.4	U	0.86	J	1.1	UJ
Silver	mg/kg	390	2.2	J	0.69	J	0.47	J	0.47	J	0.59	J	0.62	J	0.68	J	0.56	U	0.59	U	0.44	U
Sodium	mg/kg	-	2000	J	1140	J	1640	J	1560	J	2050	J	1080	J	2270	J	462	J	414	J	459	J
Thallium	mg/kg	0.78	0.72	J	***1.4***	***J***	***1.5***	***J***	***1.1***	***J***	***1.3***	***J***	***1.2***	***J***	***1***	***J***	1.4	U	1.5	U	1.1	U
Vanadium	mg/kg	390	43.5		60.8		52.7		47.6		55.8		46.4		61.4		57.3		49.5		45.4	
Zinc	mg/kg	23,000	1190		60.1		40.8		39.8		48		210		48.7		38.8		47		37.5	
General Chemistry																						
Solids, Percent	%	-	89.6		87.4		87.5		87.2		87.6		91.2		84.7		83.8		81.4		83.2	

Table 3-8
Suburface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:		Project Action Levels	57			58		59		60		
Sample ID:			YTCFLC-SS-57-1	YTCFLC-SS-57-1D	YTCFLC-SS-57-2	YTCFLC-SS-58-01	YTCFLC-SS-58-02	YTCFLC-59-01	YTCFLC-59-02	YTCFLC-SS-60-01	YTCFLC-SS-60-02	YTCFLC-SS-60-2D
Lab Sample ID:			FA38249-7	FA38249-10	FA38249-8	FA38249-3	FA38249-4	FA35133-3	FA35133-4	FA35164-1	FA35164-2	FA35164-3
Date Sampled:			10/28/2016	10/28/2016	10/28/2016	10/28/2016	10/28/2016	6/29/2016	6/29/2016	6/30/2016	6/30/2016	6/30/2016
Depth			5	5	5	5	7	5.5	5.5	4.5	8.75	8.75
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Metals analysis												
Aluminum	mg/kg	77,000	19200	17100	18100	12700	21000	13700	12600	18700	15700	16700
Antimony	mg/kg	31	4.1 J	3.5 J	2.1 J	1.2 U	9.1	0.27 U	0.28 U	1.2 U	1.3 U	1 U
Arsenic	mg/kg	**20**	6	6.3	6.7	3.9	7.6	3.6	3.4	3.9	3.5	3.4
Barium	mg/kg	15,000	228	237	184	109	549	101	98.1	145	154	129
Beryllium	mg/kg	160	0.41 J	0.39 J	0.48 J	0.43 J	0.55 J	0.43	0.39	0.7 J	0.52 J	0.54 J
Cadmium	mg/kg	71	2.1	2.3	2	0.24 U	4.3	0.053 J	0.05 J	0.32 J	0.27 U	0.2 U
Calcium	mg/kg	-	12400 J	25500 J	11400	10100	19300	23000	21200	7190	7170	6760
Chromium	mg/kg	**2,000**	29.7	28.5	35.4	12.5	221	11.1	9.8	18	17.7	18.7
Cobalt	mg/kg	23	15.4	16.5	15	7.2 J	17.3	5.5	5	17.1	10.4 J	10.9
Copper	mg/kg	3,100	578 J	305 J	298	19.1	320	17.3	15.2	31.1	24.6	29.1
Iron	mg/kg	55,000	***64600***	49900	52100	20800	***58400***	13900	12900	23200	22600	23400
Lead	mg/kg	**250**	***1630 J***	***744 J***	***297***	8.6	***713***	6.3	5.8	23.2	8.5	8
Magnesium	mg/kg	-	5760	7010	5990	5500	13900	8980	9140	5640	4780	5270
Manganese	mg/kg	1,800	1500	1460	1280	328	992	215	188	821	499	498
Mercury	mg/kg	**2**	***2.4 J***	1.3 J	0.31	0.014 J	0.038 J	0.023 J	0.022 J	0.049	0.051 J	0.032 J
Nickel	mg/kg	820	91.9	99.5	62.6	14.9	113	13.4	11.7	66.9	21.1	24.5
Potassium	mg/kg	-	2490	3310	2500 J	1900 J	4700	1660	1630	1650 J	1910 J	1890 J
Selenium	mg/kg	390	1.1 U	1.4 U	1.3 U	1.2 U	1.4 U	0.27 U	0.14 J	1.2 U	1.3 U	1 U
Silver	mg/kg	390	2.3	1.8 J	1.6 J	0.48 U	2.2 J	0.14 J	0.13 J	0.48 U	0.26 J	0.26 J
Sodium	mg/kg	-	1940 J	2780 J	1370 J	1100 J	2200 J	1970	1310	895 J	2130 J	2240
Thallium	mg/kg	0.78	0.7 J	0.43 J	0.66 J	1.2 U	***0.95 J***	0.27 U	0.28 U	1.2 U	1.3 U	1 U
Vanadium	mg/kg	390	154	146	87.5	33.8	90.9	37.4	33.8	85.5	52.7	57.8
Zinc	mg/kg	23,000	1300	1000	1210	89.6	1710	25.6	23.9	282	60.9	55.1
General Chemistry												
Solids, Percent	%	-	84.6	85.2	86.2	91.5	86.8	87.9	85.6	85.2	87.9	88.4

Table 3-8
Suburface Soil Analytical Results
Inorganic Analytes
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit:		Project Action Levels	61		62		63		64	
Sample ID:			YTCFLC-SS-61-01	YTCFLC-SS-61-02	YTCFLC-SS-62-01	YTCFLC-SS-62-02	YTCFLC-SS-63-01	YTCFLC-SS-63-02	YTCFLC-SS-64-02	YTCFLC-SS-64-01
Lab Sample ID:			FA38194-1	FA38194-2	FA38194-3	FA38194-4	FA35026-5	FA35026-6	FA35062-1	FA35062-2
Date Sampled:			10/27/2016	10/27/2016	10/27/2016	10/27/2016	6/24/2016	6/24/2016	6/27/2016	6/27/2016
Depth			3	3	4	4	3	6	6	7.25
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Metals analysis										
Aluminum	mg/kg	77,000	18200	16100	13700	14400	18300 J	18100 J	20900	17000
Antimony	mg/kg	31	1.3 U	1.1 U	1.2 U	1.1 U	1.1 UJ	0.88 UJ	3.6 J	13.3
Arsenic	mg/kg	**20**	4.4	4.9	5	4.3	3.3 J	2.1 J	4.5	15.7
Barium	mg/kg	15,000	169	146	127	127	144 J	115 J	389	369
Beryllium	mg/kg	160	0.43 J	0.32 J	0.2 J	0.24 J	0.59 J	0.54 J	0.18 J	0.53 U
Cadmium	mg/kg	71	0.26 U	0.22 U	0.24 U	0.23 U	0.21 UJ	0.11 J	2	2 J
Calcium	mg/kg	-	11700	23800	21600	8010	6200 J	13400 J	18300	26100
Chromium	mg/kg	**2,000**	15.6	13.8	12.1	13.4	20.4 J	15.9 J	27	51.1
Cobalt	mg/kg	23	8.5 J	7.3 J	6.5 J	7.5 J	10.9 J	10.6	12.1 J	22.4 J
Copper	mg/kg	3,100	20.7	19.3	16.7	17.6	23.6 J	21.1 J	54.2	429
Iron	mg/kg	55,000	21800	20300	17400	19000	23500 J	22400 J	43000	***124000***
Lead	mg/kg	**250**	10.4	7.5	5.7	12.2	6.3 J	6.7 J	***809***	***721***
Magnesium	mg/kg	-	6630	6920	6930	4520	7120 J	7360 J	7720	5710
Manganese	mg/kg	1,800	431	344	283	350	455 J	361 J	479	1020
Mercury	mg/kg	**2**	0.033 J	0.027 J	0.026 J	0.015 J	0.049	0.068	0.12	0.082
Nickel	mg/kg	820	15.6	14.8	13	13.6	24.1 J	15.5 J	24.3	55.4
Potassium	mg/kg	-	2230 J	2140 J	2020 J	2110 J	2710 J	1860 J	2220 J	2880 J
Selenium	mg/kg	390	1.3 U	1.1 U	1.2 U	1.1 U	1.1 UJ	0.88 UJ	1.3 J	1.3 J
Silver	mg/kg	390	0.71 J	0.65 J	0.52 J	0.52 J	0.42 U	0.35 U	1.3 J	3.2 J
Sodium	mg/kg	-	849 J	1020 J	1500 J	448 J	717 J	1240 J	1590 J	2260 J
Thallium	mg/kg	0.78	1.3 U	1.1 U	1.2 U	1.1 U	1.1 UJ	0.88 UJ	***0.92 J***	2.7 U
Vanadium	mg/kg	390	45.9	45	44.3	38.6	50.7 J	71.2 J	67.4	52.7
Zinc	mg/kg	23,000	41.2	39.2	35.6	39.2	47.1 J	47.2 J	1010	666
General Chemistry										
Solids, Percent	%	-	90.1	89.8	93.8	92.8	90.6	88.8	88.2	90.5

Notes:
Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10^{-5} and a hazard index of 1.0 and Washington State MCTA (bolded levels).
Shading denotes detected analytes.
Bold/Italics denotes concentrations that exceed the project action levels.
U = Not Detected
J = Concentration detected below the LOQ

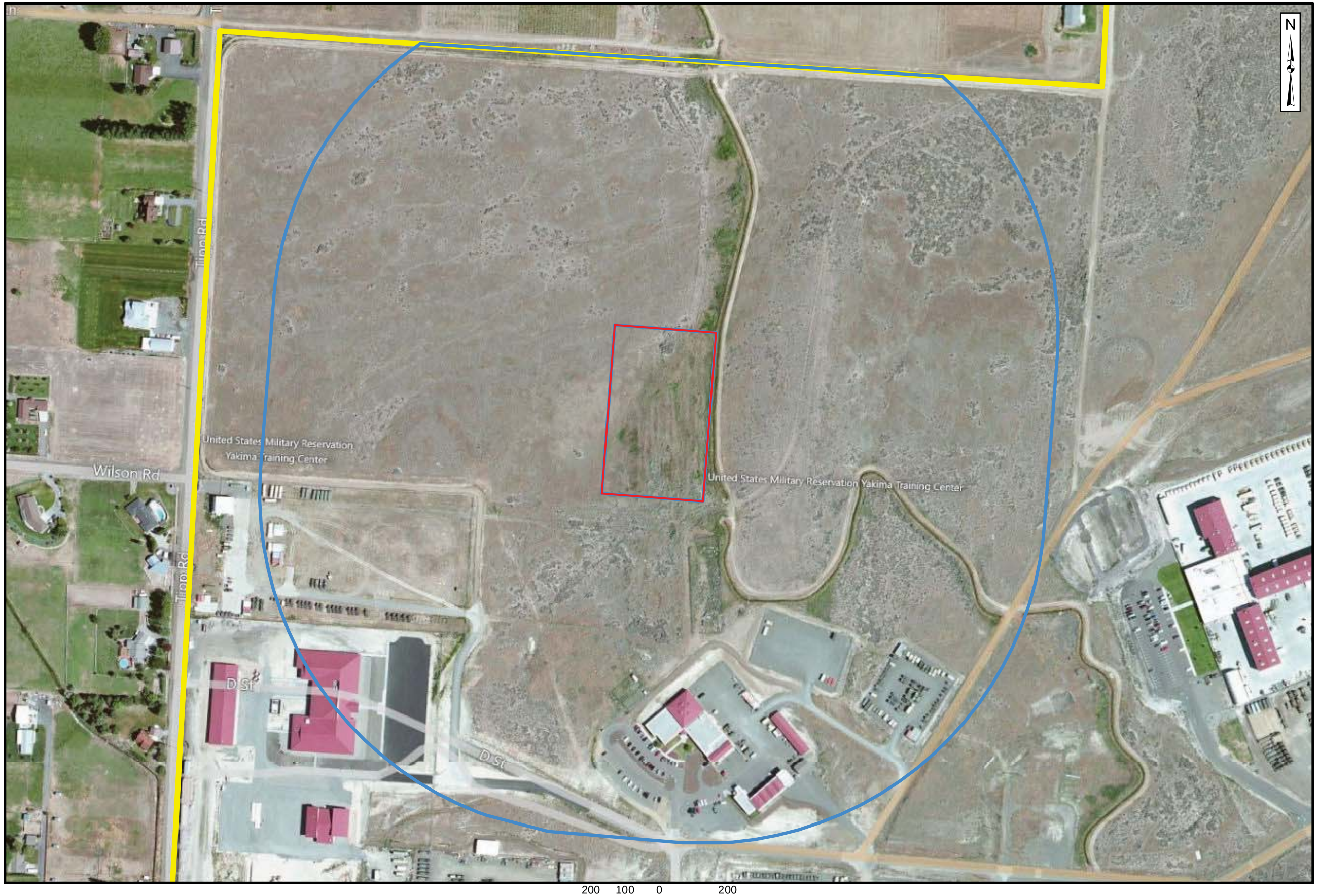
Table 3-9
Waste Characterization Sample Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Levels	YTCFLC-SWC-02		YTCFLC-SWC-03		YTCFLC-SWC-01		YTCFLC-SWC-05		YTCFLC-SWC-04	
Lab Sample ID:			FA35065-1/FA35065-1L		FA35065-2/ FA35065 2L		FA35134-1/ FA35134-1L		FA35134-2/ FA35134 2L		FA35134-3/ FA35134 3L	
Date Sampled:			6/27/2016		6/27/2016		6/27/2016		6/27/2016		6/27/2016	
Matrix:			Soil		Soil		Soil		Soil		Soil	
General Chemistry												
Corrosivity as pH	su	2-12.5	8.7		7.5		8.7		8.4		8.5	
Cyanide Reactivity	mg/kg	100	0.82	U	0.93	U	0.9	U	0.95	U	0.88	U
Ignitability (Flashpoint)	Deg. F	-	>200 [a]		>200 [a]		>200		>200		>200	
Solids, Percent	%	-	91.4		89.9		92		90.9		90.2	
Sulfide Reactivity	mg/kg	500	54	U	54	U	54	U	55	U	55	U
GC/MS Volatiles (SW846 8260B)												
Benzene	mg/l	0.5	0.005	U	0.005	U	0.005	U	0.006	J	0.005	U
2-Butanone (MEK)	mg/l	200	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
Carbon Tetrachloride	mg/l	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Chlorobenzene	mg/l	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Chloroform	mg/l	6	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,4-Dichlorobenzene	mg/l	7.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2-Dichloroethane	mg/l	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,1-Dichloroethylene	mg/l	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Tetrachloroethylene	mg/l	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Trichloroethylene	mg/l	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Vinyl Chloride	mg/l	0.2	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
GC/MS Semi-volatiles (SW846 8270D)												
2-Methylpheno	mg/l	200	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
3&4-Methylpheno	mg/l	200	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Pentachloropheno	mg/l	100	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
2,4,5-Trichlorophenol	mg/l	400	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
2,4,6-Trichlorophenol	mg/l	2	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
1,4-Dichlorobenzene	mg/l	7.5	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
2,4-Dinitrotoluene	mg/l	0.13	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Hexachlorobenzene	mg/l	0.13	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Hexachlorobutadiene	mg/l	0.5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Hexachloroethane	mg/l	3	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Nitrobenzene	mg/l	2	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Pyridine	mg/l	5	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
Metals Analysis												
Arsenic	mg/l	5	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Barium	mg/l	100	0.92	J	0.22	J	0.6	J	0.6	J	0.6	J
Cadmium	mg/l	1	0.01	U	0.079		0.002	J	0.041	J	0.013	J
Chromium	mg/l	5	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Lead	mg/l	5	0.02	U	1		0.051		0.024	J	0.02	U
Mercury	mg/l	0.2	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Selenium	mg/l	1	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Silver	mg/l	5	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U

Footnotes:
[a] Not ignitable.
U = Not detected
J = Concentration detected less than the LOQ
Shading denotes detected analytes

APPENDIX A
HISTORICAL AERIAL PHOTOGRAPHS AND REPORTS

Yakima Training Center, Washington
Centralized Geospatial Data Collection Effort Cycle 4



Associated Sites
YFCR-50
Environmental Cleanup Site

DD 1954-68 LF/BP LUC
Land Use Control

Legend

- Installation Boundary
- Environmental Cleanup Site
- Land Use Control

Notes:
Installation ID: 53465
Facility ID: 7984

Site Number: 5763
Site Description:
LANDFILL/BURN
PIT
(1954-1968)

Latitude: 46° 40' 59.88 N
Longitude: 120° 27' 2.52 W
Area: 3.38 Acres
Perimeter: 1,584.11 Feet

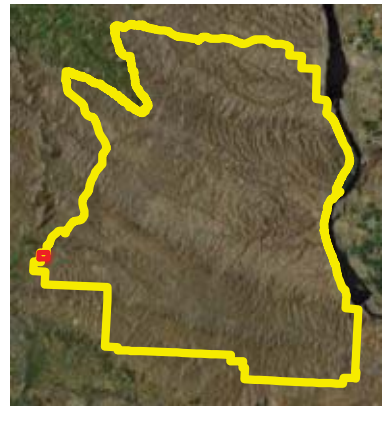
Land Use Control ID: 4210

Latitude: 46° 40' 59.16 N
Longitude: 120° 27' 2.52 W
Area: 109.69 Acres
Perimeter: 9,357.14 Feet

Map Edition: FINAL

Date: August 2011

Aerial:
Source: Bing Maps
Date: 2009



Vicinity Map

Note: Base map data provided by Yakima Training Center ENRD dated 1/1/99.

Approximate Location of Solid Waste Management Unit/Area of Concern

MRC-2 Monitoring Well Location and Number (Ecology & Environment, 1993)

0 200 400 800

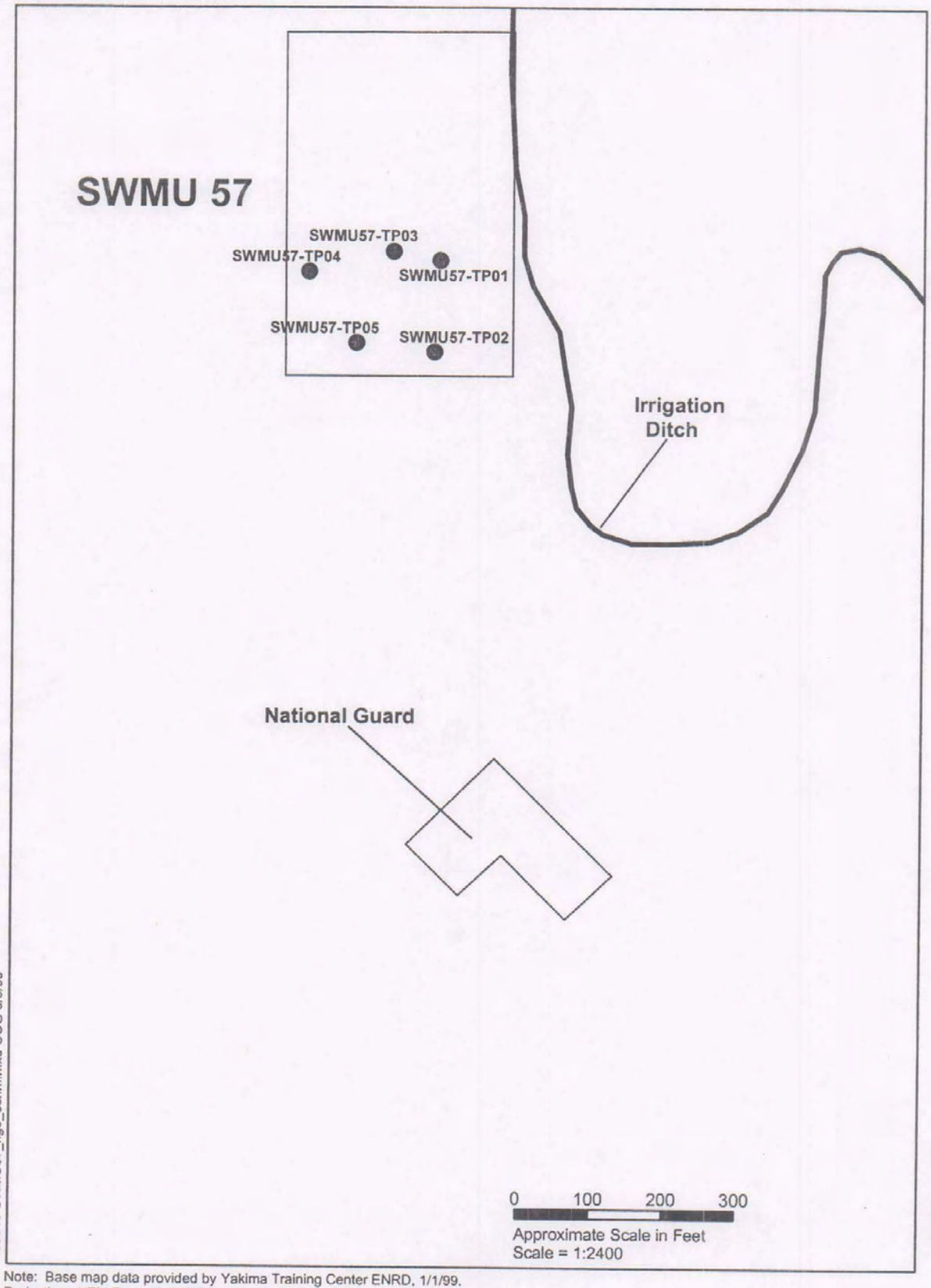
Approximate Scale in Feet
Scale = 1:4,800

HARTCROWSER

4956-48 *3/03*

Figure 2

Site and Exploration Plan
SWMU 57



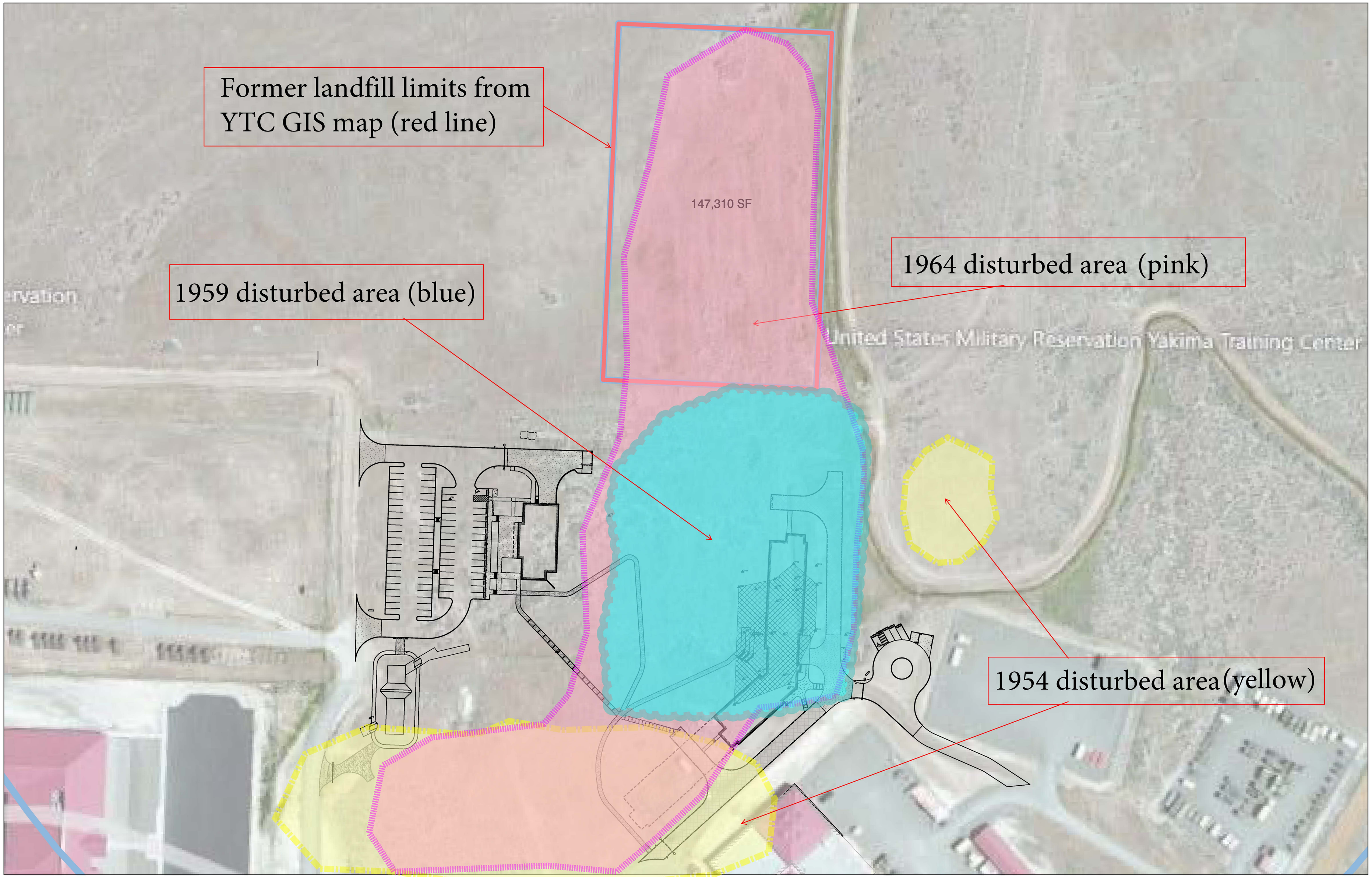
Note: Base map data provided by Yakima Training Center ENRD, 1/1/99.
Projection: UTM Zone 10 N WGS 84

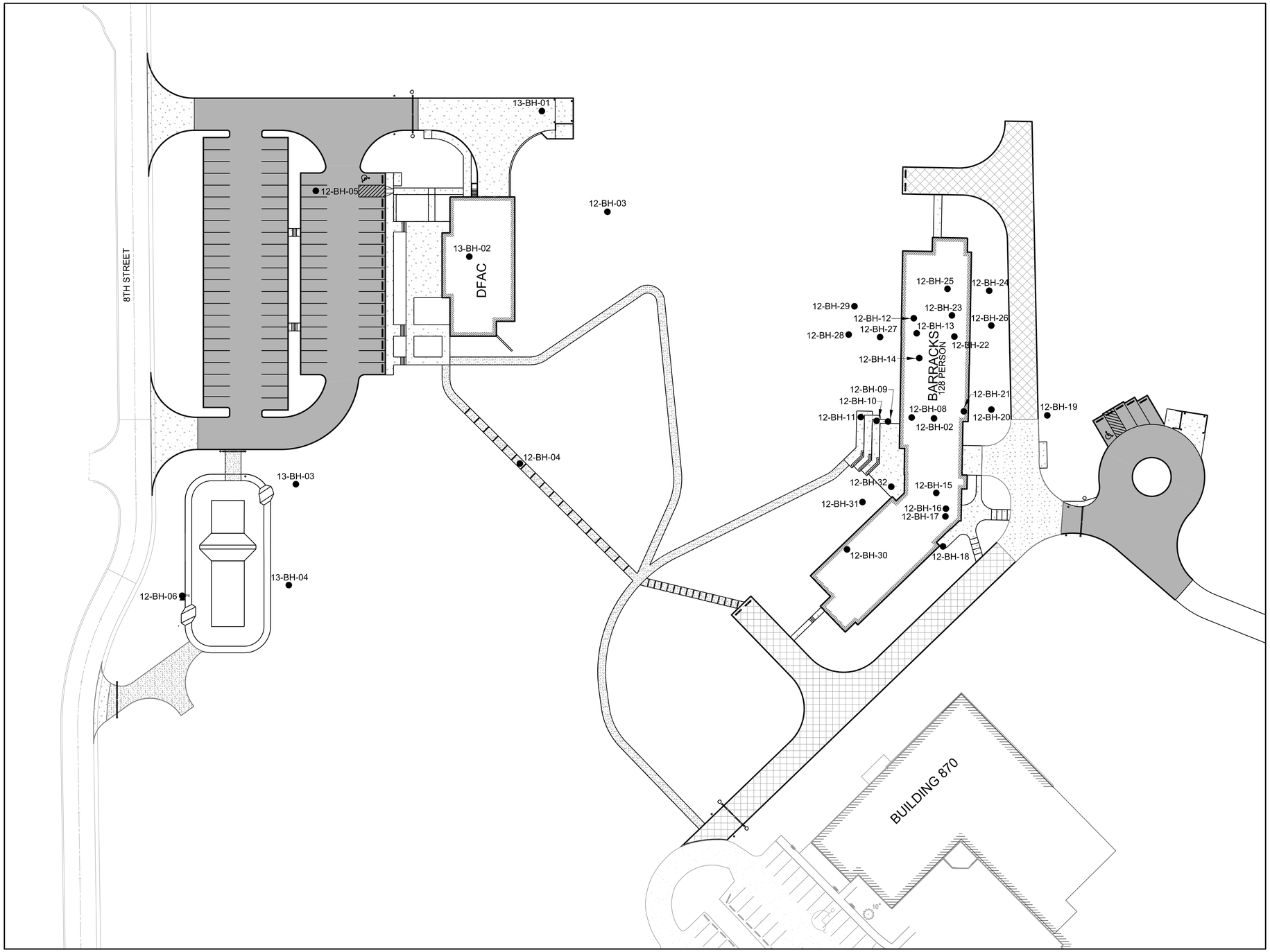
SWMU57-TP05 ● Test Pit Location and Number

▨ Approximate Location of Solid Waste Management Unit/Area of Concern

HARTCROWSER

4956-48 *3/03*
Figure 3

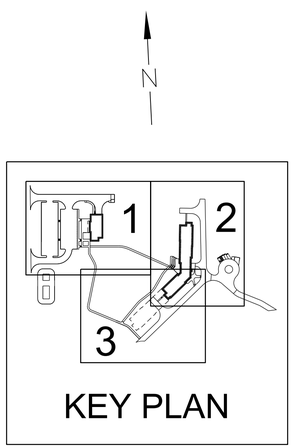

Former landfill limits from YTC GIS map (red line)
147,310 SF
1964 disturbed area (pink)
1959 disturbed area (blue)
United States Military Reservation Yakima Training Center
1954 disturbed area (yellow)



NOTES:

1. SEE PLATE B1-301 FOR LEGEND, ABBREVATIONS AND ADDITIONAL NOTES.

2. SEE PLATES B1-301, B1-302 AND B1-303 FOR EXPLORATION LOGS.



KEY PLAN

1 B1-101 LOCATIONS OF EXPLORATION
1"=40'
0 40' 80'

US Army Corps of Engineers ®
Seattle District

MARK	DESCRIPTION	DATE	APPR'D

DESIGN BY: RUDIE
DRAWN BY: SWANSON
SBMT BY: WEAVER
CKD BY:
PLOT DATE: 9/1/2015
PLOT SCALE:
DATE: 31 AUGUST 2015
SOLICITATION NO.: -
CONTRACT NO.: -
FILE NUMBER: 248721-10-01
SIZE: 22" X 34"
FILE NAME:

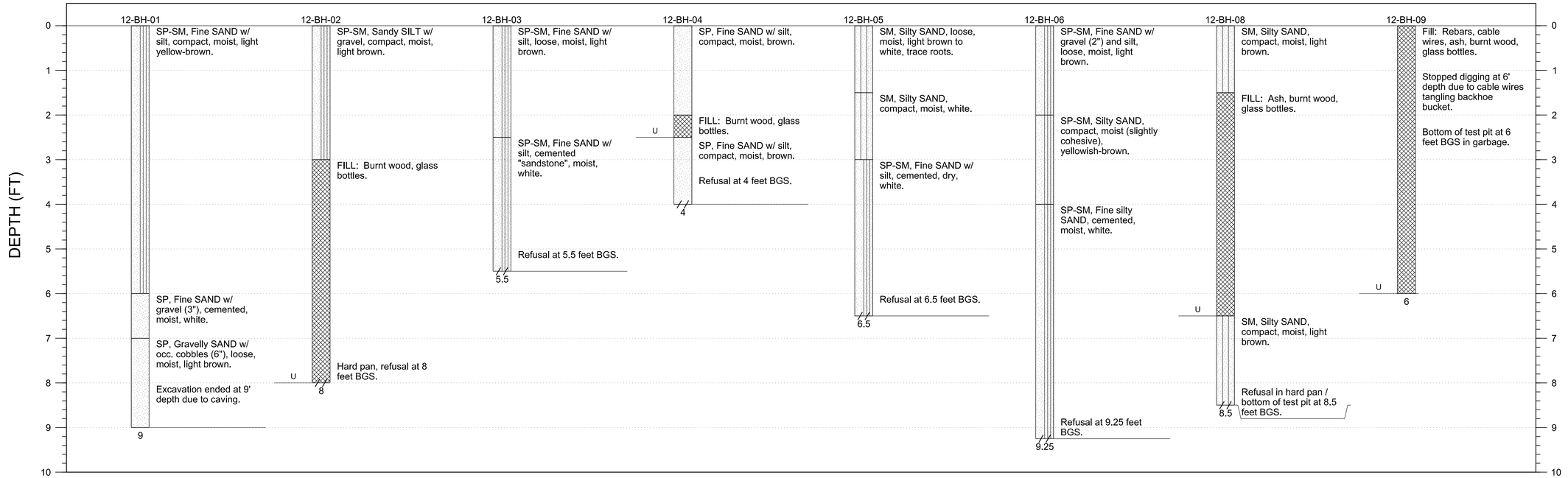
US ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE WASHINGTON

FY16 WAARNG PN530041
VOLUME SITE
YAKIMA TRAINING CENTER, WASHINGTON

LOCATIONS OF EXPLORATION

SHEET IDENTIFICATION
B1-101
SHEET 3 OF 64

DESIGN FILE: I:\AECDesigns\FY14_PN530041_Barracks_DFAC\02 Design\BIM_CAD\Geotechnical\FY_14PN530041 B1-101 LOCATIONS OF EXPLORATION.DGN



LEGEND

- FILL - Not native
- SM - Silty Sand
- SP - Poorly-graded Sand
- SP-SM - Poorly-graded Sand with Silt

12-BH-25	EXPLORATION HOLE YEAR-TYPE-NUMBER
U	LOWER LIMIT OF UNSATISFACTORY MATERIAL
BGS	BELOW GROUND SURFACE
BH	BACKHOE
BOULDER	PARTICLE OF ROCK THAT WILL NOT PASS A 12-INCH SQUARE OPENING
COBBLES	PARTICLES OF ROCK THAT WILL PASS A 12-INCH SQUARE OPENING AND BE RETAINED ON A 3-INCH SIEVE
OCC.	OCCASIONAL
//	REFUSAL

NOTES:

1. FOR LOCATIONS OF EXPLORATIONS, SEE PLATE B1-101.
2. SOILS WERE VISUALLY CLASSIFIED USING THE "UNIFIED SOIL CLASSIFICATION SYSTEM".
3. SUBSURFACE EXPLORATION WAS CONDUCTED BY SEATTLE DISTRICT, U.S. ARMY CORPS OF ENGINEERS. EXPLORATION HOLES DUG ON 16 MARCH 2012 USED A DEERE 310SG RUBBER-TIRE BACKHOE / FRONT-END LOADER. EXPLORATION HOLES DUG ON 19-20 JULY 2012 USED A CAT 4X4 TURBO RUBBER-TIRE BACKHOE / DOZER.
4. ADDITIONAL EXPLORATION HOLES 13-BH-01 THROUGH 13-BH-04, DUG ON 11 FEBRUARY 2013 WERE DUG WITH A CAT 420D, RUBBER-TIRE BACKHOE.

US Army Corps of Engineers ®
Seattle District

MARK | DESCRIPTION | DATE | APPR'

DESIGN BY: RUDIE
DRAWN BY: SWANSON
SBMT BY: WEAVER
CKD BY: X
PLOT DATE: 9/1/2015
PLOT SCALE:
DATE: 31 AUGUST 2015
SOLICITATION NO.: -
CONTRACT NO.: -
FILE NUMBER: 248721-11041
SIZE: 22" X 34"
FILE NAME:

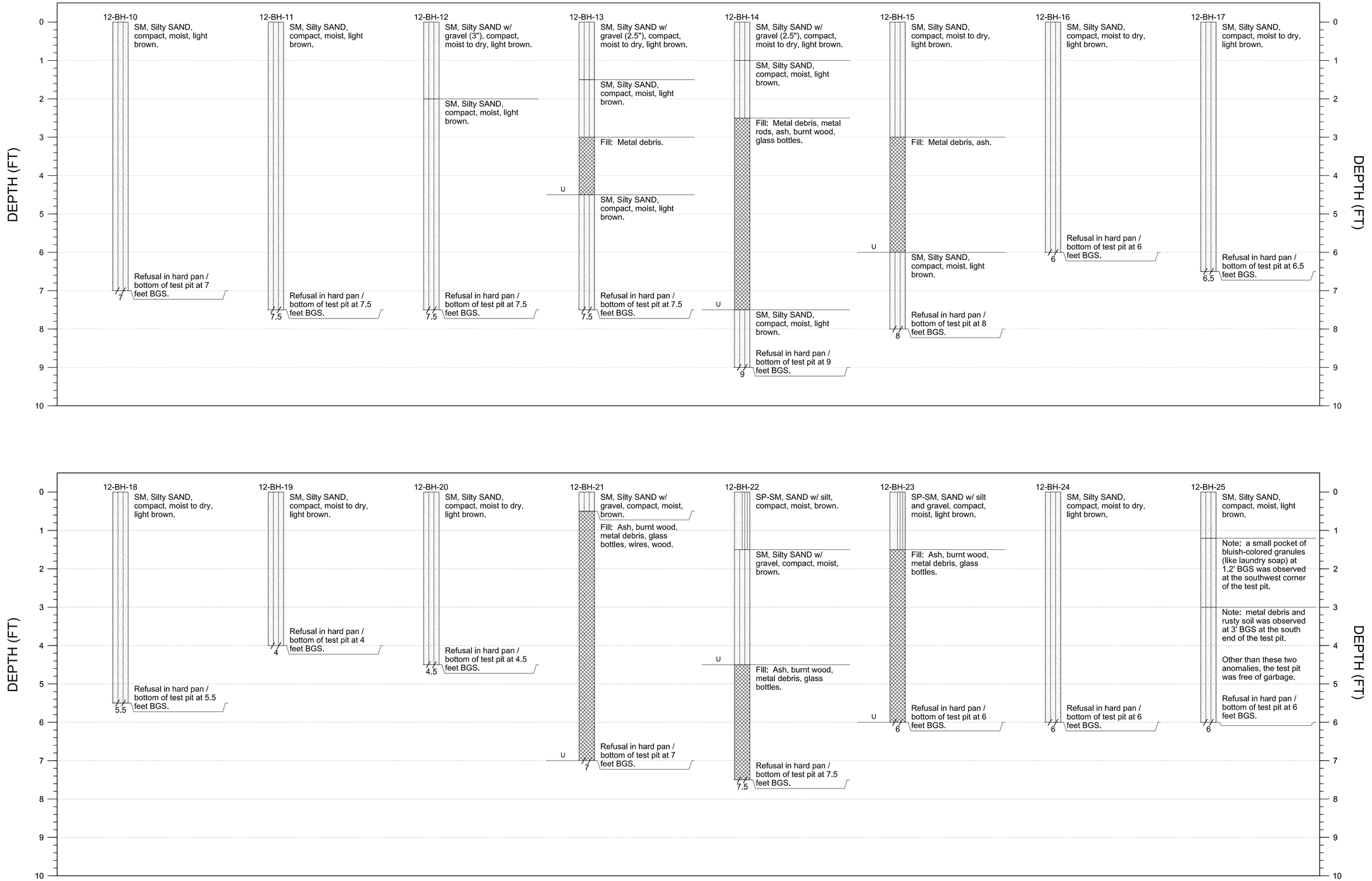
US ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE WASHINGTON

FY'15 WAARNG PN530041
VOLUME 1 - SITE
YAKIMA TRAINING CENTER, WASHINGTON

EXPLORATION LOGS 1

SHEET IDENTIFICATION
B1-301
SHEET 4 OF 64

DESIGN FILE: I:\AECDesigns\FY14_PN530041_Barracks_DFAC\02 Design\BIM_CAD\Geotechnical\FY_14PN530041 B1-301 EXPLORATION LOGS 1.DGN



NOTES:

1. FOR LOCATIONS OF EXPLORATIONS, SEE PLATE B1-101.
2. FOR LEGEND, ABBREVIATIONS AND ADDITIONAL NOTES, SEE PLATE B1-301.

US Army Corps of Engineers ®
Seattle District

MARK	DESCRIPTION	DATE	APPR'D

DESIGN BY: RUDIE
DRAWN BY: SWANSON
SBMT BY: WEAVER
CKD BY: X
PLOT DATE: 9/1/2015
PLOT SCALE:
DATE: 31 AUGUST 2015
SOLICITATION NO.: -
CONTRACT NO.: -
FILE NUMBER: 248721-11041
SIZE: 22" X 34"
FILE NAME:

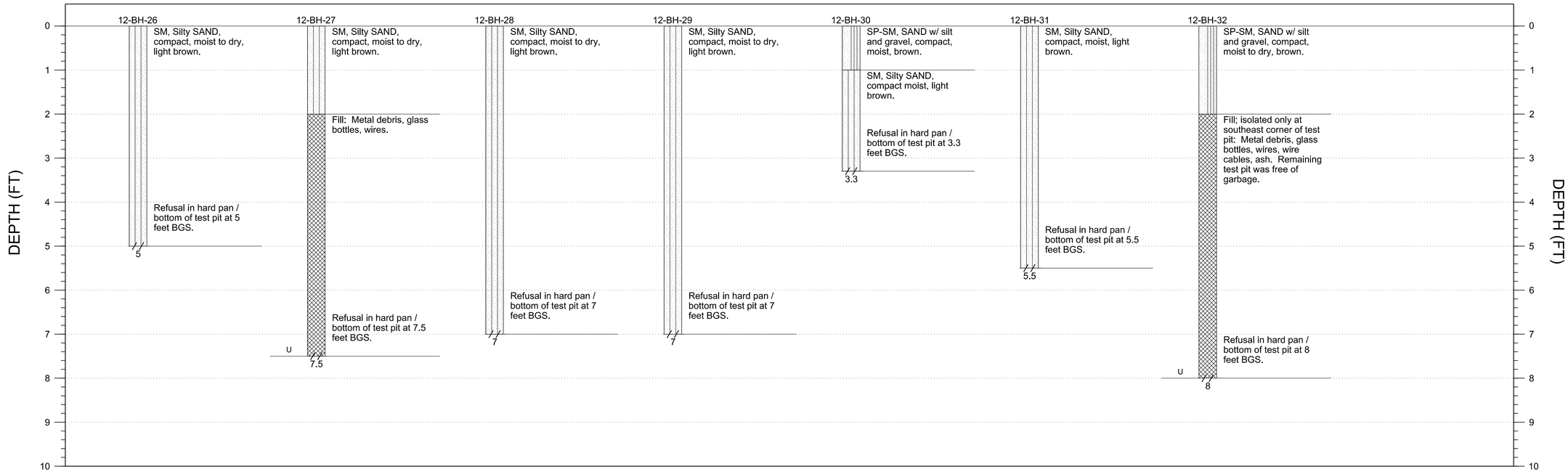
US ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE WASHINGTON

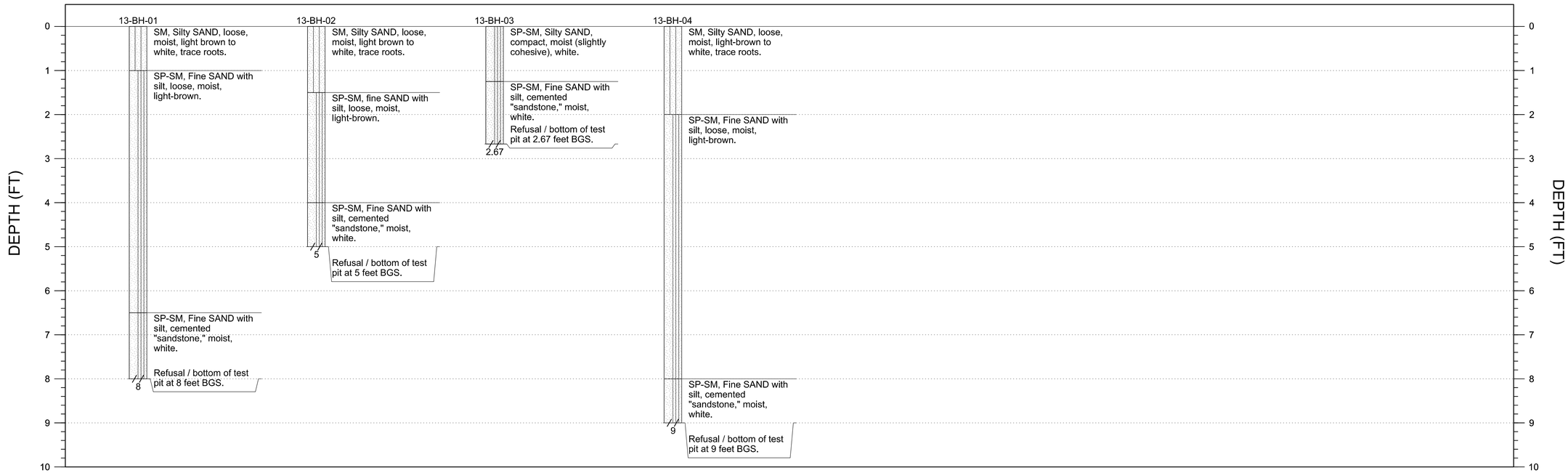
FY16 WAARNG PN530041
VOLUME 1, SITE
YAKIMA TRAINING CENTER, WASHINGTON

EXPLORATION LOGS 2

SHEET IDENTIFICATION
B1-302
SHEET 5 OF 64

DESIGN FILE: I:\AECDesigns\FY14_PN530041_Barracks_DFAC\02 Design\BIM_CAD\Geotechnical\FY_14PN530041 B1-302 EXPLORATION LOGS 2.DGN





NOTES:

1. FOR LOCATIONS OF EXPLORATIONS, SEE PLATE B1-101.
2. FOR LEGEND, ABBREVIATIONS AND ADDITIONAL NOTES, SEE PLATE B1-301.

US Army Corps of Engineers ®
Seattle District

MARK	DESCRIPTION	DATE	APPR

DESIGN BY: RUDIE	CKD BY: X	DATE: 31 AUGUST 2015	
DRAWN BY: SWANSON		SOLICITATION NO.: -	
SBMT BY: WEAVER	PLOT DATE: 9/1/2015	CONTRACT NO.: -	
PLOT SCALE:		FILE NUMBER: 246721-10401	
SIZE: 22" X 34"	FILE NAME:		

US ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE WASHINGTON

FY16 WAARNG PN530041
VOLUME 1, SITE
YAKIMA TRAINING CENTER, WASHINGTON

EXPLORATION LOGS 3

SHEET IDENTIFICATION
B1-303
SHEET 6 OF 64

DESIGN FILE: I:\AECDesigns\FY14_PN530041_Barracks_DFAC\02 Design\BIM_CAD\Geotechnical\FY_14PN530041 B1-303 EXPLORATION LOGS 3.DGN

CIVIL NOTES

SURVEY

THEOR./ EXIST.	FOUND/ PROP.	DESCRIPTION (ABBR)
△	△	ANGLE POINT
⊕	⊕	BENCH MARK
RB	RB	REBAR/IRON PIPE
⊛	⊛	MONUMENT (IN CASE)
△	△	MONUMENT (SURFACE)
▲	▲	GPS CONTROL POINT
× ELEV	◐	BORE/BENCH MARK
	301	SPOT ELEVATION
	N	NORTH ARROW
	0 30 60 FEET	GRAPHIC SCALE

LINETYPES

	EXISTING GRADE
	PROPOSED GRADE
	CONSTRUCTION LIMITS/ LIMITS OF WORK
W W	WATER LINE
SS SS	SANITARY SEWER LINE
×	FENCE
SD SD	STORM DRAIN LINE
G G	NATURAL GAS LINE
S	SANITARY MANHOLE
SD	STORM DRAIN MANHOLE
	LIGHT POLE
	PORTLAND CEMENT CONCRETE
	ASPHALT CONCRETE PAVEMENT
	GRAVEL PAVERS
	GRAVEL
	VEGETATION LINE
OR	TREE
CO	CLEAN OUT
	CATCH BASIN
	BOLLARD

DRAFTING

X C-304	DIRECTION OF VIEW LETTER INDICATES CIVIL SECTION NUMBER INDICATES ELEV OR DETAIL PLATE NUMBER WHERE SECTION/DETAIL IS DRAWN
X C-502	NUMBER INDICATES DETAIL NO. PLATE NUMBER WHERE DETAIL IS DRAWN
	CENTERLINE AND GRIDLINE
8.65 IE 6.00	MANHOLE W/ TOP & INVERT ELEVATIONS
8.65 IE 6.00	CATCH BASIN W/ TOP & INVERT ELEVATIONS
	TAPPING SLEEVE AND VALVE
	GATE VALVE
	FIRE HYDRANT
	POST INDICATOR VALVE
	SLOPE
CC	CURB CUT

ABBREVIATIONS

AC	ASPHALT CONCRETE
BLDG NO.	BUILDING NUMBER
BOC	BACK OF CURB
CB	CATCH BASIN
CC	CURB CUT
CJTB	LONGITUDINAL CONTRACTION JOINT W/ TIE BARS. FREE EDGE PANELS
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COR	USACE CONTRACTING OFFICER REPRESENTATIVE
CPEP	CORRUGATED POLYETHYLENE PIPE
CTR	CENTER
DCJ	DOWELED CONSTRUCTION JOINT (TYP) LONGITUDINAL AND TRANSVERSE AS APPLICABLE.
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
E	EAST
EJ	THICKENED EDGE EXPANSION JOINT
ELEV, EL	ELEVATION
EW	EACH WAY
EXIST, EX	EXISTING
FC	FACE OF CURB
FES	FLARED END SECTION
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FIG	FIGURE
FL	FLOWLINE
FT	FEET/FOOT
FW	FIRE WATER
IE	INVERT ELEVATION
IN	INCH/INCHES
JBLM	JOINT BASE LEWIS McCHORD
L	LENGTH OF CURVE
LF	LINEAL FOOT/FEET
LG	LONG
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NAD	NORTH AMERICAN DATUM
NAVO	NORTH AMERICAN VERTICAL DATUM
NFS	NON-FROST SUSCEPTIBLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHP	OVERHEAD POWER POLE
PCC	PORTLAND CEMENT CONCRETE
PIV	POST INDICATOR VALVE
PSI	POUNDS PER SQUARE INCH
PT	PHYSICAL TRAINING
PVMT	PAVEMENT
R	RADIUS OF CURVE, REINFORCED PANEL
REQD	REQUIRED
SCH	SCHEDULE
SE	SPOT ELEVATION
SECT	SECTION
SLP	SLOPE
SPEC.	SPECIFICATION
SQ.	SQUARE
STA	STATION
STCJ	SAWED TRANSVERSE CONTRACTION JOINT (TYP)
STD	STANDARD
S1	LAYOUT SURVEY CASE AND MONUMENT AND NUMBER
TEMP	TEMPORARY
THK	THICK
TOC, TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL
VAR	VARIES
WAARNG	WASHINGTON ARMY NATIONAL GUARD
W.S.	WATER SURFACE
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WWF	WELDED WIRE FABRIC

GENERAL NOTES:

1) CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES WITH RESPECT TO THE PLANS.

2) BEFORE EXCAVATION OR TRENCHING, CONTRACTOR SHALL SUBMIT A UTILITY LOCATE REQUEST (CALL BEFORE YOU DIG) THROUGH THE STATE OF WASHINGTON UTILITY NOTIFICATION CENTER IN ACCORDANCE WITH STATE OF WASHINGTON LAW: CHAPTER 19.122 RCW – UNDERGROUND UTILITIES. NO EXCAVATION MAY BEGIN UNTIL THE TIME STATED ON THE LOCATE TICKET. THE ONE-CALL PHONE NUMBER FOR UTILITY LOCATES IS: 1-800-424-5555. ADDITIONALLY, THE CONTRACTOR MUST SUBMIT A UTILITY LOCATE REQUEST WITH YAKIMA PUBLIC WORKS PRIOR TO PERFORMING ANY EXCAVATION.

3) ANY DAMAGE TO EXISTING SUBSURFACE OR SURFACE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.

4) THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES AND IMPROVEMENTS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES AND IMPROVEMENTS PRIOR TO EXCAVATION TO AVOID DAMAGE. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND PRESERVING THE INTEGRITY OF EXISTING SITE UTILITIES DURING CONSTRUCTION.

5) ALL DISTANCES SHOWN ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS SHALL BE INTERPRETED TO REFER TO HORIZONTALLY AND VERTICALLY PROJECTED PLANES UNLESS OTHERWISE NOTED.

6) SITE ACCESS DURING CONSTRUCTION IS LIMITED TO STABILIZED CONSTRUCTION ENTRANCES.

7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL RESTORATION OF ALL EXISTING FEATURES DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION, UNLESS OTHERWISE INDICATED BY THE CONSTRUCTION DOCUMENTS.

8) ALL AREAS DISTURBED DUE TO CONSTRUCTION WILL BE HYDORSEEDED. SEE LANDSCAPE FOR SEEDING INFORMATION.

UTILITIES NOTES:

COMPANY	UTILITY	PHONE
CALL-BEFORE-YOU-DIG	ONE CALL	(800) 424-5555
PP&L ELECTRIC	POWER	(509) 577-3400 CONTACT: STEVE SWITZER
CASCADE NATURAL GAS	GAS	(800) 552-0615
AMERIGAS	PROPANE/AIR	(509) 526-4178
YAKIMA DPW	WATER	(509) 577-3356 CONTACT: KRIS BRENNER
YAKIMA DPW	SEWER	(509) 577-3356 CONTACT: SHAYNE POOLE
YAKIMA NEC	COMMUNICATIONS	(509) 577-3212 CONTACT: MIKE TEEL

US Army Corps of Engineers ®
Seattle District

MARK	DESCRIPTION	DATE	APPR'D

DESIGN BY: PEELE
DRAWN BY: PEELE
CK'D BY: SKRINDE
SBMT BY: WEAVER
PLOT DATE: 9/1/2015
PLOT SCALE:
DATE: 31 AUGUST 2015
SOLICITATION NO.: -
CONTRACT NO.: -
FILE NUMBER: 248721-10-01
FILE NAME:
SIZE: 22" X 34"

US ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE WASHINGTON

FY16 WAARNG PN530041
VOLUME 1, SITE
YAKIMA TRAINING CENTER, WASHINGTON

LEGEND, ABBREVIATIONS, AND GENERAL NOTES

SHEET IDENTIFICATION
C1-001
SHEET 7 OF 64

DESIGN FILE: I:\AECDesigns\FY14_PN530041_Barracks_DFAC\02 Design\BIM_CAD\Civil\FY_14PN530041 C1-001 LEGEND, ABBREVIATIONS & GENERAL NOTES.DGN

APPENDIX C

Geotechnical Data

C

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FY16 PN 530041 Barracks & DFAC
Yakima Training Center, WA

ROZA IRRIGATION LINE

PER BASIC INFO MAPS
NOT FIELD VERIFIED

ROZA IRRIGATION CANAL
PER BASIC INFO MAPS
NOT FIELD VERIFIED

12050

W912DW-16- -

INV. 24" CONC. EL. 1381.99

IPL

IPL

SERVICE AND FIRE ACCESS

6" CONC. WALL
FOR IRRIGATION
CANAL EL. 1387.0

POV PARKING
34 STALLS @
9'x20'

POV PARKING
31 STALLS @
9'x20'

DFAC
FF=1353±

FIRE ACCESS

TURN AROUND
AND POV PARKING

TOP W.V. CASE EL. 1373.95
TOP VALVE
EL. 1371.30

FH

Garbage Area
Scale: 1"=60'

100% SUBMITTAL - 31 AUGUST 2015

National Guard Barracks and DFAC
Yakima Training Center, Yakima, WA
PN 53-0041

SOIL LOGS

Date: 03/16/12	
Test Hole: TP-2	
Coordinates System: State Plane, NAD 83 Latitude: -115886.15 ft N Longitude: 1736587.51 ft E	
Depth:	
0 – 3’	SP-SM, Sand w/silt and gravel, compact, moist, light-brown
3’ - 8’	Fill: Garbage, burnt wood, glass bottles
	Hard pan, refusal at 8’

Date: 07/19/12	
Test Hole: TP-8	
Coordinates: Latitude: -115885.16 ft N Longitude: 1736570.87 ft E	
Depth:	
0 – 1.5’	SM, Silty Sand, compact, moist, light-brown
1.5’ – 6.5’	Garbage: ash, burnt wood, glass bottles, wires
6.5’ – 8.5’	SM, Silty Sand, compact, moist, light-brown
	Bottom of test pit at 8.5’

Date: 07/19/12	
Test Hole: TP-9	
Coordinates: Latitude: -115887.95 ft N Longitude: 1736552.78 ft E	
Depth:	
0 – 6’	Garbage: rebars, cable wires, ash, burnt wood, glass bottles
	Stopped digging at 6’ depth due to cable wires tangling backhoe bucket
	Bottom of test pit at 6’ in garbage

Date: 07/19/12	
Test Hole: TP-10	
Coordinates: Latitude: -115887.04 ft N Longitude: 1736544.01 ft E	
Depth:	
0 – 7’	SM, Silty Sand, compact, moist, light-brown
	Refusal in hard pan/ bottom of test pit at 7’

Date: 07/19/12	
Test Hole: TP-11	
Coordinates: Latitude: -115883.74 ft N Longitude: 1736532.05 ft E	
Depth:	
0 – 7.5’	SM, Silty Sand, compact, moist, light-brown
	Bottom of test pit at 7.5’

Date: 07/19/12	
Test Hole: TP-12	
Coordinates: Latitude: -115809.65 ft N Longitude: 1736574.62 ft E	
Depth:	
0 – 2’	SM, Silty Sand w/ gravel(3”), compact, moist to dry, light-brown
2’ – 7.5’	SM, Silty Sand , compact, moist, light-brown
	Bottom of test pit at 7.5’

Date: 07/19/12	
Test Hole: TP-13	
Coordinates: Latitude: -115821.09 ft N Longitude: 1736576.43 ft E	
Depth:	
0 – 1.5’	SM, Silty Sand w/gravel(2.5”), compact, moist to dry, light-brown
1.5’ – 3’	SM, Silty Sand, compact, moist, light-brown
3’ – 4.5’	Garbage: metal debris
4.5’- 7.5’	SM, Silty Sand, compact, moist, light-brown
	Bottom of test pit at 7.5’

Date: 07/19/12	
Test Hole: TP-14	
Coordinates: Latitude: -115840.11 ft N Longitude: 1736577.86 ft E	
Depth:	
0 – 1’	SM, Silty Sand w/gravel(2.5”), compact, moist to dry, light-brown
1’ – 2.5’	SM, Silty Sand, compact, moist, light-brown
2.5’ – 7.5’	Garbage: metal debris, metals rods, ash, burnt wood, glass bottles
7.5’ – 9’	SM, Silty Sand, compact, moist, light-brown
	Bottom of test pit at 9’

Date: 07/19/12	
Test Hole: TP-15	
Coordinates: Latitude: -115943.27 ft N Longitude: 1736588.00 ft E	
Depth:	
0 – 3’	SM, Silty Sand, compact, moist to dry, light-brown
3’ – 6’	Garbage: metal debris, ash
6’ – 8’	SM, Silty Sand, compact, moist, light-brown
	Bottom of test pit at 8’

Date: 07/19/12	
Test Hole: TP-16	
Coordinates: Latitude: -115955.50 ft N Longitude: 1736594.96 ft E	
Depth:	
0 – 6’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/ bottom of test pit at 6’

Date: 07/19/12	
Test Hole: TP-17	
Coordinates: Latitude: -115961.23 ft N Longitude: 1736594.35 ft E	
Depth:	
0 – 6.5’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/ bottom of test pit at 6.5’

Date: 07/19/12	
Test Hole: TP-18	
Coordinates: Latitude: -115984.02 ft N Longitude: 1736591.95 ft E	
Depth:	
0 – 5.5’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/ bottom of test pit at 5.5’

Date: 07/19/12	
Test Hole: TP-19	
Coordinates: Latitude: -115886.45 ft N Longitude: 1736673.91 ft E	
Depth:	
0 – 4’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/ bottom of test pit at 4’

Date: 07/19/12	
Test Hole: TP-20	
Coordinates: Latitude: -115880.91 ft N Longitude: 1736631.50 ft E	
Depth:	
0 – 4.5’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/ bottom of test pit at 4.5’

Date: 07/19/12	
Test Hole: TP-21	
Coordinates: Latitude: -115881.70 ft N Longitude: 1736610.54 ft E	
Depth:	
0 – 0.5’	SM, Silty Sand w/gravel, compact, moist, brown
0.5’ – 7’	Garbage: ash, burnt wood, metal debris, glass bottles, wires, wood
	Refusal in hard pan/bottom of test pit at 7’

Date: 07/19/12	
Test Hole: TP-22	
Coordinates: Latitude: -115824.31 ft N Longitude: 1736604.65 ft E	
Depth:	
0 – 1.5’	SP-SM, Sand w/silt, compact, moist, brown
1.5’ – 4.5’	SM, Silty Sand w/gravel, compact, moist, brown
4.5’ – 7.5’	Garbage: ash, burnt wood, metal debris, glass bottles
	Refusal in hard pan/bottom of test pit at 7.5’

Date: 07/19/12	
Test Hole: TP-23	
Coordinates: Latitude: -115808.31 ft N Longitude: 1736603.33 ft E	
Depth:	
0 – 1.5’	SP-SM, Sand w/silt and gravel, compact, moist, light-brown
1.5’ – 6’	Garbage: ash, burnt wood, metal debris, glass bottles
	Refusal in hard pan/bottom of test pit at 6’

Date: 07/19/12	
Test Hole: TP-24	
Coordinates: Latitude: -115790.25 ft N Longitude: 1736632.08 ft E	
Depth:	
0 – 6’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/bottom of test pit at 6’

Date: 07/19/12	
Test Hole: TP-25	
Coordinates: Latitude: -115787.85 ft N Longitude: 1736600.32 ft E	
Depth:	
0 – 6’	SM, Silty Sand, compact, moist, light-brown
	Note: A small pocket of bluish colored granules (like laundry soap) at 1.2’ bgs was observed at the southwest corner of the test pit and a few metal debris and rusty soil was observed at 3’ bgs at the south end of the test pit. Other than these two anomalies, the test pit was free of garbage.
	Refusal in hard pan/bottom of test pit at 6’

Date: 07/19/12	
Test Hole: TP-26	
Coordinates: Latitude: -115816.90 ft N Longitude: 1736633.12 ft E	
Depth:	
0 – 5’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/bottom of test pit at 5’

Date: 07/20/12	
Test Hole: TP-27	
Coordinates: Latitude: -115823.49 ft N Longitude: 1736548.36 ft E	
Depth:	
0 – 2’	SM, Silty Sand, compact, moist to dry, light-brown
2’ – 7.5’	Garbage: metal debris, glass bottles, wires
	Refusal in hard pan/bottom of test pit at 7.5’

Date: 07/20/12	
Test Hole: TP-28	
Coordinates: Latitude: -115821.00 ft N Longitude: 1736524.55 ft E	
Depth:	
0 – 7’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/bottom of test pit at 7’

Date: 07/20/12	
Test Hole: TP-29	
Coordinates: Latitude: -115799.45 ft N Longitude: 1736529.55 ft E	
Depth:	
0 – 7’	SM, Silty Sand, compact, moist to dry, light-brown
	Refusal in hard pan/bottom of test pit at 7’

Date: 07/20/12	
Test Hole: TP-30	
Coordinates: Latitude: -115984.41 ft N Longitude: 1736518.75 ft E	
Depth:	
0 – 1’	SP-SM, Sand w/silt and gravel, compact, moist, brown
1’ – 3.3’	SM, Silty Sand, compact, moist, light-brown
	Refusal in hard pan/bottom of test pit at 3.3’

Date: 07/20/12	
Test Hole: TP-31	
Coordinates: Latitude: -115948.85 ft N Longitude: 1736531.55 ft E	
Depth:	
0 – 5.5’	SM, Silty Sand, compact, moist, light-brown
	Refusal in hard pan/bottom of test pit at 5.5’

Date: 07/20/12	
Test Hole: TP-32	
Coordinates: Latitude: -115937.49 ft N Longitude: 1736553.67 ft E	
Depth:	
0 – 2’	SP-SM, Sand w/silt and gravel, compact, moist to dry, brown
2’ – 8’	Garbage isolated only at southeast corner of test pit: metal debris, glass bottles, wires, wire cables, ash. Remaining test pit was free of garbage.
	Refusal in hard pan/bottom of test pit at 8’

Contractor: Herke Rock & Construction
19320 Ahtanum Road
Yakima, WA 98903-9110
Ph. 509-966-7625 (ofc)
509-949-2802 (cell)
Email: herkerock@gmail.com

Equipment: CAT 4x4 Turbo, rubber tire backhoe /dozer

National Guard Barracks and DFAC
Yakima Training Center, Yakima, WA
PN 53-0041

PHOTOS

TP8

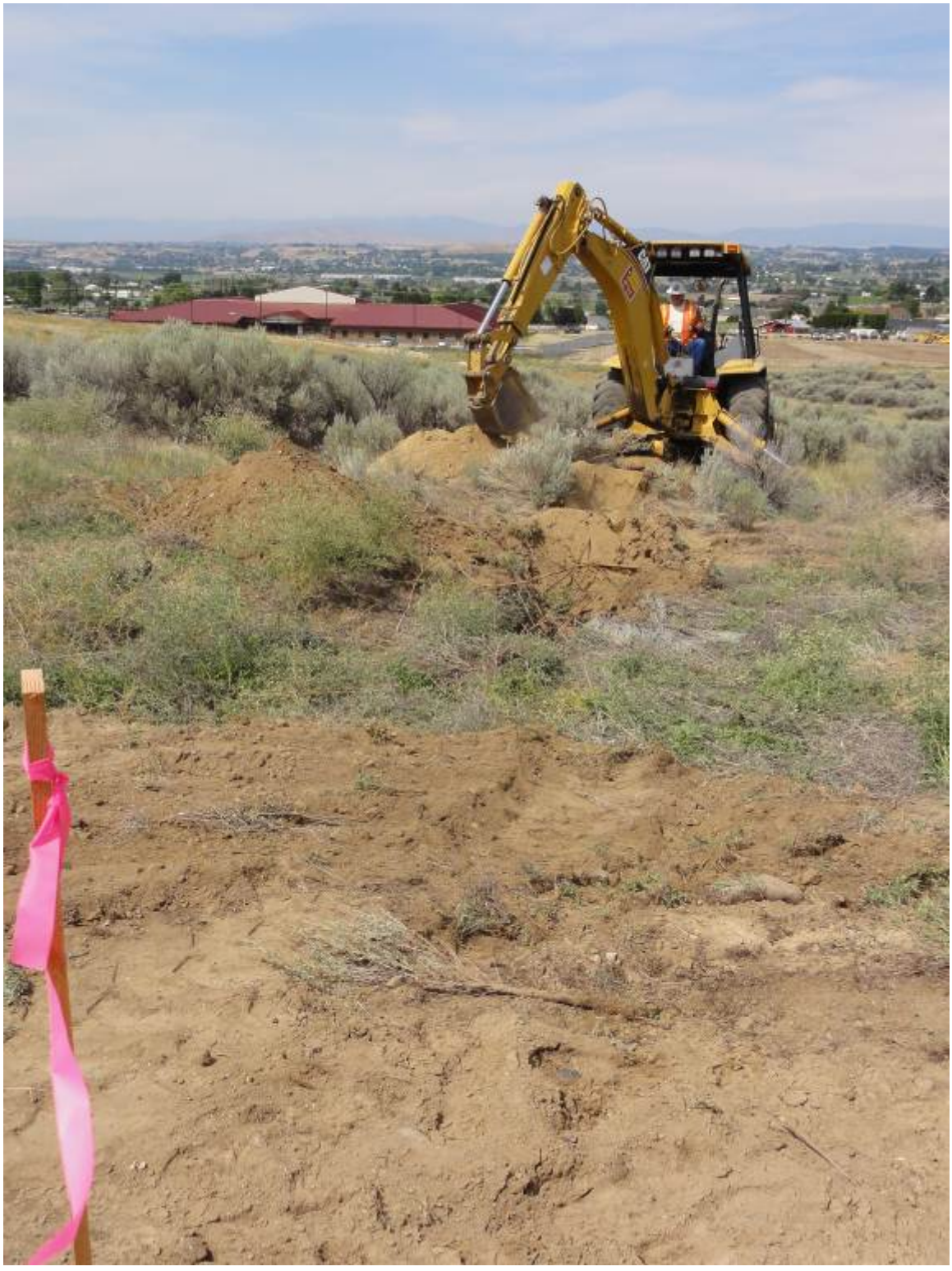
3-8’ depth: Ash, burnt wood, glass bottles, wires

TP8

3-8’ depth: Ash, burnt wood, glass bottles, wires

TP9

0-6'+ depth: Rebars, cable wires, ash, burnt wood, glass bottles. Stopped digging at 6' depth due to numerous cable wires tangling backhoe bucket.



Backhoe digging TP10. No garbage in TP10.

TP11

No garbage in TP11.

TP12

No garbage in TP12.

TP13

3’-4.5’ depth: Metal rod and metal debris.

TP14

2.5’-7.5’ depth: Metal debris, ash, burnt wood, glass bottles.

TP15
3’-6’ depth: Metal debris, ash.

TP15
3’-6’ depth: Metal debris, ash.

TP16

No Garbage in TP16.

TP17

No garbage in TP17.

Backhoe digging TP 18. No garbage in TP18.

TP20

No garbage in TP20.

TP21

0.5’-7’ depth: Ash, burnt wood, metal debris, glass bottles, wires, wood.

TP21

0.5’-7’ depth: Ash, burnt wood, metal debris, glass bottles, wires, wood.

TP22

4.5’-7.5’ depth: Ash, burnt wood, metal debris, glass bottles.

TP23

1.5’-6’ depth: Ash, burnt wood, metal debris, glass bottles.

Backhoe digging TP24.

TP24

No garbage in TP24.

TP25

Observed a small pocket of bluish granules at 1.2’ depth on southwest corner of test pit. Also, observed rusty soil at the south end of the test pit. Remaining test pit was clean.

TP27

2’-7.5’ depth: Metal debris, glass bottles, wires.

TP27

2’-7.5’ depth: Metal debris, glass bottles, wires.

TP28

No garbage in TP 28.

Backhoe digging TP29.

TP29

No garbage in TP29.

TP30

No garbage in TP30.

Backhoe digging TP31. No garbage in TP31.

TP31

No garbage in TP31.

Backhoe digging TP32.

TP32

2’-8’ depth: Garbage isolated only at southeast corner of test pit.

Lumber, pallets, cantina wires, etc. stockpiled in open area.

National Guard Barracks & DFAC, YTC
PN53-0041
Test Hole Locations and Estimated Limits of Buried Garbage

APPENDIX B
YAKIMA LOCAL INFORMATION

QuickFacts

Yakima County, Washington

QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more.

All Topics ▼	YAKIMA COUNTY, WASHINGTON
People	
Population	
Population estimates, July 1, 2015, (V2015)	248,830
Population estimates, July 1, 2014, (V2014)	247,687
Population estimates base, April 1, 2010, (V2015)	243,231
Population estimates base, April 1, 2010, (V2014)	243,231
Population, percent change - April 1, 2010 (estimates base) to July 1, 2015, (V2015)	2.3%
Population, percent change - April 1, 2010 (estimates base) to July 1, 2014, (V2014)	1.8%
Population, Census, April 1, 2010	243,231
Age and Sex	
Persons under 5 years, percent, July 1, 2014, (V2014)	8.4%
Persons under 5 years, percent, April 1, 2010	8.8%
Persons under 18 years, percent, July 1, 2014, (V2014)	29.8%
Persons under 18 years, percent, April 1, 2010	30.4%
Persons 65 years and over, percent, July 1, 2014, (V2014)	12.8%
Persons 65 years and over, percent, April 1, 2010	11.6%
Female persons, percent, July 1, 2014, (V2014)	49.9%
Female persons, percent, April 1, 2010	50.0%
Race and Hispanic Origin	
White alone, percent July 1, 2014, (V2014) (a)	88.0%
White alone, percent, April 1, 2010 (a)	63.7%
Black or African American alone, percent, July 1, 2014, (V2014) (a)	1.5%
Black or African American alone, percent, April 1, 2010 (a)	1.0%
American Indian and Alaska Native alone, percent, July 1, 2014, (V2014) (a)	6.0%
American Indian and Alaska Native alone, percent, April 1, 2010 (a)	4.3%
Asian alone, percent, July 1, 2014, (V2014) (a)	1.5%
Asian alone, percent, April 1, 2010 (a)	1.1%
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2014, (V2014) (a)	0.2%
Native Hawaiian and Other Pacific Islander alone, percent, April 1, 2010 (a)	0.1%
Two or More Races, percent, July 1, 2014, (V2014)	2.8%
Two or More Races, percent, April 1, 2010	3.7%
Hispanic or Latino, percent, July 1, 2014, (V2014) (b)	47.7%
Hispanic or Latino, percent, April 1, 2010 (b)	45.0%
White alone, not Hispanic or Latino, percent, July 1, 2014, (V2014)	45.0%
White alone, not Hispanic or Latino, percent, April 1, 2010	47.7%
Population Characteristics	
Veterans, 2010-2014	13,915
Foreign born persons, percent, 2010-2014	18.3%
Housing	
Housing units, July 1, 2015, (V2015)	86,569
Housing units, April 1, 2010	85,474
Owner-occupied housing unit rate, 2010-2014	61.8%
Median value of owner-occupied housing units, 2010-2014	$157,900
Median selected monthly owner costs -with a mortgage, 2010-2014	$1,271
Median selected monthly owner costs -without a mortgage, 2010-2014	$417
Median gross rent, 2010-2014	$771
Building permits, 2015	395
Families and Living Arrangements	
Households, 2010-2014	79,717
Persons per household, 2010-2014	3.04
Living in same house 1 year ago, percent of persons age 1 year+, 2010-2014	84.7%
Language other than English spoken at home, percent of persons age 5 years+, 2010-2014	39.8%
Education	
High school graduate or higher, percent of persons age 25 years+, 2010-2014	71.5%
Bachelor's degree or higher, percent of persons age 25 years+, 2010-2014	15.9%
Health	
With a disability, under age 65 years, percent, 2010-2014	8.4%

Persons without health insurance, under age 65 years, percent	⚠ 18.3%
Economy	
In civilian labor force, total, percent of population age 16 years+, 2010-2014	61.9%
In civilian labor force, female, percent of population age 16 years+, 2010-2014	56.4%
Total accommodation and food services sales, 2012 ($1,000) (c)	281,517
Total health care and social assistance receipts/revenue, 2012 ($1,000) (c)	1,431,362
Total manufacturers shipments, 2012 ($1,000) (c)	2,622,245
Total merchant wholesaler sales, 2012 ($1,000) (c)	3,335,075
Total retail sales, 2012 ($1,000) (c)	2,560,166
Total retail sales per capita, 2012 (c)	$10,366
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2010-2014	19.7
Income and Poverty	
Median household income (in 2014 dollars), 2010-2014	$43,956
Per capita income in past 12 months (in 2014 dollars), 2010-2014	$19,861
Persons in poverty, percent	⚠ 20.5%
Businesses	
Total employer establishments, 2014	4,653
Total employment, 2014	63,154
Total annual payroll, 2014	2,379,189
Total employment, percent change, 2013-2014	0.9%
Total nonemployer establishments, 2013	9,131
All firms, 2012	14,064
Men-owned firms, 2012	6,871
Women-owned firms, 2012	4,389
Minority-owned firms, 2012	3,121
Nonminority-owned firms, 2012	10,338
Veteran-owned firms, 2012	1,340
Nonveteran-owned firms, 2012	11,821
Geography	
Population per square mile, 2010	56.6
Land area in square miles, 2010	4,295.40
FIPS Code	53077

⚠ This geographic level of poverty and health estimates are not comparable to other geographic levels of these estimates

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info icon to the left of each row in TABLE view to learn about sampling error.

The vintage year (e.g., V2015) refers to the final year of the series (2010 thru 2015).
Different vintage years of estimates are not comparable.

(a) Includes persons reporting only one race
(b) Hispanics may be of any race, so also are included in applicable race categories
(c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

D Suppressed to avoid disclosure of confidential information
F Fewer than 25 firms
FN Footnote on this item in place of data
NA Not available
S Suppressed; does not meet publication standards
X Not applicable
Z Value greater than zero but less than half unit of measure shown

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

Intergovernmental (//www.census.gov/about/cong-gov-affairs.html)
Publications (//www.census.gov/library/publications.html)
USA.gov (http://www.usa.gov/)
BusinessUSA.gov (//business.usa.gov/)
Contact Us (//www.census.gov/about/contact-us.html)

(//www.facebook.com/uscensusbureau) **(//www.youtube.com/user/uscensusbureau)** **(//public.govdelivery.com/accounts/USCENSUS/subscriber/new)**

Accessibility (//www.census.gov/about/policies/privacy/privacy-policy.html#par_textimage_1) | Information Quality (//www.census.gov/quality/) | FOIA (//www.census.gov/foia/) | Data Protection and Privacy Policy (//www.census.gov/privacy/) | U.S. Department of Commerce (//www.commerce.gov/)

DP-1 | Profile of General Population and Housing Characteristics: 2010

2010 Demographic Profile Data

NOTE: For more information on confidentiality protection, nonsampling error, and definitions, see http://www.census.gov/prod/cen2010/doc/dpsf.pdf.

Geography: Yakima County, Washington

Subject	Number	Percent
SEX AND AGE		
Total population	243,231	100.0
Under 5 years	21,409	8.8
5 to 9 years	20,456	8.4
10 to 14 years	19,859	8.2
15 to 19 years	19,964	8.2
20 to 24 years	16,530	6.8
25 to 29 years	16,317	6.7
30 to 34 years	15,601	6.4
35 to 39 years	14,947	6.1
40 to 44 years	14,484	6.0
45 to 49 years	15,375	6.3
50 to 54 years	14,968	6.2
55 to 59 years	13,656	5.6
60 to 64 years	11,543	4.7
65 to 69 years	8,828	3.6
70 to 74 years	6,371	2.6
75 to 79 years	4,918	2.0
80 to 84 years	3,938	1.6
85 years and over	4,067	1.7
Median age (years)	32.2	(X)
16 years and over	177,597	73.0
18 years and over	169,193	69.6
21 years and over	158,086	65.0
62 years and over	34,687	14.3
65 years and over	28,122	11.6
Male population	121,676	50.0
Under 5 years	10,950	4.5
5 to 9 years	10,399	4.3
10 to 14 years	10,196	4.2
15 to 19 years	10,454	4.3
20 to 24 years	8,593	3.5
25 to 29 years	8,156	3.4
30 to 34 years	7,855	3.2
35 to 39 years	7,500	3.1
40 to 44 years	7,345	3.0
45 to 49 years	7,729	3.2
50 to 54 years	7,574	3.1
55 to 59 years	6,607	2.7
60 to 64 years	5,750	2.4
65 to 69 years	4,287	1.8
70 to 74 years	3,007	1.2

Subject	Number	Percent
75 to 79 years	2,211	0.9
80 to 84 years	1,666	0.7
85 years and over	1,397	0.6
Median age (years)	31.3	(X)
16 years and over	88,078	36.2
18 years and over	83,785	34.4
21 years and over	77,852	32.0
62 years and over	15,854	6.5
65 years and over	12,568	5.2
Female population	121,555	50.0
Under 5 years	10,459	4.3
5 to 9 years	10,057	4.1
10 to 14 years	9,663	4.0
15 to 19 years	9,510	3.9
20 to 24 years	7,937	3.3
25 to 29 years	8,161	3.4
30 to 34 years	7,746	3.2
35 to 39 years	7,447	3.1
40 to 44 years	7,139	2.9
45 to 49 years	7,646	3.1
50 to 54 years	7,394	3.0
55 to 59 years	7,049	2.9
60 to 64 years	5,793	2.4
65 to 69 years	4,541	1.9
70 to 74 years	3,364	1.4
75 to 79 years	2,707	1.1
80 to 84 years	2,272	0.9
85 years and over	2,670	1.1
Median age (years)	33.2	(X)
16 years and over	89,519	36.8
18 years and over	85,408	35.1
21 years and over	80,234	33.0
62 years and over	18,833	7.7
65 years and over	15,554	6.4
RACE		
Total population	243,231	100.0
One Race	234,122	96.3
White	155,056	63.7
Black or African American	2,320	1.0
American Indian and Alaska Native	10,568	4.3
Asian	2,560	1.1
Asian Indian	355	0.1
Chinese	346	0.1
Filipino	907	0.4
Japanese	212	0.1
Korean	356	0.1
Vietnamese	145	0.1
Other Asian [1]	239	0.1
Native Hawaiian and Other Pacific Islander	204	0.1
Native Hawaiian	54	0.0
Guamanian or Chamorro	38	0.0
Samoan	37	0.0
Other Pacific Islander [2]	75	0.0
Some Other Race	63,414	26.1

Subject	Number	Percent
Two or More Races	9,109	3.7
White; American Indian and Alaska Native [3]	2,363	1.0
White; Asian [3]	889	0.4
White; Black or African American [3]	825	0.3
White; Some Other Race [3]	3,226	1.3
Race alone or in combination with one or more other races: [4]		
White	163,033	67.0
Black or African American	3,666	1.5
American Indian and Alaska Native	13,901	5.7
Asian	4,157	1.7
Native Hawaiian and Other Pacific Islander	620	0.3
Some Other Race	67,599	27.8
HISPANIC OR LATINO		
Total population	243,231	100.0
Hispanic or Latino (of any race)	109,470	45.0
Mexican	102,047	42.0
Puerto Rican	432	0.2
Cuban	113	0.0
Other Hispanic or Latino [5]	6,878	2.8
Not Hispanic or Latino	133,761	55.0
HISPANIC OR LATINO AND RACE		
Total population	243,231	100.0
Hispanic or Latino	109,470	45.0
White alone	39,032	16.0
Black or African American alone	577	0.2
American Indian and Alaska Native alone	1,496	0.6
Asian alone	201	0.1
Native Hawaiian and Other Pacific Islander alone	62	0.0
Some Other Race alone	63,083	25.9
Two or More Races	5,019	2.1
Not Hispanic or Latino	133,761	55.0
White alone	116,024	47.7
Black or African American alone	1,743	0.7
American Indian and Alaska Native alone	9,072	3.7
Asian alone	2,359	1.0
Native Hawaiian and Other Pacific Islander alone	142	0.1
Some Other Race alone	331	0.1
Two or More Races	4,090	1.7
RELATIONSHIP		
Total population	243,231	100.0
In households	239,746	98.6
Householder	80,592	33.1
Spouse [6]	41,426	17.0
Child	81,860	33.7
Own child under 18 years	62,771	25.8
Other relatives	21,149	8.7
Under 18 years	9,477	3.9
65 years and over	1,992	0.8
Nonrelatives	14,719	6.1
Under 18 years	1,571	0.6
65 years and over	606	0.2
Unmarried partner	7,097	2.9
In group quarters	3,485	1.4
Institutionalized population	2,533	1.0
Male	1,583	0.7

Subject	Number	Percent
Female	950	0.4
Noninstitutionalized population	952	0.4
Male	563	0.2
Female	389	0.2
HOUSEHOLDS BY TYPE		
Total households	80,592	100.0
Family households (families) [7]	58,790	72.9
With own children under 18 years	29,850	37.0
Husband-wife family	41,426	51.4
With own children under 18 years	19,077	23.7
Male householder, no wife present	5,525	6.9
With own children under 18 years	3,201	4.0
Female householder, no husband present	11,839	14.7
With own children under 18 years	7,572	9.4
Nonfamily households [7]	21,802	27.1
Householder living alone	17,425	21.6
Male	7,947	9.9
65 years and over	2,156	2.7
Female	9,478	11.8
65 years and over	5,052	6.3
Households with individuals under 18 years	33,914	42.1
Households with individuals 65 years and over	20,035	24.9
Average household size	2.97	(X)
Average family size [7]	3.46	(X)
HOUSING OCCUPANCY		
Total housing units	85,474	100.0
Occupied housing units	80,592	94.3
Vacant housing units	4,882	5.7
For rent	1,263	1.5
Rented, not occupied	110	0.1
For sale only	747	0.9
Sold, not occupied	163	0.2
For seasonal, recreational, or occasional use	869	1.0
All other vacants	1,730	2.0
Homeowner vacancy rate (percent) [8]	1.4	(X)
Rental vacancy rate (percent) [9]	4.1	(X)
HOUSING TENURE		
Occupied housing units	80,592	100.0
Owner-occupied housing units	50,944	63.2
Population in owner-occupied housing units	151,340	(X)
Average household size of owner-occupied units	2.97	(X)
Renter-occupied housing units	29,648	36.8
Population in renter-occupied housing units	88,406	(X)
Average household size of renter-occupied units	2.98	(X)

X Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] One of the four most commonly reported multiple-race combinations nationwide in Census 2000.

[4] In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.

[5] This category is composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South

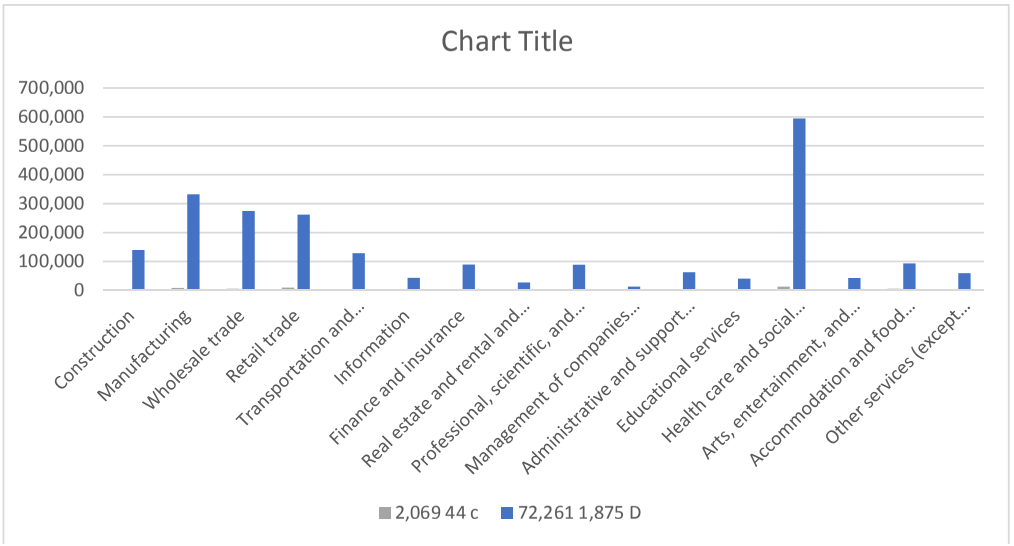
American countries. It also includes general origin responses such as "Latino" or "Hispanic."

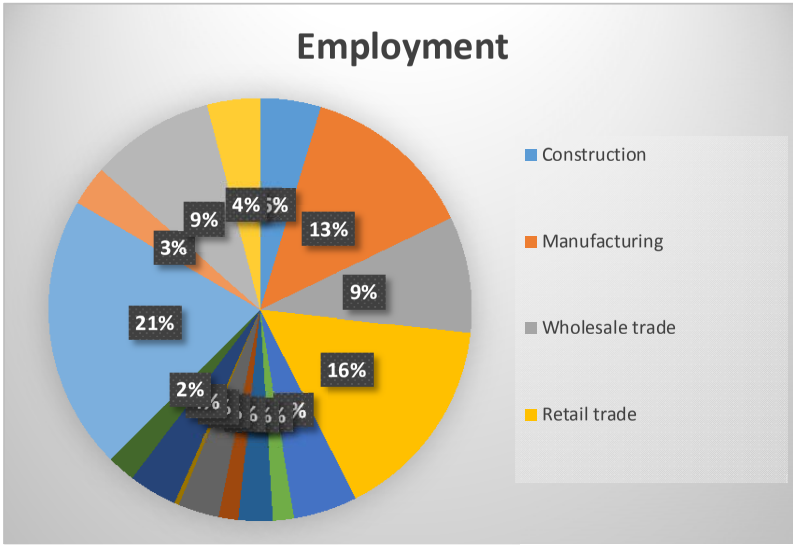
[6] "Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner."
[7] "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.

[8] The homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale." It is computed by dividing the total number of vacant units "for sale only" by the sum of owner-occupied units, vacant units that are "for sale only," and vacant units that have been sold but not yet occupied; and then multiplying by 100.
[9] The rental vacancy rate is the proportion of the rental inventory that is vacant "for rent." It is computed by dividing the total number of vacant units "for rent" by the sum of the renter-occupied units, vacant units that are "for rent," and vacant units that have been rented but not yet occupied; and then multiplying by 100.
Source: U.S. Census Bureau, 2010 Census.

Business Demographics
Yakima County, Washington

Geographic area name	2012 NAICS code	Meaning of 2012 NAICS code	Year	Number of establishments	Paid employees for pay period including March 12 (number)	First-quarter payroll ($1,000)	Annual payroll ($1,000)
Washington	0	Total for all sectors	2014	4,653	63,154	544,645	2,379,189
Yakima County, Washington	11	Agriculture, forestry, fishing and hunting	2014	37	2,069	14,606	72,261
Yakima County, Washington	21	Mining, quarrying, and oil and gas extraction	2014	7	44	388	1,875
Yakima County, Washington	22	Utilities	2014	9	c	D	D
Yakima County, Washington	23	Construction	2014	525	2,815	25,646	139,530
Yakima County, Washington	31-33	Manufacturing	2014	235	8,059	76,485	332,733
Yakima County, Washington	42	Wholesale trade	2014	265	5,417	59,664	274,477
Yakima County, Washington	44-45	Retail trade	2014	711	9,611	62,281	261,990
Yakima County, Washington	48-49	Transportation and warehousing	2014	201	2,967	29,736	128,640
Yakima County, Washington	51	Information	2014	66	974	10,847	43,328
Yakima County, Washington	52	Finance and insurance	2014	246	1,593	24,157	88,876
Yakima County, Washington	53	Real estate and rental and leasing	2014	258	910	6,769	27,194
Yakima County, Washington	54	Professional, scientific, and technical services	2014	311	1,905	19,475	88,576
Yakima County, Washington	55	Management of companies and enterprises	2014	14	220	3,489	12,890
Yakima County, Washington	56	Administrative and support and waste	2014	189	2,243	13,267	62,826
Yakima County, Washington	61	Educational services	2014	70	1,316	9,705	40,446
Yakima County, Washington	62	Health care and social assistance	2014	553	12,743	139,346	595,007
Yakima County, Washington	71	Arts, entertainment, and recreation	2014	73	1,862	10,036	42,802
Yakima County, Washington	72	Accommodation and food services	2014	422	5,761	21,787	92,913
Yakima County, Washington	81	Other services (except public administration)	2014	453	2,463	14,095	59,499
Yakima County, Washington	99	Industries not classified	2014	8	23	S	





Business Demographics
Yakima County, Washington

Source:
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

DEPARTMENT OF ECOLOGY State of Washington

Well Logs

Well Logs Map Menu

Search Options Legend/Layers Help

Well Type Legend:

- Water Wells
- Resource Protection Wells
- Decommissioned Wells
- Multiple Well Types

Administrative Boundaries:
(Turn layers on/off tip)

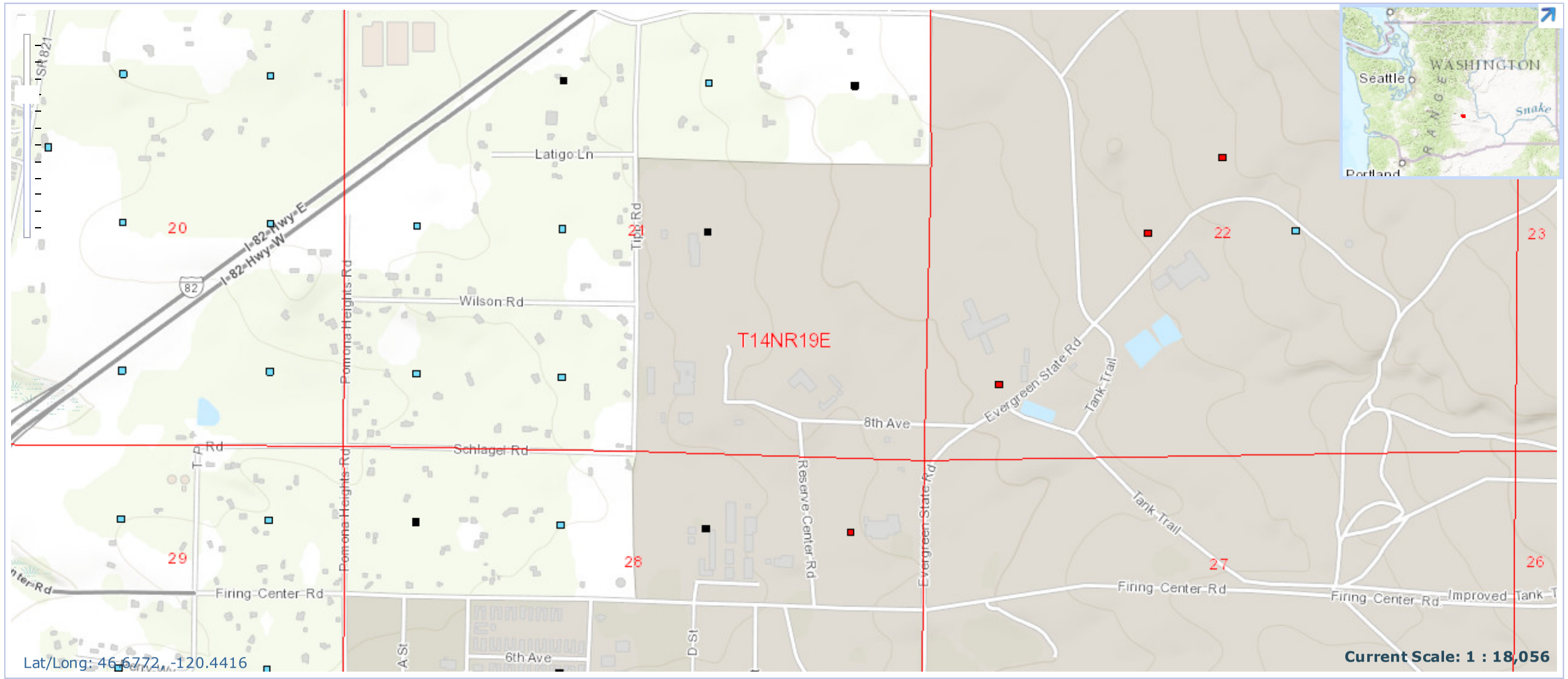
- [x] Sections
- [x] Townships
- [ ] Parcels
- [ ] Watersheds (WRIA)

Background Layers:

- (•) USGS Topo Map
- ( ) Terrain Map
- ( ) Aerial Imagey

Zoom In | Zoom Out | Full State | Pan | Select Wells

Report Options: Well Types Water ▾ List Results 100 ▾ at a time



Well Survey Table
Wells within approximately 1 mile
Former Landfill Complex
Yakima Training Center
Yakima Washington

well_log_id	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
565594	BAF895	W267306	120	6	ALAN GEHO	14	19	E	28	NW	NE	11/25/2008	Yakima	W	12/19/2008	191428-21406	1650754	490083
468788	ALE835	W244434	384	6	BILL HARGROVE	14	19	E	21	NE	SE	1/22/2007	Yakima	W	1/26/2007	191421-14403	1653392	494013
125834			467	10	DAVID HOVDE	14	19	E	21	SW	NE		Yakima	W			1650770	492732
384645	AKO479	W176521	238	6	DEVON MOREHEAD	14	19	E	21	NE	SW	8/16/2004	Yakima	W	8/23/2004	191421-12408	1652085	494036
126343			247	8	DONALD SCHLAGEL	14	19	E	21	NW	SE	8/16/1979	Yakima	W	10/22/1980		1650777	494058
403542	ALF461	W176564	183	6	GRANT NOBLE	14	19	E	28	NW	NE	2/8/2005	Yakima	W	2/16/2005	191428-21414	1650754	490083
127563		83581	142	6	HARLAN PETERSON	14	19	E	21	SW	NE	2/15/1993	Yakima	W			1650770	492732
530652	BAF862	W188538	385	6	JAMES FUHLMAN	14	19	E	21	NE	SW	5/30/2008	Yakima	W	6/2/2008	19142113413	1652085	494036
624776	ALC818	W212018	204	3	JEFF PARKEY	14	19	E	21	NE	SW	9/15/2005	Yakima	W	11/17/2009	191421-13417	1652085	494036
498462	APT664	W188509	125	6	JERARDO RIOS	14	19	E	21	SW	SE	8/9/2007	Yakima	W	9/19/2007	191421-34421	1650765	491408
942224	BIF771	W357994	482	6	Kenneth Sleasman	14	19	E	21	NE	SE	9/25/2014	Yakima	W	11/14/2014	191421-14402	1653392	494013
501668	APT806	W255145	205	6	MIKE MCINTOSH	14	19	E	21	NW	SE	10/19/2007	Yakima	W	11/16/2007	191421-24411	1650777	494058
530606	APT912	W255514	183	6	NICOLE ACOSTA	14	19	E	28	NW	NE	5/19/2008	Yakima	W	6/10/2008	19142821415	1650754	490083
130856		79272	140	6	NORMAN MOHAR	14	19	E	21	SW	NE	10/24/1992	Yakima	W	11/2/1992		1650770	492732
334123			430	10	POMONA ARTESIAN IRRIGATION CO	14	19	E	28	NE	NW		Yakima	W			1652057	490053
131318			592	8	RALPH GOVELA JR.	14	19	E	21	NE	SE	7/9/1971	Yakima	W			1653392	494013
468810	ALE834	W255992	384	6	SANDI WHITTED	14	19	E	21	NE	SE	1/17/2007	Yakima	W	1/26/2007	19142114403	1653392	494013
477862	APG390	W255569	185	6	SANDRA SAFFRAN	14	19	E	21	SW	NE	5/1/2007	Yakima	W	5/2/2007	191421-31410	1650770	492732
403541	ALF609	W177413	205	6	STEVE HANSEN	14	19	E	21	NE	SW	12/28/2004	Yakima	W	3/10/2005	191421-13420	1652085	494036
660930	BBJ712	W268789	150	6	STEVE SERMOLLE	14	19	E	21	SW	SE	6/25/2010	Yakima	W	7/19/2010	191421-34420	1650765	491408

Well Log Data Export

Data Dictionary

The table below lists the data field names, descriptions, and examples of each data item that makes up the well log data extract file.

Column Name	Description	Example
well_log_id	WELL LOG ID. A sequential number generated by the system to track a well log record.	100564
well_tag_nr	WELL TAG NUMBER. The number issued by the Department of Ecology that is stamped on a metal tag that is attached to the actual well.	AAA-000
project_tag_nr	PROJECT TAG NUMBER – The number issued by the property owner or consulting firm to track the well. This number is NOT affiliated with Ecology's tag number in any way.	MW-001
nit_id_nr	NOTICE OF INTENT ID NUMBER. A sequential number issued by the Department of Ecology to track the Notice of Intent to Construct or Decommission a Well.	W072515
well_depth_qt	WELL DEPTH. Depth of the well in feet.	55
well_diameter_qt	WELL DIAMETER. Diameter of the casing of the well in inches.	6
well_owner_nm	WELL OWNER NAME. The name of the original property owner who had the well drilled.	John Smith
township_nr	TOWNSHIP. The identifier describing which Township the well falls within. Based on the Washington State Public Land Survey (PLS).	05

range_nr	RANGE. The identifier describing the Range location of the well. (PLS)	15
range_dir_cd	RANGE DIRECTION. The direction code describing further which range the well falls within. Washington State is divided into two halves – 'West' and 'East'. (PLS)	E
section_nr	SECTION. The identifier describing which Section the well falls within. (PLS)	06
qtr_section_cd	QUARTER SECTION (1/4). The identifier describing which Quarter section the well falls within. (PLS)	NW
qtr_qtr_section_cd	QUARTER-QUARTER SECTION (1/4-1/4). The identifier describing which Quarter-Quarter section the well falls within. (PLS)	SW
well_comp_dt	WELL COMPLETION DATE. Date the well was drilled.	1/1/1997
county_nm	COUNTY NAME. County name where the well is located.	King
well_type_cd	WELL TYPE. Code which indicates the well type. See appendix for code descriptions.	W
driller_nr	DRILLER LICENSE NUMBER. License number of the well driller.	2327
well_log_recv_dt	WELL LOG RECEIVAL DATE. Date the Department of Ecology received the well log form.	1/6/1997
tax_parcel_nr	TAX PERCEL IDENTIFIER. County Assessor code of the parcel where the well was drilled.	232019130050

st_plane_xcoord_nr	STATE PLANE X-COORDINATE. The horizontal geographic coordinate value of the well within the WA State Plane Coordinate System (adjusted to the quarter-quarter, quarter, or whole section).	2031126
st_plane_ycoord_nr	STATE PLANE Y-COORDINATE. The vertical geographic coordinate value of the well within the WA State Plane Coordinate System (adjusted to the quarter-quarter, quarter, or whole section).	780897

Appendix

Well Type Codes:

W Water
R Resource Protection
A Abandonment

DEPARTMENT OF ECOLOGY State of Washington

Well Logs

Well Logs Map Menu

Search Options Legend/Layers Help

Well Type Legend:

- Water Wells
- Resource Protection Wells
- Decommissioned Wells
- Multiple Well Types

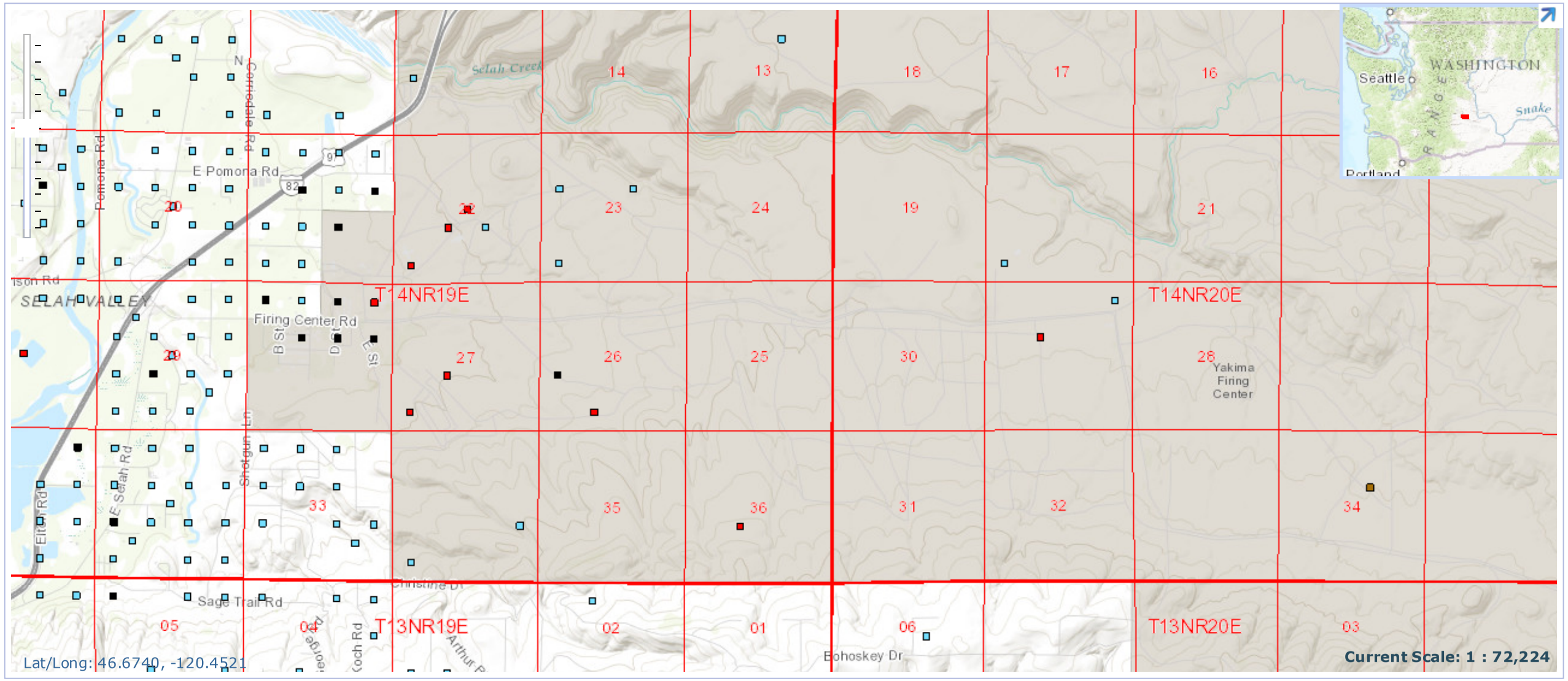
Administrative Boundaries:
(Turn layers on/off tip)

- [x] Sections
- [x] Townships
- [ ] Parcels
- [ ] Watersheds (WRIA)

Background Layers:

- (•) USGS Topo Map
- ( ) Terrain Map
- ( ) Aerial Imagey

Zoom In | Zoom Out | Full State | Pan | Select Wells



Well Survey Table
Wells within approximately 3 miles
Former Landfill Complex
Yakima Training Center
Yakima Washington

well_log_i	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
384644	AKO480	W176525	203	6	ADVANCED SERVICES	14	19	E	20	NE	SW	8/17/2004	Yakima	W	8/23/2004	19142013009	1646831	494117
123982			66	6	AL MARTIN	14	19	E	32	SW	SW	9/8/1986	Yakima	W	5/12/1989		1644002	480842
565594	BAF895	W267306	120	6	ALAN GEHO	14	19	E	28	NW	NE	11/25/2008	Yakima	W	12/19/2008	191428-21406	1650754	490083
374783	AHK485	W164188	162	6	ALICE BURKE-PERIN	13	19	E	2	NW	NE	12/24/2003	Yakima	W	2/9/2004		1661208	479363
124054			245	6	ALLEN NEDROW	14	19	E	32	NE	SE	4/29/1985	Yakima	W	9/25/1985		1648051	483476
124111		80539	125	6	ANDY BEEMAN	14	19	E	20	SW	NE	11/15/1990	Yakima	W			1645503	492807
124127			452	6	ANN BROWN	14	19	E	17	SE	SE	9/5/1985	Yakima	W	9/27/1985		1648176	496747
412353	ALC957	W189065	184	6	BEN SANDERS	14	19	E	20	NE	SW	6/29/2005	Yakima	W	7/14/2005	191420-13003	1646831	494117
382335	AKO450	W171691	263	6	BERNADINE PAGANELLI	14	19	E	20	SE	NE	5/11/2004	Yakima	W	6/15/2004	19142041-402	1648151	492777
124357		10735	319	6	BERYL THOMAS	14	19	E	32	NW	NW	7/16/1989	Yakima	W			1644051	484822
468788	ALE835	W244434	384	6	BILL HARGROVE	14	19	E	21	NE	SE	1/22/2007	Yakima	W	1/26/2007	191421-14403	1653392	494013
1100929	BIN405	W357639	242	6	Bill Johnston	14	19	E	21	NW	NE	9/10/2015	Yakima	W	11/12/2015	191421-21403	1650784	495384
124435			200	6	BILL MOERMAN	14	19	E	32	SE	SW	3/11/1982	Yakima	W			1646672	480821
124436			56	5	BILL MURPHY	14	19	E	29	SW	NW	4/5/1977	Yakima	W	5/3/1977		1644100	487485
135582	ACL229	W086142	314	6	BILL TREFRY	14	19	E	32	NE	SW	2/28/1997	Yakima	W	4/9/1997		1646712	483482
419205	ALC979	W189256	102	6	BOB NICHOLLS	14	19	E	29	SW	NE	9/12/2005	Yakima	W	10/10/2005	191429-34438	1645437	487480
124648			330	6	BOBBY RAY BARKER	13	19	E	4	NE	NE	6/24/1978	Yakima	W	7/29/1979		1653360	479409
135822	ACT622	W090073	501	6	BRIAN OLSON	14	19	E	32	SE	SW	5/25/1998	Yakima	W			1646672	480821
124710		205593	150	6	BRIAN THEISELD	14	19	E	21	SW	NW	4/9/1993	Yakima	W			1649466	492759
124753		80769	80	6	BRUCE LAGO	14	19	E	32	NW	SW	1/29/1991	Yakima	W			1644034	483497
124807			166	6	BURL THOMAS	14	19	E	33	SW	NW	3/24/1982	Yakima	W			1649364	482129
301944	AFM360	R043236	150	10	BURN PIT INVESTIGATION (YTC)	14	19	E	27	SW	NE	11/6/2000	Yakima	R	11/13/2000		1655979	487409
316821		R043236	150	10	BURN PIT INVESTIGATION (YTC)	14	19	E	27	SW	NE	10/26/2000	Yakima	R	11/13/2000		1655979	487409
316826		R043236	150	10	BURN PIT INVESTIGATION (YTC)	14	19	E	27	SW	NE	11/1/2000	Yakima	R	11/13/2000		1655979	487409
301925		S004226	22		BURN PIT INVESTIGATION | US ARMY	14	19	E	27	SW	NE	10/23/2000	Yakima	R	11/13/2000		1655979	487409
301926		S004226	22		BURN PIT INVESTIGATION | US ARMY	14	19	E	27	SW	NE	10/23/2000	Yakima	R	11/13/2000		1655979	487409
301927		S004226	24		BURN PIT INVESTIGATION | US ARMY	14	19	E	27	SW	NE	10/23/2000	Yakima	R	11/13/2000		1655979	487409
301928		S004226	24		BURN PIT INVESTIGATION | US ARMY	14	19	E	27	SW	NE	10/23/2000	Yakima	R	11/13/2000		1655979	487409
301929		S004226	24		BURN PIT INVESTIGATION | US ARMY	14	19	E	27	SW	NE	10/23/2000	Yakima	R	11/13/2000		1655979	487409
301930		S004226	24		BURN PIT INVESTIGATION | US ARMY	14	19	E	27	SW	NE	10/23/2000	Yakima	R	11/13/2000		1655979	487409
301931		S004226	24		BURN PIT INVESTIGATION | US ARMY	14	19	E	27	SW	NE	10/23/2000	Yakima	R	11/13/2000		1655979	487409
136157	AEG124	W090171	245	6	BUSTER MC SPADDEN	14	19	E	20	NE	NE	10/9/1998	Yakima	W	11/2/1998		1648157	495421
124907			116	5	CARL ISSEL	14	19	E	32	NE	SE	10/19/1978	Yakima	W	11/6/1978		1648051	483476
124908			253	5	CARL ISSEL	14	19	E	32	NE	SE	10/17/1978	Yakima	W			1648051	483476
124941		86545	213	6	CAROL JOHNSON	14	19	E	21	NW	NE	7/15/1992	Yakima	W			1650784	495384
124942			227	6	CAROL PUOT	14	19	E	21	NW	NW	5/1/1985	Yakima	W			1649475	495401
125043		85769	225	6	CHARLES CURNER	14	19	E	29	NE	NE	5/5/1993	Yakima	W	5/24/1988		1648138	490129
740500	BAP131	W301655	412	6	Charles Turner	14	19	E	21	NE	NE	4/27/2011	Yakima	W	8/9/2011	191421-11415	1653403	495346
125108		86536	127	6	CHARLIE JONES	14	19	E	29	NE	SE	3/6/1992	Yakima	W			1648124	488799
135345	ACE446	W047191	480	6	CHRIS EHLIS	14	19	E	32	SE	NE	12/6/1995	Yakima	W			1648028	482143

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well_log_i	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
352852	ACE029		120	6	CHRIS T COOK	14	19	E	29	SW	SW	12/5/1995	Yakima	W	12/22/1995		1644072	486152
135446	ACE665	W088313	510	6	CHUCK BRULE	14	19	E	32	NW	NW	7/24/1997	Yakima	W	7/31/1997		1644051	484822
134246	ABG952	W036741	443	6	CHUCK WITHROW	14	19	E	33	NE	NW	3/25/1994	Yakima	W			1652019	484778
125258			178	6	CITY OF SELAH	14	19	E	20	SW	SW	1/3/1980	Yakima	W			1644172	491482
134534	ABL375	W047295	232	6	CLAIRE SCHEVARTZ	14	19	E	29	NE	NE	9/14/1994	Yakima	W	10/5/1994		1648138	490129
334159			602	8	CORPS OF ENGINEERS	14	19	E	20	SW	SW	5/10/1971	Yakima	W			1644172	491482
466134	ALE812	W244442	124	6	CRAIG HOTCHKISS	14	19	E	29	NE	SW	10/11/2006	Yakima	W	11/6/2006	191429-13410	1646793	488805
125533			60	6	DALE & LYNN MITZEL	14	19	E	29	NW	SE	8/26/1986	Yakima	W	9/15/1986		1645460	488810
125537			180	6	DALE CARPENTER	14	19	E	20	SE	SW	12/23/1987	Yakima	W			1646822	491464
468870	APG227	W256263	50	6	DAN LAYTON	14	19	E	32	SW	NW	1/22/2007	Yakima	W	1/26/2007	19-14-32-23009	1644019	482169
125620		87874	450	6	DAN NALL	14	19	E	20	NE	NE	8/28/1992	Yakima	W			1648157	495421
136251	AEM807	W113451	265	6	DAN VANCE	14	19	E	33	NW	NE	3/18/1999	Yakima	W			1650709	484790
509458	ACT723	W079096	790	6	DANIEL & DAVE HANMER	13	19	E	4	SW	NE	11/14/1997	Yakima	W	1/28/1998		1650681	476833
125643			250	5	DANIEL GRAHAM	14	19	E	33	SE	NW	4/21/1983	Yakima	W			1652017	482097
125647		86683	62	6	DANIEL SMITH	14	19	E	32	NE	SW	6/2/1992	Yakima	W	6/10/1992		1646712	483482
125648		28389	200	6	DANIEL SMITH	14	19	E	32	SW	NE	7/13/1993	Yakima	W			1645354	482160
125701			100	6	DAVE BACHMANN	14	19	E	29	NE	SE	7/10/1976	Yakima	W	6/28/1977		1648124	488799
412378	ALC109	W170191	183	6	DAVE JUAREZ	14	19	E	20	NE	NE	5/26/2005	Yakima	W	6/28/2005	191420-11417	1648157	495421
501670	APT816	W183746	175	6	DAVID APPLHOF	14	19	E	21	SW	SW	10/25/2007	Yakima	W	11/16/2007	191421-33418	1649461	491436
136019	ACX891	W062777	925	6	DAVID HARMON	13	19	E	5	SE	NE	11/3/1997	Yakima	W	1/19/1998		1648011	476872
125834			467	10	DAVID HOVDE	14	19	E	21	SW	NE		Yakima	W			1650770	492732
329494			0	0	DEAN LEENHOUTS	13	19	E	5	NW	-1		Yakima	W		pre-date	1644671	478867
125917		10744	37	6	DEAN SHEPARD	14	19	E	29	NE	SW	7/15/1988	Yakima	W			1646793	488805
125930		33747	140	6	DEBRA ASBELL	14	19	E	23	NW	SW	8/4/1990	Yakima	W			1660002	494083
125931			445	6	DEBRA BOWERS	14	19	E	21	NE	NE	7/11/1983	Yakima	W			1653403	495346
125934		A024316	590		Decommission SE Well/Yakima Training Center	14	19	E	28	NE	SE	7/15/1995	Yakima	A	8/28/1995		1653348	488715
396199	AKO500	W176549	203	6	DEL MATHEWS	14	19	E	29	NE	SW	12/6/2004	Yakima	W	12/23/2004	191429-13421	1646793	488805
396202	AKO499	W176550	283	6	DEL MATHEWS	14	19	E	29	NE	SW	12/2/2004	Yakima	W	12/23/2004	191429-13405	1646793	488805
135339	ACE436	W047076	320	6	DEL TEMPLE	14	19	E	33	NW	NW	1/25/1996	Yakima	W	2/27/1996		1649399	484802
624774	ALC802	W184042	214	6	DENNIS HUNT	14	19	E	21	NW	NE	6/28/2005	Yakima	W	11/17/2009	19142113419	1650784	495384
384645	AKO479	W176521	238	6	DEVON MOREHEAD	14	19	E	21	NE	SW	8/16/2004	Yakima	W	8/23/2004	191421-12408	1652085	494036
922603	BIF705	W357531	70	6	Dianne Dopps	14	19	E	32	NW	SE	5/13/2014	Yakima	W	7/21/2014	191432-24417	1645373	483490
126171			90	6	DON CARLTON	14	19	E	32	SW	NE	3/8/1982	Yakima	W			1645354	482160
126191			160	6	DON GEPHART	14	19	E	20	NW	SW	12/30/1987	Yakima	W	1/21/1989		1644183	494156
377215	AKO427	W171657	244	6	DON KING	14	19	E	21	NW	NW	2/13/2004	Yakima	W	3/17/2004	191421-22409	1649475	495401
126234		10748	45	8	DON MILLER	14	19	E	29	NW	SW	8/4/1988	Yakima	W	8/25/1988		1644129	488815
126255		203298	460	6	DON SCHLAGEL	14	19	E	23	NE	SW	1/21/1993	Yakima	W	2/24/1993		1662631	494095
135168	ABX859	W047779	35	6	DON WELSHIMER	14	19	E	29	NW	SE	4/2/1996	Yakima	W	4/15/1996		1645460	488810
126299			49	6	DON YOUNG	14	19	E	29	SE	NW	10/15/1973	Yakima	W			1646772	487476
126310		301			DONALD BLEVINS	14	19	E	20	NW	SW	9/27/1987	Yakima	W			1644183	494156
126343			247	8	DONALD SCHLAGEL	14	19	E	21	NW	SE	8/16/1979	Yakima	W	10/22/1980		1650777	494058
126346			171	6	DONALD SHUEL	14	19	E	21	SW	SW	5/3/1972	Yakima	W			1649461	491436
468822	ALE825	W255961	90	6	DONNA MCINTOSH	14	19	E	32	SW	NW	12/6/2006	Yakima	W	12/29/2006	191432-32015	1644019	482169
475284		A087863			DONNA MCINTOSH	14	19	E	32	SW	NW	12/14/2006	Yakima	A	1/26/2007	191432-32015	1644019	482169
126405		25431	78	6	DOUG MILNE	14	19	E	29	SW	NW	5/19/1992	Yakima	W	5/19/1992		1644100	487485
126460			82	6	DUANE KING	14	19	E	29	NW	SW	7/16/1977	Yakima	W	9/2/1977		1644129	488815
135718	ACL908	W089748	120	10	ED ANDERSON	14	19	E	33	NW	NW	3/27/1998	Yakima	W	4/10/1998		1649399	484802
303339	AGB196	W136422	244	6	ED BENNER	14	19	E	20	NE	NE	4/16/2001	Yakima	W	5/16/2001	191420-11418	1648157	495421
126688		R039134			ELLENSBURG TELEPHONE	14	19	E	36	SW	NE	4/30/1998	Yakima	R	7/2/1998		1666499	482040
598798	APG240	W256211	335	6	ENIGEIO HERNANDEZ	14	19	E	21	NE	NE	4/12/2007	Yakima	W	8/19/2009	191421-11423	1653403	495346
136003	ACX861	W093957	420	6	ERIC SILVER	13	19	E	4	SW	NE	4/22/1998	Yakima	W	5/6/1998		1650681	476833
135079	ABX611	W062859	180	6	ERVIN JOHNSON	14	19	E	32	NE	SW	7/20/1995	Yakima	W	7/28/1995		1646712	483482
126774			52	5	EUGENE BAILEY	14	19	E	29	NW	NW	12/18/1975	Yakima	W			1644155	490146

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well_log_i	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
123885			405	6	FEIST	13	19	E	4	NW	NW		Yakima	W			1649334	479471
135342	ACE442	W049601	540	10	FORREST & MICHIE MAHAPPY	14	19	E	33	NE	SW	9/19/1995	Yakima	W	9/27/1995		1652018	483437
126954			160	6	FRANK F ZANDER	14	19	E	17	NE	SW	9/29/1965	Yakima	W	3/4/1974		1646921	499414
526032	APT893	W254642	244	6	FRED VALENCIA	14	19	E	20	NE	SW	4/8/2008	Yakima	W	4/11/2008	19142013002	1646831	494117
819235	BCF223	W307528	180	6	Fred Valencia	14	19	E	20	NE	SW	9/4/2012	Yakima	W	9/27/2012	191420-13401	1646831	494117
135805	ACT593	W090145	108	6	GARY CONN	14	19	E	29	SE	NW	3/17/1998	Yakima	W			1646772	487476
468792	APG378	W255582	164	6	GARY DICK	14	19	E	21	SW	SW	1/3/2007	Yakima	W	1/19/2007	191421-33421	1649461	491436
192190	AET601	W087717	506	6	GILBERT LAKE	13	19	E	4	NE	NW	8/26/1999	Yakima	W	9/13/1999	19130412403	1652017	479429
123898			404	10	GORDON & BARBARA CHRISTOPHER	14	19	E	20	NE	SE	4/12/1977	Yakima	W			1648154	494100
333264	AGL695	W155379	286	6	GORDON DALE	14	19	E	32	SW	NE	3/26/2002	Yakima	W	5/9/2002	191432-13405	1645354	482160
127440			250	10	GORDON SCHAGIN	14	19	E	29	NE	NE	7/31/1977	Yakima	W			1648138	490129
403542	ALF461	W176564	183	6	GRANT NOBLE	14	19	E	28	NW	NE	2/8/2005	Yakima	W	2/16/2005	191428-21414	1650754	490083
127502		W006116	342	6	GRIDLEY	14	19	E	21	NW	NE	7/14/1993	Yakima	W	8/27/1993		1650784	495384
127563		83581	142	6	HARLAN PETERSON	14	19	E	21	SW	NE	2/15/1993	Yakima	W			1650770	492732
127590			40	6	HAROLD DODEWARD	14	19	E	29	NE	SW	11/2/1986	Yakima	W			1646793	488805
292423			577	6	HOWARD FARR	14	19	E	33	SE	NE	9/20/1986	Yakima	W			1653345	482079
499562	APT826	W183733	250	6	HOWARD HOGAN	13	19	E	5	NW	NW	8/15/2007	Yakima	W	10/9/2007	191305-22405	1644000	479525
316819	AGL658	W155357	164	6	HOWARD MAGGARD	14	19	E	20	NE	NW	9/24/2001	Yakima	W	11/5/2001	191420-12013	1646834	495445
334160			287	10	ILA AND ROBERT WATKIN	14	19	E	20				Yakima	W			1646159	493462
127905			185	6	J. D. BLEHM	14	19	E	29			5/10/1973	Yakima	W			1646115	488137
127954			151	5	JACK BRUMLEY	14	19	E	32	NE	SE	7/12/1978	Yakima	W			1648051	483476
358499	AFH926	W122171	365	6	JACK TRIMBLE	13	19	E	3	SW	NE	7/6/2000	Yakima	W	4/18/2003	191303-31403	1655981	476785
973723	BHT377	W355063	484	8	Jack Trimble	13	19	E	3	SW	NE	10/17/2014	Yakima	W	2/23/2015	191303-31405	1655981	476785
973726	BHT378	W355070	885	8	Jack Trimble	13	19	E	3	SW	NE	11/7/2014	Yakima	W	2/23/2015	191303-31405	1655981	476785
388788	AKJ533	W171023	445	6	JAMES BACH	14	19	E	33	NE	SW	9/21/2004	Yakima	W	10/14/2004	191433-24404	1652018	483437
128044			388	6	JAMES BLODJETT	13	19	E	4	NW	NW	9/1/1977	Yakima	W	9/13/1977		1649334	479471
639300	BAE533	W272100	58	6	JAMES BURKETT	14	19	E	32	SW	NW	10/20/2009	Yakima	W	2/19/2010	191432-32418	1644019	482169
865614	BBJ042	W350661	60	6	James Burkett	14	19	E	32	SW	NW	5/23/2013	Yakima	W	6/19/2013	191432-32417	1644019	482169
135595	ACL258	W088551	125	6	JAMES CRAIG	14	19	E	32	NW	SW	2/13/1997	Yakima	W	2/21/1997		1644034	483497
530652	BAF862	W188538	385	6	JAMES FUHLMAN	14	19	E	21	NE	SW	5/30/2008	Yakima	W	6/2/2008	19142113413	1652085	494036
128059			180	6	JAMES W DEWEESE	14	19	E	17	NW	SW	5/2/1985	Yakima	W	5/20/1985		1644285	499442
303006	AFH948	W104787	175	6	JANOAH NICHOLLS	14	19	E	32	NW	NE	8/16/2000	Yakima	W	9/18/2000		1645392	484819
388787	AKL648	W177402	263	6	JASON COLEMAN	14	19	E	32	NE	SW	10/11/2004	Yakima	W	10/18/2004	191432-13005	1646712	483482
128180			245	6	JAY CLIFTON & GARY LOGSTON	14	19	E	23	SW	SW	7/17/1984	Yakima	W			1659981	491423
136150	AEG110	W090154	525	6	JEFF FARMER	13	19	E	5	NE	NW	7/16/1998	Yakima	W	8/10/1998		1646665	479499
857700	BCF235	W363919	142	6	Jeff McGuire	14	19	E	20	NE	SE	4/8/2013	Yakima	W	4/9/2013	191420-14413	1648154	494100
624776	ALC818	W212018	204	3	JEFF PARKEY	14	19	E	21	NE	SW	9/15/2005	Yakima	W	11/17/2009	191421-13417	1652085	494036
361711	AKW856	W170455	468	6	JEFF STINSON	14	19	E	33	NW	SE	4/22/2003	Yakima	W	5/13/2003	19143324401	1650698	483452
427048	ALE067	W207768	61	6	JEFFREY BERREMAN	14	19	E	32	SW	NW	12/22/2005	Yakima	W	12/30/2005	191432-32017	1644019	482169
498462	APT664	W188509	125	6	JERARDO RIOS	14	19	E	21	SW	SE	8/9/2007	Yakima	W	9/19/2007	191421-34421	1650765	491408
595991	AGL610	W136436	198	6	JERRY MCGUIRE	14	19	E	20	SE	NE	5/27/2001	Yakima	W	7/31/2009	191420-14414	1648151	492777
135337	ACE428	W047079	255	10	JESSIE & CURTHIA HYCHE	14	19	E	33	NW	NW	3/21/1996	Yakima	W	3/26/1996		1649399	484802
128347			149	6	JIM & PAT L'HEUREUX	14	19	E	20	NE	SE	4/22/1979	Yakima	W			1648154	494100
135835	ACT637	W090140	146	6	JIM L'HEUVEUY	14	19	E	20	NE	NE	4/3/1998	Yakima	W	4/24/1998		1648157	495421
1566125			268	6	JIM MURPHY	14	19	E	17	NW	SE	8/3/1989	Yakima	W	8/21/1989		1645604	499428
128492		83799	385	6	JIM TRINKEY	14	19	E	21	NW	NW	7/5/1993	Yakima	W	8/27/1993		1649475	495401
128529			44	6	JOE BROADBENT	14	19	E	29	SW	SE	4/29/1985	Yakima	W	8/14/1985		1645412	486150
128530			46	6	JOE BROADBENT	14	19	E	29	SW	SE	5/1/1985	Yakima	W			1645412	486150
128531			55	6	JOE BROADBENT	14	19	E	29	SW	SE	4/30/1985	Yakima	W	8/14/1985		1645412	486150
128532			62	6	JOE BROADBENT	14	19	E	29	SW	SE	6/12/1985	Yakima	W			1645412	486150
128533			69	6	JOE BROADBENT	14	19	E	29	SW	SE	6/13/1985	Yakima	W			1645412	486150
135602	ACL273	W037124	445	6	JOHN & KIM TAYLOR	14	19	E	33	NE	NW	9/16/1997	Yakima	W	10/28/1997		1652019	484778
128617		W039220	205	8	JOHN ADAMS	14	19	E	29	NW	NW	12/20/1993	Yakima	W			1644155	490146

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128618		79265	52	6	JOHN ADAMS	14	19	E	29	NW	SE	9/7/1992	Yakima	W			1645460	488810
128619		11570	65	6	JOHN ADAMS	14	19	E	29	NW	SE	8/19/1988	Yakima	W			1645460	488810
343303	ACX908	W104769	190	6	JOHN ADAMS	14	19	E	29	NW	SE	10/14/1998	Yakima	W	10/26/1998		1645460	488810
911060	BIF219	W350688	110	6	John Adams	14	19	E	29	NW	SE	2/3/2014	Yakima	W	4/1/2014	191429-24402	1645460	488810
128639			500	10	JOHN BROWN	13	19	E	3	SW	NW	4/9/1981	Yakima	W			1654674	476781
128685			114	6	JOHN DINSE	14	19	E	29	SW	NE	11/20/1986	Yakima	W	12/3/1986		1645437	487480
128757		83801	220	6	JOHN KUHN	14	19	E	21	NE	NW	6/22/1992	Yakima	W	10/22/1992		1652094	495365
128769			105	6	JOHN LOTSPEICH	14	19	E	29	SE	NW	5/19/1987	Yakima	W	7/21/1986		1646772	487476
128797			160	6	JOHN MILLER	14	19	E	32	SW			Yakima	W	9/7/1977		1644678	481502
128798			245	6	JOHN MOORE	13	19	E	5	NE	NE	5/18/1983	Yakima	W	9/3/1983		1647997	479487
128799		80521	300	6	JOHN MOORE	13	19	E	5	NE	NE	11/29/1990	Yakima	W	2/6/1991		1647997	479487
435908	ALC994	W223391	193	6	JOHN ROCHE	14	19	E	17	SW	SW	3/29/2006	Yakima	W	3/31/2006	191417-33004	1644209	496817
128884		36527	163	6	JOHN WADE	14	19	E	29	NE	SW	4/2/1990	Yakima	W			1646793	488805
128929		80554	55	6	JONES	14	19	E	32	SW	NW	5/30/1991	Yakima	W			1644019	482169
192066	AEM812	W104780	82	6	JONES	14	19	E	32	SW	NW	5/6/1999	Yakima	W	7/2/1999		1644019	482169
136129	AEG017	W108617	218	6	JORGE GORDILLO	14	19	E	21	NW	NE	3/4/1999	Yakima	W	3/22/1999		1650784	495384
1062841	BHT395	W355084	223	6	Jose Gamboa	14	19	E	20	NE	NE	6/4/2015	Yakima	W	9/22/2015	191420-11412	1648157	495421
129020			278	6	KARL ROBERTS	14	19	E	29	NE	NW	9/20/1979	Yakima	W			1646811	490135
303337	AGL852	W149608	165	6	KEN RUNDGREN	14	19	E	29	NE	NE	6/1/2001	Yakima	W	6/11/2001		1648138	490129
129167			143	6	KEN UADE	14	19	E	29	NW		4/26/1979	Yakima	W			1644806	489477
758788	BAP144	W301668	587	6	Ken Wilson	14	19	E	33	SW	NW	10/19/2011	Yakima	W	10/26/2011	191433-32404	1649364	482129
129180			180	6	KENNETH BELLES	14	19	E	29	SE	SW	7/18/1975	Yakima	W			1646753	486146
129191			220	6	KENNETH HEINIGER	14	19	E	21	NW	NE	4/12/1993	Yakima	W	4/28/1993	19142112407	1650784	495384
942224	BIF771	W357994	482	6	Kenneth Sleasman	14	19	E	21	NE	SE	9/25/2014	Yakima	W	11/14/2014	191421-14402	1653392	494013
129254			475	6	KIM SCHMIDT	13	19	E	5	NE	SW	8/2/1984	Yakima	W	10/5/1984		1646671	478193
892510	BIF209	W350679	200	6	Kim Webster	14	19	E	20	SW	NE	10/14/2013	Yakima	W	1/9/2014	19142031402	1645503	492807
129263			125	5	KIP FLETCHER	14	19	E	32	SE	NW	5/12/1982	Yakima	W	6/10/1982		1646691	482152
354737	ACT576	W003675	174		LARRY DEAN HULL	14	19	E	32			10/29/1997	Yakima	W	11/17/1997		1646036	482824
1566124			205	6	LARRY HOLT	14	19	E	17	NE	SW	5/19/1992	Yakima	W	6/4/1992		1646921	499414
255164	ACX102	W109709	148	6	LARRY HULL	14	19	E	29	SE	SW	10/15/1999	Yakima	W			1646753	486146
302652	ACX108	W109711	125	6	LARRY HULL	14	19	E	32	NW	NW	3/12/2001	Yakima	W	3/27/2001		1644051	484822
302653	ACX107	W109710	125	6	LARRY HULL	14	19	E	32	NW	NW	3/7/2001	Yakima	W	3/27/2001		1644051	484822
129457		33588	472	6	LARRY MILLER	13	19	E	4	NE	NE	5/22/1991	Yakima	W			1653360	479409
129460		80441	465	6	LARRY MORTIMER	14	19	E	29	NE	NE	9/6/1991	Yakima	W			1648138	490129
129565			75	8	LEE HORTS	14	19	E	32	SW	SW	7/25/1973	Yakima	W			1644002	480842
129568			381	6	LEE REYES	13	19	E	4	NW	NW	6/22/1977	Yakima	W	8/8/1977		1649334	479471
129582			78	6	LEE VAUGHN	14	19	E	32	NW	NW	12/7/1987	Yakima	W			1644051	484822
129597		85893	490	6	LEN REASON	13	19	E	4	NE	NW	8/6/1992	Yakima	W	8/18/1992		1652017	479429
466136	ALE801	W244444	208	6	LEO HOGUE	14	19	E	32	NW	NW	9/1/2006	Yakima	W	9/8/2006	191432-22402	1644051	484822
129612			325	6	LEO MAYBEE	13	19	E	5	NE	NW	4/15/1974	Yakima	W			1646665	479499
129727			79	6	LEW SCHULTZ	14	19	E	20	NE	NW	10/25/1974	Yakima	W			1646834	495445
129833		9313	493	6	LOU M O BRIEN	14	19	E	21	NE	NE	11/11/1977	Yakima	W	12/29/1977		1653403	495346
1035865	BIN845	W309952	207	6	Mario Martinez	14	19	E	32	NE	NE	5/17/2015	Yakima	W	6/15/2015	191432-12004	1648073	484810
135253	ACE082	W048397	460	6	MARK KRUEGER	14	19	E	33	NW	NW	2/20/1996	Yakima	W	3/15/1996		1649399	484802
134547	ABL391	W047515	210	6	MARK MOBLEY	14	19	E	20	NE	NW	11/1/1994	Yakima	W	11/17/1994		1646834	495445
130046			54		MARKILEE NOY	14	19	E	32	NE	SW	3/10/1983	Yakima	W	2/14/1983		1646712	483482
130072			43	5	MARTIN SHEELEY	14	19	E	32	NW	SE	2/7/1977	Yakima	W	2/25/1977		1645373	483490
130080		10739	60	6	MARTY SHEELEY	14	19	E	32	NE	SW	6/22/1988	Yakima	W	7/13/1988		1646712	483482
130081		86531	121	6	MARTY SHEELEY	14	19	E	32	SW	NW	3/3/1992	Yakima	W			1644019	482169
130082		25287	56	6	MARTY SHEELY	14	19	E	32	SE	SW	5/9/1989	Yakima	W	7/23/1989		1646672	480821
302654	AGB176	W122143	426	6	MARVIN ANDERSON	14	19	E	33	NW	NE	1/29/2001	Yakima	W	4/17/2001		1650709	484790
333794					MAXI BONN	14	19	E	28	NW	SE		Yakima	W			1650743	488763
135781	ACT553	W090119	384	6	MEL IDLER	14	19	E	21	NE	NE	5/9/1997	Yakima	W	5/27/1997		1653403	495346
130204			155	5	MEL SCHAFER	14	19	E	29			10/15/1974	Yakima	W	10/30/1974		1646115	488137
130205			157	5	MEL SCHAFER	14	19	E	29			1/17/1975	Yakima	W			1646115	488137
130206			161	5	MEL SCHAFER	14	19	E	29			1/21/1975	Yakima	W			1646115	488137
130221		80174	347	6	MELVIN KELLEY	14	19	E	32	SE	SE	1/24/1991	Yakima	W			1648006	480809
130223			305	8	MELVIN MC GUIRE	14	19	E	21	NW	NE	4/29/1981	Yakima	W	10/15/1981		1650784	495384

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well_log_i	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
130224			305	8	MELVIN MCGUIRE	14	19	E	21	NE	NE		Yakima	W	2/18/1988		1653403	495346
130226			135	5	MELVIN SCHAFER	14	19	E	29			2/28/1974	Yakima	W			1646115	488137
292493			81	6	MICHAEL DOHERTY	14	19	E	29	SW	NE	8/6/1987	Yakima	W			1645437	487480
449824	ALE089	W207794	400	6	MIEK ALBIN	13	19	E	5	SW	NE	6/1/2006	Yakima	W	6/21/2006	191305-21422	1645350	476902
130319		7686	68	6	MIKE BRIDENBACK	14	19	E	32	NE	SW	8/11/1990	Yakima	W			1646712	483482
355559	AHK638	W164232	123	6	MIKE BRIDENBACK	14	19	E	29	NE	SE	3/5/2003	Yakima	W	3/12/2003	19142914418	1648124	488799
466132	ALE813	W176574	120	6	MIKE BRIDENBACK	14	19	E	29	NE	SW	10/12/2006	Yakima	W	11/6/2006	191429-13407	1646793	488805
355984	AKW601	W149012	71	6	MIKE CARLTON	14	19	E	32	SE	NE	2/24/2003	Yakima	W	3/17/2003	191432-31422	1648028	482143
359514	AHK400	W170658	65	6	MIKE DOHERTY	14	19	E	29	SW	NE	4/3/2003	Yakima	W	4/8/2003	191429-31402	1645437	487480
363570		A046455			MIKE DOHERTY	14	19	E	29	SW	NE	5/12/2003	Yakima	A	6/9/2003	191429-31402	1645437	487480
501668	APT806	W255145	205	6	MIKE MCINTOSH	14	19	E	21	NW	SE	10/19/2007	Yakima	W	11/16/2007	191421-24411	1650777	494058
192129	AEP017	R016422	25	12	MONITORING WELL INSTALLATION	14	19	E	22	SW	NE	7/22/1999	Yakima	R	8/23/1999		1656020	492699
192130	AEP018	R016422	30	10	MONITORING WELL INSTALLATION	14	19	E	22	SW	NE	7/22/1999	Yakima	R	8/23/1999		1656020	492699
192131	AEP019	R016422	25	12	MONITORING WELL INSTALLATION	14	19	E	22	SW	NE	7/22/1999	Yakima	R	8/23/1999		1656020	492699
192132	AEP020	R016422	30	12	MONITORING WELL INSTALLATION	14	19	E	22	SW	NE	7/22/1999	Yakima	R	8/23/1999		1656020	492699
255383	AEP021	R016418	40	6	MONITORING WELL INSTALLATION	14	19	E	22	SW	SW	1/11/2000	Yakima	R	4/17/2000		1654685	491345
255384	AEP022	R016418	40	6	MONITORING WELL INSTALLATION	14	19	E	22	SW	SW	1/11/2000	Yakima	R	4/17/2000		1654685	491345
255385	AEP023	R016418	40	6	MONITORING WELL INSTALLATION	14	19	E	22	SW	SW	1/11/2000	Yakima	R	4/17/2000		1654685	491345
255386	AEP024	R016418	40	6	MONITORING WELL INSTALLATION	14	19	E	22	SW	SW	1/11/2000	Yakima	R	4/17/2000		1654685	491345
255387	AEP025	R016417	119	8	MONITORING WELL INSTALLATION	14	19	E	27	SW	SW	1/25/2000	Yakima	R	4/17/2000		1654643	486090
292505			430	6	MORRIS LAVOCHECK	14	19	E	13	NE	SW	6/24/1992	Yakima	W	7/16/1992		1667961	499458
130535			0	0	MR & MRS CECIL FITCHETT	14	19	E	29	SE	NE	8/2/1985	Yakima	W			1648109	487470
1566127		W037068	216	6	Mr Rutan	14	19	E	17	SE	NW	6/13/1994	Yakima	W	2/29/2000		1646887	498093
130643			104	5	MR. MELVIN SCHAFER	14	19	E	29			12/14/1973	Yakima	W	1/3/1974		1646115	488137
130644			107	5	MR. MELVIN SCHAFER	14	19	E	29			12/7/1973	Yakima	W	1/3/1974		1646115	488137
130718			78	6	MS. GAIL ELLIOTT	14	19	E	32	NE	SW	12/23/1985	Yakima	W			1646712	483482
130726			215	6	MURRAY CAMPBELL	14	19	E	21	NW	NE	6/27/1986	Yakima	W			1650784	495384
130775			161	6	NEAL CETNER	14	19	E	20	NE	SE		Yakima	W			1648154	494100
530606	APT912	W255514	183	6	NICOLE ACOSTA	14	19	E	28	NW	NE	5/19/2008	Yakima	W	6/10/2008	19142821415	1650754	490083
130856		79272	140	6	NORMAN MOHAR	14	19	E	21	SW	NE	10/24/1992	Yakima	W	11/2/1992		1650770	492732
130929			40	6	ORVILLE BLACKLEDGE	14	19	E	32	NW	NE		Yakima	W			1645392	484819
352487	AHK608	W155398	181	6	ORVILLE KRAMER	14	19	E	32	SW	NW	10/8/2002	Yakima	W	12/19/2002	191432-32403	1644019	482169
130938			260	8	OSCAR DANIALS	14	19	E	20	NW	SE	11/1/1977	Yakima	W			1645506	494136
333792			260	8	OSCAR DANIELS	14	19	E	20	NW	SE	10/1/1970	Yakima	W			1645506	494136
131006			186	6	PAT FORD	14	19	E	20	NE	NW	5/26/1987	Yakima	W	6/18/1987		1646834	495445
131007			166	5	PAT FORD	14	19	E	32	SE	NW	10/29/1975	Yakima	W			1646691	482152
412356	ALF500	W189062	342	6	PATRICK ROCHE	14	19	E	17	SW	SW	6/3/2005	Yakima	W	6/29/2005	191417-11400	1644209	496817
131106			49	6	PAUL WEAVER	14	19	E	32	SW		4/13/1979	Yakima	W	4/19/1979		1644678	481502
131119			10	8	PEGGY CATE	14	19	E	32	NE	SE	5/22/1985	Yakima	W			1648051	483476
131120			227	6	PEGGY CATE	14	19	E	32	NW	SE	5/8/1985	Yakima	W			1645373	483490
131121			10	8	PEGGY CATE	14	19	E	32	NW	SE	5/22/1985	Yakima	W			1645373	483490
134490	ABL317	W022545	34	6	PETE ECKROAT	14	19	E	32	SW	NW	5/22/1995	Yakima	W	6/14/1995		1644019	482169
333793	AFK945		430	10	POMONA ARTESIAN IRRIGATION CO	14	19	E	28	NE	SW		Yakima	W			1652046	488739
334123			430	10	POMONA ARTESIAN IRRIGATION CO	14	19	E	28	NE	NW		Yakima	W			1652057	490053

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well_log_i	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
131210					POMONA VIEW TRAILER PARK	14	19	E	20			2/17/1984	Yakima	W			1646159	493462
131211			522	8	POMONA VIEW TRAILER PARK	14	19	E	20	NW	SE	2/17/1984	Yakima	W			1645506	494136
135447	ACE666	W088305	240	6	QUALITY COMFORT HOMES	14	19	E	32	NW	SE	4/10/1997	Yakima	W	4/10/1997		1645373	483490
255165	ACE666	W088306	240	6	QUALITY COMFORT HOMES	14	19	E	32	NW	SE	4/8/1997	Yakima	W	7/9/1999		1645373	483490
131311			175	6	RALPH CHURCH	14	19	E	20	NE	SW	9/27/1984	Yakima	W	11/9/1984		1646831	494117
131318			592	8	RALPH GOVELA JR.	14	19	E	21	NE	SE	7/9/1971	Yakima	W			1653392	494013
415098	ALC759	W182974	405	6	RANDY BALL	13	19	E	5	NW	NW	5/12/2005	Yakima	W	8/10/2005	11305-22402	1644000	479525
333269	AGL699	W155385	443	6	RANDY CARTER	14	19	E	21	NE	NE	4/18/2002	Yakima	W	5/9/2002	191421-11427	1653403	495346
134516	ABL355	W047263	210	6	RANDY MC GUIRE	14	19	E	29	NE	NE	6/1/1994	Yakima	W	7/8/1994		1648138	490129
466131	ALE805	W255962	164	6	RAS CONTRACTING CORP	14	19	E	21	SW	SW	9/18/2006	Yakima	W	10/11/2006	191421-33419	1649461	491436
131503			190	6	RETA JOHNSON	14	19	E	32	SE	SW	3/10/1982	Yakima	W			1646672	480821
131531			440	6	RICHARD ALBIN	14	19	E	32	SW	SW	5/13/1985	Yakima	W	8/1/1985		1644002	480842
131573			166	6	RICHARD HANNU	14	19	E	20	NE	SE	9/25/1981	Yakima	W	10/5/1984		1648154	494100
134268	ABI188	W037237	118	6	RICK & KATHY HALL	14	19	E	32	NW	NW	3/18/1994	Yakima	W			1644051	484822
367352	AKW889	W170480	204	6	RICK ORSER	14	19	E	28	NW	NW	7/24/2003	Yakima	W	8/20/2003	191428-22417	1649454	490112
131660			410	6	RICK RICE	13	19	E	5	NE	NW	10/19/1983	Yakima	W	3/30/1984		1646665	479499
131674			56	5	RITA DAY	14	19	E	32	SW	NE	4/17/1979	Yakima	W	4/27/1979		1645354	482160
652568	BAE768	W267005	122	6	ROBBIE DONALDSON	14	19	E	32	SW	NW	3/16/2010	Yakima	W	5/25/2010	19143232431	1644019	482169
131733			39	6	ROBERT BENNET	14	19	E	32	NE	NW	12/6/1982	Yakima	W	12/15/1982		1646732	484813
131752			172	6	ROBERT CRAWFORD	14	19	E	20	NW	SE	8/19/1974	Yakima	W			1645506	494136
334198			461	6	ROBERT DYK	14	19	E	34	SE	NE	12/18/1970	Yakima	W			1658590	482050
131870		79269			ROBERT HULL	14	19	E	29	SW	SE	10/3/1992	Yakima	W	10/15/1992		1645412	486150
131871		79267	62	6	ROBERT HULL	14	19	E	29	SW	SE	9/23/1992	Yakima	W	10/15/1992		1645412	486150
131872		79268	81	6	ROBERT HULL	14	19	E	29	SW	SE	9/26/1992	Yakima	W			1645412	486150
131873		79271	84	6	ROBERT HULL	14	19	E	29	SW	SE	11/6/1992	Yakima	W	12/1/1992		1645412	486150
131874		79262	86	6	ROBERT HULL	14	19	E	29	SW	SE	9/16/1992	Yakima	W	10/15/1992		1645412	486150
131875		79263	88	6	ROBERT HULL	14	19	E	29	SW	SE	9/17/1992	Yakima	W	10/15/1992		1645412	486150
131876		3652	84	6	ROBERT HULL	14	19	E	32	NW	SW	11/4/1994	Yakima	W	11/18/1994		1644034	483497
1565093			1508	20	ROCHE FRUIT CO	14	19	E	16	SE	SW	2/12/1993	Yakima	W	3/23/1993		1652110	496700
131987			575	8	ROCHE PAMONA ORCHARDS	14	19	E	17	SW	SE	4/15/1977	Yakima	W	8/24/1977		1645532	496794
333787			135	12	ROCHE POMONA OCHARDS	14	19	E	16	SW	SW		Yakima	W			1649491	496728
292560			900	16	ROCHE POMONA ORCHARDS	14	19	E	16	SW	SW	5/20/1977	Yakima	W			1649491	496728
255166	AEQ639	W092332	249	6	ROGER HART	14	19	E	32	NW	SE	12/28/1999	Yakima	W		19143224402	1645373	483490
772912	BAP149	W301674	80	6	Roger McCloud	14	19	E	32	SW	NW	11/15/2011	Yakima	W	1/4/2012	191432-32013	1644019	482169
468812	APG220	W256261	92	6	RON BRUNER	14	19	E	32	SW	NW	11/30/2006	Yakima	W	1/26/2007	19143224422	1644019	482169
132078			120	6	RON CARLSON	14	19	E	33	SE		4/27/1976	Yakima	W			1652686	481415
363574	AKW865	W170459	243	6	RON GUNNER	14	19	E	17	NE	SE	5/19/2003	Yakima	W	6/12/2003	19141714428	1648240	499400
132111			487	6	RON LONG	14	19	E	33	NE	NW	9/13/1979	Yakima	W			1652019	484778
134907	ABW776	W048146	173	6	RON TURNER	14	19	E	29	SE	NE	5/24/1995	Yakima	W	6/2/1995		1648109	487470
132179		87491	82	6	ROSS ROBERTS	14	19	E	32	SW	SW	9/10/1991	Yakima	W			1644002	480842
132205			173	6	ROY DODD	14	19	E	20	NE	NE	5/14/1970	Yakima	W	5/7/1974		1648157	495421
333789			494	6	RS SYMMONDS	14	19	E	32	NW	SE	4/1/1946	Yakima	W			1645373	483490
466130	APG926	W256003	211	6	RUBEN JOHNSTON	14	19	E	21	NE	NE	8/24/2006	Yakima	W	10/30/2006	191421-21408	1653403	495346
132290			140	6	RUSSELL BIVINS	14	19	E	29	SW	NW	6/10/1975	Yakima	W	10/17/1975		1644100	487485
292568			160	6	RUSSELL R PRICE	14	19	E	17	-1	-1	11/1/1965	Yakima	W			1646251	498760
136175	AEG148	W108606	178	6	RUSTY SCHAFER	14	19	E	29	SE	NW	1/7/1999	Yakima	W			1646772	487476
399722	ALF457	W176557	182	6	RYAN DIBBLE	14	19	E	20	SE	NW	1/11/2005	Yakima	W	2/16/2005	19142042001	1646826	492790
132354			190	6	SALLY GASSAWAY	14	19	E	20	NW	NE	9/8/1980	Yakima	W			1645512	495468
468810	ALE834	W255992	384	6	SANDI WHITTED	14	19	E	21	NE	SE	1/17/2007	Yakima	W	1/26/2007	19142114403	1653392	494013
477862	APG390	W255569	185	6	SANDRA SAFFRAN	14	19	E	21	SW	NE	5/1/2007	Yakima	W	5/2/2007	191421-31410	1650770	492732

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well_log_i	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
136122	AEG007	W090069	382	6	SCOTT RHODES	14	19	E	32	SE	SW	8/4/1998	Yakima	W	9/24/1998		1646672	480821
191902		W104605	513	6	SECURE CAPITAL INVESTMENTS	13	19	E	4	NE	SE	3/14/1998	Yakima	W	3/25/1998		1653357	478099
373480	AKO420	W171655	448	6	SHANE DALE	14	19	E	33	NW	SE	12/5/2003	Yakima	W	12/9/2003	191433-24402	1650698	483452
388786	AKL649	W155247	205	6	SHAWN MATHEWS	14	19	E	17	NE	SE	10/13/2004	Yakima	W	10/18/2004	191417-14430	1648240	499400
132458			220	6	SHELLEY UPTON	14	19	E	21	NE	NW	5/23/1986	Yakima	W	6/5/1986		1652094	495365
334161			60	6	SHEMELD	14	19	E	34	SW	SW	10/23/1968	Yakima	W			1654675	480723
493434	APG397	W188508	165	6	STAN JOHNSON	14	19	E	21	SW	SW	5/31/2007	Yakima	W	7/16/2007	191421-33422	1649461	491436
192128	AEP013	W025525	541	16	STATE OF WASHINGTON	14	19	E	22	SE	NW	5/16/1999	Yakima	W	6/25/1999		1657345	492720
132622			500	6	STEPHEN R REYES	13	19	E	4	NW	NW	6/13/1985	Yakima	W	6/25/1985		1649334	479471
403541	ALF609	W177413	205	6	STEVE HANSEN	14	19	E	21	NE	SW	12/28/2004	Yakima	W	3/10/2005	191421-13420	1652085	494036
660930	BBJ712	W268789	150	6	STEVE SERMOLLE	14	19	E	21	SW	SE	6/25/2010	Yakima	W	7/19/2010	191421-34420	1650765	491408
135374	ACE490	W092301	300	6	STEVE WOOD	13	19	E	5	NE	NW	9/5/1997	Yakima	W	10/15/1997		1646665	479499
1566126			200	6	STRAND ENTERPRISES	14	19	E	17	SE	NE	6/4/1991	Yakima	W	6/17/1991	171419-41002	1648208	498073
292581			323	6	SUNDOWN M RANCH	14	19	E	17	-1	-1	4/19/1993	Yakima	W	5/10/1993		1646251	498760
1565095			310	8	SUNDOWN M RANCH	14	19	E	17			4/27/1993	Yakima	W	5/10/1993		1646251	498760
132868		W036488	205	12	TED ROY	14	19	E	20	SE	SE	1/17/1994	Yakima	W	1/14/1994		1648147	491455
135881	ACT996	W090143	384	6	TED SMALLING	14	19	E	32	SE	SW	3/19/1998	Yakima	W	4/24/1998		1646672	480821
132968			173	8	THOMAS L LYNCH	14	19	E	17	NE	SE	9/27/1940	Yakima	W			1648240	499400
292589			173	8	THOMAS L LYNCH	14	19	E	17	-1	-1	9/27/1940	Yakima	W			1646251	498760
945471	BIF248	WE19128	143	6	Tim Payment	14	19	E	32	NW	SW	9/8/2014	Yakima	W	12/30/2014	191432-23004	1644034	483497
134655	ABL573	W037184	127	6	TOM & COLLEEN YOERGER	14	19	E	29	SW	SW	11/4/1994	Yakima	W	12/13/1994		1644072	486152
922715	BHT872	W357664	60	6	Tom Bissell	14	19	E	32	NW	SE	9/12/2013	Yakima	W	7/21/2014	191432-24416	1645373	483490
600146	BAP119	W267077	204	6	TOM MCGUIRE	14	19	E	20	NE	SE	7/20/2009	Yakima	W	7/31/2009	191420-144411	1648154	494100
430164	AGM735	W148939	217	6	TOM UPTON	14	19	E	21	NE	NW	3/24/2003	Yakima	W	1/31/2006	191421-12402	1652094	495365
377212	AKL607	W155209	130	6	TOMAS TROUT	14	19	E	32	NE	SE	3/2/2004	Yakima	W	3/8/2004	191432-14403	1648051	483476
133157			42	5	TONY & WILMA RAGAN	14	19	E	29	SE		11/6/1974	Yakima	W	12/6/1974		1647431	486807
426544	ALC999	W223377	187	6	TONY KEYFEL	14	19	E	20	NE	SW	10/27/2005	Yakima	W	11/17/2005	19142013006	1646831	494117
427052	AKY292	R053479	116	6	UNITED STATES ARMY	14	19	E	28	NE	NW	10/18/2005	Yakima	R	12/21/2005		1652057	490053
427053	AKY293	R053479	130	6	UNITED STATES ARMY	14	19	E	28	NE	NW	10/14/2005	Yakima	R	12/21/2005		1652057	490053
427054	AKY294	R053479	150	6	UNITED STATES ARMY	14	19	E	28	NE	NW	10/21/2005	Yakima	R	12/21/2005		1652057	490053
427055	AKY295	R053479	157	6	UNITED STATES ARMY	14	19	E	28	NE	NW	10/13/2005	Yakima	R	12/21/2005		1652057	490053
427056	AKY296	R053479	142	6	UNITED STATES ARMY	14	19	E	28	NE	NW	10/18/2005	Yakima	R	12/21/2005		1652057	490053
427057	AKY297	R053479	150	6	UNITED STATES ARMY	14	19	E	28	NE	NW	10/22/2005	Yakima	R	12/21/2005		1652057	490053
485890		A083459		2	UNITED STATES ARMY	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485892	AFM360	A083459		4	UNITED STATES ARMY	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485894	ABK008	A083459		4	UNITED STATES ARMY	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485896		A083459		4	UNITED STATES ARMY	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485898		A083459		4	UNITED STATES ARMY	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485900	AKY292	A083459		2	UNITED STATES ARMY	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485902		A083459		4	UNITED STATES ARMY	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485872		A083459	101	4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485873		A083459		4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485876	AFF553	A083459		4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485878	AFF554	A083459		4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485880	AAU975	A083459		4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485882	ABK007	A083459		4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485884	AKY295	A083459		2	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739

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well_log_i	well_tag	nit_id	well depth	well diameter	well_owner_nm	township	range	range dir	section	qtr section	qtr/qtr section	well completion	county	well_type	well_log_recv_dt	tax_parcel_nr	XCOORD	YCOORD
485886	AHT909	A083459		4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
485888	AHT910	A083459		4	UNITED STATES ARMY | SCS ENGINEERS	14	19	E	28	NE	SW	6/1/2007	Yakima	A	6/15/2007	191428-13001	1652046	488739
392538	AHT910	RE01061	142	8	US ARMY	14	19	E	21	NW	SE	11/3/2004	Yakima	R	12/3/2004		1650777	494058
392539	AHT909	RE01061	140	8	US ARMY	14	19	E	21	NW	SE	11/2/2004	Yakima	R	12/3/2004		1650777	494058
392540	AFF554	RE01060	90	8	US ARMY	14	19	E	21	NE	SE	11/5/2004	Yakima	R	12/3/2004		1653392	494013
392541	AFF553	RE01060	63	8	US ARMY	14	19	E	21	NE	SE	11/8/2004	Yakima	R	12/3/2004		1653392	494013
392542	AHT907	RE01062	103	8	US ARMY	14	19	E	28	NE	NW	10/28/2004	Yakima	R	12/3/2004		1652057	490053
392543	ALB751	RE01062	52	8	US ARMY	14	19	E	28	NE	NW	11/8/2004	Yakima	R	12/3/2004		1652057	490053
392544	AHT908	RE01062	163	8	US ARMY	14	19	E	28	NE	NW	11/1/2004	Yakima	R	12/3/2004		1652057	490053
392545	AHT906	RE01059	150	8	US ARMY	14	19	E	28	NE	NE	10/28/2004	Yakima	R	12/3/2004		1653359	490025
417334		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417335		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417336		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417337		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417338		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417339		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417340		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417341		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417342		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417343		S012913	4	2	US ARMY	14	19	E	28	NE	NE	8/24/2005	Yakima	R	9/19/2005		1653359	490025
417344		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417345		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417346		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417347		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417348		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417349		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417350		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417351		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417352		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417353		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417354		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417355		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417356		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417357		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417358		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
417359		S012914	4	2	US ARMY	14	19	E	28	NW	SE	8/24/2005	Yakima	R	9/19/2005		1650743	488763
578880		A083473	157	4	US ARMY	14	19	E	26	SW	NW	3/23/2009	Yakima	A	3/27/2009	19142611001	1659951	487433
578881		A083473	118	4	US ARMY	14	19	E	26	SW	NW	3/23/2009	Yakima	A	3/27/2009	19142611001	1659951	487433
578882		A083473	117	4	US ARMY	14	19	E	26	SW	NW	3/23/2009	Yakima	A	3/27/2009	19142611001	1659951	487433
578884	BAF277	R075004	104	6	US ARMY	14	19	E	26	SW	NW	3/21/2009	Yakima	R	3/27/2009	19142611001	1659951	487433
578885	BAF275	R075004	100	6	US ARMY	14	19	E	26	SW	NW	3/21/2009	Yakima	R	3/27/2009	19142611001	1659951	487433
578887	BAF276	R075004	70	6	US ARMY	14	19	E	26	SW	NW	3/24/2009	Yakima	R	3/27/2009	19142611001	1659951	487433
694986		SE08191	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	R	10/25/2010	19142141405	1652076	492708
694988		SE08191	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	R	10/25/2010	19142141405	1652076	492708
694990		SE08191	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	R	10/25/2010	19142141405	1652076	492708
694992		SE08191	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	R	10/25/2010	19142141405	1652076	492708
694994		AE10838	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	A	10/25/2010	19142141405	1652076	492708
694996		AE10838	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	A	10/25/2010	19142141405	1652076	492708
694998		AE10838	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	A	10/25/2010	19142141405	1652076	492708

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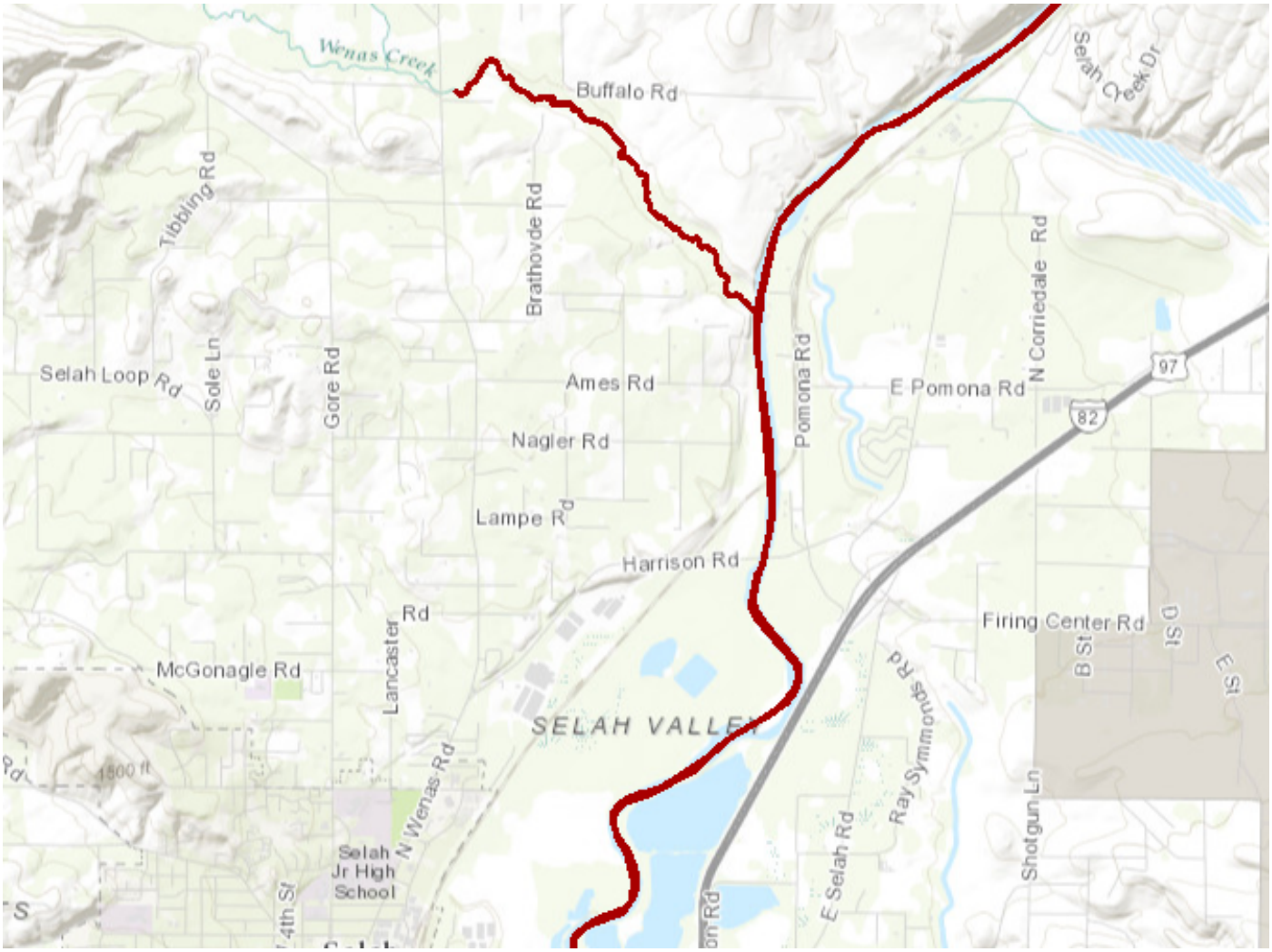
695000		AE10838	10	7.75	US Army | GeoEngineers	14	19	E	21	SE	NW	9/27/2010	Yakima	A	10/25/2010	19142141405	1652076	492708
135777	ACS893	W092401	615	12	US ARMY CORP	14	19	E	28	NE	SE	1/30/1998	Yakima	W	3/6/1998		1653348	488715
863037			20		US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
863038			20		US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
863039			20		US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
863041			20		US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
863043			102	4	US ARMY I CORP	14	19	E	28	NE	NE	3/2/1993	Yakima	R	3/18/1993		1653359	490025
863044			140	4	US ARMY I CORP	14	19	E	28	NE	NE	3/2/1993	Yakima	R	3/18/1993		1653359	490025
863046			126	4	US ARMY I CORP	14	19	E	28	NE	NE	3/2/1993	Yakima	R	3/18/1993		1653359	490025
863048			112	4	US ARMY I CORP	14	19	E	28	NE	NE	3/2/1993	Yakima	R	3/18/1993		1653359	490025
863050			105	4	US ARMY I CORP	14	19	E	28	NE	NE	3/3/1993	Yakima	R	3/18/1993		1653359	490025
863052			92	4	US ARMY I CORP	14	19	E	28	NE	NE	3/3/1993	Yakima	R	3/18/1993		1653359	490025
863054			118	4	US ARMY I CORP	14	19	E	28	NE	NE	3/2/1993	Yakima	R	3/18/1993		1653359	490025
863056			118	4	US ARMY I CORP	14	19	E	28	NE	NE	3/2/1993	Yakima	R	3/18/1993		1653359	490025
863058			118	4	US ARMY I CORP	14	19	E	28	NE	NE	3/3/1993	Yakima	R	3/18/1993		1653359	490025
863060			113.5	4	US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
863062			100.5	4	US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
863063			75	4	US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
863065			20	4	US ARMY I CORP	14	19	E	28	NE	NE	3/4/1993	Yakima	R	3/18/1993		1653359	490025
350614	AHK187	W149521	230	6	VISIONS INC	14	19	E	21	NE	NW	11/25/2002	Yakima	W	12/17/2002	191421-12404	1652094	495365
852352	APJ471	A136493	14.5	6	WA STATE DEPT OF TRANSPORTATION	13	19	E	5	NW	NW	1/13/2010	Yakima	A	1/14/2013		1644000	479525
852354	APJ470	A136493	15	6	WA STATE DEPT OF TRANSPORTATION	13	19	E	5	NW	NW	1/13/2010	Yakima	A	1/14/2013		1644000	479525
333786			380	8	WA STATE HWY COMMISSION	14	19	E	15	SW	NW	9/20/1968	Yakima	W			1654753	498031
133503			143	6	WALTER HALL	14	19	E	20	NE	NE	9/13/1980	Yakima	W			1648157	495421
133504			161	6	WALTER HALL	14	19	E	29	SE	SW		Yakima	W			1646753	486146
846936	BAE563	W272489	176	6	Wayne Crawford	14	19	E	20	NW	SE	8/8/2011	Yakima	W	1/15/2013	191420-24006	1645506	494136
133638		10749		6	WENDELL ASTON	14	19	E	29	NE	NE	9/2/1988	Yakima	W			1648138	490129
133639		16149	82	6	WENDELL ASTON	14	19	E	29	NE	NE	9/2/1988	Yakima	W			1648138	490129
255388	AEQ633	W093622	328	6	WENLESLAO MENDEZ	14	19	E	33	NW	SW	12/10/1999	Yakima	W	12/30/1999	19143323403	1649380	483465
302840	AFH229	W122082	32	6	WILLIE RICE	14	19	E	32	SW	NW	1/3/2001	Yakima	W	2/2/2001		1644019	482169
135939	ACX357	W087730			WILMA RAGAN HALSTEAD	14	19	E	29	SE	NW	4/5/1999	Yakima	W	4/26/1999		1646772	487476
133823			69	5	YAKIMA CO. FIRE DISTRICT #2	14	19	E	20	SW	SW	4/25/1978	Yakima	W	5/26/1978		1644172	491482
133845			120		YAKIMA FIRING CENTER LANDFILL	14	19	E	26	SW	SE	8/31/1990	Yakima	R	2/27/1991		1661257	486102
292652			209		YAKIMA FIRING CENTER LANDFILL	14	19	E	26	SW	SE	10/6/1990	Yakima	R	2/27/1991		1661257	486102
863067			159		YAKIMA FIRING CENTER LANDFILL	14	19	E	26	SW	SE	9/17/1990	Yakima	R	2/27/1991		1661257	486102
297184					YAKIMA TRAINING CENTER	14	19	E	22				Yakima	R			1656688	493375
672285		SE07743	15	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	R	9/8/2010		1649454	490112
672287		SE07743	15	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	R	9/8/2010		1649454	490112
672289		SE07743	15	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	R	9/8/2010		1649454	490112
672291		SE07743	5.6	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	R	9/8/2010		1649454	490112
672293		AE10199	15	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	A	9/8/2010		1649454	490112
672295		AE10199	15	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	A	9/8/2010		1649454	490112
672297		AE10199	15	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	A	9/8/2010		1649454	490112
672299		AE10199	5.6	10	Yakima Training Center	14	19	E	28	NW	NW	8/3/2010	Yakima	A	9/8/2010		1649454	490112

APPENDIX C
ENVIRONMENTAL SENSITIVITY ASSESSMENT



LEGEND

RED LINE: CRITICAL HABITAT - LINEAR FEATURES - FINAL

FIGURE C-1
CRITICAL HABITAT FOR THREATENED OR ENDANGERED SPECIES MAP
SITE INSPECTION FORMER LANDFILL COMPLEX
YAKIMA TRAINING CENTER, WASHINGTON

PROJECT #:	TASK #:	DRAWING #:	SCALE:	DATE:	DRAWN BY:
46040	01	01A101	1" = 200'	06/15/16	DST

TerranearPMC
222 VALLEY CREEK BLVD.
SUITE 210
EXTON, PA 19341-2843
(610) 862-5000 PHONE
(610) 862-5050 FAX

Table C-1
Army Checklist for Important Ecological Places
Former Landfill Complex
Yakima Training Center
Yakima, Washington

	Description of Important Ecological Places	Present on Site	Comments
		Yes / No	
1	Locally important ecological place identified by the Integrated Natural Resource Management Plan, BRAC Cleanup Plan or Redevelopment Plan, or other official land management plans	☐ / ☑	
2	Critical habitat for Federal designated endangered or threatened species	☐ / ☑	
3	Marine Sanctuary	☐ / ☑	
4	National Park	☐ / ☑	
5	Designated Federal Wilderness Area	☐ / ☑	
6	Areas identified under the Coastal Zone Management Act	☐ / ☑	
7	Sensitive Areas identified under the National Estuary Program or Near Coastal Waters Program	☐ / ☑	
8	Critical areas identified under the Clean Lakes Program	☐ / ☑	
9	National Monument	☐ / ☑	
10	National Seashore Recreational Area	☐ / ☑	
11	National Lakeshore Recreational Area	☐ / ☑	
12	Habitat known to be used by Federal designated or proposed endangered or threatened species	☐ / ☑	
13	National preserve	☐ / ☑	
14	National or State Wildlife Refuge	☐ / ☑	
15	Unit of Coastal Barrier Resources System	☐ / ☑	
16	Coastal Barrier (undeveloped)	☐ / ☑	
17	Federal land designated for protection of natural ecosystems	☐ / ☑	
18	Administratively Proposed Federal Wilderness Area	☐ / ☑	
19	Spawning areas critical for the maintenance of fish/shellfish species within river, lake, or coastal tidal waters	☐ / ☑	
20	Migratory pathways and feeding areas critical for maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which fish spend extended periods of time	☐ / ☑	
21	Terrestrial areas utilized for breeding by large or dense aggregations of animals	☐ / ☑	
22	National river reach designated as Recreational	☐ / ☑	
23	Habitat known to be used by state designated endangered or threatened species	☐ / ☑	
24	Habitat known to be used by species under review as to its Federal endangered or threatened status	☐ / ☑	
25	Coastal Barrier (partially developed)	☐ / ☑	
26	Federally designated Scenic or Wild River	☐ / ☑	
27	State land designated for wildlife or game management	☐ / ☑	
28	State-designated Scenic or Wild River	☐ / ☑	
29	State-designated Natural Areas	☐ / ☑	
30	Particular areas, relatively small in size, important to maintenance of unique biotic communities	☐ / ☑	
31	State-designated areas for protection or maintenance of aquatic life	☐ / ☑	
32	Wetlands	☐ / ☑	
33	Fragile landscapes, land sensitive to degradation if vegetative habitat or cover diminishes	☐ / ☑	

a – Based on EPA, 1990, 55 FR 51624, Table 4-23 – Sensitive Environments Rating Values, Dec. 14, 1990; U.S. Army BTAG, 2005, Technical Document for Ecological Risk Assessment: Process for Developing Management Goals, Table 1 Army Checklist for Important Ecological Places.

Source: Department of the Army U.S. Army Biological Technical Assistance Group, 2005. Technical Document for Ecological Risk Assessment: Process for Developing Management Goals.

APPENDIX D
GEOPHYSICAL SURVEY REPORT

QA information provided on CD

GEOPHYSICAL SURVEY INVESTIGATION

SITE INSPECTION

FORMER LANDFILL COMPLEX

YAKIMA TRAINING CENTER
YAKIMA, WASHINGTON 98901

Prepared for:

Joint Base Lewis-McChord Public Works – Environmental Division
IMLM-PWE
Box 339500 MS 17
Joint Base Lewis-McChord, Washington 98433

Prepared by:

TerranearPMC, LLC
222 Valley Creek Blvd, Suite 210
Exton, Pennsylvania 19341

January 2017

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1.0 INTRODUCTION

A geophysical survey was conducted at the Former Landfill Complex (FLC) at the Yakima Training Center, in Yakima Washington. The objective of the geophysical survey was to identify the boundary of possible buried metal debris within the study area. The survey was completed using digital geophysical mapping (DGM) technology. Field survey and data quality control were performed by Mr. Jeffery Leberfinger; the field survey performed June 1st to June 6th, 2016 geophysical data were acquired over the investigation area.

2.0 SITE DESCRIPTION

The FLC is located in within the western portion of the YTC Cantonment Area in Yakima County. The FLC is approximately 24 acres and encompasses SWMU 57 and north-west of Building 870. The area is predominately open, undeveloped high desert to the north and northeast with developed buildings to the south and west. The Roza District Irrigation Channel forms the approximate eastern boundary of the Study Area.

The Study Area within the FLC is approximately 20 acres that encompasses SWMU 57 and the portion of the FLC that is south of the SWMU. The Study Area slopes gently towards the west with an elevation difference of approximately 50 feet between the upgradient study area boundary to the northeast (the Roza Irrigation Canal) and downgradient boundary to the southwest (8th Street). The Study Area consists of a mixture of cleared area and undeveloped desert. Some scattered debris was observed on the ground surface.

3.0 DESCRIPTION OF GEOPHYSICAL SURVEY

Data were collected along transects with a 20 feet (6.1 meters) spacing and extending across the accessible portions of the 20 acre Study Area. Location of the planned transects are presented in Figure 2-1.

The geophysical investigation was conducted using the Geonics, Ltd. EM31-MK2 operated in vertical dipole mode. Terrain conductivity (i.e., quadrature) and in-phase response data were recorded and analyzed for the presence of potential metallic debris in order to delineate the landfill boundary. The EM31-MK2 data were used to provide anomaly avoidance during intrusive operations. The EM31-MK2 will be carried at a minimum height of 3.3 feet (1 meter) off the ground surface.

4.0 EQUIPMENT

The DGM sensor and positioning system utilized are described below:

Geonics EM31-MK2

The Geonics EM31-MK2 is an electromagnetic conductivity instrument designed to map geological variations, groundwater contaminants, or any subsurface feature associated with changes in the ground conductivity. The EM31-MK2 creates a magnetic field that generates eddy currents in subsurface materials. These eddy currents have an associated secondary

magnetic field with a magnitude and phase shift (relative to the primary field) that is dependent on the conductivity of the medium. The receiver coil measures the resultant effect of both primary and secondary field's. By comparing the signal at the receiver to that at the transmitter, the instrument records the components of the secondary field in-phase (in-phase data) and 90 degrees out of phase (quadrature/ conductivity data) with the primary field. The in-phase component is an approximation of metal detection response and is measured in units of parts per thousand (ppt). The quadrature component, also referred to as terrain or apparent conductivity, is representative of the conductivity of subsurface materials and is measured in units of milliSiemens/meter (mS/m). Extremely high quadrature responses will be measured as negative mS/m responses. Since pits and trenches filled with waste and metallic debris typically have higher conductivities and inphase responses relative to the local soils this makes the EM31-MK2 a good tool for delineating the lateral extent of potential landfill, pit, and trench areas.

A325 GNSS Smart GPS Antenna

The Hemisphere A325 GNSS Smart GPS Antenna was integrated with the EM31-MK2 to provide sub-meter accuracy of the EM31-MK2 data. The A325 is a multi-frequency Global Navigation Satellite System (GNSS) receiver capable of achieving sub-meter accuracy. The A325 receiver has GNSS tracking capabilities and can receive and process multiple signal types (including GPS, GLONASS, and GALILEO). The A325 has a sub-meter accuracy of approximately 0.98 ft (0.30 m) based on manufacturer specifications. The A325 GNSS Smart GPS Antenna is an antenna which streams position data directly into the EM31-MK2 and does not have an external console.

Trimble GeoXH

Since the A325 GNSS Smart GPS Antenna does not have an external console for collecting point and line position data, the Trimble GeoXH was used as a navigation tool along transects and to map obstructions/features such as vegetation, surface metal, and debris piles. Utilizing two separate GPS units allowed the Geophysical Technician to map site features while the Field Geophysicist was performing the EM31-MK2 survey.

The GeoXH is a multi-frequency GNSS receiver with H-Star technology that provided a 2.0 ft (.61 m) accuracy. The GeoXH receiver has GNSS tracking capabilities, dual-frequency multi-path rejection, and can receive and process GLONASS signal types.

5.0 METHODOLOGY

5.1 DGM SURVEY ACTIVITIES

EM31-MK2 sensor measurements were collected in automatic mode at 10 readings per second with an intended cross-line separation of 20 ft. GPS data was collected at a frequency of 1 Hertz and integrated in real time with the EM31-MK2 data. The transects were loaded into the Trimble Geo HX GPS. Using the map feature in the Geo HX, a TPMC geophysicist walked each transect. The EM31 data collector walked behind the person about 20 feet along the same path collecting EM31 data.

Quality Control (QC) tests were performed to demonstrate project specific Measurement Quality Objectives (MQOs) were met. The following QC tests were performed: static background, vibration (cable shake), dynamic response, and repeat data. Additional QC checks were in

place for data quantity and survey coverage (lane spacing). A discussion of the QC results are presented in Section 7.0. Quality Control results are presented in Attachment 1.

Raw EM31-MK2 data with DGPS positioning were imported into Geonics DAT31MK2 software program and data files were exported in Geosoft Format File (*.XYZ) for use in Geosoft. Data were processed using Geosoft Oasis Montaj (V.8.5.5) (herein referred to as Geosoft) with the UX-Detect and UX-Process Extensions.

5.2 EM31-MK2 DGM DATA PROCESSING

DGM data collected over the EM31-MK2 survey areas were processed by experienced geophysical data processor. The processing procedures and data quality control (QC) steps were completed as follows:

- Daily field notes were reviewed for observations provided by the field team and description of cultural features which might influence data quality and/or interpretation.
- XYZ files for production surveys and QC test files were imported into the Geosoft software and Geosoft GDB files were created.
- UTM was converted to Easting and Northings, Washington State Plane South, North American Datum 1983 (NAD83) CONUS, in units of US Feet.
- A GPS receiver offset due to the position of the GPS relative to the center of the EM31-MK2 sensor was applied in Geosoft. The inline offset as measured in the field was 1.08 ft distance of the sensor ahead (positive) to the GPS receiver in the direction of travel. The cross line offset as measured in the field was 0.92 ft distance of the sensor to the right of the GPS receiver in the direction of travel.
- A latency correction of 1.0 seconds calculated based on a dynamic test was applied to the production data positional data. The latency correction is performed to correct for an inline positional shift which occurs due to a timing delay between when the GPS position data is collected and the sensor data is collected.
- Both positional and geophysical sensor data quality for the production data were evaluated in profile format for spikes, sample separation gaps, and sensor failure.
- The inphase and quadrature phase data sets were gridded using a maximum grid cell size of 5 ft.
- Gridded DGM data from the production surveys were checked for gaps within the Geosoft mapping program. Gaps can be created due to equipment malfunction, poor field navigation, or physical obstructions. The only gaps observed were from terrain and obstructions (thick vegetation) within the survey area.
- The inphase and quadrature phase data were plotted using a color scale bars from blue to pink were used to illustrate areas of interest (blue being the lowest values and pink being the highest values). Color bar legends were posted on each map. The inphase data was leveled so background was approximately 0 ppt. The inphase response is a relative response with the inphase ppt values increasing as either a positive or negative response relative to 0 as a stronger metallic response is measured.

- Plan-view color image maps were generated for interpretation and exported in Adobe Acrobat PDF format.

6.0 RESULTS

6.1 SUMMARY OF WORK PERFORMED

Data collection was performed using the Geonics EM31-MK2 instrument. Positioning control was obtained through sub-meter DGPS positioning. The work was performed in accordance with TPMC Work Plan (TPMC, 2016). TPMC geophysical data collection team demobilized from the site on June 6th, 2015.

6.2 MOBILIZATION AND SITE SETUP

TPMC mobilized personnel and equipment to the project site on June 1st, 2016. An area outside the investigation area clear of obstructions or cultural features was selected as the daily QC point. A point was selected and a pin flag was used to mark the location so it could be checked daily per the work plan.

6.3 DGM SURVEY ACTIVITIES

Data acquisition on the site was accomplished using the EM31-MK2 sensor and A325 GPS described in Section 2.0. Data were collected along parallel lines extending across the survey area. Several areas of thick vegetation were present that would not allow for EM31 data collection.

6.4 DATA PROCESSING AND INTERPRETATION

DGM data were processed following the methodology described in Section 3.2; figures referenced in this section are included in the Figures section of the SI report. Background apparent conductivity were approximately 6 - 28 mS/m. Figures 3-1 and 3-2 show a map of EM31-MK2 DGM quadrature and inphase response across the investigation area. In Figure 1, an area of elevated apparent conductivity in the quadrature response data greater than 30 mS/m is present and is consistent with possible disturbed areas with subsurface debris. As observed on the response map, the limits of the area of elevated conductivity appears to extend beyond the survey boundary to the east and south east. Figure 3-3 shows the approximate interpreted landfill boundary based on the EM31 conductivity data. Lack of inphase response within the area of elevated conductivity would be consistent with nonmetallic or less metallic debris in those areas. Figure 3-4 does indicate several localized areas with elevated responses of greater than positive (+) 2 ppt and negative (-) 2 ppt, which do indicate subsurface metallic responses.

7.0 QUALITY CONTROL

Quality Control (QC) measures for this project included DGM Instrument and Positioning Systems Quality Control to meet project specific DQOs. Requirements of all MQO's can be found in Table D-1 and the TPMC Work Plan (TPMC, 2016a).

Table D-1
Project Measurement Quality Objectives

DGM Measurement Quality Objectives	Process	Failure Mode
Static Repeatability and Vibration Test	Twice Daily – Beginning and end of data collection	No excessive data spikes (>5 mS/m above the mean for quadrature; >4 ppt above the mean for inphase) will be present in static background or vibration test files.
Along Line Data Spacing	Geosoft Oasis Module - check of all production data	Maximum permissible along-line spacing between data points will be 2 ft unless an obstruction or safety hazard is present.
Cross Survey Line Spacing (grids only)	Geosoft Oasis Module - check of all production data	Lane spacing varies by no more than 1.5x the intended lane spacing of 20 feet, unless an obstruction or safety hazard is present. This results in a maximum permissible lane spacing of 30 ft for the EM31-MK2 survey.
Dynamic Response	Profile data qualitatively evaluated	Verify that the instrument can repeatedly detect the feature. Also data is used for determining if a sensor – GPS latency correction is required.
Dynamic Repeatability	Approximately 2 percent of the survey area collected with the EM31-MK2 will be repeated at the end of each survey day.	Because of the intrinsic difficulty of following the exact path for collecting repeat data, this test will be qualitatively evaluated. Repeat data depict general agreement with production survey data.
Geodetic Equipment Functionality	Daily check of GPS over known survey point	Daily response varies from known location by less than 3.3 feet (1 m).

7.1 DGM INSTRUMENTS AND POSITIONING SYSTEMS QUALITY CONTROL

The following QC tests were performed as part of the field survey. A brief discussion of the tests is provided as follows:

1. **Equipment Warm-up**. The EM31-MK2 system was turned on and allowed to warm up for a minimum of 10 minutes prior to use. Equipment warm-up was performed the first time an instrument was turned on for the day or had been turned off for longer than approximately 10 minutes.

2. **Static Background**. Static tests were performed by positioning the EM31-MK2 in an area free of metallic contacts and collecting data for at least 1 minute. During this time, the instrument was held in a fixed position for 1 minute. The purpose of these tests was to assess background conditions and to identify potential noise effects that may impact the sensor throughout each survey day. No potential noise impacts were identified during the testing. Static Background test results are presented in Attachment 1. All static results are presented in Attachment 2, Data DVD.

3. **Vibration Test (Cable Shake).** This test checked the response of instruments to vibration. On a daily basis when being used, the EM31-MK2 was checked for its response to vibrations in the system's cables. The response was observed in the field for immediate corrective action. The vibration test was conducted at the beginning and end of the survey operation for each work day. There were no issues identified during vibration testing throughout the field effort. Vibration Test results are presented in Attachment 1. All Vibration Test results are presented in Attachment 2, Data DVD.

4. **Dynamic Response.** Dynamic response tests were completed by walking the EM31-MK2 over the EM31 metallic box in 2 directions. Observing the responses, the tests appear to be qualitatively consistent and repeatable. Dynamic Response results are presented in Attachment 1. All Dynamic Response results are presented in Attachment 2, Data DVD.

5. **Repeat Data.** This test was performed to verify repeatability of the EM31-MK2 data after the initial survey over an area. Per the Work Plan (TPMC, 2016) at least 2% of the daily production data were to be re-collected. All Repeat Data Profiles met the MQO and exhibited similar response characteristics compared to the DGM production data. This evaluation is a qualitative evaluation due to potential variations in path traveled during survey line data and repeat line collection. EM31-MK2 Repeat Test results are presented in Attachment 1. All Repeat Data Test results are presented in Attachment 2, Data DVD.

6. **Data Quantity and Spacing:** The MQO for data quantity and spacing (along each survey transect) is to have sufficient inline density along each transect to fulfill the survey objectives. The measurement performance criterion for this is that no individual data gaps greater than 2 ft exist unless an obstruction or safety hazard is present. This was evaluated by verifying that all of the DGM data collected and used for anomaly selection meet this standard using the Geosoft sample separation QC Module. QC performed showed the down line separation met the MQO. The EM31-MK2 Spacing Test Map results are presented in Attachment 1. All down line spacing QC results are presented in Attachment 2, Data DVD.

7. **Survey Coverage (Lane Spacing):** The MQO for lane spacing is to maintain appropriate lane spacing to provide an effective survey coverage with the EM31-MK2 to delineate the lateral extent of disturbed soils and potential subsurface debris. The measurement performance criterion for the EM31-MK2 is that the lane spacing is no greater than 1.5x the intended lane spacing of 20 ft or 30 ft. This was evaluated using the Geosoft coverage QC Module by verifying that all of the DGM data collected and used for anomaly selection meet this requirement, with the exception of locations where vegetation or other obstructions prohibit such spacing. The data coverage met the MQO. The EM31-MK2 Survey Coverage Test Map is presented in Attachment 1. All coverage QC results are presented in Attachment 3, Data DVD.

8.0 CONCLUSIONS

This report details the procedures and results of the DGM survey operations completed by TPMC at the at the Former Landfill Complex in the vicinity of Solid Waste Management Unit (SWMU) 57, Yakima Training Center (YTC), Washington. The EM31 terrain conductivity data was collected from June 1st to June 6th, 2016. The objective of the surveys was to delineate the lateral extent of potential areas of potential buried metallic and non-metallic debris at a former landfill site. Data positioning was accomplished using DGPS.

In accordance with the Geophysical Work Plan, all DGM data quality was monitored via QC steps which entailed daily instrument tests and MQO were met during the investigation.

In the investigation area, elevated apparent conductivities in the quadrature response data are present which is consistent with possible disturbed areas with subsurface debris. The limits of the area of elevated conductivities appears to extend beyond the survey boundary. The

in-phase data indicated areas where higher concentrations of buried metallic debris may be present.

ATTACHMENT 1
GEOPHYSICAL SURVEY DATA AND TEST RESULTS

Provided on a DVD

ATTACHMENT 2
DGM INSTRUMENTS AND POSITIONING SYSTEMS QUALITY CONTROL DATA

Provided on a DVD

APPENDIX E
GORE-SORBER REPORT

AMPLIFIED GEOCHEMICAL IMAGING, LLC

Laboratory Report

Site: Yakima SI

Prepared for:

TerranearPMC
222 Valley Creek Boulevard
Suite 210
Exton, PA

Prepared on:
June 15, 2016

Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

Yakima SI

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

Kelly J Stringham

Project Manager

Reviewed/approved by:

Dayna M Cobb

Project Manager

Digitally signed by: dcobb
DN: CN = dcobb
Date: 2016.06.15 14:32:39 -04'00'

Analytical data approved by:

Ian McMullen

Chemist

Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [√] do not [ ] fall within the scope of AGI's ISO 17025 accreditation except where noted.

US EPA 8260C Method

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following U.S. EPA Method 8260 (SPG-WI-0318), and include the following:

- **BFB Tuning Frequency:** Analyze a tune at the start of each analytical run and every 12 hours of analysis.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples. All values reported below the low level standard and above the reporting limit are flagged with a "J".
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 15% then average response factor can be used for quantitation. If the RSD exceeds 15% for a target compound a regression equation can be used for quantitation. A minimum of 5 calibration levels are required for linear regression. A minimum of 6 calibration levels are required for quadratic regression. When using a linear or quadratic fit, do not force intercept through 0.
- **Initial Calibration Verification:** After calibration curve is analyzed and before samples are analyzed the initial calibration curve must be verified using a second source standard and must meet 8260C criteria.
- **Continuing Calibration Verification:** Every 12 hours a continuing calibration standard is analyzed near the mid point of the calibration and must meet 8260C criteria. Every analytical batch must have an ending continuing calibration verification standard.
- **Laboratory Control Sample:** Every 12 hours a second-source reference standard is analyzed near the mid point of the calibration curve and must meet 8260C criteria.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 12 hours of analysis.
- **Internal Standard:** Introduced to all QC samples (standards, method blanks, ICV, CCV's) and samples including trip and field blanks.
- **Surrogate:** Introduced to all QC samples (standards, method blanks, ICV, CCV's) and samples including trip and field blanks. Acceptance limits must meet 8260C criteria or laboratory determined limits if limits are not found in analytical method.

Note: Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

Media Sampled:	SOIL GAS
Chemist - sample analysis:	Fatima Niazi
Chemist - data processor:	Fatima Niazi
Chemist - data review:	Ian McMullen

Method deviations: Three LCS and/or LCS-D values for octane were below the accepted value. One LCS-D value for t-1,2-DCE was below the acceptance value.

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

Project Specific Comments

All samples were returned and analyzed, including trip blanks 00774501 and 00774502. Trip blanks for this project were sent in a subsequent shipment.

Survey period [1]	Samplers were installed on June 3, 2016 and retrieved on June 8, 2016 for an exposure period of five (5) days.	
Tamper seal intact:	Yes	
Date received:	6/9/16 10:30 am	By: Scott Kirlin
COC returned:	Yes	
Comments:	None	

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

General Comments

Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbers" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbers not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

General Comments

Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations (µg/L) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

LABORATORY SAMPLE REPORT

Project: ENV 01645 **Site Name: Yakima SI** **Module Type: SPG0008**

Module ID	Sample Type	Field ID
00774456	FIELD_SAMPLE	YTCFLC-SG-06
00774457	FIELD_SAMPLE	YTCFLC-SG-05
00774458	FIELD_SAMPLE	YTCFLC-SG-04
00774459	FIELD_SAMPLE	YTCFLC-SG-03
00774460	FIELD_SAMPLE	YTCFLC-SG-02
00774461	FIELD_SAMPLE	YTCFLC-SG-01
00774462	FIELD_SAMPLE	YTCFLC-SG-11
00774463	FIELD_SAMPLE	YTCFLC-SG-10
00774464	FIELD_SAMPLE	YTCFLC-SG-09
00774465	FIELD_SAMPLE	YTCFLC-SG-08
00774466	FIELD_SAMPLE	YTCFLC-SG-07D
00774467	FIELD_SAMPLE	YTCFLC-SG-07
00774468	FIELD_SAMPLE	YTCFLC-SG-18
00774469	FIELD_SAMPLE	YTCFLC-SG-17
00774470	FIELD_SAMPLE	YTCFLC-SG-16
00774471	FIELD_SAMPLE	YTCFLC-SG-15
00774472	FIELD_SAMPLE	YTCFLC-SG-14
00774473	FIELD_SAMPLE	YTCFLC-SG-12
00774474	FIELD_SAMPLE	YTCFLC-SG-13
00774475	FIELD_SAMPLE	YTCFLC-SG-20
00774476	FIELD_SAMPLE	YTCFLC-SG-19D
00774477	FIELD_SAMPLE	YTCFLC-SG-19
00774501	TRIP_BLANK	Trip Blank
00774502	TRIP_BLANK	Trip Blank

Total # "FIELD SAMPLES"	Total # "TRIP BLANKS"	Total # "UNUSED"	Total # "LOST"
22	2	0	0

Duplicate samples: 0

AMPLIFIED GEOCHEMICAL IMAGING LLC

210 Executive Drive
Newark, Delaware 19702 USA
ph: +1-302-266-2428
www.agisurveys.net

AGI Universal Passive Sampler Chain of Custody
Soil gas and/or Air Sampling

Production Order #: 01645

Customer Name: TerranearPMC, LLC

Address: 222 Valley Creek Blvd
Suite 210

Exton, PA 19331
USA

Site Name: Yakima SI

Site Address: YTC FLC

Project Manager: Ann Baines

Field Team: Braden Case, Dan Thompson

Serial # of Samplers Shipped
00774456 - 00774477

# of Samplers for Installation	20.00	# of Trip Blanks	2
Total Samplers Shipped	22.00	Pieces	
Total Samplers Received	22.00	Pieces	
Total Samplers Installed	22.00	Pieces	

Serial # of Trip Blanks (Client Decides)

see other sheet as well.		
00774501	00774502	

Insertion Rods

Tips Shipped: 1

Rod Bodies Shipped 5

Prepared By:

Verified By:

Installation Method: (Circle those that apply)
Slide Hammer Hammer Drill Auger
(Other) Steel Rod and Hammer

Installation Performed By:
Name: Braden Case
Company: Terranear PMC, LLC.

Retrieval Performed By:
Name: Braden Case
Company: Terranear PMC, LLC.

Installation Start Date / Time: 06/03/2016 0745 HRS

Installation Complete Date / Time: 06/03/2016 1700 HRS

Retrieval Start Date / Time: 06/08/2016 1115 HRS

Retrieval Complete Date / Time: 06/08/2016 1250 HRS

Total Samplers Retrieved: 22.00 (see other sheet)
Total Samplers Lost In Field: 0.00 (see other sheet)
Total Unused Samplers Returned: 0.00 (see other sheet)

Insertion Rod Sections Returned: 6

Relinquished By _____ **Date/Time** 5/26/16
Company: AGI 2:00PM

Received By: Braden Case **Date/Time** 06/01/16
Company: Terranear PMC, LLC 0800 HRS

Relinquished By Braden Case **Date/Time** 1320 HRS
Company: Terranear PMC, LLC 6/6/2016

Received By: _____ **Date/Time** 6/9/16
Company: AGI 10:30AM

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Newark, Delaware 19702 USA
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www.agisurveys.net

AGI Universal Passive Sampler Chain of Custody
Soil gas and/or Air Sampling

Production Order #: 01645

Customer Name: TerranearPMC

Site Name: Yakima SI

Address:

Site Address: YTC FLC

Project Manager: Ann Barnes

Kennewick, USA

Field Team: Dan Thompson, Braden Case

Serial # of Samplers Shipped
00774501 - 00774502

# of Samplers for Installation	0.00	# of Trip Blanks 2
Total Samplers Shipped	2.00	Pieces
Total Samplers Received	2.00	Pieces
Total Samplers Installed	NA	Pieces

Insertion Rods
Tips Shipped: 1
Rod Bodies Shipped 5

Serial # of Trip Blanks (Client Decides)

00774502	00774501	

Prepared By: Clarence Tolbert
Verified By: Cobb

Installation Method: (Circle those that apply)
Slide Hammer Hammer Drill Auger
(Other) Steel rod and hammer

Installation Performed By:
Name: Braden Case
Company: TPMC

Retrieval Performed By:
Name: Braden Case
Company: TPMC

Installation Start Date / Time: 06/03/2016 0745 HRS
Installation Complete Date / Time: 06/03/2016 1700 HRS

Retrieval Start Date / Time: 06/08/2016 1115 HRS
Retrieval Complete Date / Time: 06/09/2016 1250 HRS

Total Samplers Retrieved: 22.00
Total Samplers Lost In Field: 0.00
Total Unused Samplers Returned: 0.00

Insertion Rod Sections Returned: 6

		Date/Time
Relinquished By	Clarence Tolbert	6/7/16
Company:	AGI	4:00
Received By:	Braden Case	6/8/16
Company:	TPMC	1032
Relinquished By	Braden Case	1320 HRS
Company:	Terranear PMC, LLC	6/8/2016
Received By:	[signature]	6/9/16
Company:	AGI	10:30AM

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 Executive Drive, Suite 1
Newark, DE USA 19702-3335
ph: 302-266-2428

AGI Project No: ENV 01645
Site Name: Yakima SI
Site Location:

AGI Soil Gas Sampling
Installation & Retrieval Log

Company Name: TerranearPMC, LLC
Location: Yakima Training Center Former Landfill Complex
Samples collected by: Braden Case & Dan Thompson

* Optional or as needed

SAMPLER SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)
00774456	YTCFLC-SG-06	FIELD_SAMPLE	6/3/16 9:32	6/8/16 1140	YTC-FLC-SG-06-2-3	High grass on surface
00774457	YTCFLC-SG-05	FIELD_SAMPLE	6/3/16 9:22	6/8/16 1126	YTC-FLC-SG-05-2-3	High grass on surface
00774458	YTCFLC-SG-04	FIELD_SAMPLE	6/3/16 8:37	6/8/16 1137	YTC-FLC-SG-04-2-3	High grass on surface
00774459	YTCFLC-SG-03	FIELD_SAMPLE	6/3/16 8:45	6/8/16 1124	YTC-FLC-SG-03-2-3	High grass and brush on surface
00774460	YTCFLC-SG-02	FIELD_SAMPLE	6/3/16 8:15	6/8/16 1130	YTC-FLC-SG-02-3-4	High grass on surface
00774461	YTCFLC-SG-01	FIELD_SAMPLE	6/3/16 7:45	6/8/16 1115	YTC-FLC-SG-01-2-3	High grass and brush on surface
00774462	YTCFLC-SG-11	FIELD_SAMPLE	6/3/16 13:32	6/8/16 1210 ~~1206~~	YTC-FLC-SG-11-2-3	High grass on surface
00774463	YTCFLC-SG-10	FIELD_SAMPLE	6/3/16 13:18	6/8/16 1156	YTC-FLC-SG-10-2-3	High grass and brush on surface
00774464	YTCFLC-SG-09	FIELD_SAMPLE	6/3/16 13:03	6/8/16 1133	YTC-FLC-SG-09-2-3	High grass and brush on surface
00774465	YTCFLC-SG-08	FIELD_SAMPLE	6/3/16 12:50	6/8/16 1148	YTC-FLC-SG-08-1-2	High grass on surface
00774466	YTCFLC-SG-07D	FIELD_SAMPLE	6/3/16 10:32	6/8/16 1145	YTC-FLC-SG-07-2-3-DUP	High grass on surface
00774467	YTCFLC-SG-07	FIELD_SAMPLE	6/3/16 10:22	6/8/16 1143	YTC-FLC-SG-07-2-3	High grass on surface
00774468	YTCFLC-SG-18	FIELD_SAMPLE	6/3/16 16:09	6/8/16 1242	YTC-FLC-SG-18-2-3	Gravel ≤ 1 inch diameter 0-4 inch bgs
00774469	YTCFLC-SG-17	FIELD_SAMPLE	6/3/16 15:41	6/8/16 1239	YTC-FLC-SG-17-2-3	Gravel ≤ 1 inch diameter 0-4 inch bgs
00774470	YTCFLC-SG-16	FIELD_SAMPLE	6/3/16 14:58	6/8/16 1250	YTC-FLC-SG-16-2-3	High grass and brush on surface
00774471	YTCFLC-SG-15	FIELD_SAMPLE	6/3/16 14:42	6/8/16 1227	YTC-FLC-SG-15-2-3	High grass on surface
00774472	YTCFLC-SG-14	FIELD_SAMPLE	6/3/16 14:22	6/8/16 1234	YTC-FLC-SG-14-2-3	Powdery dry soil on surface
00774473	YTCFLC-SG-12	FIELD_SAMPLE	6/3/16 13:45	6/8/16 1212	YTC-FLC-SG-12-2-3	High grass on surface
00774474	YTCFLC-SG-13	FIELD_SAMPLE	6/3/16 17:00	6/8/16 1230	YTC-FLC-SG-13-2-3	High grass and powdery dry soil on surface
00774475	YTCFLC-SG-20	FIELD_SAMPLE	6/3/16 16:42	6/8/16 1250	YTC-FLC-SG-20-2-3	Gravel ≤ 1 inch diameter 0-4 inch bgs
00774476	YTCFLC-SG-19D	FIELD_SAMPLE	6/3/16 16:42	6/8/16 1246	YTC-FLC-SG-19-2-3-DUP	Gravel ≤ 1 inch diameter 0-4 inch bgs
00774477	YTCFLC-SG-19	FIELD_SAMPLE	6/3/16 16:22	6/8/16 1244	YTC-FLC-SG-19-2-3	Gravel ≤ 1 inch diameter 0-4 inch bgs
00774501		TRIP_BLANK				
00774502		TRIP_BLANK				

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AGI Soil Gas Sampling
Installation & Retrieval Log

* Optional or as needed

	YES / NO			AT MINIMUM PROVIDE SOIL TYPE						
SAMPLER SERIAL NO.	EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS?	ODOR ?	WATER IN INSTALLATION HOLE?	SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)	PROJECTED COORDINATES X (EASTING)	PROJECTED COORDINATES Y (NORTHING)	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
00774456	NO	NO	NO	SANDY_LOAM						
00774457	NO	NO	NO	SANDY_LOAM						
00774458	NO	NO	NO	SANDY_LOAM						
00774459	NO	NO	NO	SANDY_LOAM						
00774460	NO	NO	NO	SANDY_LOAM						
00774461	NO	NO	NO	SANDY_LOAM						
00774462	NO	NO	NO	SANDY_LOAM						
00774463	NO	NO	NO	SANDY_LOAM						
00774464	NO	NO	NO	SANDY_LOAM						
00774465	NO	NO	NO	SANDY_LOAM						
00774466	NO	NO	NO	SANDY_LOAM						
00774467	NO	NO	NO	SANDY_LOAM						
00774468	NO	NO	NO	SANDY_LOAM						
00774469	NO	NO	NO	SANDY_LOAM						
00774470	NO	NO	NO	SANDY_LOAM						
00774471	NO	NO	NO	SANDY_LOAM						
00774472	NO	NO	NO	SANDY_LOAM						
00774473	NO	NO	NO	SANDY_LOAM						
00774474	NO	NO	NO	SANDY_LOAM						
00774475	NO	NO	NO	SANDY_LOAM						
00774476	NO	NO	NO	SANDY_LOAM						
00774477	NO	NO	NO	SANDY_LOAM						

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ph: 302-266-2428

AGI Project No. ENV 01645
Site Name: Yakima SI
Site Location:

AGI Soil Gas Sampling Installation & Retrieval Log

Company Name: TerranearPMC, LLC
Location: Yakima Training Center Former Landfill Complex
Samples collected by: Braden Case & Dan Thompson

*** Optional or as needed**

SAMPLER SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)
00774456	YTCFLC-SG-06	FIELD_SAMPLE	6/3/16 9:32	6/8/16 11:40	YTC-FLC-SG-06-2-3
00774457	YTCFLC-SG-05	FIELD_SAMPLE	6/3/16 9:22	6/8/16 11:36	YTC-FLC-SG-05-2-3
00774458	YTCFLC-SG-04	FIELD_SAMPLE	6/3/16 8:37	6/8/16 11:27	YTC-FLC-SG-04-2-3
00774459	YTCFLC-SG-03	FIELD_SAMPLE	6/3/16 8:45	6/8/16 11:24	YTC-FLC-SG-03-2-3
00774460	YTCFLC-SG-02	FIELD_SAMPLE	6/3/16 8:15	6/8/16 11:20	YTC-FLC-SG-02-3-4
00774461	YTCFLC-SG-01	FIELD_SAMPLE	6/3/16 7:45	6/8/16 11:15	YTC-FLC-SG-01-2-3
00774462	YTCFLC-SG-11	FIELD_SAMPLE	6/3/16 13:32	6/8/16 12:10	YTC-FLC-SG-11-2-3
00774463	YTCFLC-SG-10	FIELD_SAMPLE	6/3/16 13:18	6/8/16 11:56	YTC-FLC-SG-10-2-3
00774464	YTCFLC-SG-09	FIELD_SAMPLE	6/3/16 13:03	6/8/16 11:52	YTC-FLC-SG-09-2-3
00774465	YTCFLC-SG-08	FIELD_SAMPLE	6/3/16 12:50	6/8/16 11:48	YTC-FLC-SG-08-1-2
00774466	YTCFLC-SG-07D	FIELD_SAMPLE	6/3/16 10:32	6/8/16 11:45	YTC-FLC-SG-07-2-3-DUP
00774467	YTCFLC-SG-07	FIELD_SAMPLE	6/3/16 10:22	6/8/16 11:43	YTC-FLC-SG-07-2-3
00774468	YTCFLC-SG-18	FIELD_SAMPLE	6/3/16 16:09	6/8/16 12:42	YTC-FLC-SG-18-2-3
00774469	YTCFLC-SG-17	FIELD_SAMPLE	6/3/16 15:41	6/8/16 12:39	YTC-FLC-SG-17-2-3
00774470	YTCFLC-SG-16	FIELD_SAMPLE	6/3/16 14:58	6/8/16 12:30	YTC-FLC-SG-16-2-3
00774471	YTCFLC-SG-15	FIELD_SAMPLE	6/3/16 14:42	6/8/16 12:27	YTC-FLC-SG-15-2-3
00774472	YTCFLC-SG-14	FIELD_SAMPLE	6/3/16 14:22	6/8/16 12:24	YTC-FLC-SG-14-2-3
00774473	YTCFLC-SG-12	FIELD_SAMPLE	6/3/16 13:45	6/8/16 12:12	YTC-FLC-SG-12-2-3
00774474	YTCFLC-SG-13	FIELD_SAMPLE	6/3/16 17:00	6/8/16 12:20	YTC-FLC-SG-13-2-3
00774475	YTCFLC-SG-20	FIELD_SAMPLE	6/3/16 16:42	6/8/16 12:50	YTC-FLC-SG-20-2-3
00774476	YTCFLC-SG-19D	FIELD_SAMPLE	6/3/16 16:42	6/8/16 12:46	YTC-FLC-SG-19-2-3-DUP
00774477	YTCFLC-SG-19	FIELD_SAMPLE	6/3/16 16:22	6/8/16 12:44	YTC-FLC-SG-19-2-3
00774501		TRIP_BLANK			Received on 6/8/2016 at 10:32 and carried during retrieval and shipment back to lab

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AGI Soil Gas Sampling
Installation & Retrieval Log

* Optional or as needed

SAMPLER SERIAL NO.	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO			AT MINIMUM PROVIDE SOIL TYPE			PROJECTED COORDINATES X (EASTING)
		EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS?	ODOR ?	WATER IN INSTALLATION HOLE?	SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)	
00774456	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774457	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774458	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774459	High grass and brush on surface	NO	NO	NO	SANDY_LOAM			
00774460	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774461	High grass and brush on surface	NO	NO	NO	SANDY_LOAM			
00774462	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774463	High grass and brush on surface	NO	NO	NO	SANDY_LOAM			
00774464	High grass and brush on surface	NO	NO	NO	SANDY_LOAM			
00774465	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774466	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774467	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774468	Gravel ≤ 1 inch diameter 0-4 inch bgs	NO	NO	NO	SANDY_LOAM			
00774469	Gravel ≤ 1 inch diameter 0-4 inch bgs	NO	NO	NO	SANDY_LOAM			
00774470	High grass and brush on surface	NO	NO	NO	SANDY_LOAM			
00774471	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774472	Powdery dry soil on surface	NO	NO	NO	SANDY_LOAM			
00774473	High grass on surface	NO	NO	NO	SANDY_LOAM			
00774474	High grass and powdery dry soil on surface	NO	NO	NO	SANDY_LOAM			
00774475	Gravel ≤ 1 inch diameter 0-4 inch bgs	NO	NO	NO	SANDY_LOAM			
00774476	Gravel ≤ 1 inch diameter 0-4 inch bgs	NO	NO	NO	SANDY_LOAM			
00774477	Gravel ≤ 1 inch diameter 0-4 inch bgs	NO	NO	NO	SANDY_LOAM			
00774501								

AGI Soil Gas Sampling
Installation & Retrieval Log

* Optional or as needed

SAMPLER SERIAL NO.	PROJECTED COORDINATES Y (NORTHING)	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
00774456			
00774457			
00774458			
00774459			
00774460			
00774461			
00774462			
00774463			
00774464			
00774465			
00774466			
00774467			
00774468			
00774469			
00774470			
00774471			
00774472			
00774473			
00774474			
00774475			
00774476			
00774477			
00774501			

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
YAKIMA SI
ORDER # 01645

DATAFILE NAME	FIELD ID	DATE/ TIME INSTALLED		DATE/ TIME RETRIEVED		DATE/ TIME RECEIVED		DATE/ TIME ANALYZED		DF	MTBE, ug
LOD =											0.04
LOQ =											0.05
00774456	YTCFLC-SG-06	6/3/16 9:32 AM	PT	6/8/16 11:40 AM	PT	6/9/16 10:30 AM	ET	6/11/16 12:48 PM	ET	1	<0.04
00774457	YTCFLC-SG-05	6/3/16 9:22 AM	PT	6/8/16 11:36 AM	PT	6/9/16 10:30 AM	ET	6/11/16 3:39 AM	ET	1	<0.04
00774458	YTCFLC-SG-04	6/3/16 8:37 AM	PT	6/8/16 11:27 AM	PT	6/9/16 10:30 AM	ET	6/11/16 2:14 AM	ET	1	<0.04
00774459	YTCFLC-SG-03	6/3/16 8:45 AM	PT	6/8/16 11:24 AM	PT	6/9/16 10:30 AM	ET	6/10/16 3:15 PM	ET	1	<0.04
00774460	YTCFLC-SG-02	6/3/16 8:15 AM	PT	6/8/16 11:20 AM	PT	6/9/16 10:30 AM	ET	6/10/16 1:49 PM	ET	1	<0.04
00774461	YTCFLC-SG-01	6/3/16 7:45 AM	PT	6/8/16 11:15 AM	PT	6/9/16 10:30 AM	ET	6/11/16 1:17 AM	ET	1	<0.04
00774462	YTCFLC-SG-11	6/3/16 1:32 PM	PT	6/8/16 12:10 PM	PT	6/9/16 10:30 AM	ET	6/10/16 10:25 PM	ET	1	<0.04
00774463	YTCFLC-SG-10	6/3/16 1:18 PM	PT	6/8/16 11:56 AM	PT	6/9/16 10:30 AM	ET	6/11/16 3:11 AM	ET	1	<0.04
00774464	YTCFLC-SG-09	6/3/16 1:03 PM	PT	6/8/16 11:52 AM	PT	6/9/16 10:30 AM	ET	6/11/16 4:08 AM	ET	1	<0.04
00774465	YTCFLC-SG-08	6/3/16 12:50 PM	PT	6/8/16 11:48 AM	PT	6/9/16 10:30 AM	ET	6/10/16 4:12 PM	ET	1	<0.04
00774466	YTCFLC-SG-07D	6/3/16 10:32 AM	PT	6/8/16 11:45 AM	PT	6/9/16 10:30 AM	ET	6/11/16 12:19 PM	ET	1	<0.04
00774467	YTCFLC-SG-07	6/3/16 10:22 AM	PT	6/8/16 11:43 AM	PT	6/9/16 10:30 AM	ET	6/10/16 5:38 PM	ET	1	<0.04
00774468	YTCFLC-SG-18	6/3/16 4:09 PM	PT	6/8/16 12:42 PM	PT	6/9/16 10:30 AM	ET	6/10/16 11:51 PM	ET	1	<0.04
00774469	YTCFLC-SG-17	6/3/16 3:41 PM	PT	6/8/16 12:39 PM	PT	6/9/16 10:30 AM	ET	6/10/16 9:56 PM	ET	1	<0.04
00774470	YTCFLC-SG-16	6/3/16 2:58 PM	PT	6/8/16 12:30 PM	PT	6/9/16 10:30 AM	ET	6/10/16 5:10 PM	ET	1	<0.04
00774471	YTCFLC-SG-15	6/3/16 2:42 PM	PT	6/8/16 12:27 PM	PT	6/9/16 10:30 AM	ET	6/10/16 11:22 PM	ET	1	<0.04
00774472	YTCFLC-SG-14	6/3/16 2:22 PM	PT	6/8/16 12:24 PM	PT	6/9/16 10:30 AM	ET	6/11/16 2:42 AM	ET	1	<0.04
00774473	YTCFLC-SG-12	6/3/16 1:45 PM	PT	6/8/16 12:12 PM	PT	6/9/16 10:30 AM	ET	6/10/16 3:44 PM	ET	1	<0.04
00774474	YTCFLC-SG-13	6/3/16 5:00 PM	PT	6/8/16 12:20 PM	PT	6/9/16 10:30 AM	ET	6/10/16 6:07 PM	ET	1	<0.04
00774475	YTCFLC-SG-20	6/3/16 4:42 PM	PT	6/8/16 12:50 PM	PT	6/9/16 10:30 AM	ET	6/11/16 1:45 AM	ET	1	<0.04
00774476	YTCFLC-SG-19D	6/3/16 4:42 PM	PT	6/8/16 12:46 PM	PT	6/9/16 10:30 AM	ET	6/10/16 2:18 PM	ET	1	<0.04
00774477	YTCFLC-SG-19	6/3/16 4:22 PM	PT	6/8/16 12:44 PM	PT	6/9/16 10:30 AM	ET	6/10/16 4:41 PM	ET	1	<0.04
00774501	TRIP_BLANK					6/9/16 10:30 AM	ET	6/10/16 10:53 PM	ET	1	<0.04
00774502	TRIP_BLANK					6/9/16 10:30 AM	ET	6/10/16 2:46 PM	ET	1	<0.04
BLK_8260M-286131	Method Blank					6/9/16 10:30 AM	ET	6/10/16 12:52 PM	ET	1	<0.04
BLK_8260M-286138	Method Blank					6/9/16 10:30 AM	ET	6/10/16 9:28 PM	ET	1	<0.04

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
YAKIMA SI
ORDER # 01645

DATAFILE											
NAME	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug	12DCA, ug	BENZ, ug	CCl4, ug	TCE, ug	112TCA, ug	TOL, ug
LOD =	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
LOQ =	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
00774456	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	1.85	<0.04	<0.04
00774457	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774458	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774459	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774460	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774461	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774462	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774463	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774464	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774465	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774466	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774467	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774468	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774469	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774470	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774471	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	<0.04
00774472	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774473	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774474	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774475	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774476	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774477	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774501	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774502	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BLK_8260M-286131	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BLK_8260M-286138	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
YAKIMA SI
ORDER # 01645

DATAFILE										
NAME	OCT, ug	PCE, ug	ClBENZ, ug	1112TetCA, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	1122TetCA, ug	135TMB, ug	124TMB, ug
LOD =	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
LOQ =	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
00774456	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774457	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774458	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774459	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774460	<0.04 Q	<0.04	<0.04	<0.04	0.32	1.69	1.55	<0.04	<0.04	<0.04
00774461	<0.04 Q	<0.04	<0.04	<0.04	0.50	2.28	1.16	<0.04	<0.04	<0.04
00774462	<0.04 Q	0.12	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774463	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774464	<0.04 Q	0.05 J	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774465	<0.04 Q	<0.04	<0.04	<0.04	0.18	0.89	1.32	<0.04	<0.04	<0.04
00774466	<0.04 Q	<0.04	<0.04	<0.04	<0.04	0.11	0.12	<0.04	<0.04	<0.04
00774467	<0.04 Q	<0.04	<0.04	<0.04	0.05	0.22	0.24	<0.04	<0.04	<0.04
00774468	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774469	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774470	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774471	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774472	<0.04 Q	0.04 J	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774473	<0.04 Q	0.45	<0.04	<0.04	0.05	0.21	0.39	<0.04	<0.04	<0.04
00774474	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774475	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774476	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774477	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774501	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774502	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BLK_8260M-286131	<0.04 Q	<0.04	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q
BLK_8260M-286138	<0.04 Q	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
YAKIMA SI
ORDER # 01645

DATAFILE								
NAME	13DCB, ug	14DCB, ug	12DCB, ug	UNDEC, ug	NAPH, ug	TRIDEC, ug	2MeNAPH, ug	PENTADEC[1], ug
LOD =	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
LOQ =	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
00774456	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	<0.04	<0.04
00774457	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774458	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774459	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774460	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774461	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774462	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774463	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774464	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774465	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774466	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774467	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774468	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774469	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774470	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774471	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774472	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774473	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774474	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774475	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774476	<0.04	<0.04	<0.04	<0.04	<0.04	0.08	<0.04	<0.04
00774477	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774501	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
00774502	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BLK_8260M-286131	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q	<0.04 Q
BLK_8260M-286138	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

(1) Compound is not covered under AGI's scope of accreditation.

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
ESTIMATED SOIL GAS CONCENTRATIONS[1]
YAKIMA SI
ORDER # 01645

DATAFILE NAME	FIELD ID	DATE/ TIME INSTALLED		DATE/ TIME RETRIEVED		DATE/ TIME RECEIVED		DATE/ TIME ANALYZED		DF	MTBE, ug/m^3
LOD =											169
LOQ =											199
00774456	YTCFLC-SG-06	6/3/16 9:32	PT	6/8/16 11:40	PT	6/9/16 10:30	ET	6/11/16 12:48	ET	1	<168
00774457	YTCFLC-SG-05	6/3/16 9:22	PT	6/8/16 11:36	PT	6/9/16 10:30	ET	6/11/16 3:39	ET	1	<168
00774458	YTCFLC-SG-04	6/3/16 8:37	PT	6/8/16 11:27	PT	6/9/16 10:30	ET	6/11/16 2:14	ET	1	<168
00774459	YTCFLC-SG-03	6/3/16 8:45	PT	6/8/16 11:24	PT	6/9/16 10:30	ET	6/10/16 15:15	ET	1	<168
00774460	YTCFLC-SG-02	6/3/16 8:15	PT	6/8/16 11:20	PT	6/9/16 10:30	ET	6/10/16 13:49	ET	1	<168
00774461	YTCFLC-SG-01	6/3/16 7:45	PT	6/8/16 11:15	PT	6/9/16 10:30	ET	6/11/16 1:17	ET	1	<168
00774462	YTCFLC-SG-11	6/3/16 13:32	PT	6/8/16 12:10	PT	6/9/16 10:30	ET	6/10/16 22:25	ET	1	<170
00774463	YTCFLC-SG-10	6/3/16 13:18	PT	6/8/16 11:56	PT	6/9/16 10:30	ET	6/11/16 3:11	ET	1	<170
00774464	YTCFLC-SG-09	6/3/16 13:03	PT	6/8/16 11:52	PT	6/9/16 10:30	ET	6/11/16 4:08	ET	1	<169
00774465	YTCFLC-SG-08	6/3/16 12:50	PT	6/8/16 11:48	PT	6/9/16 10:30	ET	6/10/16 16:12	ET	1	<169
00774466	YTCFLC-SG-07D	6/3/16 10:32	PT	6/8/16 11:45	PT	6/9/16 10:30	ET	6/11/16 12:19	ET	1	<168
00774467	YTCFLC-SG-07	6/3/16 10:22	PT	6/8/16 11:43	PT	6/9/16 10:30	ET	6/10/16 17:38	ET	1	<168
00774468	YTCFLC-SG-18	6/3/16 16:09	PT	6/8/16 12:42	PT	6/9/16 10:30	ET	6/10/16 23:51	ET	1	<170
00774469	YTCFLC-SG-17	6/3/16 15:41	PT	6/8/16 12:39	PT	6/9/16 10:30	ET	6/10/16 21:56	ET	1	<170
00774470	YTCFLC-SG-16	6/3/16 14:58	PT	6/8/16 12:30	PT	6/9/16 10:30	ET	6/10/16 17:10	ET	1	<170
00774471	YTCFLC-SG-15	6/3/16 14:42	PT	6/8/16 12:27	PT	6/9/16 10:30	ET	6/10/16 23:22	ET	1	<170
00774472	YTCFLC-SG-14	6/3/16 14:22	PT	6/8/16 12:24	PT	6/9/16 10:30	ET	6/11/16 2:42	ET	1	<170
00774473	YTCFLC-SG-12	6/3/16 13:45	PT	6/8/16 12:12	PT	6/9/16 10:30	ET	6/10/16 15:44	ET	1	<170
00774474	YTCFLC-SG-13	6/3/16 17:00	PT	6/8/16 12:20	PT	6/9/16 10:30	ET	6/10/16 18:07	ET	1	<171
00774475	YTCFLC-SG-20	6/3/16 16:42	PT	6/8/16 12:50	PT	6/9/16 10:30	ET	6/11/16 1:45	ET	1	<171
00774476	YTCFLC-SG-19D	6/3/16 16:42	PT	6/8/16 12:46	PT	6/9/16 10:30	ET	6/10/16 14:18	ET	1	<171
00774477	YTCFLC-SG-19	6/3/16 16:22	PT	6/8/16 12:44	PT	6/9/16 10:30	ET	6/10/16 16:41	ET	1	<171
00774501	TRIP_BLANK					6/9/16 10:30	ET	6/10/16 22:53	ET	1	<169
00774502	TRIP_BLANK					6/9/16 10:30	ET	6/10/16 14:46	ET	1	<169
BLK_8260M-286131	Method Blank					6/9/16 10:30	ET	6/10/16 12:52	ET	1	<169
BLK_8260M-286138	Method Blank					6/9/16 10:30	ET	6/10/16 21:28	ET	1	<169

6/15/2016

[1]Concentrations are not covered under AGI's scope of accreditation.

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AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
ESTIMATED SOIL GAS CONCENTRATIONS[1]
YAKIMA SI
ORDER # 01645

DATAFILE NAME	t12DCE, ug/m^3	11DCA, ug/m^3	c12DCE, ug/m^3	CHCl3, ug/m^3	111TCA, ug/m^3	12DCA, ug/m^3	BENZ, ug/m^3
LOD =	336	130	116	67.8	42.4	31.9	31.3
LOQ =	387	155	137	81.7	52.0	38.2	37.4
00774456	<335	<129	<115	<67.2	<41.9	<31.6	<31.0
00774457	<335 Q	<129	<115	<67.2	<41.9	<31.6	<30.9
00774458	<335 Q	<129	<115	<67.1	<41.8	<31.5	<30.9
00774459	<335	<129	<115	<67.1	<41.8	<31.5	<30.9
00774460	<335	<129	<115	<67.0	<41.7	<31.5	<30.8
00774461	<334 Q	<129	<115	<67.0	<41.6	<31.4	<30.8
00774462	<336 Q	<130	<116	<67.9	<42.5	<32.0	<31.4
00774463	<336 Q	<130	<116	<67.9	<42.5	<32.0	<31.4
00774464	<336 Q	<130	<116	<67.8	<42.5	<32.0	<31.3
00774465	<336	<130	<116	<67.8	<42.4	<32.0	<31.3
00774466	<335	<129	<116	<67.4	<42.0	<31.7	<31.1
00774467	<335	<129	<116	<67.4	<42.0	<31.7	<31.0
00774468	<337 Q	<130	<117	<68.3	<42.9	<32.2	<31.6
00774469	<337 Q	<130	<117	<68.2	<42.8	<32.2	<31.6
00774470	<337	<130	<117	<68.1	<42.7	<32.1	<31.5
00774471	<337 Q	<130	<117	<68.0	<42.7	<32.1	<31.5
00774472	<337 Q	<130	<117	<68.0	<42.6	<32.1	<31.4
00774473	<336	<130	<116	<67.9	<42.5	<32.0	<31.4
00774474	<338	<131	<117	<68.5	<43.1	<32.4	<31.8
00774475	<337 Q	<131	<117	<68.4	<43.0	<32.3	<31.7
00774476	<337	<131	<117	<68.4	<43.0	<32.3	<31.7
00774477	<337	<131	<117	<68.3	<42.9	<32.3	<31.6
00774501	<336 Q	<130	<116	<67.8	<42.4	<31.9	<31.3
00774502	<336	<130	<116	<67.8	<42.4	<31.9	<31.3
BLK_8260M-286131	<336	<130	<116	<67.8	<42.4	<31.9	<31.3
BLK_8260M-286138	<336	<130	<116	<67.8	<42.4	<31.9	<31.3

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210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
ESTIMATED SOIL GAS CONCENTRATIONS[1]
YAKIMA SI
ORDER # 01645

DATAFILE					estimated		
NAME	CCl4, ug/m^3	TCE, ug/m^3	112TCA, ug/m^3	TOL, ug/m^3	OCT, ug/m^3	PCE, ug/m^3	CIBENZ, ug/m^3
LOD =	37.5	14.0	2.58	3.65	3.77	2.87	1.84
LOQ =	45.8	17.1	3.22	4.50	4.66	3.57	2.29
00774456	<37.0	405	<2.53	<3.58	<3.70 Q	<2.81	<1.80
00774457	<37.0	<13.8	<2.53	<3.58	<3.70 Q	<2.81	<1.80
00774458	<36.9	<13.8	<2.52	<3.56	<3.68 Q	<2.80	<1.79
00774459	<36.9	<13.8	<2.52	<3.57	<3.69 Q	<2.80	<1.80
00774460	<36.9	<13.8	<2.51	<3.56	<3.67 Q	<2.79	<1.79
00774461	<36.8	<13.7	<2.50	<3.55	<3.66 Q	<2.78	<1.78
00774462	<37.6	<14.1	<2.59	<3.66	<3.78 Q	8.55	<1.85
00774463	<37.6	<14.1	<2.59	<3.66	<3.78 Q	<2.88	<1.85
00774464	<37.5	<14.0	<2.59	<3.66	<3.78 Q	3.44 J	<1.85
00774465	<37.5	<14.0	<2.58	<3.65	<3.78 Q	<2.87	<1.84
00774466	<37.2	<13.9	<2.54	<3.60	<3.72 Q	<2.83	<1.81
00774467	<37.1	<13.9	<2.54	<3.60	<3.72 Q	<2.82	<1.81
00774468	<37.9	<14.2	<2.63	<3.71	<3.84 Q	<2.92	<1.88
00774469	<37.9	<14.2	<2.62	<3.70	<3.83 Q	<2.91	<1.87
00774470	<37.8	<14.1	<2.61	<3.69	<3.81 Q	<2.90	<1.86
00774471	<37.7	34.7	<2.61	<3.68	<3.81 Q	<2.90	<1.86
00774472	<37.7	<14.1	<2.60	<3.68	<3.80 Q	3.10 J	<1.86
00774473	<37.6	<14.1	<2.59	<3.67	<3.79 Q	31.6	<1.85
00774474	<38.1	<14.3	<2.65	<3.74	<3.87 Q	<2.95	<1.90
00774475	<38.0	<14.2	<2.64	<3.72	<3.85 Q	<2.93	<1.88
00774476	<38.0	<14.2	<2.64	<3.73	<3.85 Q	<2.93	<1.89
00774477	<38.0	<14.2	<2.63	<3.72	<3.84 Q	<2.92	<1.88
00774501	<37.5	<14.0	<2.58	<3.65	<3.77 Q	<2.87	<1.84
00774502	<37.5	<14.0	<2.58	<3.65	<3.77 Q	<2.87	<1.84
BLK_8260M-286131	<37.5	<14.0	<2.58	<3.65	<3.77 Q	<2.87	<1.84 Q
BLK_8260M-286138	<37.5	<14.0	<2.58	<3.65	<3.77 Q	<2.87	<1.84

6/15/2016

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AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
ESTIMATED SOIL GAS CONCENTRATIONS[1]
YAKIMA SI
ORDER # 01645

DATAFILE	estimated					
NAME	1112TetCA, ug/m^3	EtBENZ, ug/m^3	mpXYL, ug/m^3	oXYL, ug/m^3	1122TetCA, ug/m^3	135TMB, ug/m^3
LOD =	1.37	1.75	1.61	2.18	1.37	2.33
LOQ =	1.71	2.17	2.01	2.69	1.71	2.87
00774456	<1.34	<1.71	<1.58	<2.13	<1.34	<2.28
00774457	<1.34	<1.71	<1.57	<2.13	<1.34	<2.28
00774458	<1.33	<1.70	<1.57	<2.12	<1.33	<2.27
00774459	<1.34	<1.70	<1.57	<2.13	<1.34	<2.27
00774460	<1.33	12.8	63.3	68.2	<1.33	<2.27
00774461	<1.33	19.7	84.8	51.6	<1.33	<2.26
00774462	<1.38	<1.75	<1.62	<2.19	<1.38	<2.34
00774463	<1.38	<1.75	<1.62	<2.19	<1.38	<2.34
00774464	<1.38	<1.75	<1.62	<2.19	<1.38	<2.34
00774465	<1.38	7.68	34.5	60.2	<1.38	<2.33
00774466	<1.35	<1.72	4.39	6.10	<1.35	<2.30
00774467	<1.35	2.30	8.51	12.0	<1.35	<2.30
00774468	<1.40	<1.78	<1.64	<2.22	<1.40	<2.38
00774469	<1.40	<1.78	<1.64	<2.22	<1.40	<2.37
00774470	<1.39	<1.77	<1.63	<2.21	<1.39	<2.36
00774471	<1.39	<1.77	<1.63	<2.20	<1.39	<2.35
00774472	<1.39	<1.76	<1.63	<2.20	<1.39	<2.35
00774473	<1.38	2.27	8.34	19.2	<1.38	<2.34
00774474	<1.42	<1.80	<1.66	<2.24	<1.42	<2.40
00774475	<1.41	<1.79	<1.65	<2.23	<1.41	<2.38
00774476	<1.41	<1.79	<1.65	<2.23	<1.41	<2.38
00774477	<1.40	<1.79	<1.65	<2.23	<1.40	<2.38
00774501	<1.37	<1.75	<1.61	<2.18	<1.37	<2.33
00774502	<1.37	<1.75	<1.61	<2.18	<1.37	<2.33
BLK_8260M-286131	<1.37 Q	<1.75 Q	<1.61 Q	<2.18 Q	<1.37 Q	<2.33 Q
BLK_8260M-286138	<1.37	<1.75	<1.61	<2.18	<1.37	<2.33

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AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
ESTIMATED SOIL GAS CONCENTRATIONS[1]
YAKIMA SI
ORDER # 01645

DATAFILE					estimated	estimated	estimated
NAME	124TMB, ug/m^3	13DCB, ug/m^3	14DCB, ug/m^3	12DCB, ug/m^3	UNDEC, ug/m^3	NAPH, ug/m^3	TRIDEC, ug/m^3
LOD =	1.78	1.44	1.45	1.38	1.38	1.38	1.38
LOQ =	2.21	1.79	1.79	1.70	1.70	1.70	1.70
00774456	<1.74	<1.41	<1.42	<1.35	1.99	<1.35	<1.35
00774457	<1.74	<1.41	<1.42	<1.34	<1.34	<1.34	<1.34
00774458	<1.74	<1.40	<1.41	<1.34	<1.34	<1.34	<1.34
00774459	<1.74	<1.41	<1.41	<1.34	<1.34	<1.34	<1.34
00774460	<1.73	<1.40	<1.41	<1.34	<1.34	<1.34	<1.34
00774461	<1.73	<1.40	<1.40	<1.33	<1.33	<1.33	<1.33
00774462	<1.79	<1.45	<1.45	<1.38	<1.38	<1.38	<1.38
00774463	<1.79	<1.45	<1.45	<1.38	<1.38	<1.38	<1.38
00774464	<1.79	<1.45	<1.45	<1.38	<1.38	<1.38	<1.38
00774465	<1.79	<1.44	<1.45	<1.38	<1.38	<1.38	<1.38
00774466	<1.76	<1.42	<1.43	<1.35	<1.35	<1.35	<1.35
00774467	<1.75	<1.42	<1.42	<1.35	<1.35	<1.35	<1.35
00774468	<1.82	<1.47	<1.48	<1.40	<1.40	<1.40	<1.40
00774469	<1.81	<1.47	<1.47	<1.40	<1.40	<1.40	<1.40
00774470	<1.80	<1.46	<1.47	<1.39	<1.39	<1.39	<1.39
00774471	<1.80	<1.46	<1.46	<1.39	<1.39	<1.39	<1.39
00774472	<1.80	<1.45	<1.46	<1.39	<1.39	<1.39	<1.39
00774473	<1.79	<1.45	<1.46	<1.38	<1.38	<1.38	<1.38
00774474	<1.83	<1.48	<1.49	<1.42	<1.42	<1.42	<1.42
00774475	<1.82	<1.48	<1.48	<1.41	<1.41	<1.41	<1.41
00774476	<1.82	<1.48	<1.48	<1.41	<1.41	<1.41	2.78
00774477	<1.82	<1.47	<1.48	<1.41	<1.41	<1.41	<1.41
00774501	<1.78	<1.44	<1.45	<1.38	<1.38	<1.38	<1.38
00774502	<1.78	<1.44	<1.45	<1.38	<1.38	<1.38	<1.38
BLK_8260M-286131	<1.78 Q	<1.44 Q	<1.45 Q	<1.38 Q	<1.38 Q	<1.38 Q	<1.38 Q
BLK_8260M-286138	<1.78	<1.44	<1.45	<1.38	<1.38	<1.38	<1.38

6/15/2016 [1]Concentrations are not covered under AGI's scope of accreditation. 01645-CONC-REPORT.xls

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
TERRANEAR PMC, KENNEWICK
STANDARD TARGET VOCs/SVOCs (8260M)
ESTIMATED SOIL GAS CONCENTRATIONS[1]
YAKIMA SI
ORDER # 01645

DATAFILE NAME	estimated 2MeNAPH, ug/m^3	estimated PENTADEC, ug/m^3
LOD =	1.38	1.38
LOQ =	1.70	1.70
00774456	<1.35	<1.35
00774457	<1.34	<1.34
00774458	<1.34	<1.34
00774459	<1.34	<1.34
00774460	<1.34	<1.34
00774461	<1.33	<1.33
00774462	<1.38	<1.38
00774463	<1.38	<1.38
00774464	<1.38	<1.38
00774465	<1.38	<1.38
00774466	<1.35	<1.35
00774467	<1.35	<1.35
00774468	<1.40	<1.40
00774469	<1.40	<1.40
00774470	<1.39	<1.39
00774471	<1.39	<1.39
00774472	<1.39	<1.39
00774473	<1.38	<1.38
00774474	<1.42	<1.42
00774475	<1.41	<1.41
00774476	<1.41	<1.41
00774477	<1.41	<1.41
00774501	<1.38	<1.38
00774502	<1.38	<1.38
BLK_8260M-286131	<1.38 Q	<1.38 Q
BLK_8260M-286138	<1.38	<1.38

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KEY TO DATA TABLE

UNITS

µg	micrograms, relative mass value
µg/m^3	micrograms per cubic meter; estimated soil gas concentration
µg/L	micrograms per Liter; calculated water concentration

DATA QUALIFIERS

>	greater than; value exceeds calibration range, estimated value
<	less than; compound value is below the LOD and RL
J	mass value below LOQ or RL, but above LOD, estimated mass value
E	mass value exceeds upper calibration level, estimated mass value
Q	one or more quality control parameters failed for the compound

ABBREVIATIONS

AVG RL	average reporting limit; calculated based on individual field sample RLs
LOD	limit of detection
LOQ	limit of quantification
MDL	method detection limit
RL	reporting limit

1112TetCA	1,1,1,2-tetrachloroethane
111TCA	1,1,1-trichloroethane
1122TetCA	1,1,2,2-tetrachloroethane
112TCA	1,1,2-trichloroethane
11DCA	1,1-dichloroethane
11DCE	1,1-dichloroethene
124TMB	1,2,4-trimethylbenzene
12DCA	1,2-dichloroethane
12DCB	1,2-dichlorobenzene
135TMB	1,3,5-trimethylbenzene
13DCB	1,3-dichlorobenzene
14DCB	1,4-dichlorobenzene
2MeNAPH	2-methyl naphthalene
BENZ	benzene
BTEX	combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics)
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
c12DCE	cis-1,2-dichloroethene
CCl4	carbon tetrachloride
CHC13	chloroform
ClBENZ	chlorobenzene
ct12DCE	cis- & trans-1,2-dichloroethene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
MTBE	methyl t-butyl ether
NAPH	naphthalene
OCT	octane
oXYL	o-xylene
PCE	tetrachloroethene
PENTADEC	pentadecane
PHEN	phenanthrene
t12DCE	trans-1,2-dichloroethene
TCE	trichloroethene
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
TOL	toluene
TPH	total petroleum hydrocarbons
TRIDEC	tridecane
UNDEC	undecane
VC	vinyl chloride

SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI SPG-0008 SAMPLER IN A GAS PHASE

PURPOSE:

The purpose of this document is to:

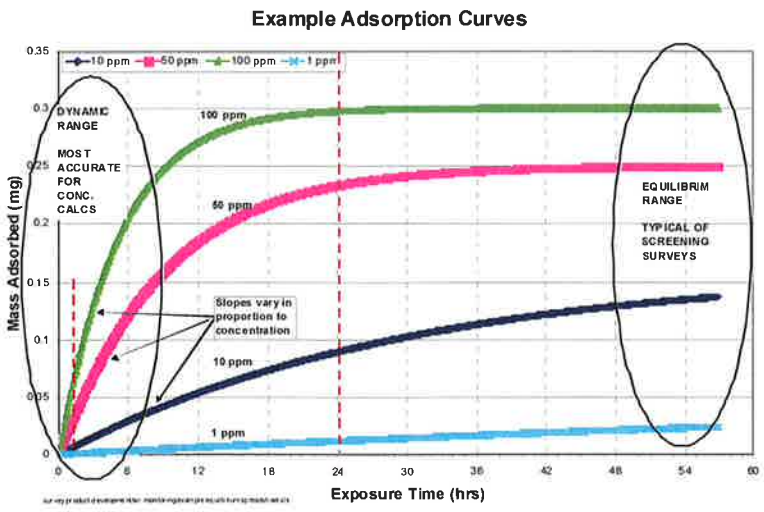
1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration

of the AGI Sampler, SPG-0008, in a gas phase (air or soil gas) following AGI's "Standard practice for determining the sampling rate of passive diffusion samplers in various environmental media," SPG-SOP-0493. The work will be summarized in two parts: Part 1: air, Part 2: soil gas.

Principle of Operation of the AGI Sampler

The AGI Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in soil or saturated soil, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and testing of the SPG-0008 sampler has validated it to be unaffected by this moisture vapor. Compounds in air with vapor pressures above about 1 millionth of a mm of Hg will diffuse through the microporous membrane and be immediately captured on the solid adsorbent housed inside. The membrane porosity and dimensions are well controlled as is the mass of the adsorbent contained inside the sampler. The average pore diameter of the membrane is 1000 times larger that of the compounds of interest, meaning the membrane offers a minimal resistance. On the other hand, the membrane pore size is small enough that colloidal particles and microbes can not pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chill during storage or transportation.

When a sampler is exposed to compounds in air, mass from the volatile compound are collected on the solid adsorbent inside the microporous PTFE membrane. To the right is a generalized example of mass uptake with time for this sampler.



Notice the initial slope and ultimate equilibrium mass both increase with increasing concentrations. For shorter time the increase is virtually

linear but as the mass increases toward the steady state, mass uptake slows and mass eventually reaches an asymptote. The initial range is referred to as the dynamic linear range while the later stage is referred to as the equilibrium range.

The sampling rate calibration for this passive sampler will apply to the linear and near-linear dynamic range, where accuracy and precision are best.

Temperature can affect both the diffusivity in air, which is part of the sampling rate but also the binding energy of the compound to the adsorbent. In general passive sampling devices are not highly affected by temperature although the effect will be more important for lower MW compounds. It is not uncommon to have an Arrhenius factor, -Ea/R of <1000, which means a 5°C temperature change will make less than a 5% change in sampling rate.

In soil, the matrix of particles and water creates a resistance to soil gas diffusion. Millington (Millington 1959) has modeled this resistance and developed a model to correct the diffusion for this added resistance based upon the porosity of the soil and the fraction of pores filled with water. This "Soil Effectiveness Factor" can lower the sampling rate in soil to 40% to 10% of that in free air. This will discussed further in Part 2.

PART 1: Calibration in Air

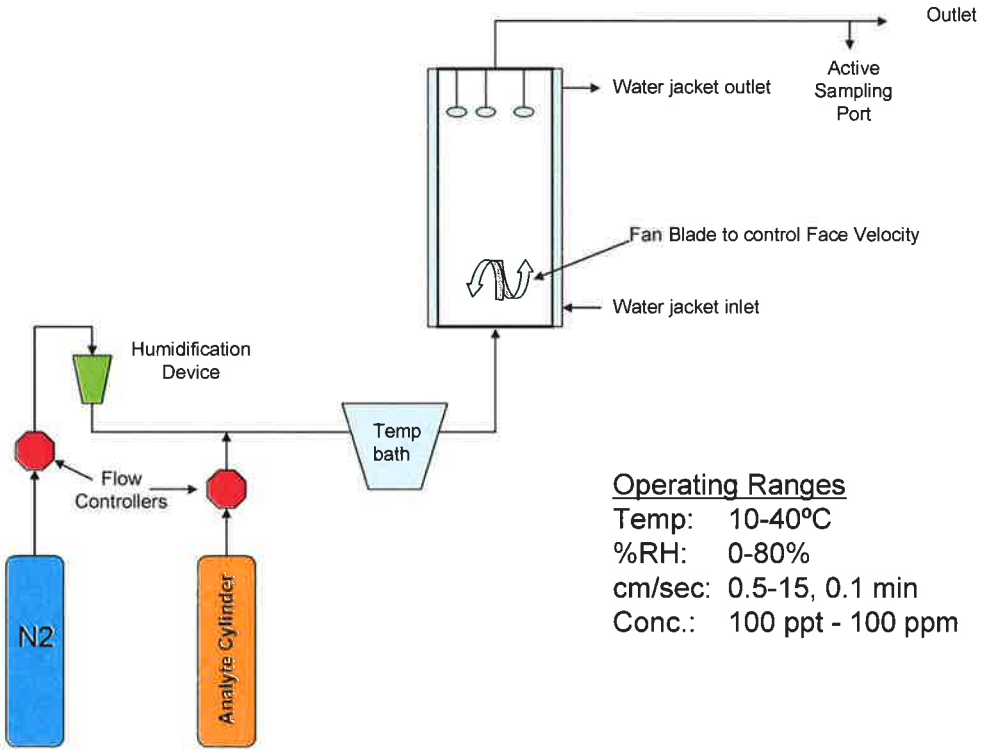
Part 1 summarizes the work in free air generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

Sample Generation in Air

In this calibration work, gaseous mixtures of analytes at known concentrations were generated inside a 3 liter glass vessel by mixing flow from gaseous standard cylinders with nitrogen using electronic flow controllers. A diagram of the set up is shown below. Total flow through the vessel ranged from 2 to 50 liters/min with an aim, where possible, of using a flow 20 or more times the combined sampling rate of AGI® Sampler being tested.

This gas mixture was temperature controlled by running it through a coil in a temperature controlled chiller. Similarly, the glass vessel was also temperature controlled by circulating the chiller fluid through the vessel jacket. A mercury thermometer in the vessel was used to determine the experiment temperature. The humidity level of the mixed gas was modified by passing the nitrogen portion of the gas mixture through a bubbler. Different humidity levels could be achieved by using water or saturated salt solutions in the bubbler that generate different relative humidities.

Passive Diffusion Sampling Rate Measurement Apparatus



Internal wind velocity was controlled using a propeller blade attached to a shaft and motor. RPM was measured to calculate air velocity based on propeller pitch and rpm.

Before each experiment, the system was run for minutes to hours to allow temperature, humidity, and compound density on the vessel walls to stabilize. When changing concentrations, a stabilization time, typically, 2-10 hours, was provided to allow the vessel walls to reach a new equilibrium with the analyte concentrations and wall temperature.

AGI sampler were hung inside the vessel at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time, in roughly the linear dynamic range. Sampler were removed and placed back into their original jars for analysis. They were analyzed by AGI's 8260C method (SPG-WI-0318 or SPG-WI-10028) in duplicate, which is based on EPA SW846 Method 8260C.

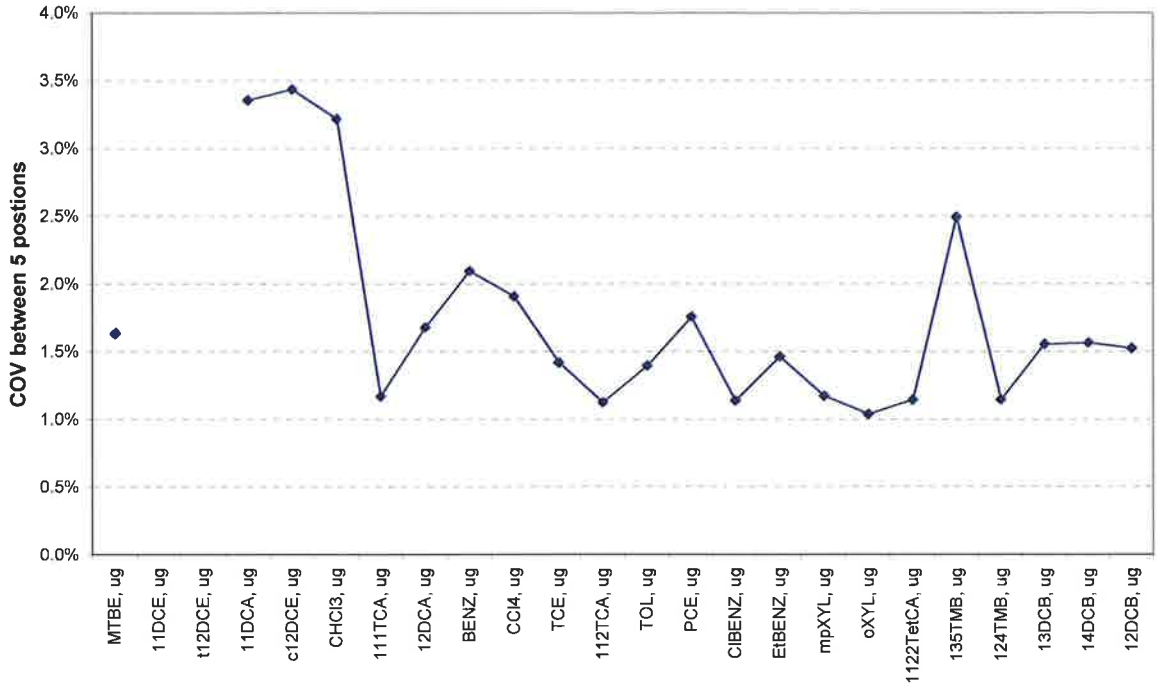
Vessel concentration was also measured during the tests using a TO-17 type of method. A MSA pump pulled about 1.5 L/hr of atmosphere from the chamber through two thermal desorption tubes in series, the first packed with Tenax-TA, and the second packed with a strong adsorbent carbon molecular sieve. Flow rate through the series of tubes was measured at the start and end of the pumping. Analysis of the thermal desorption tubes were performed by appropriate

analytical methods. Each Tenax-TA tube was analyzed by AGI's 8260C method (SPG-WI-0319 or SPG-WI-10028) and each carbonaceous tube by AGI's screening method (SPG-WI-0292). Typically only a small portion of the lower molecular weight compounds, such as DCA & DCE passed through the Tenax-TA tube to be captured on the carbon tube. Concentration was determined by

(sum of mass on both tubes)/(avg flow rate x hours) = ug/L

Up to five sampler can be placed simultaneously in the chamber. Testing confirmed good sample uniformity among the locations as shown by coefficients of variation generally below 3% in the chart below.

Good Sample Uniformity between 5 Positions



Most of the runs were performed using a TO-15 mix of compounds in a cylinder made up at nominally 1 ppm. Using nitrogen dilution, sampling rate measurements were done at concentrations from about 1 ppb to 50 ppb. Higher concentration cylinders can be used to generate concentrations in the ppm range if desired.

Sampling rate calibrations were run using multiple concentrations, typically 5-50 ppb and temperatures, typically 5°C to 35°C. Samples were run in duplicate. A total of 94 data points were generated using 23 compounds from AGI's standard compounds list. In addition, another 23 compounds were tested from those in the TO-15 mix. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

Key Variable Effects

Based on theory, at short to moderate exposure times mass will increase roughly linearly proportional to exposure time, as well as, proportional to concentration. For passive samplers in air, temperature generally does not have a major effect on sampling rate. Even so, this work examined the impact of temperature because it could have a small effect on diffusivity in air and potentially adsorption strength for low MW compounds.

Except in indoor environments, air velocity is expected to be low and of inconsequential importance. The passive adsorbent is protected by wind stopping AGI membrane. Even so, we looked at velocity effects. Based on the hydrophobic nature of the adsorbents in SPG-0008 sampler, humidity is not expected to impact sampling rate.

Sampling rate has been found to be generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

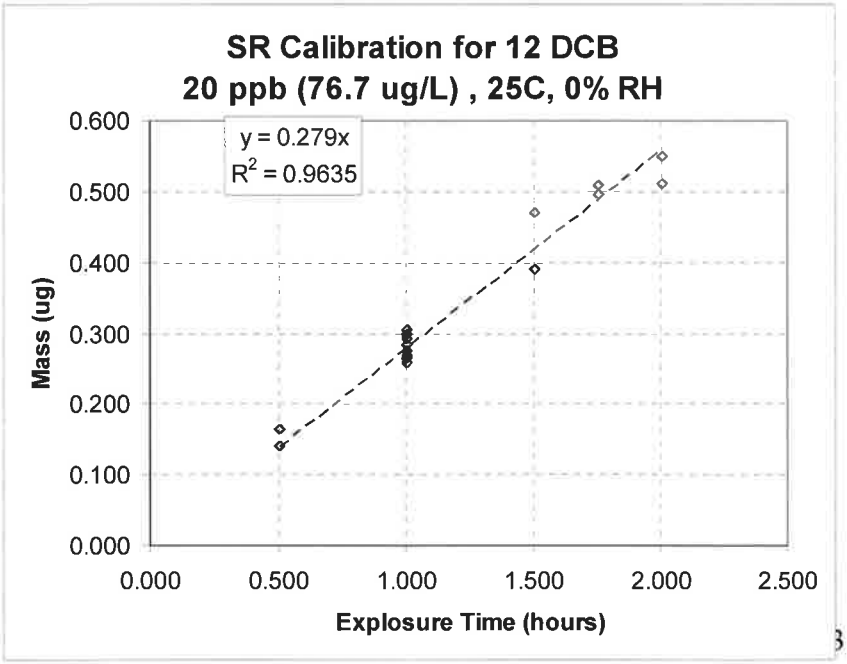
Conc [ug/L] = mass/time/SR (1)

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

SR = mass/time/concentration (2)

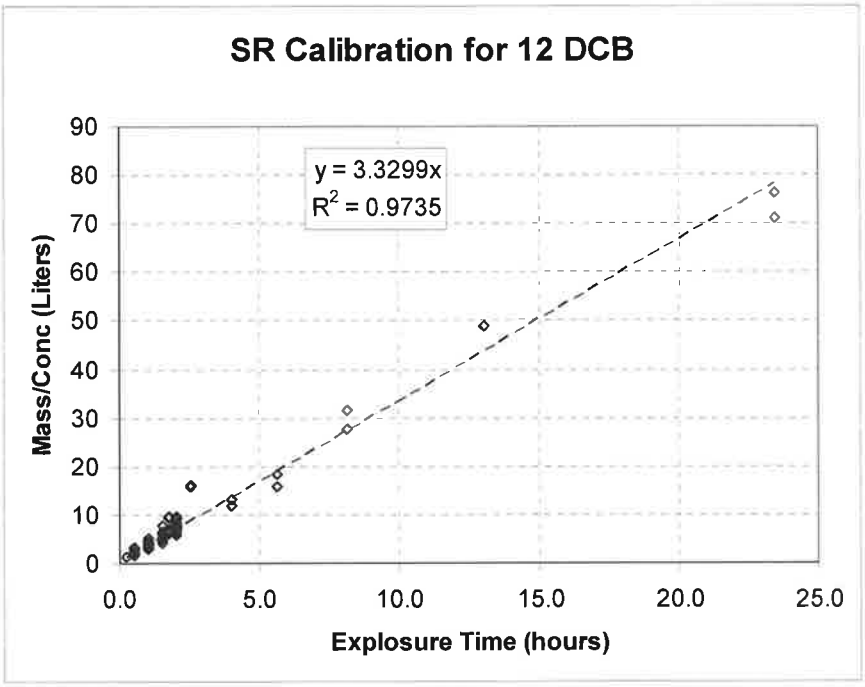
Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time at 12DCB in nitrogen at nominally 20 ppb or 76.7 ug/cu m and



297K. This is actual data for one test run. The slope of 0.279 ug/hr divided by the concentration of 0.0767 ug/L yields a sampling rate, SR, of 3.64 L/hr.

The data could also be plotted as mass/Conc vs. time in which case the slope is the sampling rate directly as shown in the chart below. This allows the use of a larger data set incorporating multiple concentration tests.



Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis. This allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This is done by regressing equation (1) or a universal version of equation (1)

$$Conc = (mass)^{b} / (time)^{-d} / [SRo*exp(-Ea/R/T)] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and –Ea/R by regressing ln(conc) versus ln(mass), ln(time), 1/temp. These four constants can be used to determine concentration via the equation:

$$Conc = (mass)^{b} / (time)^{-d} / [SRo \times exp(-Ea/R(1/T))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

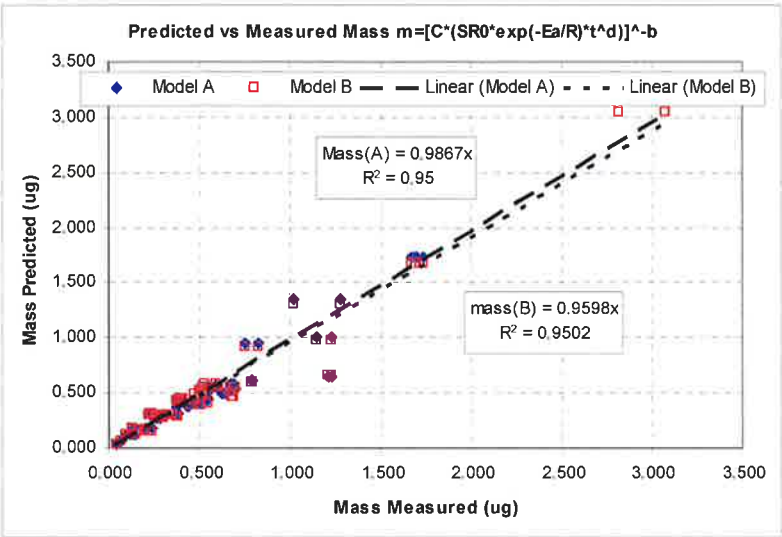
Equation (4) can also be expressed at a reference temperature, Tr, such as 15°C by

$$Conc = (mass)^{b} / (time)^{-d} / [SRr \times \exp(-Ea/R(1/Tr-1/T))] \quad (5)$$

This allows sampling rates, SRr, at any reference temperature, Tr, and for any analyte to easily be compared. These values of SRr at 25°C 298.14°K can be found in Table A.

The chart to the right is a plot of the 12DCB predicted mass from the 4 constant regression compared to the measured mass. Agreement is excellent for the 95 data points.

Model A or the blue points are the 4 constant model, while Model B or the red squares are a 3 constant model ignoring temperature. Error for 12DCB is slightly lower for Model A and for lower MW compounds it is much better.



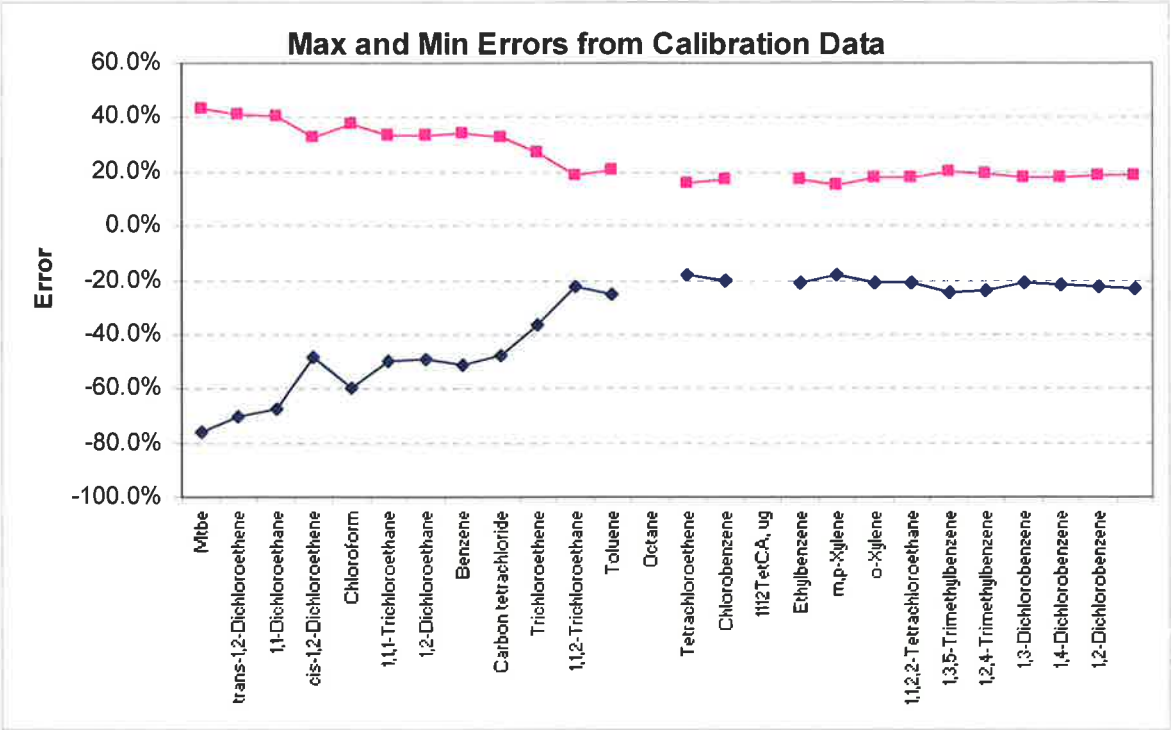
The 4 constant equation has been adopted for determining concentration in the gas phase.

Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. With the exception of MTBE and t12DCE the regression Rsq values are 0.9 or greater for each analyte. In general, temperature is more important for early eluting compounds where -Ea/R ranges from 2000 to 4000 while later eluting compounds (112TCA and above) are in the range of 500 to 1000 meaning they are less affected by temperature. Similarly, early eluting compounds have mass and time coefficients, b and d respectively, that deviate from 1.0.

Error Estimates

Table C shows the error in the mass values from the 8260C low sensitivity method (SPG-WI-318), which at a 95% confidence level is typically 10% - 15%. The error between the primary sample and the duplicate in the sampler is generally about 5% and shown in table D.

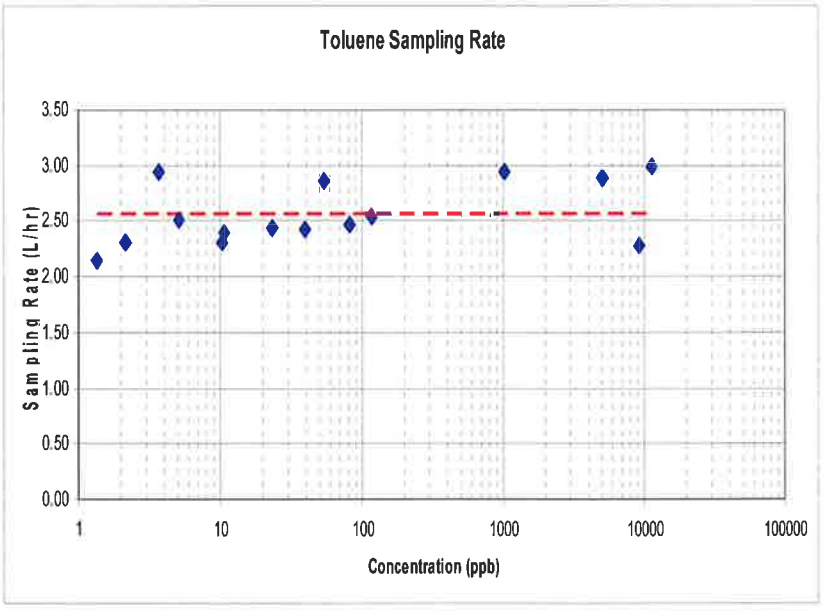
The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. This is tabulated in table D and shown below by compounds.



The maximum total error range is +/-20% for 112TCA and later eluting compounds. The maximum error range increases for compounds that elute earlier than 112TCA.

Effect of Concentration

The measurement of sampling rate, SR, is effectively independent of concentration. The chart below shows statistically consistent sampling rate over four decades of concentration change for toluene. This has also been observed for other tested compounds.



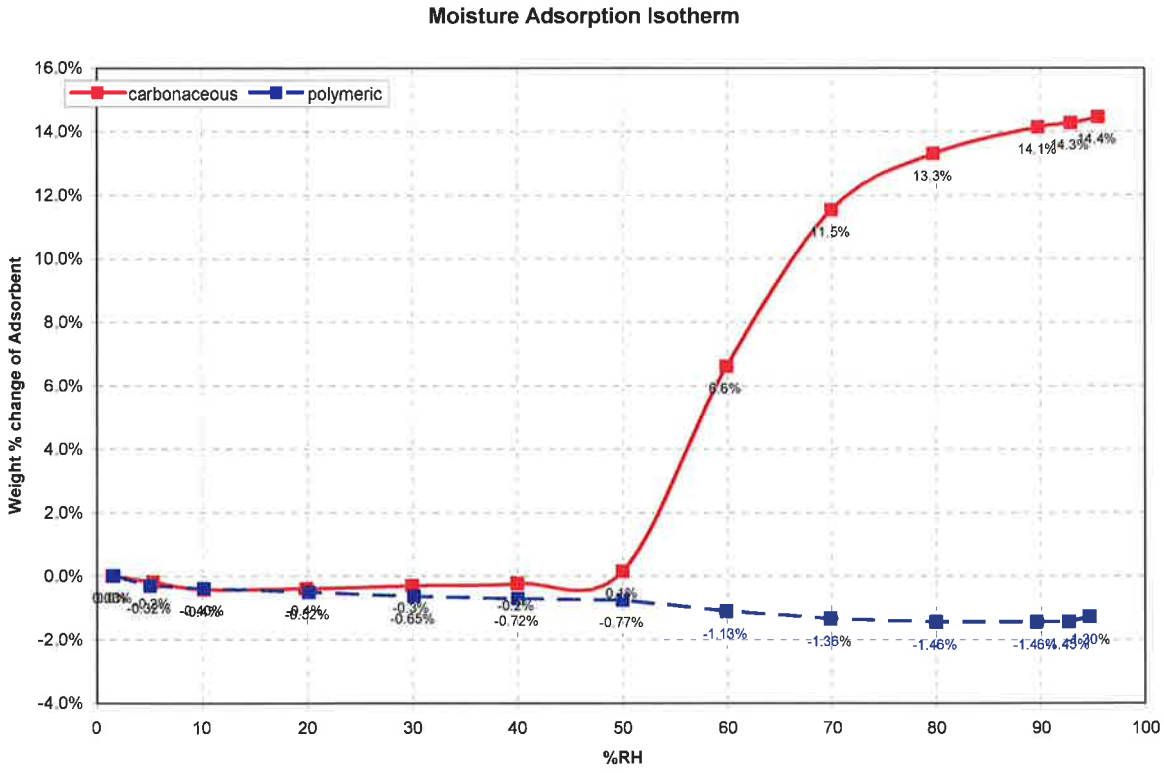
Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

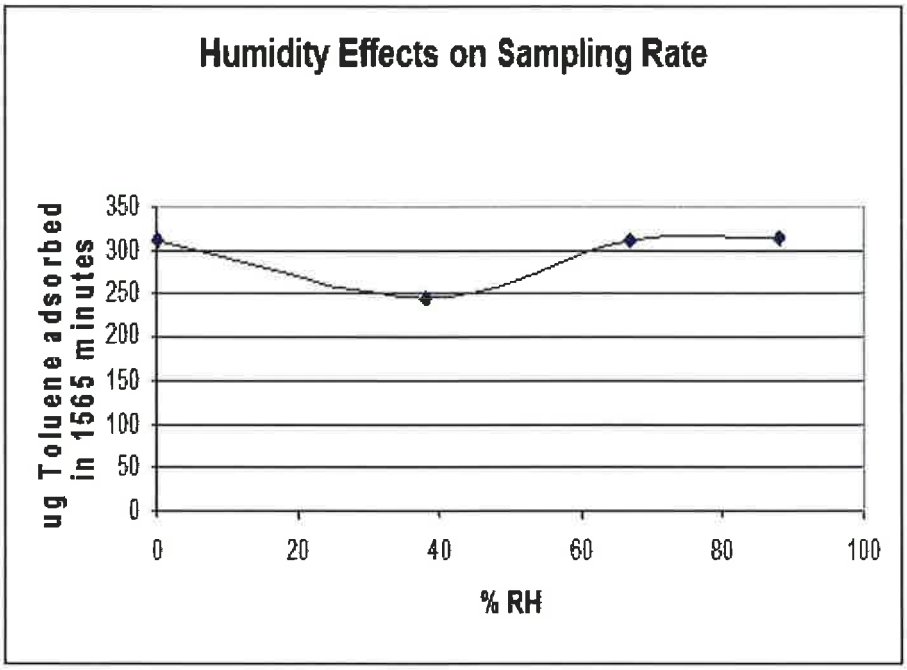
The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended potentially up to 100 ug.

Effect of Relative Humidity

The adsorbent system used in the SPG-0008 sampler is a proprietary multi-polymer system. It was tested compared to a carbon adsorbent in a RH chamber for weight gain and found to be effectively unaffected by moisture.



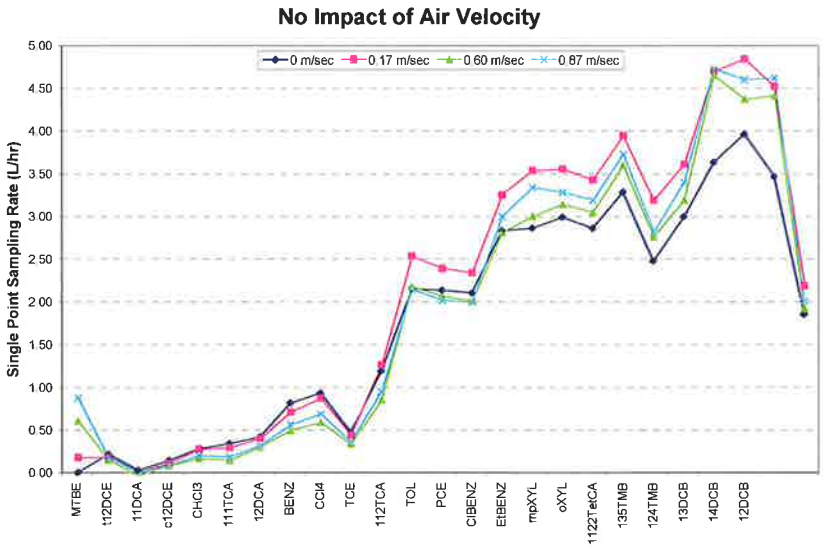
Additionally, mass adsorption was relatively constant at relative humidity ranging from 0% to 95%.



Impact of Air Velocity

To examine the potential impact of air velocity on sampling rate, five samplers were exposed for varying times up to 2 hours at 20 ppb of TO-15 mixture.

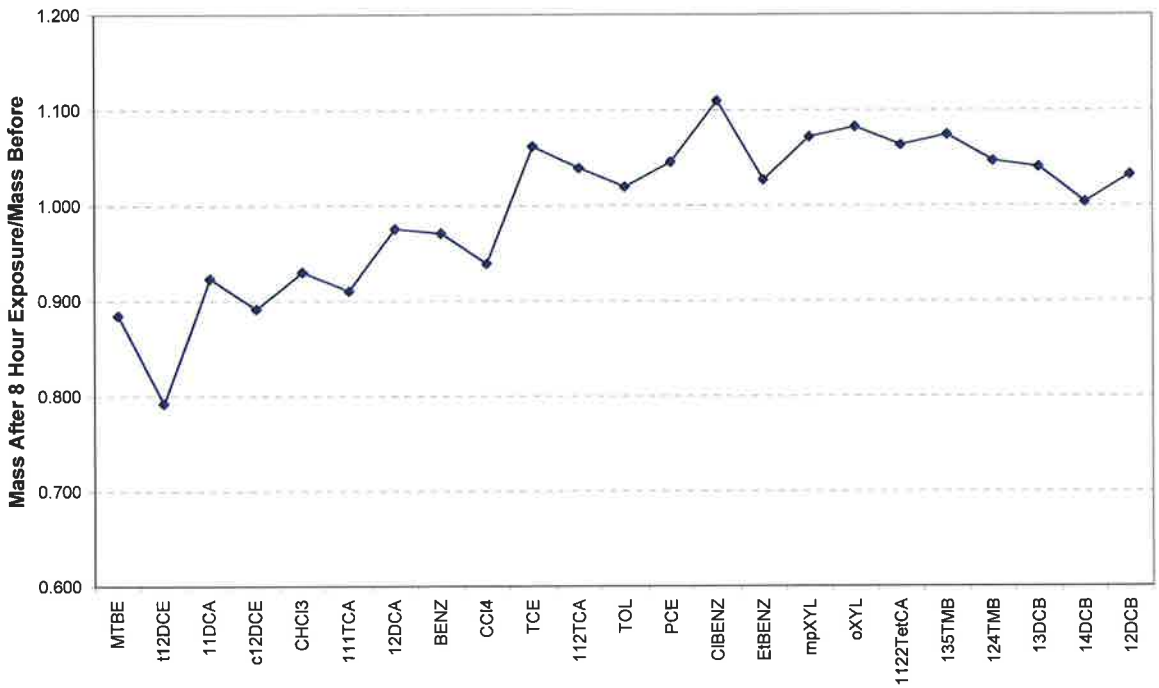
The chart to the right shows the calculated sampling rates from zero to 0.87 m/sec velocity. There is no structured impact of velocity on sampling rate.



Impact of Open Sampler Jar

Typically returning the exposed sampler to its jar and tightening the lid will maintain the mass. A test was run to look at the unexpected consequence of leaving the sampler in fresh air for 7.5 hours after exposure to 20 ppm of TO-15 mixture for 1 hour. Three sampler were tested without ambient air exposure and two with exposure and their mass levels measured. The chart below shows most compounds masses after the 7.5 hour exposure to fresh air are within 10%. One compound, t12DCE, is more affected losing 20% in this time.

Ambient air exposure post sampling would typically be expected to be < 5 minutes, so based on this we do not expect this will cause significant errors in reported mass or concentration. Care should be taken not to pinch the sampler between the jar and lid, which could allow contamination into the sample or loss of lower molecular weight compounds.



Part 2: Calibration in Soil

Part 2 describes the effect of soil on the sampling rate and concentration measurement.

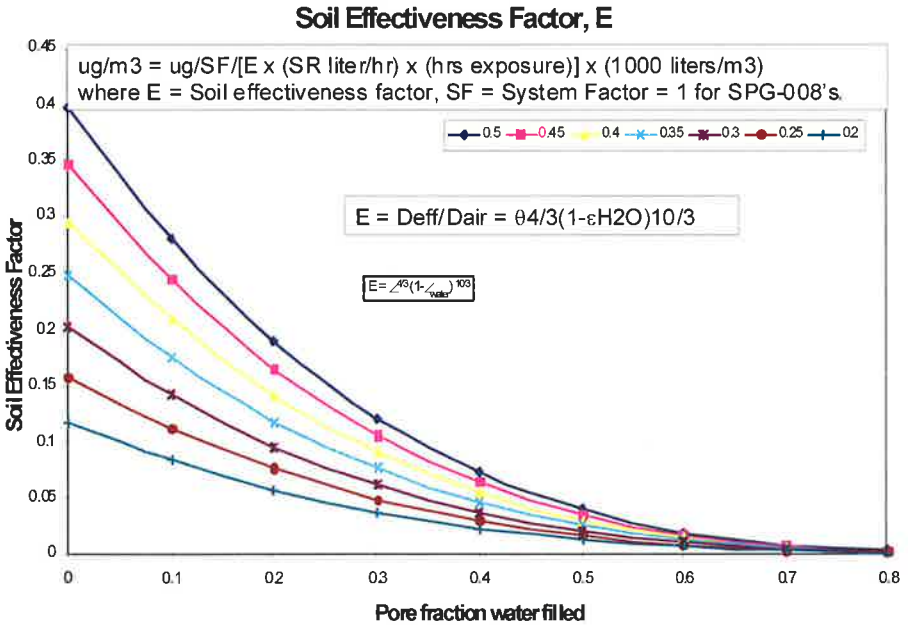
In a porous media, such as soil, diffusion of the analyte in the soil gas to the sampler is restricted. More porous soils have less restriction. This restriction has been experimentally modeled by Millington (Millington, R, J., "Gas Diffusion in Porous Media", Science, (1959), Vol. 130, 100-102) and found to be represented by the equation below:

$$SR_{soil} = E(SR_{air}) \quad (6)$$

where E is the "Soil Effectiveness Factor" expressed a function of total soil porosity (θ) and water filled porosity (ε, volume of water/volume of pores) as:

$$E = \theta^{(4/3)}(1-\varepsilon)^{(10/3)} \quad (7)$$

The chart to the right shows how E varies with soil porosity and fraction of pores filled with water.



Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a gas phase. This requires knowing the exposure time and temperature and if in soil also requires values or estimates for soil porosity and the fraction of pores filled with water. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in air. Potential error in the concentration values is excellent typically less than 20% when used in gas phase sampling within the following conditions:

Condition	Acceptable Range
Temperature	0°C to 35°C
Velocity	0 to 0.9 m/sec
Relative Humidity	0 – 95%
Mass Level	0.01 – 50 ug

TABLE A
AIR SAMPLING RATES STANDARD LIST

	SR @ 298.94
MTBE	1.10
t12DCE	1.08
11DCA	0.96
c12DCE	1.51
CHCl3	1.18
111TCA	0.75
12DCA	1.87
BENZ	1.91
CCl4	0.93
TCE	1.83
112TCA	2.40
TOL	2.54
OCT	
PCE	2.33
ClBENZ	3.05
1112TetCA	
EtBENZ	3.02
mpXYL	3.02
oXYL	3.10
1122TetCA	3.35
135TMB	3.19
124TMB	3.35
13DCB	3.97
14DCB	4.09
12DCB	3.93
Total mass	1.80

Values in L/hr, Total mass does not include Oct, 1112TetCA (23 compounds)

TABLE B

4 CONSTANT REGRESSION OUTPUT

	Adjusted Rsq	Standard Error	ln(SR0)	b	-Ea/R	d	Std Error ln(SR0)	Std Error b	Std Error -Ea/R	Std Error d
MTBE	0.77	0.2684	6.1531	0.7137	-1862	-0.2973	1.1215	0.0421	309	0.0346
t12DCE	0.80	0.2498	14.2118	0.6315	-4261	-0.1411	1.2463	0.0358	343	0.0323
11DCA	0.91	0.2016	13.7734	0.8038	-4094	-0.2544	0.8973	0.0294	251	0.0258
c12DCE	0.89	0.2092	9.4567	0.7241	-2941	-0.2710	0.8774	0.0286	248	0.0267
CHCl3	0.91	0.2048	12.2405	0.8364	-3699	-0.3365	0.8737	0.0294	246	0.0261
111TCA	0.94	0.1701	8.3160	0.9176	-2393	-0.5136	0.6652	0.0257	189	0.0222
12DCA	0.92	0.1921	9.0559	0.8093	-2886	-0.4404	0.7728	0.0275	220	0.0248
BENZ	0.89	0.2178	7.6871	0.7990	-2485	-0.4583	0.8687	0.0326	247	0.0286
CCl4	0.91	0.2219	7.0239	0.8972	-2071	-0.5182	0.8597	0.0324	246	0.0289
TCE	0.94	0.1680	7.0333	0.8809	-2276	-0.5871	0.6541	0.0244	188	0.0224
112TCA	0.97	0.1401	3.0297	0.9933	-1165	-0.8405	0.5251	0.0205	153	0.0202
TOL	0.96	0.1468	2.9135	0.9448	-1147	-0.7896	0.5506	0.0220	160	0.0213
OCT										
PCE	0.97	0.1229	2.2557	0.9912	-925	-0.8337	0.4611	0.0183	134	0.0178
ClBENZ	0.97	0.1410	1.2078	0.9832	-693	-0.8819	0.5267	0.0210	153	0.0211
1112TetCA										
EtBENZ	0.96	0.1521	0.4685	0.9696	-469	-0.9107	0.5663	0.0226	165	0.0231
mpXYL	0.96	0.1505	0.7733	0.9883	-560	-0.9123	0.5594	0.0227	163	0.0229
oXYL	0.96	0.1554	0.5660	0.9495	-506	-0.8713	0.5776	0.0233	169	0.0234
1122TetCA	0.95	0.1715	0.5319	0.9793	-519	-0.9313	0.6375	0.0252	186	0.0262
135TMB	0.94	0.1783	1.1480	0.9370	-688	-0.8545	0.6646	0.0266	194	0.0266
124TMB	0.95	0.1702	1.4973	0.9590	-807	-0.8819	0.6368	0.0255	185	0.0257
13DCB	0.95	0.1641	0.9194	0.9644	-685	-0.8908	0.6115	0.0245	178	0.0250
14DCB	0.95	0.1619	1.4086	0.9556	-840	-0.8854	0.6030	0.0242	176	0.0246
12DCB	0.95	0.1713	0.9920	0.9620	-704	-0.9037	0.6388	0.0254	186	0.0261
Total mass	0.966	0.1302	3.4894	0.9213	-1215	-0.7716	0.4835	0.0195	142	0.0190

TABLE C
8260C MASS UNCERTAINTY

AGI 8260C Method for Mass using SPG-0008 Sampler

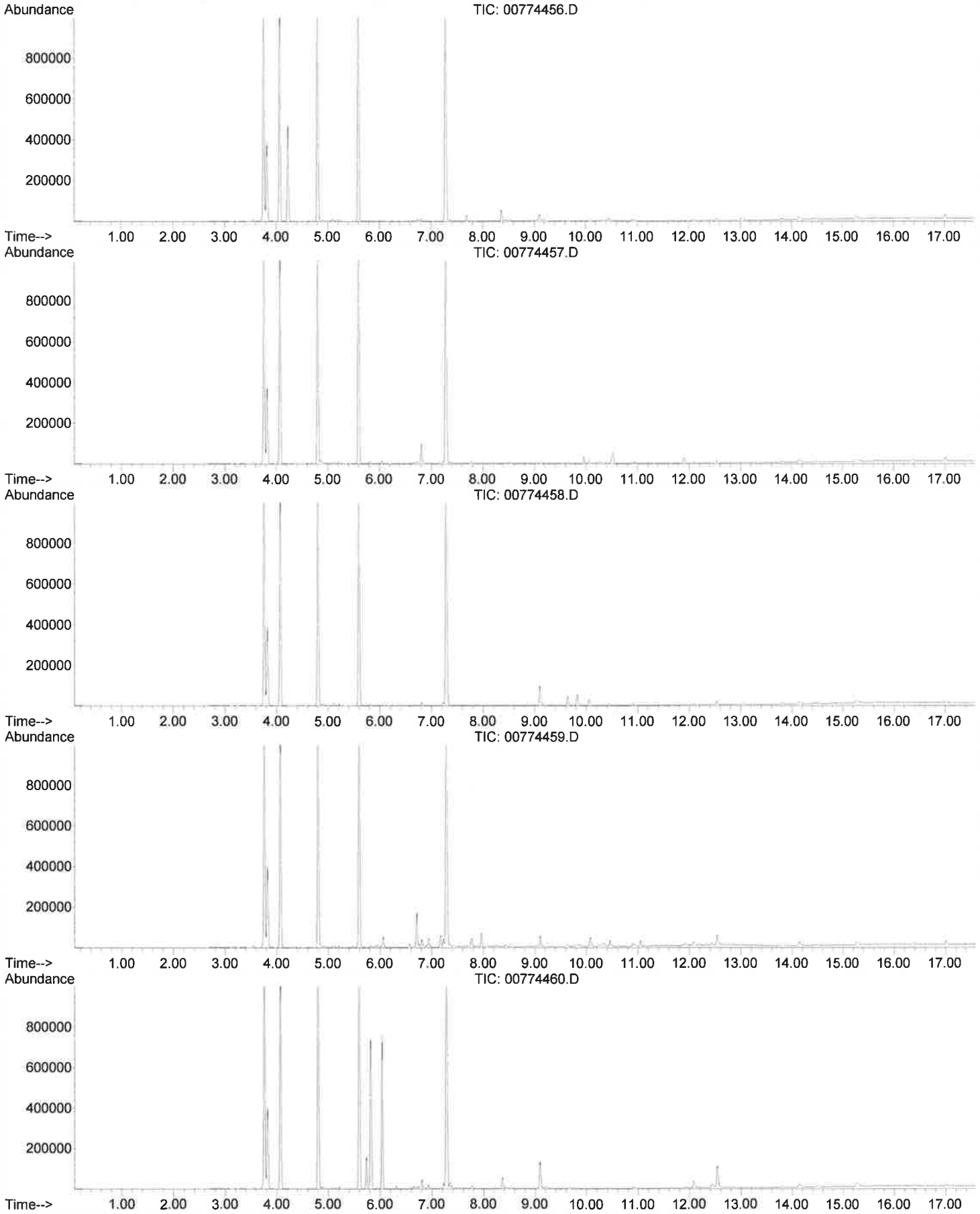
	99% Uncertainty Range +/-	95% Uncertainty Range +/-
MTBE	20%	14%
t12DCE	22%	15%
11DCA	18%	12%
c12DCE	18%	12%
CHCl3	16%	11%
111TCA	18%	12%
12DCA	20%	13%
BENZ	16%	10%
CCl4	19%	12%
TCE	15%	10%
112TCA	18%	12%
TOL	15%	10%
OCT	20%	13%
PCE	16%	11%
ClBENZ	18%	12%
1112TetCA	19%	13%
EtBENZ	18%	12%
mpXYL	18%	12%
oXYL	18%	12%
1122TetCA	23%	15%
135TMB	21%	14%
124TMB	20%	14%
13DCB	19%	13%
14DCB	19%	13%
12DCB	20%	14%
NAPH	21%	14%
2MeNAPH	25%	17%

TABLE D
4 CONSTANT AIR CONCENTRATION UNCERTAINTY

ERROR IN CONCENTRATION REPORTING (1)

	Primary-Duplicate Error	Minimum Error	Maximum Error
MTBE	4.3%	-76%	43%
t12DCE	10.4%	-70%	41%
11DCA	5.2%	-68%	40%
c12DCE	6.0%	-49%	33%
CHCl3	4.8%	-60%	37%
111TCA	5.4%	-50%	33%
12DCA	5.4%	-49%	33%
BENZ	4.4%	-52%	34%
CCl4	5.3%	-48%	32%
TCE	5.7%	-37%	27%
112TCA	5.9%	-23%	18%
TOL	5.3%	-26%	20%
OCT			
PCE	5.7%	-18%	15%
ClBENZ	3.9%	-20%	17%
1112TetCA			
EtBENZ	5.1%	-21%	17%
mpXYL	4.5%	-18%	15%
oXYL	4.7%	-21%	17%
1122TetCA	5.2%	-21%	18%
135TMB	8.0%	-25%	20%
124TMB	7.0%	-24%	19%
13DCB	6.7%	-21%	18%
14DCB	6.1%	-22%	18%
12DCB	7.4%	-22%	18%
Total Mass	4.3%	-23%	18%

TICS - 01645
IN NUMERICAL ORDER



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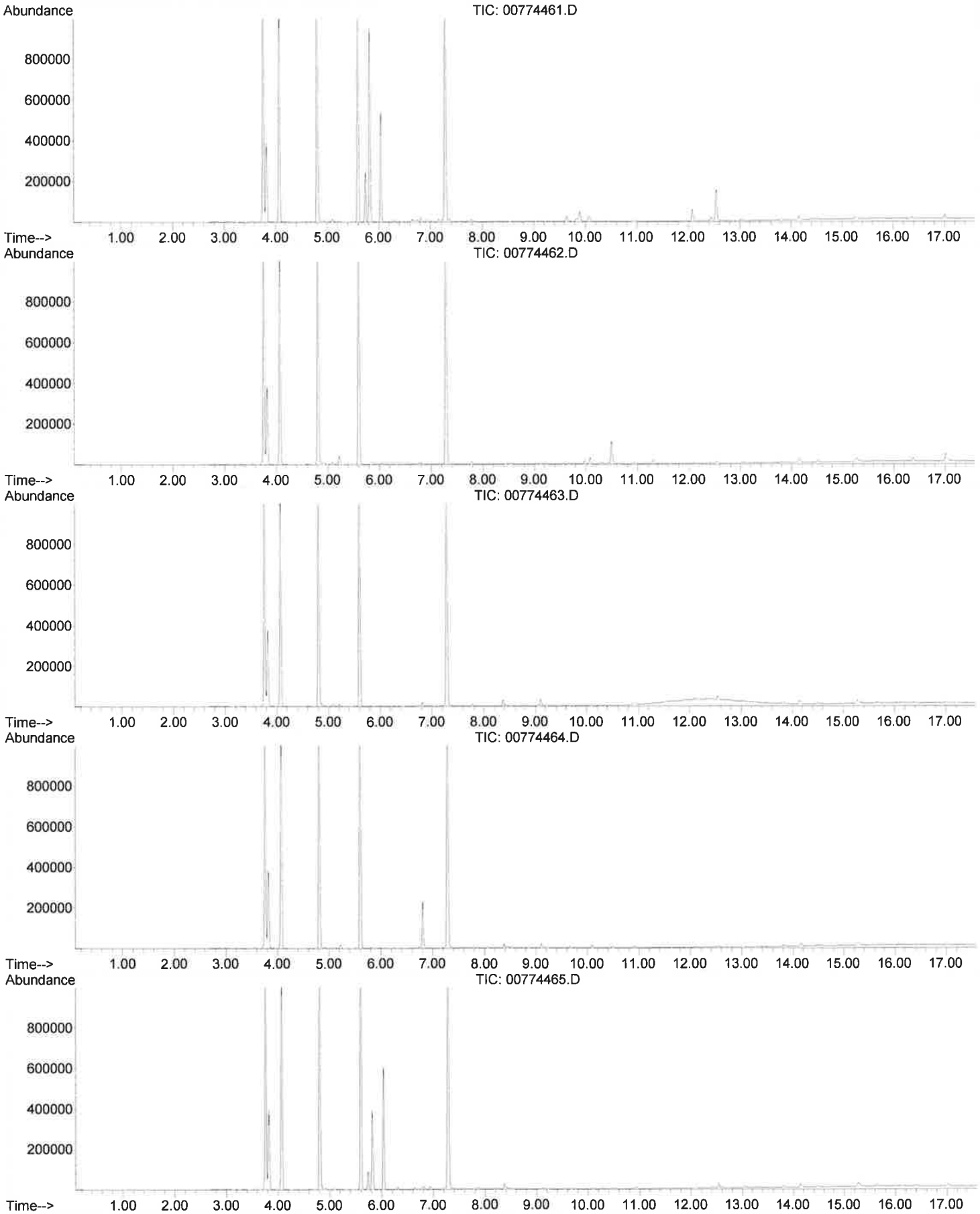
IN NUMERICAL ORDER



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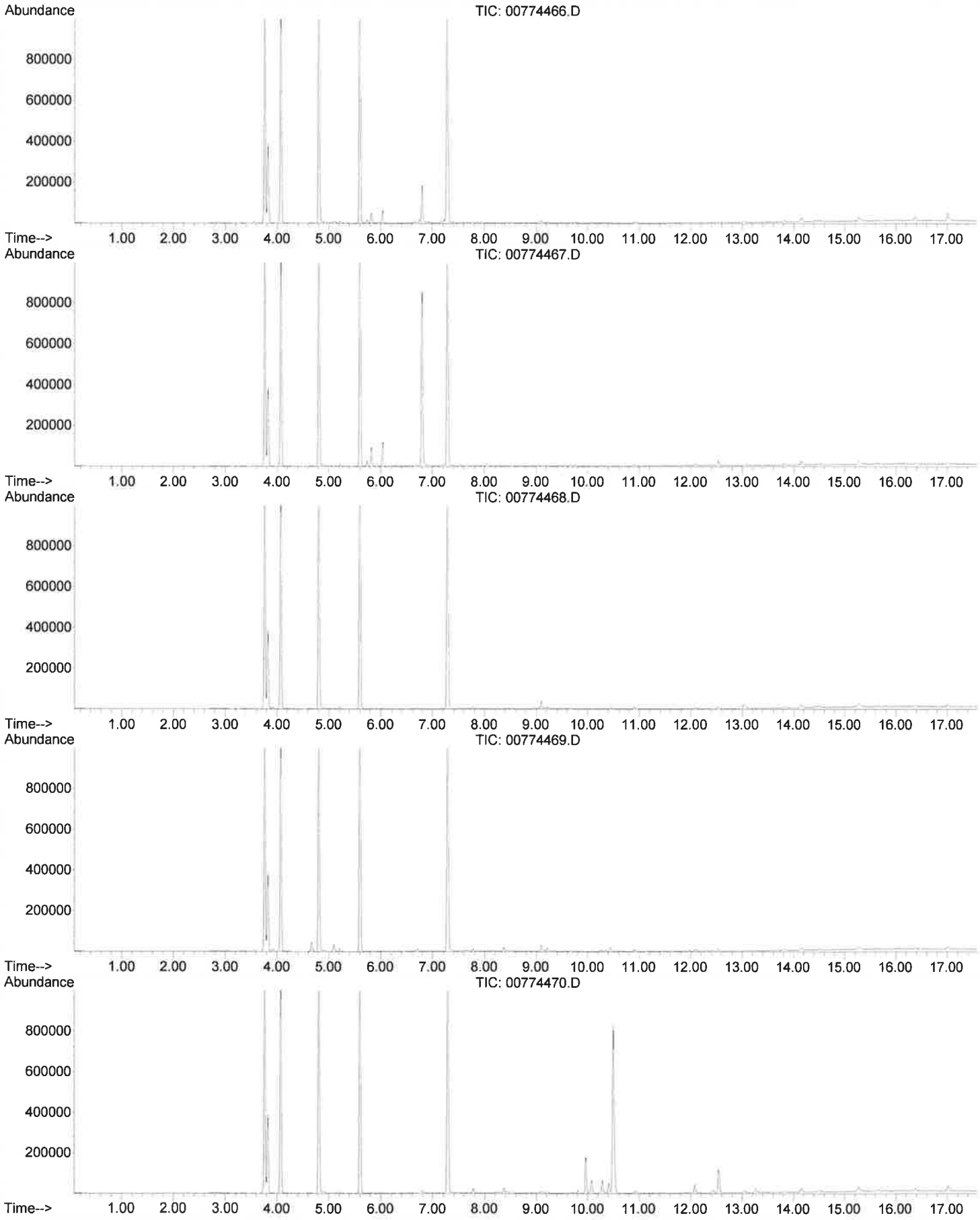

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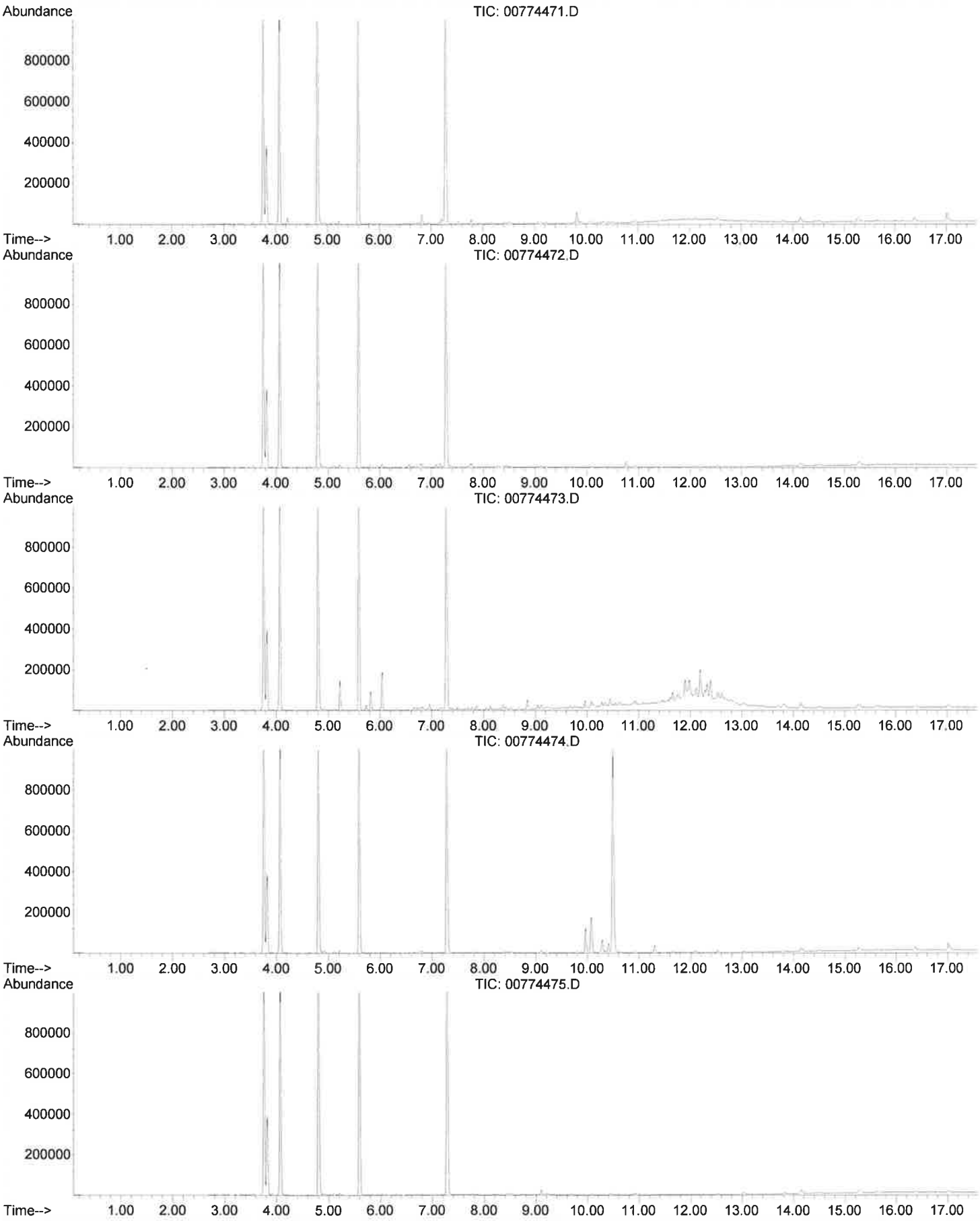

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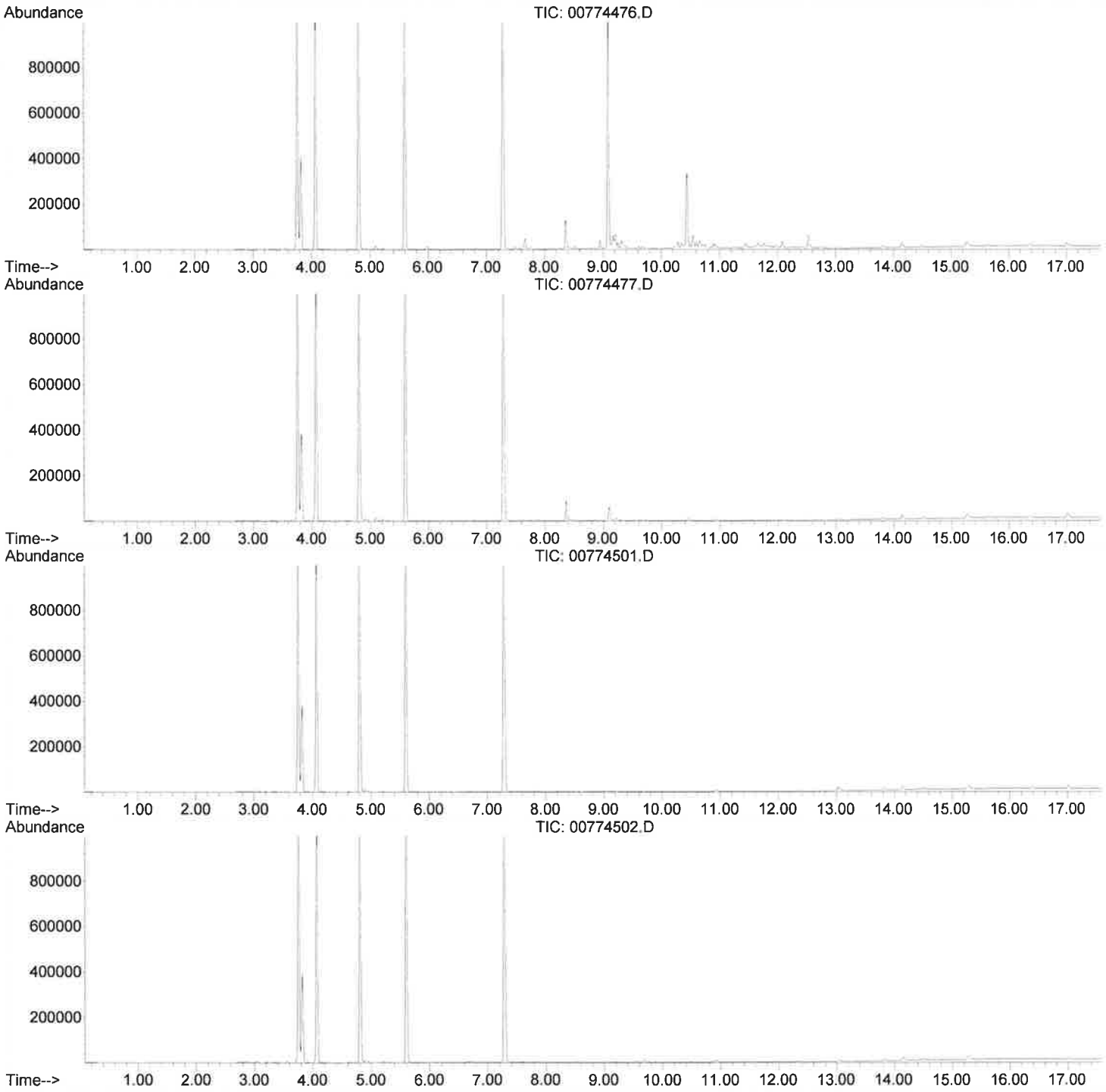

AMPLIFIED
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AMPLIFIED GEOCHEMICAL IMAGING, LLC

Mapping Report

Site: Yakima SI

Prepared for:

TerranearPMC
222 Valley Creek Boulevard
Suite 210
Exton, PA

Prepared on:

June 23, 2016

Project Summary

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

Yakima SI

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described for the requested organic compounds, and reporting of the data. A Laboratory Report was issued previously which summarized the field sampling and analytical procedures, and contained the sample results.

Normally, when printed at scale, the maps are 11 x 17 inch in size. Other sizes are available upon request. General and project specific comments on the contouring and mapping can be found on the next page.

Maps prepared by:

Kelly J Stringham

Project Manager

Maps reviewed/approved by:

Dayna M Cobb

Project Manager

Digitally signed by: dcobb
DN: CN = dcobb
Date: 2016.06.23 16:23:38 -04'00'

General Comments

A minimum curvature algorithm was used to interpolate the data from the sample locations to a regularly-spaced grid. The resulting surface is considered to be the smoothest possible surface that will fit the observed values at each sample location (i.e., data honoring). The interpolation is performed in log space, with grid cell sizes approximately one-tenth the average distance between sample locations. For example, when AGI Universal Samplers are placed about 50 feet apart, the grid cell size is set to five feet.

Where observations trend from lower to higher values, and moving towards the edge of the area sampled, the contour surface will continue to rise (showing warmer colors) as no additional data exist to constrain the interpolation. Where observations trend from high to low, towards the edge of the area sampled, the opposite is true.

Contour minimums and maximums used in the color interval assignment are established based on the QA blank levels (trip and method blanks), method detection limits, and maximum values observed. The minimum contour level (gray color) is established using the maximum QA blank level or method detection limit, whichever is greater, per compound or groups of compounds. The maximum contour level is set at the maximum value observed, per compound or groups of compounds. Contour interval assignments can be modified at the client's request.

Project Specific Comments

1. Grid cell size was set to two feet, which is less than one-tenth of the average distance between sample locations.
2. A BING aerial map was overlaid on the color contour maps using coordinates provided by TerranearPMC.

31,600
28,028
24,860
22,050
19,558
17,347
15,387
13,648
12,105
10,737
9,523
8,447
7,492
6,645
5,894
5,228
4,637
4,113
3,648
3,236
2,870

PCE
ug/m^3

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WWW.AGISURVEYS.NET

TerranearPMC
Yakima SI
Tetrachloroethene
Estimated Soil Gas Concentrations

Scale 1:840

50 0 50 100 150

US survey foot

NAD83 / Washington South (ftUS)

DATE DRAWN: 23 JUN 2016 | DRAWN BY: KS | ORIG. CAD: | SITE CODE:

REV. DATE: | REV. #: | PROJECT NUMBER: 01645

405,000
342,286
289,283
244,487
206,628
174,632
147,590
124,736
105,420
89,096
75,299
63,639
53,785
45,456
38,417
32,468
27,441
23,191
19,600
16,565
14,000

TCE
ug/m^3

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TerranearPMC
Yakima SI
Trichloroethene
Estimated Soil Gas Concentrations

Scale 1:840

50 0 50 100 150

US survey foot

NAD83 / Washington South (ftUS)

DATE DRAWN: 23 JUN 2016 | DRAWN BY: KS | ORIG. CAD: | SITE CODE:

REV. DATE: | REV. #: | PROJECT NUMBER: 01645


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19,700
17,454
15,464
13,701
12,139
10,755
9,529
8,442
7,480
6,627
5,872
5,202
4,609
4,084
3,618
3,205
2,840
2,516
2,229
1,975
1,750
Ethylbenzene
ug/m^3
AMPLIFIED GEOCHEMICAL IMAGING, LLC
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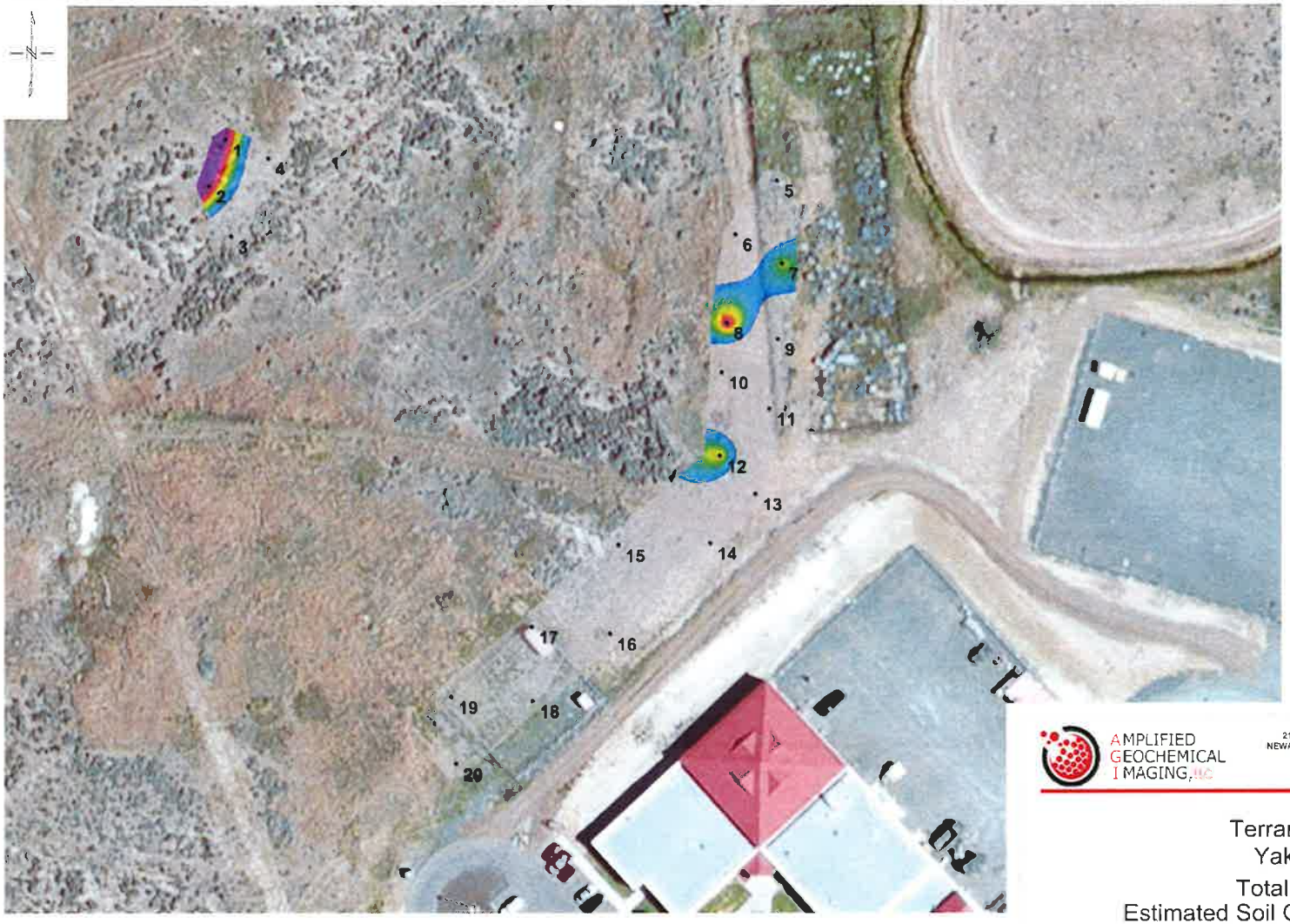
WWW.AGISURVEYS.NET
TerranearPMC
Yakima SI
Ethylbenzene
Estimated Soil Gas Concentrations
Scale 1:840
50 0 50 100 150
US survey foot
NAD83 / Washington South (ftUS)
DATE DRAWN: 23 JUN 2016
DRAWN BY: KS
ORIG. CAD:
SITE CODE:
REV. DATE:
REV. #:
PROJECT NUMBER: 01645



136,400
109,248
87,502
70,084
56,133
44,959
36,010
28,842
23,100
18,502
14,819
11,869
9,507
7,614
6,098
4,885
3,912
3,133
2,510
2,010
1,610

Total Xylenes
ug/m^3

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TerranearPMC
Yakima SI
Total Xylenes
Estimated Soil Gas Concentrations

Scale 1:840

50 0 50 100 150

US survey foot

NAD83 / Washington South (ftUS)

DATE DRAWN: 23 JUN 2016 | DRAWN BY: KS | ORIG. CAD: | SITE CODE:

REV. DATE: | REV. #: | PROJECT NUMBER: 01645

2.780
2.684
2.592
2.503
2.417
2.333
2.253
2.176
2.101
2.028
1.959
1.891
1.826
1.763
1.703
1.644
1.587
1.533
1.480
1.429
1.380

C11+C13+C15
ug/m^3

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TerranearPMC
Yakima SI

C11+C13+C15
Estimated Soil Gas Concentrations

Scale 1:840

50 0 50 100 150

US survey foot
NAD83 / Washington South (ftUS)

DATE DRAWN: 23 JUN 2016 | DRAWN BY: KS | ORIG. CAD: | SITE CODE:
REV. DATE: | REV. #: | PROJECT NUMBER: 01645

AMPLIFIED GEOCHEMICAL IMAGING, LLC

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APPENDIX F
TEST PIT LOGS

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/25/2016
Location: Yakima Washington Training Center
Time: 8:08
Test Pit Name: 40
Approx. Easting: 1652442.386 WA State Plane
Approx. Northing: 491389.2256
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 48 F, Partly Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: damp top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Damp top soil and vegetation cover		
0.5	3	Material type:	loamy matrix	This loamy layer is tan in color. Debris (glass, cans, and misc. debris) was encountered at 2.5 feet bgs, no soil staining present. Hit refusal at 3.0 feet bgs at the top of a brownish hard packed sandstone formation.	
		Layer Thickness (ft):	2.5		North side of pit; 3.0 ft bgs / YTCFLC-SS-40-01
		Soil/rock conditions:	loamy with low moisture content		South side of pit; 3.0 ft bgs / YTCFLC-SS-42-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/25/2016
Location: Yakima Washington Training Center
Time: 9:15
Test Pit Name: 41
Approx. Easting: 1652322.829
Approx. Northing: 491469.9566
WA State Plane
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 48 F, Partly Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: damp top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	damp, no vegetation		
0.5	7	Material type:	loamy matrix with gravel	This loamy layer is tan in color with 1 - 2 inch gravel intermixed. Excavation refusal reached at 7 feet at the top of a light brown hard pack sandstone formation.	
		Layer Thickness (ft):	6.5		South side of pit; 7 ft bgs/ YTCFLC-SS-41-01
		Soil/rock conditions:	loamy with low moisture content		North side of pit; 7 ft bgs/ YTCFLC-SS-41-02, MS, and MSD
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/27/2016
Location: Yakima Washington Training Center
Time: 15:00
Test Pit Name: 42
Approx. Easting: 1652561.649 WA State Plane
Approx. Northing: 491469.4139
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 95 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	4.5	Material type:	loamy matrix	This loamy layer is tan in color. No debris or soil staining present. Hit refusal at 4.5 feet, encountered brownish hard packed sandstone.	
		Layer Thickness (ft):	4		4.25 ft/ YTCFLC-SS-42-01
		Soil/rock conditions:	loamy with low moisture content		4.25 ft/ YTCFLC-SS-42-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/25/2016
Location: Yakima Washington Training Center
Time: 10:36
Test Pit Name: 43
Approx. Easting: 1652598.035 WA State Plane
Approx. Northing: 491526.0157
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 60 F, Mostly Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: moist top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	3	Material type:	loamy/gravel matrix	This loamy layer is tan in color mixed with 2 inch gravel. No debris or soil staining present.	
		Layer Thickness (ft):	2.5		
		Soil/rock conditions:	loamy/gravel with medium moisture content		
3	10	Material type:	loamy/gravel matrix	This loamy layer is tan in color mixed with 2 inch gravel and interspersing with 12 inch round boulders. Rolls of barbedwire were removed throughout this interval, no soil staining was present. Did not reach refusal.	
		Layer Thickness (ft):	7		North side of pit; 10 ft bgs/ YTCFLC-SS-43-01
		Soil/rock conditions:	loamy/gravel with medium moisture content		South side of pit; 10 ft bgs/ YTCFLC-SS-43-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/28/2016
Location: Yakima Washington Training Center
Time: 8:45
Test Pit Name: 44
Approx. Easting: 1652632.517 WA State Plane
Approx. Northing: 491707.0997
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 68 F, Cloudy Skies and windy
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: moist top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	1	Material type:	top soil, vegetation, and roots		
		Layer Thickness (ft):	1		
		Soil/rock conditions:	Moist top soil		
1	3	Material type:	loamy soil matrix	This loamy layer is tan in color with no signs of staining or debris	
		Layer Thickness (ft):	2		
		Soil/rock conditions:	loamy matrix with low moisture content		
3	4	Material type:	loamy/fractured basalt matrix	This loamy layer is tan in color with a mixture of fractured basalt. No soil staining present. Hit refusal at 4.0 feet bgs at the top of a brownish hard packed sandstone formation.	West side of pit at 3.5 feet/ YTCFLC-SS-44-01
		Layer Thickness (ft):	1		
		Soil/rock conditions:	loamy/fractured basalt with low moisture content		East side of pit at 3.5 feet/ YTCFLC-SS-44-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/22/2016
Location: Yakima Washington Training Center
Time: 8:18
Test Pit Name: 45
Approx. Easting: 1652691.379 WA State Plane
Approx. Northing: 491431.1158
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 75 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: clear of all vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
		Material type:	crushed rock		
		Layer Thickness (ft):	0.5		
0	0.5	Soil/rock conditions:	dry, no vegetation		
		Material type:	loamy matrix with gravel		
		Layer Thickness (ft):	1.5		
0.5	2	Soil/rock conditions:	roots in top 6 inches, low moisture content	This loamy layer is tan in color with 1 - 2 inch gravel intermixed	2 ft/ YTCFLC-SS-45-01
		Material type:	loamy matrix with gravel and basalt fragments	This loamy layer is tan in color with 1 - 2 inch gravel and 3 - 4 inch angular pieces of basalt intermixed	
		Layer Thickness (ft):	2		
2	4	Soil/rock conditions:	low moisture content		
		Material type:	hard pack sandstone with gravel and basalt fragments	This loamy layer is light tan to brown in color with 1 - 2 inch gravel and 3 - 4 inch angular pieces of basalt intermixed. Excavation refusal reached at 4.5 feet where a light brown hard pack sandstone was encountered.	
		Layer Thickness (ft):	0.5		
4	4.5	Soil/rock conditions:	moist/ soft loamy soil to 4.5 ft, at 4.5 ft a dry hard packed sandstone layer was encountered		4.5 ft/ YTCFLC-SS-45-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/22/2016
Location: Yakima Washington Training Center
Time: 10:57
Test Pit Name: 46
Approx. Easting: 1652800.587 WA State Plane
Approx. Northing: 491527.4532
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 73 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: clear of all vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	crushed rock		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry crushed rock cover		
0.5	2	Material type:	loamy matrix with gravel	This loamy layer is tan in color with 1 - 2 inch gravel intermixed	
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	Dry crushed rock cover		
2	3.5	Material type:	loamy matrix with gravel and at 3.5 feet hard packed sandstone	This loamy layer is tan in color with 1 - 2 inch gravel intermixed. Excavation refusal was reached at 3.5 feet where a light brown hard pack sandstone was encountered.	2.5 ft/ YTCFLC-SS-46-01
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	low moisture content		3.5 ft/ YTCFLC-SS-46-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/22/2016
Location: Yakima Washington Training Center
Time: 12:45
Test Pit Name: 47
Approx. Easting: 1652826.336 WA State Plane
Approx. Northing: 491594.8047
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 81 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: crush rock and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	dry soil and vegetation		
0.5	2	Material type:	loamy matrix	This loamy layer is tan in color	
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	Dry crushed rock and vegetation cover		
2	2.5	Material type:	greenish colored loamy	No odor detected and PID readings are normal at this greenish colored loamy layer.	
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	low moisture content, no odor detected		2.5 ft/ YTCFLC-SS-47-01
2.5	4.5	Material type:	loamy matrix	This loamy layer is tan in color. Excavation refusal was reached at 4.5 feet where a light brown hard pack sandstone was encountered.	
		Layer Thickness (ft):	2		4.5 ft/ YTCFLC-SS-47-02
		Soil/rock conditions:	low moisture content		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/22/2016
Location: Yakima Washington Training Center
Time: 14:12
Test Pit Name: 48
Approx. Easting: 1652860.372 WA State Plane
Approx. Northing: 491647.4543
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 91 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 5
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	5	Material type:	loamy matrix	This loamy layer is tan in color and is combined with approximately 5% of volume consisting of 1 to 2 inch gravel	
		Layer Thickness (ft):	4.5		
		Soil/rock conditions:	loamy/gravel matrix with no to very low moisture		
5	7	Material type:	loamy soil intermixed with landfill debris	At 5 feet bgs, broken glass, glass bottles, rusty cans and miscellaneous metal encountered along with small pockets of ash intermixed with this debris. At 7 feet, excavation refusal was encountered at the light brown hard packed sandstone layer. PID readings normal	6 ft/ YTCFLC-SS-48-01
		Layer Thickness (ft):	2		
		Soil/rock conditions:	low moisture content, no odor detected		7 ft/ YTCFLC-SS-48-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/23/2016
Location: Yakima Washington Training Center
Time: 8:42
Test Pit Name: 49
Approx. Easting: 1652914.713 WA State Plane
Approx. Northing: 491692.0157
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 72 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 3
Surface Condition: dry top soil/void of vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil/crushed gravel		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil with gravel mixed in		
0.5	8.5	Material type:	loamy/gravel matrix	This loamy/gravel layer is tan in color and is combined with approximately 5% of volume consisting of 1 to 2 inch gravel.At 8.5 feet, excavation refusal was encountered at the light brown hard packed sandstone layer.	
		Layer Thickness (ft):	8.5		4 feet/ YTCFLC-SS-49-01
		Soil/rock conditions:	loamy/gravel matrix with low moisture content		8 feet/ YTCFLC-SS-49-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/23/2016
Location: Yakima Washington Training Center
Time: 10:25
Test Pit Name: 50
Approx. Easting: 1652863.149 WA State Plane
Approx. Northing: 491698.9375
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 75 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	1	Material type:	top soil,vegetation, and roots		
		Layer Thickness (ft):	1		
		Soil/rock conditions:	Dry top soil		
1	3	Material type:	loamy matrix with gravel/boulders	This loamy layer is tan in color and is combined with gravel and 6 to 12 inch rounded rock.	
		Layer Thickness (ft):	2		
		Soil/rock conditions:	loamy matrix with gravel/boulders with low moisture content		
3	8	Material type:	A mixture of loamy soil and landfill debris	From 3 to 8 feet, glass, metal, cans, and ash mixed with the loamy soil. No staining or odors were evident. This debris continued until the excavation refusal at 8 feet, at the light brown hard packed sandstone layer.	3 feet/ YTCFLC-SS-50-01
		Layer Thickness (ft):	5		
		Soil/rock conditions:	low moisture content		6 feet/ YTCFLC-SS-50-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/24/2016
Location: Yakima Washington Training Center
Time: 7:37
Test Pit Name: 51
Approx. Easting: 1652806.593 WA State Plane
Approx. Northing: 491716.2013
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 54 F, Cloudy Skies and windy
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 15
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	1	Material type:	top soil,vegetation, and roots		
		Layer Thickness (ft):	1		
		Soil/rock conditions:	Dry top soil		
1	2	Material type:	loamy soil matrix	This loamy layer is tan in color with no signs of staining	
		Layer Thickness (ft):	1		
		Soil/rock conditions:	loamy matrix with low moisture content		
2	8	Material type:	A mixture of loamy soil and landfill debris	From 2 to 8 feet, glass, metal, cans, and ash mixed with the loamy soil. No staining or odors were evident. This debris, made up of glass pieces, bottles, metal cans, and other metal materials, continued until the excavation refusal at 8 feet, at a light brown hard packed sandstone layer.	3 feet/ YTCFLC-SS-51-01
		Layer Thickness (ft):	6		
		Soil/rock conditions:	low moisture content		7 feet/ YTCFLC-SS-51-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/24/2016
Location: Yakima Washington Training Center
Time: 9:20
Test Pit Name: 52
Approx. Easting: 1652796.154 WA State Plane
Approx. Northing: 491764.35
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 66 F, Cloudy Skies and windy
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 15
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
		Material type:	top soil, vegetation, and roots		
		Layer Thickness (ft):	1		
0	1	Soil/rock conditions:	Dry top soil		
		Material type:	loamy soil matrix		
		Layer Thickness (ft):	1		
1	2	Soil/rock conditions:	loamy matrix with low moisture content	This loamy layer is tan in color with no signs of staining or debris	
		Material type:	A mixture of loamy soil and landfill debris	From 2 to 4 feet, glass, metal, cans, and ash mixed with the loamy soil. No staining or odors were evident. This debris, made up of glass pieces, bottles, metal cans, and other metal materials.	
		Layer Thickness (ft):	2		
2	4	Soil/rock conditions:	low moisture content		
		Material type:	void space and rusted drum material	A void space encountered at 4 feet down to approximately 7 feet. From 7 to 8 feet in depth, the reminisces of metal drums were encounter consisting of top and bottom drum rings along with small sections that made up the sides. No markings on the drum pieces found. No staining or odor observed. PID readings were normal.	
		Layer Thickness (ft):	4		
4	8	Soil/rock conditions:	NA		8 feet/ YTCFLC-SS-52-01
		Material type:	loamy matrix		
		Layer Thickness (ft):	3		10 feet/ YTCFLC-SS-52-02
8	11	Soil/rock conditions:	loamy matrix with medium moisture content	A loamy soil matrix free of debris to 11 feet, no refusal was reached.	
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/27/2016
Location: Yakima Washington Training Center
Time: 10:35
Test Pit Name: 53
Approx. Easting: 1652896.591 WA State Plane
Approx. Northing: 491738.5919
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 73 F, Clear Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 15
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
		Material type:	top soil, vegetation, and roots		
		Layer Thickness (ft):	1		
0	1	Soil/rock conditions:	Dry top soil		
		Material type:	loamy soil matrix		
		Layer Thickness (ft):	1.5		
1	2.5	Soil/rock conditions:	loamy matrix with low moisture content	This loamy layer is tan in color	
		Material type:	loamy soil matrix mixed with gravel, and metal bands and rings	A moist orange to brown loamy soil matrix with visible iron staining from 2.5 to 6.5 feet in depth. A mixture of metal, glass and wood is abundant from 2.5 to 6.5 feet in depth. PID readings are normal. Refusal reach at 6.5 feet at the hard pack sandstone formation.	2.5 feet/ YTCFLC-SS-53-01
		Layer Thickness (ft):	4		
2.5	6.5	Soil/rock conditions:	very moisture content		6.5feet/ YTCFLC-SS-53-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/27/2016
Location: Yakima Washington Training Center
Time: 7:38
Test Pit Name: 54
Approx. Easting: 1652938.708 WA State Plane
Approx. Northing: 491842.9029
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 70 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	5	Material type:	loamy matrix	This loamy layer is tan in color. At the depth of 5 feet, refusal was encountered at a brownish hard packed sandstone formation. No debris or soil staining present.	2 ft/ YTCFLC-SS-54-01
		Layer Thickness (ft):	4.5		
		Soil/rock conditions:	loamy with low moisture content		4.5 ft/ YTCFLC-SS-54-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/27/2016
Location: Yakima Washington Training Center
Time: 8:40
Test Pit Name: 55
Approx. Easting: 1652885.201 WA State Plane
Approx. Northing: 491816.0158
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 74 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	2	Material type:	loamy matrix	This loamy layer is tan in color. No debris or soil staining present.	
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	loamy with low moisture content		
2	6	Material type:	loamy/gravel matrix mixed with glass, metal can, and bottle debris	From 2 to 6 feet, glass, metal, cans, and ash mixed with the loamy soil. Staining is evident at 2 feet, no odor. PID readings are normal. Refusal at 5.75 feet, brown hard packed sandstone formation.	2 ft/ YTCFLC-SS-55-01
		Layer Thickness (ft):	4		5.75 ft/ YTCFLC-SS-55-02
		Soil/rock conditions:	moist		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/31/2016
Location: Yakima Washington Training Center
Time: 9:10
Test Pit Name: 56
Approx. Easting: 1652807.973 WA State Plane
Approx. Northing: 492430.9609
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 55 F, Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: damp top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Damp top soil and vegetation cover		
0.5	3	Material type:	loamy matrix	This loamy layer is tanish in color. No debris or soil staining present.	
		Layer Thickness (ft):	2.5		
		Soil/rock conditions:	moist		
3	8.5	Material type:	sandy clay matrix	Moist dark brown sandy clay matrix. No odor or staining. Refusal at a depth of 8.5 feet at the top of a brownish hard packed sandstone formation.	North side of Test Pit 57 at 8.5 feet bgs/ YTCFLC-SS-56-01
		Layer Thickness (ft):	5.5		South side of Test Pit 56 at 8.5 feet bgs/ YTCFLC-SS-56-02 and 2D
		Soil/rock conditions:	moist sandy clay soil		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/30/2016
Location: Yakima Washington Training Center
Time: 9:45
Test Pit Name: 57
Approx. Easting: 1652836.978 WA State Plane
Approx. Northing: 492170.8765
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 83 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	1.5	Material type:	loamy matrix	This loamy layer is tanish in color. No debris or soil staining present.	
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	dry		
1.5	7.5	Material type:	sandy clay matrix combined with trash debris	Moist orange to brown sandy clay matrix, along with glass, metal and wood fibers. No odor detected and PID reading is normal. It was determined at a approximate depth of 7 feet, a projectile was removed from the test pit. Inert 105mm projectile was discovered, reported and work site was closed, so no samples were collected from Test Pit 57.	
		Layer Thickness (ft):	6		No samples collected from test pit.
		Soil/rock conditions:	moist sandy clay soil		
7.5	9	Material type:	sandy clay matrix	moist orange to brown colored sandy clay soil matrix. No debris or staining. Refusal encountered at 9 feet, in the brownish hard packed sandstone formation.	
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	moist		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/28/2016
Location: Yakima Washington Training Center
Time: 10:45
Test Pit Name: 57
Approx. Easting: 1652836.528 WA State Plane
Approx. Northing: 492178.8013
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 58 F, Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: damp top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Damp top soil and vegetation cover		
0.5	1.5	Material type:	loamy matrix	This loamy layer is tanish in color. No debris or soil staining present.	
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	moist		
1.5	7.5	Material type:	sandy clay matrix combined with trash debris	Moist orange to brown sandy clay matrix, along with glass, metal and wood fibers. No odor detected and PID reading is normal. At an approximate depth of 7 feet, an empty 105M projectile with no pimer was removed from the test pit.	South side of Test Pit 57 at 5 feet bgs/ YTCFLC-SS-57-01 and 1D
		Layer Thickness (ft):	6		of Test Pit 57 at 5 feet bgs/ YTCFLC-SS-57-02
		Soil/rock conditions:	moist sandy clay soil		
7.5	12	Material type:	sandy clay matrix	Moist orange to brown colored sandy clay soil matrix. No debris or staining. Refusal encountered at 12 feet at the top of a brownish hard packed sandstone formation.	
		Layer Thickness (ft):	4.5		
		Soil/rock conditions:	moist sandy clay soil		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/28/2016
Location: Yakima Washington Training Center
Time: 9:30
Test Pit Name: 58
Approx. Easting: 1652732.833 WA State Plane
Approx. Northing: 492270.1667
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 60 F, Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: damp top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Damp top soil and vegetation cover		
0.5	3	Material type:	loamy matrix	This loamy layer is tanish in color. No debris or soil staining present.	
		Layer Thickness (ft):	2.5		
		Soil/rock conditions:	moist loamy matrix		
3	5	Material type:	sandy clay matrix combined with trash debris	This sandy clay layer is tanish in color, along with glass, metal and wood fibers. Red staining due to rusting metal with no odor detected.	
		Layer Thickness (ft):	2		
		Soil/rock conditions:	moist sandy clay soil		
5	7	Material type:	Brown loamy matrix	Brown sandy clay layer with no debris or staining. Refusal at 7 feet bgs at the top of a brownish hard packed sandstone formation.	North side of Test Pit 58 at 5 feet bgs/ YTCFLC-SS-58-01
		Layer Thickness (ft):	2		South side of Test Pit 58 at 7 feet bgs/ YTCFLC-SS-58-02
		Soil/rock conditions:	moist loamy matrix		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/29/2016
Location: Yakima Washington Training Center
Time: 12:33
Test Pit Name: 59
Approx. Easting: 1652672.976 WA State Plane
Approx. Northing: 492063.3122
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 87 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 2
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	1.5	Material type:	loamy matrix	This loamy tan in color. No debris or soil staining present.	
		Layer Thickness (ft):	1		
		Soil/rock conditions:	loamy/gravel with low moisture content		
1.5	5.5	Material type:	loamy /clay soil matrix	loamy/clay soil matrix with moist greenish brown. No odor detected and PID reading is normal. Refusal encountered at 5.5 feet, in the brownish hard packed sandstone formation.	5.5 ft/ YTCFLC-SS-59-01
		Layer Thickness (ft):	4		
		Soil/rock conditions:	moist loamy/clay matrix		5.5 ft/ YTCFLC-SS-59-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/30/2016
Location: Yakima Washington Training Center
Time: 7:00
Test Pit Name: 60
Approx. Easting: 1652849.743 WA State Plane
Approx. Northing: 492080.1886
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 70 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 10
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	2	Material type:	loamy/gravel matrix	This loamy/gravel layer is brownish in color. No debris or soil staining present.	
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	loamy/gravel with low moisture content		
2	9	Material type:	loamy matrix combined with trash debris	loamy soil matrix with moist orangish brown iron staining along with glass, and wood fibers. No odor detected and PID reading is normal. Refusal encountered at 9 feet, in the brownish hard packed sandstone formation.	4.5 ft/ YTCFLC-SS-60-01
		Layer Thickness (ft):	7		
		Soil/rock conditions:	moist loamy soil/debris mixture		8.75 ft/ YTCFLC-SS-60-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/27/2016
Location: Yakima Washington Training Center
Time: 8:15
Test Pit Name: 61
Approx. Easting: 1652524.595
Approx. Northing: 491845.2125
WA State Plane
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 48 F, Partly Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 1
Surface Condition: damp top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Damp top soil and vegetation cover		
0.5	3	Material type:	loamy matrix	This loamy layer is tan in color. No soil staining present. Hit refusal at 3.0 feet bgs at the top of a brownish hard packed sandstone formation.	North side of pit; 3.0 ft bgs / YTCFLC-SS-61-01
		Layer Thickness (ft):	2.5		
		Soil/rock conditions:	loamy with low moisture content		South side of pit; 3.0 ft bgs / YTCFLC-SS-61-02 and MS/MSD sample
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 10/27/2016
Location: Yakima Washington Training Center
Time: 9:10
Test Pit Name: 62
Approx. Easting: 1652521.754
Approx. Northing: 491818.8457
WA State Plane
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 52 F, Partly Cloudy Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 1
Surface Condition: damp top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Damp top soil and vegetation cover		
0.5	4	Material type:	loamy matrix	This loamy layer is tan in color. No soil staining present. Hit refusal at 4.0 feet bgs at the top of a brownish hard packed sandstone formation.	North side of pit; 4.0 ft bgs / YTCFLC-SS-62-01
		Layer Thickness (ft):	3.5		
		Soil/rock conditions:	loamy with low moisture content		South side of pit; 4.0 ft bgs / YTCFLC-SS-62-02
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project:	Yakima Training Center Former Landfill Complex Site Inspection			Date:	6/24/2016
Location:	Yakima Washington Training Center			Time:	11:12
Test Pit Name:	63		Approx. Easting:	1652725.821	WA State Plane
			Approx. Northing:	491699.8755	
Company Name:	TerranearPMC, LLC				
Test Pit Logged by:	Dan Thompson				
Weather Conditions:	68 F, Cloudy Skies and windy				
Method of Excavation:	Excavated with an Excavator				
Surface Slope (approx %):	10				
Surface Condition:	dry top soil and vegetation				

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	1	Material type:	top soil, vegetation, and roots		
		Layer Thickness (ft):	1		
		Soil/rock conditions:	Dry top soil		
1	4.5	Material type:	loamy soil matrix	This loamy layer is tan in color with no signs of staining or debris	
		Layer Thickness (ft):	1		
		Soil/rock conditions:	loamy matrix with low moisture content		
4.5	6	Material type:	light tan sand lens	no signs of staining or debris. PID readings were normal.	3 feet/ YTCFLC-SS-63-01
		Layer Thickness (ft):	1.5		
		Soil/rock conditions:	medium moisture content		
6	9	Material type:	loamy soil matrix intermixed with 2 to 8 inch pieces of fractured basalt	no signs of staining or debris. PID readings were normal. At 9 feet refusal was met in hard packed brown sandstone formation.	6 feet/ YTCFLC-SS-63-02
		Layer Thickness (ft):	3		
		Soil/rock conditions:	medium moisture content		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

SOIL TEST PIT LOG FORM

Project: Yakima Training Center Former Landfill Complex Site Inspection
Date: 6/27/2016
Location: Yakima Washington Training Center
Time: 12:00
Test Pit Name: 64
Approx. Easting: 1652756.676 WA State Plane
Approx. Northing: 491808.9052
Company Name: TerranearPMC, LLC
Test Pit Logged by: Dan Thompson

Weather Conditions: 83 F, Clear Sunny Skies
Method of Excavation: Excavated with an Excavator
Surface Slope (approx %): 15
Surface Condition: dry top soil and vegetation

Depth from (feet)	Depth to (feet)	Layer Description		Comments	Sample Interval/ ID
0	0.5	Material type:	top soil and vegetation		
		Layer Thickness (ft):	0.5		
		Soil/rock conditions:	Dry top soil and vegetation cover		
0.5	6	Material type:	loamy matrix	This loamy layer is tan in color. No debris or soil staining present.	
		Layer Thickness (ft):	5.5		
		Soil/rock conditions:	loamy with low moisture content		
6	7.5	Material type:	loamy matrix combined with metal, glass, ash and assorted debris	Encountered metal pieces, glass, ash and assorted trash from 6 to 7.5 feet in depth. Hit refusal at 7.5 feet, encountered brownish hard packed sandstone.	6 ft/ YTCFLC-SS-64-01
		Layer Thickness (ft):	1.5		7.25 ft/ YTCFLC-SS-64-02
		Soil/rock conditions:	low moisture content		
		Material type:			
		Layer Thickness (ft):			
		Soil/rock conditions:			

Material Types: clay, silt, sand, gravel, rock
Soil Conditions: dry, organic, roots, moist, wet, water seepage, hard, soft, odor
Take photographs of test pit.

APPENDIX G
SI SAMPLE RESULTS

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05	YTCFLC-SO-06
Lab Sample ID:			**FA38194-10/ 16J0471-05**	**FA38194-11/ 16J0471-06**	**FA38083-2/ 16J0428-07**	**FA35063-4**	**FA35066-3**	**FA38083-3/ 16J0428-08**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/25/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	24 U	24 U	30 U	27 U	26 U	27 U
Benzene	ug/kg	**30**	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Bromochloromethane	ug/kg	150,000	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
Bromodichloromethane	ug/kg	290	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Bromoform	ug/kg	19,000	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
2-Butanone (MEK)	ug/kg	27,000,000	9.7 U	9.4 U	12 U	11 U	11 U	11 U
Carbon Disulfide	ug/kg	770,000	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Carbon Tetrachloride	ug/kg	650	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Chlorobenzene	ug/kg	280,000	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Chloroethane	ug/kg	14,000,000	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
Chloroform	ug/kg	320	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
Cyclohexane	ug/kg	6,500,000	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
Dibromochloromethane	ug/kg	8,300	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
1,2-Dibromoethane	ug/kg	**5**	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Dichlorodifluoromethane	ug/kg	87,000	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
1,2-Dichlorobenzene	ug/kg	1,800,000	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,3-Dichlorobenzene	ug/kg	-	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,4-Dichlorobenzene	ug/kg	2,600	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,1-Dichloroethane	ug/kg	3,600	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
1,2-Dichloroethane	ug/kg	460	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,1-Dichloroethylene	ug/kg	230,000	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
cis-1,2-Dichloroethylene	ug/kg	160,000	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
trans-1,2-Dichloroethylene	ug/kg	1,600,000	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
1,2-Dichloropropane	ug/kg	1,000	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
cis-1,3-Dichloropropene	ug/kg	-	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
trans-1,3-Dichloropropene	ug/kg	-	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,4-Dioxane	ug/kg	5,300	97 U	94 U	120 U	110 U	110 U	110 U
Ethylbenzene	ug/kg	**6,000**	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
Freon 113	ug/kg	40,000,000	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
2-Hexanone	ug/kg	200,000	15 U	14 U	18 U	16 U	16 U	16 U
Isopropylbenzene	ug/kg	1,900,000	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05	YTCFLC-SO-06
Lab Sample ID:			FA38194-10/ 16J0471-05	FA38194-11/ 16J0471-06	FA38083-2/ 16J0428-07	FA35063-4	FA35066-3	FA38083-3/ 16J0428-08
Date Sampled:			10/27/2016	10/27/2016	10/25/2016	6/27/2016	6/27/2016	10/25/2016
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil
Methyl Acetate	ug/kg	78,000,000	19 U	19 U	24 U	21 U	21 U	21 U
Methyl Bromide	ug/kg	6,800	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
Methyl Chloride	ug/kg	110,000	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
Methylcyclohexane	ug/kg	-	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
Methylene Chloride	ug/kg	**20**	4.9 U	4.7 U	6.0 U	5.3 U	5.3 U	5.3 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	19 U	19 U	24 U	21 U	21 U	21 U
Methyl Tert Butyl Ether	ug/kg	**100**	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Styrene	ug/kg	6,000,000	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
Tetrachloroethylene	ug/kg	**50**	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Toluene	ug/kg	7,000	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.4 U	3.3 U	4.2 U	3.7 U	3.7 U	3.7 U
1,1,1-Trichloroethane	ug/kg	**2,000**	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ
1,1,2-Trichloroethane	ug/kg	1,100	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Trichloroethylene	ug/kg	**30**	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
Trichlorofluoromethane	ug/kg	23,000,000	3.4 U	3.3 U	4.2 UJ	3.7 U	3.7 U	3.7 UJ
Vinyl Chloride	ug/kg	59	1.9 U	1.9 U	2.4 U	2.1 U	2.1 U	2.1 U
m,p-Xylene	ug/kg	**9,000**	3.9 U	3.8 U	4.8 UJ	4.3 U	4.2 U	4.3 UJ
o-Xylene	ug/kg	**9,000**	1.9 U	1.9 U	2.4 UJ	2.1 U	2.1 U	2.1 UJ

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D	YTCFLC-SS-10	YTCFLC-SO-11
Lab Sample ID:			**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**	**FA38249-5**
Date Sampled:			**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**10/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	40 U	23 U	23 U	25 U	23 U	26 U
Benzene	ug/kg	**30**	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Bromochloromethane	ug/kg	150,000	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Bromodichloromethane	ug/kg	290	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Bromoform	ug/kg	19,000	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
2-Butanone (MEK)	ug/kg	27,000,000	16 U	9.4 U	9.3 U	9.9 U	9.4 U	10 U
Carbon Disulfide	ug/kg	770,000	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Carbon Tetrachloride	ug/kg	650	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Chlorobenzene	ug/kg	280,000	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Chloroethane	ug/kg	14,000,000	5.6 U	3.3 U	3.2 U	3.5 U	3.3 U	3.7 U
Chloroform	ug/kg	320	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Cyclohexane	ug/kg	6,500,000	3.2 UJ	1.9 UJ	1.9 U	2.0 UJ	1.9 UJ	2.1 U
Dibromochloromethane	ug/kg	8,300	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,2-Dibromo-3-chloropropane	ug/kg	5	5.6 U	3.3 U	3.2 U	3.5 U	3.3 U	3.7 U
1,2-Dibromoethane	ug/kg	**5**	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Dichlorodifluoromethane	ug/kg	87,000	5.6 U	3.3 U	3.2 U	3.5 U	3.3 U	3.7 U
1,2-Dichlorobenzene	ug/kg	1,800,000	3.2 U	1.9 UJ	1.9 U	2.0 UJ	1.9 UJ	2.1 U
1,3-Dichlorobenzene	ug/kg	-	3.2 U	1.9 UJ	1.9 U	2.0 UJ	1.9 UJ	2.1 U
1,4-Dichlorobenzene	ug/kg	2,600	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,1-Dichloroethane	ug/kg	3,600	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,2-Dichloroethane	ug/kg	460	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,1-Dichloroethylene	ug/kg	230,000	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
cis-1,2-Dichloroethylene	ug/kg	160,000	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,2-Dichloropropane	ug/kg	1,000	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
cis-1,3-Dichloropropene	ug/kg	-	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
trans-1,3-Dichloropropene	ug/kg	-	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,4-Dioxane	ug/kg	5,300	160 U	94 U	93 U	99 U	94 U	100 U
Ethylbenzene	ug/kg	**6,000**	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Freon 113	ug/kg	40,000,000	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
2-Hexanone	ug/kg	200,000	24 U	14 U	14 U	15 U	14 U	16 U
Isopropylbenzene	ug/kg	1,900,000	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D	YTCFLC-SS-10	YTCFLC-SO-11
Lab Sample ID:			**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**	**FA38249-5**
Date Sampled:			**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**10/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Methyl Acetate	ug/kg	78,000,000	32 U	19 U	19 U	20 U	19 U	21 U
Methyl Bromide	ug/kg	6,800	5.6 U	3.3 U	3.2 U	3.5 U	3.3 U	3.7 U
Methyl Chloride	ug/kg	110,000	5.6 U	3.3 U	3.2 U	3.5 U	3.3 U	3.7 U
Methylcyclohexane	ug/kg	-	3.2 UJ	1.9 UJ	1.9 U	2.0 UJ	1.9 UJ	2.1 U
Methylene Chloride	ug/kg	**20**	8.0 U	4.7 U	4.6 U	4.9 U	4.7 U	5.2 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	32 U	19 U	19 U	20 U	19 U	21 U
Methyl Tert Butyl Ether	ug/kg	**100**	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Styrene	ug/kg	6,000,000	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,1,2,2-Tetrachloroethane	ug/kg	600	5.6 U	3.3 U	3.2 U	3.5 U	3.3 U	3.7 U
Tetrachloroethylene	ug/kg	**50**	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Toluene	ug/kg	7,000	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
1,2,3-Trichlorobenzene	ug/kg	63,000	5.6 U	3.3 UJ	3.2 U	3.5 UJ	3.3 UJ	3.7 U
1,2,4-Trichlorobenzene	ug/kg	24,000	5.6 U	3.3 UJ	3.2 U	3.5 UJ	3.3 UJ	3.7 UJ
1,1,1-Trichloroethane	ug/kg	**2,000**	3.2 UJ	1.9 UJ	1.9 U	2.0 UJ	1.9 UJ	2.1 U
1,1,2-Trichloroethane	ug/kg	1,100	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Trichloroethylene	ug/kg	**30**	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
Trichlorofluoromethane	ug/kg	23,000,000	5.6 UJ	3.3 UJ	3.2 U	3.5 UJ	3.3 UJ	3.7 U
Vinyl Chloride	ug/kg	59	3.2 U	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U
m,p-Xylene	ug/kg	**9,000**	6.4 UJ	3.7 UJ	3.7 U	4.0 UJ	3.8 UJ	4.2 U
o-Xylene	ug/kg	**9,000**	3.2 UJ	1.9 U	1.9 U	2.0 U	1.9 U	2.1 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SS-14	YTCFLC-SO-15	YTCFLC-SO-15D	YTCFLC-SO-16
Lab Sample ID:			FA35136-5	FA38194-12/ 16J0471-07	FA35125-4	FA35136-2	FA35136-3	FA35136-4
Date Sampled:			6/29/2016	10/27/2016	6/28/2016	6/29/2016	6/29/2016	6/29/2016
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	26 U	26 UJ	28 U	26 UJ	20.9 J	24 U
Benzene	ug/kg	**30**	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Bromochloromethane	ug/kg	150,000	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
Bromodichloromethane	ug/kg	290	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Bromoform	ug/kg	19,000	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
2-Butanone (MEK)	ug/kg	27,000,000	10 U	10 UJ	11 U	10 U	10 U	9.6 U
Carbon Disulfide	ug/kg	770,000	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
Carbon Tetrachloride	ug/kg	650	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
Chlorobenzene	ug/kg	280,000	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Chloroethane	ug/kg	14,000,000	3.6 U	3.7 UJ	4.0 U	3.7 U	3.6 U	3.4 U
Chloroform	ug/kg	320	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
Cyclohexane	ug/kg	6,500,000	2.1 U	2.1 UJ	2.3 UJ	2.1 U	2.1 U	1.9 U
Dibromochloromethane	ug/kg	8,300	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.6 U	3.7 U	4.0 U	3.7 U	3.6 U	3.4 U
1,2-Dibromoethane	ug/kg	**5**	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Dichlorodifluoromethane	ug/kg	87,000	3.6 U	3.7 UJ	4.0 U	3.7 U	3.6 U	3.4 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.1 U	2.1 U	2.3 UJ	2.1 U	2.1 U	1.9 U
1,3-Dichlorobenzene	ug/kg	-	2.1 U	2.1 U	2.3 UJ	2.1 U	2.1 U	1.9 U
1,4-Dichlorobenzene	ug/kg	2,600	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
1,1-Dichloroethane	ug/kg	3,600	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
1,2-Dichloroethane	ug/kg	460	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
1,1-Dichloroethylene	ug/kg	230,000	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
1,2-Dichloropropane	ug/kg	1,000	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
cis-1,3-Dichloropropene	ug/kg	-	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
trans-1,3-Dichloropropene	ug/kg	-	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
1,4-Dioxane	ug/kg	5,300	100 U	100 U	110 U	100 U	100 U	96 U
Ethylbenzene	ug/kg	**6,000**	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Freon 113	ug/kg	40,000,000	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
2-Hexanone	ug/kg	200,000	16 U	16 U	17 U	16 U	16 U	14 U
Isopropylbenzene	ug/kg	1,900,000	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SS-14	YTCFLC-SO-15	YTCFLC-SO-15D	YTCFLC-SO-16
Lab Sample ID:			**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**	**FA35136-4**
Date Sampled:			**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Methyl Acetate	ug/kg	78,000,000	21 U	21 UJ	23 U	21 U	21 U	19 U
Methyl Bromide	ug/kg	6,800	3.6 U	3.7 UJ	4.0 U	3.7 U	3.6 U	3.4 U
Methyl Chloride	ug/kg	110,000	3.6 U	3.7 UJ	4.0 U	3.7 U	3.6 U	3.4 U
Methylcyclohexane	ug/kg	-	2.1 U	2.1 UJ	2.3 UJ	2.1 U	2.1 U	1.9 U
Methylene Chloride	ug/kg	**20**	5.2 U	5.2 UJ	5.7 U	5.2 U	5.2 U	4.8 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	21 U	21 U	23 U	21 U	21 U	19 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
Styrene	ug/kg	6,000,000	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.6 U	3.7 U	4.0 U	3.7 U	3.6 U	3.4 U
Tetrachloroethylene	ug/kg	**50**	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Toluene	ug/kg	7,000	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.6 U	3.7 U	4.0 UJ	3.7 U	3.6 U	3.4 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.6 U	3.7 U	4.0 UJ	3.7 U	3.6 U	3.4 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.1 U	2.1 U	2.3 UJ	2.1 U	2.1 U	1.9 U
1,1,2-Trichloroethane	ug/kg	1,100	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Trichloroethylene	ug/kg	**30**	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U
Trichlorofluoromethane	ug/kg	23,000,000	3.6 U	3.7 UJ	4.0 UJ	3.7 U	3.6 U	3.4 U
Vinyl Chloride	ug/kg	59	2.1 U	2.1 UJ	2.3 U	2.1 U	2.1 U	1.9 U
m,p-Xylene	ug/kg	**9,000**	4.2 U	4.2 U	4.5 UJ	4.2 U	4.1 U	3.8 U
o-Xylene	ug/kg	**9,000**	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	1.9 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			**FA35136-1**	**FA35165-3**	**FA35165-2**	**FA35165-1**
Date Sampled:			**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	26 U	24 U	25 U	29 U
Benzene	ug/kg	**30**	2.1 U	1.9 U	2.0 U	2.3 U
Bromochloromethane	ug/kg	150,000	2.1 U	1.9 U	2.0 U	2.3 U
Bromodichloromethane	ug/kg	290	2.1 U	1.9 U	2.0 U	2.3 U
Bromoform	ug/kg	19,000	2.1 U	1.9 U	2.0 U	2.3 U
2-Butanone (MEK)	ug/kg	27,000,000	10 U	9.5 U	10 U	12 U
Carbon Disulfide	ug/kg	770,000	2.1 U	1.9 U	2.0 U	2.3 U
Carbon Tetrachloride	ug/kg	650	2.1 U	1.9 U	2.0 U	2.3 U
Chlorobenzene	ug/kg	280,000	2.1 U	1.9 U	2.0 U	2.3 U
Chloroethane	ug/kg	14,000,000	3.6 U	3.3 U	3.6 U	4.1 U
Chloroform	ug/kg	320	2.1 U	1.9 U	2.0 U	2.3 U
Cyclohexane	ug/kg	6,500,000	2.1 U	1.9 U	2.0 U	2.3 U
Dibromochloromethane	ug/kg	8,300	2.1 U	1.9 U	2.0 U	2.3 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.6 U	3.3 U	3.6 U	4.1 U
1,2-Dibromoethane	ug/kg	**5**	2.1 U	1.9 U	2.0 U	2.3 U
Dichlorodifluoromethane	ug/kg	87,000	3.6 U	3.3 U	3.6 U	4.1 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.1 U	1.9 U	2.0 U	2.3 U
1,3-Dichlorobenzene	ug/kg	-	2.1 U	1.9 U	2.0 U	2.3 U
1,4-Dichlorobenzene	ug/kg	2,600	2.1 U	1.9 U	2.0 U	2.3 U
1,1-Dichloroethane	ug/kg	3,600	2.1 U	1.9 U	2.0 U	2.3 U
1,2-Dichloroethane	ug/kg	460	2.1 U	1.9 U	2.0 U	2.3 U
1,1-Dichloroethylene	ug/kg	230,000	2.1 U	1.9 U	2.0 U	2.3 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.1 U	1.9 U	2.0 U	2.3 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.1 U	1.9 U	2.0 U	2.3 U
1,2-Dichloropropane	ug/kg	1,000	2.1 U	1.9 U	2.0 U	2.3 U
cis-1,3-Dichloropropene	ug/kg	-	2.1 U	1.9 U	2.0 U	2.3 U
trans-1,3-Dichloropropene	ug/kg	-	2.1 U	1.9 U	2.0 U	2.3 U
1,4-Dioxane	ug/kg	5,300	100 U	95 U	100 U	120 U
Ethylbenzene	ug/kg	**6,000**	2.1 U	1.9 U	2.0 U	2.3 U
Freon 113	ug/kg	40,000,000	2.1 U	1.9 U	2.0 U	2.3 U
2-Hexanone	ug/kg	200,000	16 U	14 U	15 U	18 U
Isopropylbenzene	ug/kg	1,900,000	2.1 U	1.9 U	2.0 U	2.3 U

Table G-1
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			FA35136-1	FA35165-3	FA35165-2	FA35165-1
Date Sampled:			6/29/2016	6/30/2016	6/30/2016	6/30/2016
Matrix:			Soil	Soil	Soil	Soil
Methyl Acetate	ug/kg	78,000,000	21 U	19 U	20 U	23 U
Methyl Bromide	ug/kg	6,800	3.6 U	3.3 U	3.6 U	4.1 U
Methyl Chloride	ug/kg	110,000	3.6 U	3.3 U	3.6 U	4.1 U
Methylcyclohexane	ug/kg	-	2.1 U	1.9 U	2.0 U	2.3 U
Methylene Chloride	ug/kg	**20**	5.2 U	4.7 U	5.1 U	5.9 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	21 U	19 U	20 U	23 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.1 U	1.9 U	2.0 U	2.3 U
Styrene	ug/kg	6,000,000	2.1 U	1.9 U	2.0 U	2.3 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.6 U	3.3 U	3.6 U	4.1 U
Tetrachloroethylene	ug/kg	**50**	2.1 U	1.9 U	2.0 U	2.3 U
Toluene	ug/kg	7,000	2.1 U	1.9 U	2.0 U	2.3 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.6 U	3.3 U	3.6 U	4.1 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.6 U	3.3 U	3.6 U	4.1 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.1 U	1.9 U	2.0 U	2.3 U
1,1,2-Trichloroethane	ug/kg	1,100	2.1 U	1.9 U	2.0 U	2.3 U
Trichloroethylene	ug/kg	**30**	2.1 U	1.9 U	2.0 U	2.3 U
Trichlorofluoromethane	ug/kg	23,000,000	3.6 U	3.3 U	3.6 U	4.1 U
Vinyl Chloride	ug/kg	59	2.1 U	1.9 U	2.0 U	2.3 U
m,p-Xylene	ug/kg	**9,000**	4.2 U	3.8 U	4.1 U	4.7 U
o-Xylene	ug/kg	**9,000**	2.1 U	1.9 U	2.0 U	2.3 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05
Lab Sample ID:			FA38194-10/ 16J0471-05	FA38194-11/ 16J0471-06	FA38083-2/ 16J0428-07	FA35063-4	FA35066-3
Date Sampled:			10/27/2016	10/27/2016	10/25/2016	6/27/2016	6/27/2016
Matrix:			Soil	Soil	Soil	Soil	Soil
GC/MS Semi-volatiles (SW846 8270D)							
Benzoic Acid	ug/kg	250,000,000	350 U	350 U	370 U	380 U	370 UJ
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	35 U	35 U	37 U	38 U	37 U
2-Chlorophenol	ug/kg	390,000	35 U	35 U	37 U	38 U	37 U
2,4-Dichlorophenol	ug/kg	190,000	35 U	35 U	37 U	38 U	37 U
2,4-Dimethylphenol	ug/kg	1,300,000	70 U	71 U	74 U	76 U	74 U
2,4-Dinitrophenol	ug/kg	130,000	520 U	530 U	560 U	570 U	560 U
4,6-Dinitro-o-cresol	ug/kg	5,100	140 U	140 U	150 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	35 U	35 U	37 U	38 U	37 U
3&4-Methylphenol	ug/kg	-	70 U	71 U	74 U	76 U	74 U
2-Nitrophenol	ug/kg	-	35 U	35 U	37 U	38 U	37 U
4-Nitrophenol	ug/kg	-	350 U	350 U	370 U	380 U	370 U
Pentachlorophenol	ug/kg	1,000	350 U	350 U	370 U	380 U	370 U
Phenol	ug/kg	19,000,000	35 U	35 U	37 U	38 U	37 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	35 U	35 U	37 U	38 U	37 U
2,4,6-Trichlorophenol	ug/kg	49,000	35 U	35 U	37 U	38 U	37 U
Aniline	ug/kg	95,000	70 U	71 U	74 U	76 U	74 U
Benzidine	ug/kg	1	870 U	890 U	930 U	950 U	930 U
Benzyl Alcohol	ug/kg	6,300,000	35 U	35 U	37 U	38 U	37 U
4-Bromophenyl phenyl ether	ug/kg	-	35 U	35 U	37 U	38 U	37 U
Butyl benzyl phthalate	ug/kg	290,000	70 U	71 U	74 U	76 U	74 U
Carbazole	ug/kg	-	35 U	35 U	37 U	38 U	37 U
4-Chloroaniline	ug/kg	2,700	35 U	35 U	37 U	38 U	37 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	35 U	35 U	37 U	38 U	37 U
bis(2-Chloroethyl)ether	ug/kg	230	35 U	35 U	37 U	38 U	37 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	35 U	35 U	37 U	38 U	37 U
2-Chloronaphthalene	ug/kg	4,800,000	35 U	35 U	37 U	38 U	37 U
4-Chlorophenyl phenyl ether	ug/kg	-	35 U	35 U	37 U	38 U	37 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05
Lab Sample ID:			FA38194-10/ 16J0471-05	FA38194-11/ 16J0471-06	FA38083-2/ 16J0428-07	FA35063-4	FA35066-3
Date Sampled:			10/27/2016	10/27/2016	10/25/2016	6/27/2016	6/27/2016
Matrix:			Soil	Soil	Soil	Soil	Soil
Dibenzofuran	ug/kg	73,000	35 U	35 U	37 U	38 U	37 U
1,2-Dichlorobenzene	ug/kg	1,800,000	70 U	71 U	74 U	76 U	74 U
1,3-Dichlorobenzene	ug/kg	-	70 U	71 U	74 U	76 U	74 U
1,4-Dichlorobenzene	ug/kg	2,600	70 U	71 U	74 U	76 U	74 U
3,3'-Dichlorobenzidine	ug/kg	1,200	70 U	71 U	74 U	76 U	74 U
Diethyl Phthalate	ug/kg	51,000,000	120 U	120 U	130 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	70 U	71 U	74 U	76 U	74 U
Di-n-octyl Phthalate	ug/kg	630,000	70 U	71 U	74 U	76 U	74 U
Di-n-butyl Phthalate	ug/kg	6,300,000	120 U	120 U	130 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	35 U	35 U	37 U	38 U	37 U
2,6-Dinitrotoluene	ug/kg	360	35 U	35 U	37 U	38 U	37 U
1,2-Diphenylhydrazine	ug/kg	680	35 U	35 U	37 U	38 U	37 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	120 U	120 U	130 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	35 U	35 U	37 U	38 U	37 U
Hexachlorobutadiene	ug/kg	1,200	70 U	71 U	74 U	76 U	74 U
Hexachlorocyclopentadiene	ug/kg	1,800	70 UJ	71 UJ	74 U	76 U	74 U
Hexachloroethane	ug/kg	1,800	70 U	71 U	74 U	76 U	74 U
Isophorone	ug/kg	570,000	35 U	35 U	37 U	38 U	37 U
2-Nitroaniline	ug/kg	630,000	70 U	71 U	74 U	76 U	74 U
3-Nitroaniline	ug/kg	-	70 U	71 U	74 U	76 U	74 U
4-Nitroaniline	ug/kg	27,000	70 U	71 U	74 U	76 U	74 U
Nitrobenzene	ug/kg	5,100	35 U	35 U	37 U	38 U	37 U
N-Nitrosodimethylamine	ug/kg	2	70 U	71 U	74 U	76 U	74 U
N-Nitrosodi-n-propylamine	ug/kg	78	35 U	35 U	37 U	38 U	37 U
N-Nitrosodiphenylamine	ug/kg	110,000	70 U	71 U	74 U	76 U	74 U
Pyridine	ug/kg	78,000	120 U	120 U	130 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	35 U	35 U	37 U	38 U	37 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)							
Acenaphthene	ug/kg	3,600,000	34 U	34 U	38 U	37 U	36 U
Acenaphthylene	ug/kg	-	34 U	34 U	38 U	37 U	36 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SO-01**	**YTCFLC-SO-02**	**YTCFLC-SO-03**	**YTCFLC-SO-04**	**YTCFLC-SO-05**
Lab Sample ID:			**FA38194-10/ 16J0471-05**	**FA38194-11/ 16J0471-06**	**FA38083-2/ 16J0428-07**	**FA35063-4**	**FA35066-3**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/25/2016**	**6/27/2016**	**6/27/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Anthracene	ug/kg	18,000,000	34 U	34 U	38 U	37 U	36 U
Benzo(a)anthracene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	4.7 J	7.3 U
Benzo(a)pyrene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	5.9 J	7.3 J
Benzo(b)fluoranthene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	6.5 J	11.5 J
Benzo(g,h,i)perylene	ug/kg	-	6.7 U	6.9 U	7.5 U	7.5 U	14.1 J
Benzo(k)fluoranthene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	7.5 U	7.3 U
Chrysene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	4.9 J	5.4 J
Dibenzo(a,h)anthracene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	7.5 U	7.3 U
1,4-Dioxane	ug/kg	5,300	56 U	57 U	15 U	15 U	15 U
Fluoranthene	ug/kg	2,400,000	34 U	34 U	38 U	37 U	36 U
Fluorene	ug/kg	2,400,000	34 U	34 U	38 U	37 U	36 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	6.7 U	6.9 U	7.5 U	7.5 U	10.5 J
1-Methylnaphthalene	ug/kg	**5,000**	34 U	34 U	38 U	37 U	36 U
2-Methylnaphthalene	ug/kg	**5,000**	34 U	34 U	38 U	37 U	36 U
Naphthalene	ug/kg	**5,000**	34 U	34 U	38 U	37 U	36 U
Phenanthrene	ug/kg	-	34 U	34 U	38 U	37 U	36 U
Pyrene	ug/kg	1,800,000	34 U	34 U	38 U	37 U	36 U
Benzo(a)pyrene equivalents	ug/kg	**100**				8.19	10.65

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D	YTCFLC-SS-10
Lab Sample ID:			FA38083-3/ 16J0428-08	FA38083-4	FA35125-2	FA35125-1	FA35125-3	FA35125-5
Date Sampled:			10/25/2016	10/25/2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Semi-volatiles (SW846 8270D)								
Benzoic Acid	ug/kg	250,000,000	360 U	380 U	350 U	340 U	340 U	350 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	36 U	38 U	35 U	34 U	34 U	35 U
2-Chlorophenol	ug/kg	390,000	36 U	38 U	35 U	34 U	34 U	35 U
2,4-Dichlorophenol	ug/kg	190,000	36 U	38 U	35 U	34 U	34 U	35 U
2,4-Dimethylphenol	ug/kg	1,300,000	72 U	76 U	71 U	68 U	68 U	70 U
2,4-Dinitrophenol	ug/kg	130,000	540 U	570 U	530 U	510 U	510 U	520 U
4,6-Dinitro-o-cresol	ug/kg	5,100	140 U	150 U	140 U	140 U	140 U	140 U
2-Methylphenol	ug/kg	3,200,000	36 U	38 U	35 U	34 U	34 U	35 U
3&4-Methylphenol	ug/kg	-	72 U	76 U	71 U	68 U	68 U	70 U
2-Nitrophenol	ug/kg	-	36 U	38 U	35 U	34 U	34 U	35 U
4-Nitrophenol	ug/kg	-	360 U	380 U	350 U	340 U	340 U	350 U
Pentachlorophenol	ug/kg	1,000	360 U	380 U	350 U	340 U	340 U	350 U
Phenol	ug/kg	19,000,000	36 U	38 U	35 U	34 U	34 U	35 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	36 U	38 U	35 U	34 U	34 U	35 U
2,4,6-Trichlorophenol	ug/kg	49,000	36 U	38 U	35 U	34 U	34 U	35 U
Aniline	ug/kg	95,000	72 U	76 U	71 U	68 U	68 U	70 U
Benzidine	ug/kg	1	900 U	950 U	880 U	850 U	850 U	870 U
Benzyl Alcohol	ug/kg	6,300,000	36 U	38 U	35 U	34 U	34 U	35 U
4-Bromophenyl phenyl ether	ug/kg	-	36 U	38 U	35 U	34 U	34 U	35 U
Butyl benzyl phthalate	ug/kg	290,000	72 U	76 U	71 U	68 U	68 U	70 U
Carbazole	ug/kg	-	36 U	38 U	35 U	34 U	34 U	35 U
4-Chloroaniline	ug/kg	2,700	36 U	38 U	35 U	34 U	34 U	35 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	36 U	38 U	35 U	34 U	34 U	35 U
bis(2-Chloroethyl)ether	ug/kg	230	36 U	38 U	35 U	34 U	34 U	35 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	36 U	38 U	35 U	34 U	34 U	35 U
2-Chloronaphthalene	ug/kg	4,800,000	36 U	38 U	35 U	34 U	34 U	35 U
4-Chlorophenyl phenyl ether	ug/kg	-	36 U	38 U	35 U	34 U	34 U	35 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D	YTCFLC-SS-10
Lab Sample ID:			**FA38083-3/ 16J0428-08**	**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**
Date Sampled:			**10/25/2016**	**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Dibenzofuran	ug/kg	73,000	36 U	38 U	35 U	34 U	34 U	35 U
1,2-Dichlorobenzene	ug/kg	1,800,000	72 U	76 U	71 U	68 U	68 U	70 U
1,3-Dichlorobenzene	ug/kg	-	72 U	76 U	71 U	68 U	68 U	70 U
1,4-Dichlorobenzene	ug/kg	2,600	72 U	76 U	71 U	68 U	68 U	70 U
3,3'-Dichlorobenzidine	ug/kg	1,200	72 U	76 U	71 U	68 U	68 U	70 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	120 U	120 U	120 U	120 U
Dimethyl Phthalate	ug/kg	-	72 U	76 U	71 U	68 U	68 U	70 U
Di-n-octyl Phthalate	ug/kg	630,000	72 U	76 U	71 U	68 U	68 U	70 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	120 U	120 U	120 U	120 U
2,4-Dinitrotoluene	ug/kg	1,700	36 U	38 U	35 U	34 U	34 U	35 U
2,6-Dinitrotoluene	ug/kg	360	36 U	38 U	35 U	34 U	34 U	35 U
1,2-Diphenylhydrazine	ug/kg	680	36 U	38 U	35 U	34 U	34 U	35 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	120 U	120 U	120 U	120 U
Hexachlorobenzene	ug/kg	210	36 U	38 U	35 U	34 U	34 U	35 U
Hexachlorobutadiene	ug/kg	1,200	72 U	76 U	71 U	68 U	68 U	70 U
Hexachlorocyclopentadiene	ug/kg	1,800	72 U	76 U	71 U	68 U	68 U	70 U
Hexachloroethane	ug/kg	1,800	72 U	76 U	71 U	68 U	68 U	70 U
Isophorone	ug/kg	570,000	36 U	38 U	35 U	34 U	34 U	35 U
2-Nitroaniline	ug/kg	630,000	72 U	76 U	71 U	68 U	68 U	70 U
3-Nitroaniline	ug/kg	-	72 U	76 U	71 U	68 U	68 U	70 U
4-Nitroaniline	ug/kg	27,000	72 U	76 U	71 U	68 U	68 U	70 U
Nitrobenzene	ug/kg	5,100	36 U	38 U	35 U	34 U	34 U	35 U
N-Nitrosodimethylamine	ug/kg	2	72 U	76 U	71 U	68 U	68 U	70 U
N-Nitrosodi-n-propylamine	ug/kg	78	36 U	38 U	35 U	34 U	34 U	35 U
N-Nitrosodiphenylamine	ug/kg	110,000	72 U	76 U	71 U	68 U	68 U	70 U
Pyridine	ug/kg	78,000	130 U	130 U	120 UJ	120 UJ	120 UJ	120 UJ
1,2,4-Trichlorobenzene	ug/kg	24,000	36 U	38 U	35 U	34 U	34 U	35 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Acenaphthene	ug/kg	3,600,000	37 U	39 U	35 U	33 U	33 U	35 U
Acenaphthylene	ug/kg	-	37 U	39 U	35 U	33 U	33 U	35 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D	YTCFLC-SS-10
Lab Sample ID:			**FA38083-3/ 16J0428-08**	**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**
Date Sampled:			**10/25/2016**	**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Anthracene	ug/kg	18,000,000	37 U	39 U	35 U	33 U	33 U	35 U
Benzo(a)anthracene	ug/kg	**100**	6.3 J	5.5 J	7.0 U	6.6 U	6.7 U	7.1 U
Benzo(a)pyrene	ug/kg	**100**	7.0 J	5.6 J	7.0 U	6.6 U	6.7 U	7.1 U
Benzo(b)fluoranthene	ug/kg	**100**	7.4 J	7.8 U	7.0 U	6.6 U	6.7 U	7.1 U
Benzo(g,h,i)perylene	ug/kg	-	5.7 J	7.8 U	7.0 U	6.6 U	6.7 U	7.1 U
Benzo(k)fluoranthene	ug/kg	**100**	5.6 J	7.8 U	7.0 U	6.6 U	6.7 U	7.1 U
Chrysene	ug/kg	**100**	8.4 J	4.9 J	7.0 U	6.6 U	6.7 U	7.1 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.4 U	7.8 U	7.0 U	6.6 U	6.7 U	7.1 U
1,4-Dioxane	ug/kg	5,300	14 U	15 U	14 UJ	14 U	14 U	14 UJ
Fluoranthene	ug/kg	2,400,000	37 U	39 U	35 U	33 U	33 U	35 U
Fluorene	ug/kg	2,400,000	37 U	39 U	35 U	33 U	33 U	35 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	4.9 J	7.8 U	7.0 U	6.6 U	6.7 U	7.1 U
1-Methylnaphthalene	ug/kg	**5,000**	37 U	39 U	35 U	33 U	33 U	35 U
2-Methylnaphthalene	ug/kg	**5,000**	37 U	39 U	35 U	33 U	33 U	35 U
Naphthalene	ug/kg	**5,000**	37 U	39 U	35 U	33 U	33 U	35 U
Phenanthrene	ug/kg	-	37 U	39 U	35 U	33 U	33 U	35 U
Pyrene	ug/kg	1,800,000	37 U	39 U	35 U	33 U	33 U	35 U
Benzo(a)pyrene equivalents	ug/kg	**100**	9.87	7.76				

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-11	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SS-14	YTCFLC-SO-15	YTCFLC-SO-15D
Lab Sample ID:			**FA38249-5**	**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**
Date Sampled:			**10/28/2016**	**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)								
Benzoic Acid	ug/kg	250,000,000	380 R	350 U	360 U	380 U	360 U	350 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	38 U	35 U	36 U	38 U	36 U	35 U
2-Chlorophenol	ug/kg	390,000	38 U	35 U	36 U	38 U	36 U	35 U
2,4-Dichlorophenol	ug/kg	190,000	38 U	35 U	36 U	38 U	36 U	35 U
2,4-Dimethylphenol	ug/kg	1,300,000	76 U	69 U	73 U	77 U	71 U	71 U
2,4-Dinitrophenol	ug/kg	130,000	570 UJ	520 U	550 U	580 U	540 U	530 U
4,6-Dinitro-o-cresol	ug/kg	5,100	150 U	140 U	150 U	150 U	140 U	140 U
2-Methylphenol	ug/kg	3,200,000	38 U	35 U	36 U	38 U	36 U	35 U
3&4-Methylphenol	ug/kg	-	76 U	69 U	73 U	77 U	71 U	71 U
2-Nitrophenol	ug/kg	-	38 U	35 U	36 U	38 U	36 U	35 U
4-Nitrophenol	ug/kg	-	380 U	350 U	360 U	380 U	360 U	350 U
Pentachlorophenol	ug/kg	1,000	380 U	350 U	360 U	380 U	360 U	350 U
Phenol	ug/kg	19,000,000	38 U	35 U	36 U	38 U	36 U	35 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	38 U	35 U	36 U	38 U	36 U	35 U
2,4,6-Trichlorophenol	ug/kg	49,000	38 U	35 U	36 U	38 U	36 U	35 U
Aniline	ug/kg	95,000	76 U	69 U	73 U	77 U	71 U	71 U
Benzidine	ug/kg	1	950 U	870 U	910 U	960 U	890 U	890 U
Benzyl Alcohol	ug/kg	6,300,000	38 U	35 U	36 U	38 U	36 U	35 U
4-Bromophenyl phenyl ether	ug/kg	-	38 U	35 U	36 U	38 U	36 U	35 U
Butyl benzyl phthalate	ug/kg	290,000	76 U	69 U	73 U	77 U	71 U	71 U
Carbazole	ug/kg	-	38 U	35 U	36 U	38 U	36 U	35 U
4-Chloroaniline	ug/kg	2,700	38 U	35 U	36 U	38 U	36 U	35 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	38 U	35 U	36 U	38 U	36 U	35 U
bis(2-Chloroethyl)ether	ug/kg	230	38 U	35 U	36 U	38 U	36 U	35 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	38 U	35 U	36 U	38 U	36 U	35 U
2-Chloronaphthalene	ug/kg	4,800,000	38 U	35 U	36 U	38 U	36 U	35 U
4-Chlorophenyl phenyl ether	ug/kg	-	38 U	35 U	36 U	38 U	36 U	35 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-11	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SS-14	YTCFLC-SO-15	YTCFLC-SO-15D
Lab Sample ID:			**FA38249-5**	**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**
Date Sampled:			**10/28/2016**	**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Dibenzofuran	ug/kg	73,000	38 U	35 U	36 U	38 U	36 U	35 U
1,2-Dichlorobenzene	ug/kg	1,800,000	76 U	69 U	73 U	77 U	71 U	71 U
1,3-Dichlorobenzene	ug/kg	-	76 U	69 U	73 U	77 U	71 U	71 U
1,4-Dichlorobenzene	ug/kg	2,600	76 U	69 U	73 U	77 U	71 U	71 U
3,3'-Dichlorobenzidine	ug/kg	1,200	76 U	69 U	73 U	77 U	71 U	71 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	120 U	130 U	130 U	130 U	120 U
Dimethyl Phthalate	ug/kg	-	76 U	69 U	73 U	77 U	71 U	71 U
Di-n-octyl Phthalate	ug/kg	630,000	76 U	69 U	73 U	77 U	71 U	71 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	120 U	130 U	130 U	130 U	120 U
2,4-Dinitrotoluene	ug/kg	1,700	38 U	35 U	36 U	38 U	36 U	35 U
2,6-Dinitrotoluene	ug/kg	360	38 U	35 U	36 U	38 U	36 U	35 U
1,2-Diphenylhydrazine	ug/kg	680	38 U	35 U	36 U	38 U	36 U	35 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	120 U	130 U	130 U	130 U	120 U
Hexachlorobenzene	ug/kg	210	38 U	35 U	36 U	38 U	36 U	35 U
Hexachlorobutadiene	ug/kg	1,200	76 U	69 U	73 U	77 U	71 U	71 U
Hexachlorocyclopentadiene	ug/kg	1,800	76 UJ	69 U	73 UJ	77 U	71 U	71 U
Hexachloroethane	ug/kg	1,800	76 U	69 U	73 U	77 U	71 U	71 U
Isophorone	ug/kg	570,000	38 U	35 U	36 U	38 U	36 U	35 U
2-Nitroaniline	ug/kg	630,000	76 U	69 U	73 U	77 U	71 U	71 U
3-Nitroaniline	ug/kg	-	76 U	69 U	73 U	77 U	71 U	71 U
4-Nitroaniline	ug/kg	27,000	76 U	69 U	73 U	77 U	71 U	71 U
Nitrobenzene	ug/kg	5,100	38 U	35 U	36 U	38 U	36 U	35 U
N-Nitrosodimethylamine	ug/kg	2	76 U	69 U	73 U	77 U	71 U	71 U
N-Nitrosodi-n-propylamine	ug/kg	78	38 U	35 U	36 U	38 U	36 U	35 U
N-Nitrosodiphenylamine	ug/kg	110,000	76 U	69 U	73 U	77 U	71 U	71 U
Pyridine	ug/kg	78,000	130 U	120 U	130 U	130 UJ	130 U	120 U
1,2,4-Trichlorobenzene	ug/kg	24,000	38 U	35 U	36 U	38 U	36 U	35 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Acenaphthene	ug/kg	3,600,000	38 UJ	33 U	35 U	36 U	36 U	35 U
Acenaphthylene	ug/kg	-	38 UJ	33 U	35 U	36 U	36 U	35 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-11	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SS-14	YTCFLC-SO-15	YTCFLC-SO-15D
Lab Sample ID:			**FA38249-5**	**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**
Date Sampled:			**10/28/2016**	**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Anthracene	ug/kg	18,000,000	38 UJ	33 U	35 U	36 U	36 U	35 U
Benzo(a)anthracene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
Benzo(a)pyrene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
Benzo(b)fluoranthene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
Benzo(g,h,i)perylene	ug/kg	-	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
Benzo(k)fluoranthene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
Chrysene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
1,4-Dioxane	ug/kg	5,300	15 U	14 UJ	58 UJ	15 UJ	14 U	14 U
Fluoranthene	ug/kg	2,400,000	38 UJ	33 U	35 U	36 U	36 U	35 U
Fluorene	ug/kg	2,400,000	38 UJ	33 U	35 U	36 U	36 U	35 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.6 UJ	6.7 U	7.1 U	7.3 U	7.2 U	6.9 U
1-Methylnaphthalene	ug/kg	**5,000**	38 UJ	33 U	35 U	36 U	36 U	35 U
2-Methylnaphthalene	ug/kg	**5,000**	38 UJ	33 U	35 U	36 U	36 U	35 U
Naphthalene	ug/kg	**5,000**	38 UJ	33 U	35 U	36 U	36 U	35 U
Phenanthrene	ug/kg	-	38 UJ	33 U	35 U	36 U	36 U	35 U
Pyrene	ug/kg	1,800,000	38 UJ	33 U	35 U	36 U	36 U	35 U
Benzo(a)pyrene equivalents	ug/kg	**100**						

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SO-16**	**YTCFLC-SO-17**	**YTCFLC-SO-18**	**YTCFLC-SO-19**	**YTCFLC-SO-20**
Lab Sample ID:			**FA35136-4**	**FA35136-1**	**FA35165-3**	**FA35165-2**	**FA35165-1**
Date Sampled:			**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)							
Benzoic Acid	ug/kg	250,000,000	370 U	360 U	360 U	350 U	350 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	37 U	36 U	36 U	35 U	35 U
2-Chlorophenol	ug/kg	390,000	37 U	36 U	36 U	35 U	35 U
2,4-Dichlorophenol	ug/kg	190,000	37 U	36 U	36 U	35 U	35 U
2,4-Dimethylphenol	ug/kg	1,300,000	73 U	73 U	73 U	70 U	71 U
2,4-Dinitrophenol	ug/kg	130,000	550 U	550 U	550 U	520 U	530 U
4,6-Dinitro-o-cresol	ug/kg	5,100	150 U	150 U	150 U	140 U	140 U
2-Methylphenol	ug/kg	3,200,000	37 U	36 U	36 U	35 U	35 U
3&4-Methylphenol	ug/kg	-	73 U	73 U	73 U	70 U	71 U
2-Nitrophenol	ug/kg	-	37 U	36 U	36 U	35 U	35 U
4-Nitrophenol	ug/kg	-	370 U	360 U	360 U	350 U	350 U
Pentachlorophenol	ug/kg	1,000	370 U	360 U	360 U	350 U	350 U
Phenol	ug/kg	19,000,000	37 U	36 U	36 U	35 U	35 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	37 U	36 U	36 U	35 U	35 U
2,4,6-Trichlorophenol	ug/kg	49,000	37 U	36 U	36 U	35 U	35 U
Aniline	ug/kg	95,000	73 U	73 U	73 U	70 U	71 U
Benzidine	ug/kg	1	920 U	910 U	910 U	870 U	880 U
Benzyl Alcohol	ug/kg	6,300,000	37 U	36 U	36 U	35 U	35 U
4-Bromophenyl phenyl ether	ug/kg	-	37 U	36 U	36 U	35 U	35 U
Butyl benzyl phthalate	ug/kg	290,000	73 U	73 U	73 U	70 U	71 U
Carbazole	ug/kg	-	37 U	36 U	36 U	35 U	35 U
4-Chloroaniline	ug/kg	2,700	37 U	36 U	36 U	35 U	35 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	37 U	36 U	36 U	35 U	35 U
bis(2-Chloroethyl)ether	ug/kg	230	37 U	36 U	36 U	35 U	35 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	37 U	36 U	36 U	35 U	35 U
2-Chloronaphthalene	ug/kg	4,800,000	37 U	36 U	36 U	35 U	35 U
4-Chlorophenyl phenyl ether	ug/kg	-	37 U	36 U	36 U	35 U	35 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-16	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			**FA35136-4**	**FA35136-1**	**FA35165-3**	**FA35165-2**	**FA35165-1**
Date Sampled:			**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Dibenzofuran	ug/kg	73,000	37 U	36 U	36 U	35 U	35 U
1,2-Dichlorobenzene	ug/kg	1,800,000	73 U	73 U	73 U	70 U	71 U
1,3-Dichlorobenzene	ug/kg	-	73 U	73 U	73 U	70 U	71 U
1,4-Dichlorobenzene	ug/kg	2,600	73 U	73 U	73 U	70 U	71 U
3,3'-Dichlorobenzidine	ug/kg	1,200	73 U	73 U	73 U	70 U	71 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	130 U	120 U	120 U
Dimethyl Phthalate	ug/kg	-	73 U	73 U	73 U	70 U	71 U
Di-n-octyl Phthalate	ug/kg	630,000	73 U	73 U	73 U	70 U	71 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	130 U	120 U	120 U
2,4-Dinitrotoluene	ug/kg	1,700	37 U	36 U	36 U	35 U	35 U
2,6-Dinitrotoluene	ug/kg	360	37 U	36 U	36 U	35 U	35 U
1,2-Diphenylhydrazine	ug/kg	680	37 U	36 U	36 U	35 U	35 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	120 U	120 U
Hexachlorobenzene	ug/kg	210	37 U	36 U	36 U	35 U	35 U
Hexachlorobutadiene	ug/kg	1,200	73 U	73 U	73 U	70 U	71 U
Hexachlorocyclopentadiene	ug/kg	1,800	73 U	73 U	73 U	70 U	71 U
Hexachloroethane	ug/kg	1,800	73 U	73 U	73 U	70 U	71 U
Isophorone	ug/kg	570,000	37 U	36 U	36 U	35 U	35 U
2-Nitroaniline	ug/kg	630,000	73 U	73 U	73 U	70 U	71 U
3-Nitroaniline	ug/kg	-	73 U	73 U	73 U	70 U	71 U
4-Nitroaniline	ug/kg	27,000	73 U	73 U	73 U	70 U	71 U
Nitrobenzene	ug/kg	5,100	37 U	36 U	36 U	35 U	35 U
N-Nitrosodimethylamine	ug/kg	2	73 U	73 U	73 U	70 U	71 U
N-Nitrosodi-n-propylamine	ug/kg	78	37 U	36 U	36 U	35 U	35 U
N-Nitrosodiphenylamine	ug/kg	110,000	73 U	73 U	73 U	70 U	71 U
Pyridine	ug/kg	78,000	130 U	130 U	130 U	120 U	120 U
1,2,4-Trichlorobenzene	ug/kg	24,000	37 U	36 U	36 U	35 U	35 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)							
Acenaphthene	ug/kg	3,600,000	35 U	36 U	35 U	34 UJ	35 U
Acenaphthylene	ug/kg	-	35 U	36 U	35 U	34 UJ	35 U

Table G-2
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-16	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			FA35136-4	FA35136-1	FA35165-3	FA35165-2	FA35165-1
Date Sampled:			6/29/2016	6/29/2016	6/30/2016	6/30/2016	6/30/2016
Matrix:			Soil	Soil	Soil	Soil	Soil
Anthracene	ug/kg	18,000,000	35 U	36 U	35 U	34 UJ	35 U
Benzo(a)anthracene	ug/kg	**100**	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(a)pyrene	ug/kg	**100**	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(b)fluoranthene	ug/kg	**100**	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(g,h,i)perylene	ug/kg	-	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Benzo(k)fluoranthene	ug/kg	**100**	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Chrysene	ug/kg	**100**	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
1,4-Dioxane	ug/kg	5,300	15 U	15 U	14 U	14 U	14 U
Fluoranthene	ug/kg	2,400,000	35 U	36 U	35 U	34 UJ	35 U
Fluorene	ug/kg	2,400,000	35 U	36 U	35 U	34 UJ	35 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.0 U	7.2 U	7.1 U	6.8 UJ	7.1 U
1-Methylnaphthalene	ug/kg	**5,000**	35 U	36 U	35 U	34 UJ	35 U
2-Methylnaphthalene	ug/kg	**5,000**	35 U	36 U	35 U	34 UJ	35 U
Naphthalene	ug/kg	**5,000**	35 U	36 U	35 U	34 UJ	35 U
Phenanthrene	ug/kg	-	35 U	36 U	35 U	34 UJ	35 U
Pyrene	ug/kg	1,800,000	35 U	36 U	35 U	34 UJ	35 U
Benzo(a)pyrene equivalents	ug/kg	**100**					

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-3
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-04
Lab Sample ID:			**FA38194-10/ 16J0471-05**	**FA38194-11/ 16J0471-06**	**16K0007-06**	**FA38083-2/ 16J0428-07**	**FA35063-4**	**FA35063-4R**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/31/2016**	**10/25/2016**	**6/27/2016**	**6/27/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	2.86 U	-	2.61 U	3.41 U	4.0 U	-
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	2.62 U	2.65 U	-	2.79 U	3.51 J	2.32 J
TPH (Motor Oil)	mg/kg	4,000	5.23 UJ	5.31 UJ	-	5.58 UJ	22.4	12.2 J

Table G-3
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-05	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D
Lab Sample ID:			**FA35066-3**	**FA38083-3/ 16J0428-08**	**16J0492-07**	**FA35125-2**	**FA35125-1**	**FA35125-3**
Date Sampled:			**6/27/2016**	**10/25/2016**	**10/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.7 U	2.75 U	4.02 U	3.5 U	3.4 U	3.4 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	1.24 J	4.07 J	13.6	2.68 J	2.53 J	2.50 J
TPH (Motor Oil)	mg/kg	4,000	14 J	6.63 J	6.21 J	18.2	14.1	15.2

Table G-3
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SS-10**	**YTCFLC-SO-11**	**YTCFLC-SO-12**	**YTCFLC-SO-13**	**YTCFLC-SS-14**	**YTCFLC-SO-15**
Lab Sample ID:			**FA35125-5**	**FA35125-7**	**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.1 U	3.6 U	3.5 U	2.95 U	3.5 U	3.5 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	1.35 J	2.41 J	1.91 J	5.41 UJ	3.85	4.8 J
TPH (Motor Oil)	mg/kg	4,000	12	13.9	12.6	4.74 J	18.3	21

Table G-3
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-15D	YTCFLC-SO-16	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			**FA35136-3**	**FA35136-4**	**FA35136-1**	**FA35165-3**	**FA35165-2**	**FA35165-1**
Date Sampled:			**6/29/2016**	**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.9 U	3.7 U	3.6 U	3.2 U	3.8 U	4.0 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	3.18 J	4.5	2.25 J	2.47 J	2.08 J	2.10 J
TPH (Motor Oil)	mg/kg	4,000	18.1	22.2	7.48	16.8	17.3	19

Footnotes:
Bold - Washington MTCA level
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U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05
Lab Sample ID:			FA38194-10/ 16J0471-05	FA38194-11/ 16J0471-06	FA38083-2/ 16J0428-07	FA35063-4	FA35066-3
Date Sampled:			10/27/2016	10/27/2016	10/25/2016	6/27/2016	6/27/2016
Matrix:			Soil	Soil	Soil	Soil	Soil
Pesticides (SW846 8081B)							
Aldrin	ug/kg	39	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
alpha-BHC	ug/kg	86	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
beta-BHC	ug/kg	300	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
delta-BHC	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
gamma-BHC (Lindane)	ug/kg	**10**	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Chlordane	ug/kg	1,700	9.0 U	9.0 U	9.2 U	9.2 U	9.2 U
alpha-Chlordane	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
gamma-Chlordane	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Dieldrin	ug/kg	34	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
4,4'-DDD	ug/kg	2,300	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
4,4'-DDE	ug/kg	2,000	0.90 U	0.90 U	0.92 U	5.9	3.4 J
4,4'-DDT	ug/kg	**3,000**	0.90 U	0.90 U	0.92 U	5.7	1.2 J
Endrin	ug/kg	19,000	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Endosulfan sulfate	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Endrin aldehyde	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Endrin ketone	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Endosulfan-I	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Endosulfan-II	ug/kg	-	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Heptachlor	ug/kg	130	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Heptachlor epoxide	ug/kg	70	0.90 U	0.90 U	0.92 U	0.92 U	0.92 U
Methoxychlor	ug/kg	320,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Toxaphene	ug/kg	490	45 U	45 U	46 U	46 U	46 U
PCBs (SW846 8082A)							
Aroclor 1016	ug/kg	**1,000**	9.0 U	9.0 U	9.2 U	9.2 U	9.2 U
Aroclor 1221	ug/kg	**1,000**	14 U	14 U	15 U	15 U	15 U
Aroclor 1232	ug/kg	**1,000**	14 U	14 U	15 U	15 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.0 U	9.0 U	9.2 U	9.2 U	9.2 U
Aroclor 1248	ug/kg	**1,000**	9.0 U	9.0 U	9.2 U	9.2 U	9.2 U
Aroclor 1254	ug/kg	**1,000**	14 U	14 U	15 U	15 U	15 U
Aroclor 1260	ug/kg	**1,000**	9.0 U	9.0 U	9.2 U	9.2 U	9.2 U

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05
Lab Sample ID:			FA38194-10/ 16J0471-05	FA38194-11/ 16J0471-06	FA38083-2/ 16J0428-07	FA35063-4	FA35066-3
Date Sampled:			10/27/2016	10/27/2016	10/25/2016	6/27/2016	6/27/2016
Matrix:			Soil	Soil	Soil	Soil	Soil
Herbicides (SW846 8151A)							
2,4-D	ug/kg	700,000	18 U	17 U	19 U	18 U	18 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.7 U	1.9 U	1.8 U	1.8 U
2,4,5-T	ug/kg	630,000	1.8 U	1.7 U	1.9 U	1.8 U	1.8 U
Dicamba	ug/kg	1,900,000	1.8 R	1.7 U	1.9 R	1.8 U	1.8 U
Dinoseb	ug/kg	63,000	36 U	35 U	37 U	37 U	36 U
Dalapon	ug/kg	1,900,000	73 U	69 U	74 R	74 U	73 U
Dichloroprop	ug/kg	-	18 U	17 U	19 U	18 U	18 U
2,4-DB	ug/kg	510,000	18 U	17 U	19 U	18 U	18 U
MCPP	ug/kg	63,000	1800 U	1700 U	1900 UJ	1800 U	1800 U
MCPA	ug/kg	32,000	1800 U	1700 U	1900 U	1800 U	1800 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.7 U	1.9 U	1.8 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		Project Action Limit	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D	YTCFLC-SS-10
Lab Sample ID:			**FA38083-3/ 16J0428-08**	**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**
Date Sampled:			**10/25/2016**	**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
alpha-BHC	ug/kg	86	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
beta-BHC	ug/kg	300	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
delta-BHC	ug/kg	-	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
gamma-BHC (Lindane)	ug/kg	**10**	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Chlordane	ug/kg	1,700	18 U	9.7 U	178	8.5 U	8.3 U	8.6 U
alpha-Chlordane	ug/kg	-	3.2 J	1.1 J	31	0.62 J	0.83 UJ	0.86 U
gamma-Chlordane	ug/kg	-	1.8 U	1.3 J	28.5	0.85 U	0.83 U	0.86 U
Dieldrin	ug/kg	34	24.4	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
4,4'-DDD	ug/kg	2,300	16	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
4,4'-DDE	ug/kg	2,000	337 J	0.97 U	0.87 U	4.2	6	10.4
4,4'-DDT	ug/kg	**3,000**	489 J	0.97 U	0.87 U	3.0 J	2.8 J	4.4
Endrin	ug/kg	19,000	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Endosulfan sulfate	ug/kg	-	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Endrin aldehyde	ug/kg	-	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Endrin ketone	ug/kg	-	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Endosulfan-I	ug/kg	-	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Endosulfan-II	ug/kg	-	1.8 U	0.97 U	0.87 U	0.85 U	0.83 U	0.86 U
Heptachlor	ug/kg	130	1.8 U	0.97 U	0.86 J	0.85 U	0.83 U	0.86 U
Heptachlor epoxide	ug/kg	70	1.8 U	0.97 U	2.5	0.85 U	0.83 U	0.86 U
Methoxychlor	ug/kg	320,000	3.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U
Toxaphene	ug/kg	490	92 U	49 U	43 U	42 U	42 U	43 U
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	**1,000**	9.2 U	9.7 U	8.7 U	32 U	8.3 U	8.6 U
Aroclor 1221	ug/kg	**1,000**	15 U	16 U	14 U	52 U	13 U	14 U
Aroclor 1232	ug/kg	**1,000**	15 U	16 U	14 U	52 U	13 U	14 U
Aroclor 1242	ug/kg	**1,000**	9.2 U	9.7 U	8.7 U	32 U	8.3 U	8.6 U
Aroclor 1248	ug/kg	**1,000**	9.2 U	9.7 U	8.7 U	32 U	8.3 U	8.6 U
Aroclor 1254	ug/kg	**1,000**	18 U	16 U	14 U	40.1 J	13 UJ	14 U
Aroclor 1260	ug/kg	**1,000**	18 U	9.7 U	8.7 U	32 U	8.3 U	8.6 U

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		Project Action Limit	YTCFLC-SO-06	YTCFLC-SO-07	YTCFLC-SO-08	YTCFLC-SO-09	YTCFLC-SS-09-D	YTCFLC-SS-10
Lab Sample ID:			**FA38083-3/ 16J0428-08**	**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**
Date Sampled:			**10/25/2016**	**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Herbicides (SW846 8151A)								
2,4-D	ug/kg	700,000	18 U	19 U	17 U	17 U	17 U	17 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U
2,4,5-T	ug/kg	630,000	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U
Dicamba	ug/kg	1,900,000	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U
Dinoseb	ug/kg	63,000	37 U	38 U	35 U	35 U	34 U	34 U
Dalapon	ug/kg	1,900,000	74 U	77 U	69 U	69 U	69 U	69 U
Dichloroprop	ug/kg	-	18 U	19 U	17 U	17 U	17 U	17 U
2,4-DB	ug/kg	510,000	18 U	19 U	17 U	17 U	17 U	17 U
MCPP	ug/kg	63,000	1800 U	1900 U	1700 U	1700 U	1700 U	1700 U
MCPA	ug/kg	32,000	1800 U	1900 U	1700 U	1700 U	1700 U	1700 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		Project Action Limit	YTCFLC-SO-11	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SS-14	YTCFLC-SO-15	YTCFLC-SO-15D
Lab Sample ID:			**FA38249-5**	**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**
Date Sampled:			**10/28/2016**	**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
alpha-BHC	ug/kg	86	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
beta-BHC	ug/kg	300	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
delta-BHC	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
gamma-BHC (Lindane)	ug/kg	**10**	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Chlordane	ug/kg	1,700	9.6 U	9.0 U	9.2 U	9.3 U	8.9 U	9.0 U
alpha-Chlordane	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
gamma-Chlordane	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Dieldrin	ug/kg	34	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
4,4'-DDD	ug/kg	2,300	0.96 U	0.90 U	0.94 J	27.8	0.89 UJ	20.9 J
4,4'-DDE	ug/kg	2,000	1.7 J	0.90 U	11.7	1.2 J	5.2	6
4,4'-DDT	ug/kg	**3,000**	2.8 J	0.90 U	13	1.2 J	2.9 J	3.4 J
Endrin	ug/kg	19,000	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Endosulfan sulfate	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	5.3 [j]	6.3
Endrin aldehyde	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Endrin ketone	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	0.89 UJ	3.1 J
Endosulfan-I	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Endosulfan-II	ug/kg	-	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Heptachlor	ug/kg	130	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Heptachlor epoxide	ug/kg	70	0.96 U	0.90 U	0.92 U	0.93 U	0.89 U	0.90 U
Methoxychlor	ug/kg	320,000	1.9 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
Toxaphene	ug/kg	490	48 U	45 U	46 U	47 U	45 U	45 U
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	**1,000**	9.6 U	8.8 U	9.2 U	9.3 U	9.0 U	9.0 U
Aroclor 1221	ug/kg	**1,000**	15 U	14 U	15 U	15 U	14 U	14 U
Aroclor 1232	ug/kg	**1,000**	15 U	14 U	15 U	15 U	14 U	14 U
Aroclor 1242	ug/kg	**1,000**	9.6 U	8.8 U	9.2 U	9.3 U	9.0 U	9.0 U
Aroclor 1248	ug/kg	**1,000**	9.6 U	8.8 U	9.2 U	9.3 U	9.0 U	9.0 U
Aroclor 1254	ug/kg	**1,000**	15 U	14 U	15 U	15 U	14 U	14 U
Aroclor 1260	ug/kg	**1,000**	9.6 U	8.8 U	9.2 U	9.3 U	9.0 U	9.0 U

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		**Project Action Limit**	**YTCFLC-SO-11**	**YTCFLC-SO-12**	**YTCFLC-SO-13**	**YTCFLC-SS-14**	**YTCFLC-SO-15**	**YTCFLC-SO-15D**
Lab Sample ID:			**FA38249-5**	**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**
Date Sampled:			**10/28/2016**	**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Herbicides (SW846 8151A)								
2,4-D	ug/kg	700,000	19 R	18 U	18 U	19 U	18 U	17 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.9 R	1.8 U	1.8 U	1.9 U	1.8 U	1.7 U
2,4,5-T	ug/kg	630,000	1.9 R	1.8 U	1.8 U	1.9 U	1.8 U	1.7 U
Dicamba	ug/kg	1,900,000	1.9 R	1.8 U	1.8 U	1.9 U	1.8 U	1.7 U
Dinoseb	ug/kg	63,000	38 R	35 U	36 U	37 U	35 U	35 U
Dalapon	ug/kg	1,900,000	77 R	70 U	73 U	74 U	71 U	70 U
Dichloroprop	ug/kg	-	19 R	18 U	18 U	19 U	18 U	17 U
2,4-DB	ug/kg	510,000	19 R	18 U	18 U	19 U	18 U	17 U
MCPP	ug/kg	63,000	1900 R	1800 U	1800 U	1900 U	1800 U	1700 U
MCPA	ug/kg	32,000	1900 R	1800 U	1800 U	1900 U	1800 U	1700 U
Pentachlorophenol	ug/kg	1,000	1.9 R	1.8 U	1.8 U	1.9 U	1.8 U	1.7 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		Project Action Limit	YTCFLC-SO-16	YTCFLC-SO-17	YTCFLC-SO-18	YTCFLC-SO-19	YTCFLC-SO-20
Lab Sample ID:			FA35136-4	FA35136-1	FA35165-3	FA35165-2	FA35165-1
Date Sampled:			6/29/2016	6/29/2016	6/30/2016	6/30/2016	6/30/2016
Matrix:			Soil	Soil	Soil	Soil	Soil
Pesticides (SW846 8081B)							
Aldrin	ug/kg	39	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
alpha-BHC	ug/kg	86	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
beta-BHC	ug/kg	300	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
delta-BHC	ug/kg	-	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
gamma-BHC (Lindane)	ug/kg	**10**	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Chlordane	ug/kg	1,700	9.2 U	9.4 U	8.7 U	8.3 U	8.5 U
alpha-Chlordane	ug/kg	-	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
gamma-Chlordane	ug/kg	-	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Dieldrin	ug/kg	34	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
4,4'-DDD	ug/kg	2,300	45	0.94 U	0.87 U	0.83 U	0.85 U
4,4'-DDE	ug/kg	2,000	2.7 J	1.1 J	4.5	0.83 U	1.4 J
4,4'-DDT	ug/kg	**3,000**	4	0.94 U	3.7	0.83 U	3.9
Endrin	ug/kg	19,000	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Endosulfan sulfate	ug/kg	-	8.0 [j]	0.94 U	0.87 U	0.83 U	0.85 U
Endrin aldehyde	ug/kg	-	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Endrin ketone	ug/kg	-	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Endosulfan-I	ug/kg	-	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Endosulfan-II	ug/kg	-	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Heptachlor	ug/kg	130	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Heptachlor epoxide	ug/kg	70	0.92 U	0.94 U	0.87 U	0.83 U	0.85 U
Methoxychlor	ug/kg	320,000	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U
Toxaphene	ug/kg	490	46 U	47 U	44 U	41 U	43 U
PCBs (SW846 8082A)							
Aroclor 1016	ug/kg	**1,000**	9.2 U	9.3 U	8.7 U	8.3 U	8.5 U
Aroclor 1221	ug/kg	**1,000**	15 U	15 U	14 U	13 U	-
Aroclor 1232	ug/kg	**1,000**	15 U	15 U	14 U	13 U	-
Aroclor 1242	ug/kg	**1,000**	9.2 U	9.3 U	8.7 U	8.3 U	-
Aroclor 1248	ug/kg	**1,000**	9.2 U	9.3 U	8.7 U	8.3 U	-
Aroclor 1254	ug/kg	**1,000**	15 U	15 U	14 U	13 U	-
Aroclor 1260	ug/kg	**1,000**	9.2 U	9.3 U	8.7 U	8.3 U	8.5 U

Table G-4
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Client Sample ID:		**Project Action Limit**	**YTCFLC-SO-16**	**YTCFLC-SO-17**	**YTCFLC-SO-18**	**YTCFLC-SO-19**	**YTCFLC-SO-20**
Lab Sample ID:			**FA35136-4**	**FA35136-1**	**FA35165-3**	**FA35165-2**	**FA35165-1**
Date Sampled:			**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Herbicides (SW846 8151A)							
2,4-D	ug/kg	700,000	18 U	18 U	18 U	17 U	18 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U
2,4,5-T	ug/kg	630,000	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U
Dicamba	ug/kg	1,900,000	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U
Dinoseb	ug/kg	63,000	35 U	36 U	37 U	35 U	36 U
Dalapon	ug/kg	1,900,000	71 U	72 U	73 U	69 U	71 U
Dichloroprop	ug/kg	-	18 U	18 U	18 U	17 U	18 U
2,4-DB	ug/kg	510,000	18 U	18 U	18 U	17 U	18 U
MCPP	ug/kg	63,000	1800 U	1800 U	1800 U	1700 U	1800 U
MCPA	ug/kg	32,000	1800 U	1800 U	1800 U	1700 U	1800 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-01	YTCFLC-SO-02	YTCFLC-SO-03	YTCFLC-SO-04	YTCFLC-SO-05	YTCFLC-SO-06
Lab Sample ID:			**FA38194-10/ 16J0471-05**	**FA38194-11/ 16J0471-06**	**FA38083-2/ 16J0428-07**	**FA35063-4**	**FA35066-3**	**FA38083-3/ 16J0428-08**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/25/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis								
Aluminum	mg/kg	77,000	13600	14400	18800 J	24500	18900	15200 J
Antimony	mg/kg	31	0.95 U	1.0 U	1.3 UJ	1.3 U	1.1 U	1.1 UJ
Arsenic	mg/kg	**20**	3.7	3.2	3.7 J	5	2.8	4.9 J
Barium	mg/kg	15,000	131	131	173	153	201	122
Beryllium	mg/kg	160	0.28 J	0.27 J	0.58 J	0.33 J	0.19 J	0.53 J
Cadmium	mg/kg	**2**	0.19 U	0.20 U	0.26 U	0.24 J	0.15 J	0.22 U
Calcium	mg/kg	-	5410	3850	14900 J	7290	7830	17600 J
Chromium	mg/kg	**2,000**	12.5	12.5	14.9	14.1	14.5	17.1
Cobalt	mg/kg	23	7.2 J	7.8 J	8.9 J	11.1 J	10.5 J	9.7 J
Copper	mg/kg	3,100	17.4	16.6	22.2	22.2	21.2	22.1
Iron	mg/kg	55,000	17800	18300	21200 J	24600	22700	22300 J
Lead	mg/kg	**250**	7.2	7.4	8.2	20.4	11.6	17.8
Magnesium	mg/kg	-	4140	3860	7830	6540	5760	7270
Manganese	mg/kg	1,800	346	386	373 J	515	697	431 J
Mercury	mg/kg	**2**	0.018 J	0.015 J	0.034 J	0.028 J	0.022 J	0.032 J
Nickel	mg/kg	820	12.9	12.2	17.9	14	21.4	23.6

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SO-01**	**YTCFLC-SO-02**	**YTCFLC-SO-03**	**YTCFLC-SO-04**	**YTCFLC-SO-05**	**YTCFLC-SO-06**
Lab Sample ID:			**FA38194-10/ 16J0471-05**	**FA38194-11/ 16J0471-06**	**FA38083-2/ 16J0428-07**	**FA35063-4**	**FA35066-3**	**FA38083-3/ 16J0428-08**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/25/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	1800 J	1830 J	2070 J	3160	2930	2030 J
Selenium	mg/kg	390	0.95 U	1.0 U	1.3 U	1.3 U	1.1 U	1.1 U
Silver	mg/kg	390	0.50 J	0.56 J	0.52 U	0.47 J	0.48 J	0.44 U
Sodium	mg/kg	-	260 J	284 J	1310 J	361 J	446 J	251 J
Thallium	mg/kg	1	0.95 U	1.0 U	1.3 U	***1.1 J***	***1.2 J***	0.29 J
Vanadium	mg/kg	390	34.5	37	40.3	43.4	41.5	55.6
Zinc	mg/kg	23,000	37.3	38.7	46.7	53.8	44.3	51.5
General Chemistry								
Solids, Percent	%	-	95	94	89.9	88.1	89.2	92.8

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SO-07**	**YTCFLC-SO-08**	**YTCFLC-SO-09**	**YTCFLC-SO-09-D**	**YTCFLC-SO-10**	**YTCFLC-SO-11**
Lab Sample ID:			**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**	**FA38249-5**
Date Sampled:			**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**10/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis								
Aluminum	mg/kg	77,000	16700 J	14500 J	14900 J	14400 J	15600 J	18200
Antimony	mg/kg	31	1.0 UJ	1.0 UJ	0.96 UJ	0.48 J	1.2 UJ	0.41 J
Arsenic	mg/kg	**20**	3.5 J	2.2	2.1	2.4	3	3.5
Barium	mg/kg	15,000	142	105 J	153 J	137 J	124 J	163
Beryllium	mg/kg	160	0.57 J	0.42 J	0.45 J	0.46 J	0.49 J	0.47 J
Cadmium	mg/kg	**2**	0.21 U	0.21 U	0.19 UJ	0.16 J	0.25 U	0.19 J
Calcium	mg/kg	-	9260 J	12000 J	4940 J	5900 J	4500 J	12400
Chromium	mg/kg	**2,000**	14.5	9.7 J	13.3 J	13.5 J	17.9 J	15.5
Cobalt	mg/kg	23	10.4	10.4	10.1	13.2	10.7 J	10.1 J
Copper	mg/kg	3,100	22.7	24.7 J	20.4 J	24.7 J	22.3 J	27.1
Iron	mg/kg	55,000	22400 J	19900 J	21300 J	28800 J	24400 J	25400 C
Lead	mg/kg	**250**	7.5	4.9 J	12.4 J	12.1 J	12.5 J	***463***
Magnesium	mg/kg	-	5810	5940 J	4040 J	4680 J	3970 J	7170
Manganese	mg/kg	1,800	483 J	359 J	500 J	662 J	570 J	450
Mercury	mg/kg	**2**	0.036 J	0.019 J	0.033 J	0.1 J	0.030 J	0.081
Nickel	mg/kg	820	20.5	18.2	13.1	14.5	16.8	19.2

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SO-07**	**YTCFLC-SO-08**	**YTCFLC-SO-09**	**YTCFLC-SO-09-D**	**YTCFLC-SO-10**	**YTCFLC-SO-11**
Lab Sample ID:			**FA38083-4**	**FA35125-2**	**FA35125-1**	**FA35125-3**	**FA35125-5**	**FA38249-5**
Date Sampled:			**10/25/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**10/28/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	2290	2030 J	2700 J	2870 J	2790 J	2250 J
Selenium	mg/kg	390	1.0 U	1.0 U	0.96 U	1.1 U	1.2 U	1.2 U
Silver	mg/kg	390	0.42 U	0.42 U	0.39 U	0.43 U	0.50 U	0.73 J
Sodium	mg/kg	-	334 J	632 J	204 J	208 J	256 J	507 J
Thallium	mg/kg	1	1.0 U	1.0 U	0.96 U	1.1 U	1.2 U	0.27 J
Vanadium	mg/kg	390	45.3	34.8 J	40.6 J	58.5 J	45.7 J	44
Zinc	mg/kg	23,000	43.3	39.1 J	46.0 J	59.3 J	58.7 J	45.9
General Chemistry								
Solids, Percent	%	-	88.5	94.8	96.2	96.6	94.8	87

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SO-14	YTCFLC-SO-15	YTCFLC-SO-15D	YTCFLC-SO-16
Lab Sample ID:			**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**	**FA35136-4**
Date Sampled:			**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis								
Aluminum	mg/kg	77,000	19400	17700	17200 J	16400	17500	17400
Antimony	mg/kg	31	0.33 J	0.90 U	1.3 UJ	1.1 U	1.2 U	1.3 U
Arsenic	mg/kg	**20**	3.9	3	2.8	3.2	3.2	2.8
Barium	mg/kg	15,000	155	141	142 J	139	145	125
Beryllium	mg/kg	160	0.63 J	0.35 J	0.57 J	0.54 J	0.56 J	0.53 J
Cadmium	mg/kg	**2**	0.25 U	0.11 J	0.27 U	0.22 U	0.25 U	0.25 U
Calcium	mg/kg	-	5800	8960	4590 J	4750	4870	10800
Chromium	mg/kg	**2,000**	22.6	16.4	18.1 J	18	18.9	17.3
Cobalt	mg/kg	23	11.5 J	9.8	10.9 J	10.2 J	11.1 J	11.2 J
Copper	mg/kg	3,100	23.6	21.1	23.8 J	19.8	20.7	24.8
Iron	mg/kg	55,000	25400	22200	24800 J	21800	23100	28300
Lead	mg/kg	**250**	8.3	10.8	8.3 J	7	6.9	9.4
Magnesium	mg/kg	-	5830	6560	4330 J	4290	4500	6230
Manganese	mg/kg	1,800	504	401	542 J	467	507	554
Mercury	mg/kg	**2**	0.032 J	0.037 J	0.028 J	0.022 J	0.16 J	0.037 J
Nickel	mg/kg	820	22.6	16.6	18.8	17.3	18.3	20

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		Project Action Limit	YTCFLC-SO-12	YTCFLC-SO-13	YTCFLC-SO-14	YTCFLC-SO-15	YTCFLC-SO-15D	YTCFLC-SO-16
Lab Sample ID:			**FA35136-5**	**FA38194-12/ 16J0471-07**	**FA35125-4**	**FA35136-2**	**FA35136-3**	**FA35136-4**
Date Sampled:			**6/29/2016**	**10/27/2016**	**6/28/2016**	**6/29/2016**	**6/29/2016**	**6/29/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	2150 J	2130	2600 J	2380	2520	1800 J
Selenium	mg/kg	390	1.3 U	0.90 U	1.3 U	1.1 U	1.2 U	1.3 U
Silver	mg/kg	390	0.51 U	0.75 J	0.53 U	0.43 UJ	0.22 J	0.50 U
Sodium	mg/kg	-	641 J	393 J	565 J	333 J	351 J	1330 J
Thallium	mg/kg	1	1.3 U	0.90 U	1.3 U	1.1 U	1.2 U	1.3 U
Vanadium	mg/kg	390	52.7	53.5	47.3 J	46.2	49.2	57.5
Zinc	mg/kg	23,000	63.8	53.1	91.2 J	46.6	49.7	55.6
General Chemistry								
Solids, Percent	%	-	94.2	91.1	87.2	92.7	93	91

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SO-17**	**YTCFLC-SO-18**	**YTCFLC-SO-19**	**YTCFLC-SO-20**
Lab Sample ID:			**FA35136-1**	**FA35165-3**	**FA35165-2**	**FA35165-1**
Date Sampled:			**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis						
Aluminum	mg/kg	77,000	16600	11300	13500	14900
Antimony	mg/kg	31	1.0 U	0.79 J	0.89 U	0.45 J
Arsenic	mg/kg	**20**	3.2	2.2 J	3.3	2.3
Barium	mg/kg	15,000	148	89.7	131	114
Beryllium	mg/kg	160	0.59 J	0.46 J	0.49 J	0.54 J
Cadmium	mg/kg	**2**	0.21 U	0.25 U	0.18 U	0.18 U
Calcium	mg/kg	-	6830	7070	6650	6290
Chromium	mg/kg	**2,000**	19.4	10.7	12.1	14.2
Cobalt	mg/kg	23	12	15.6	7.6 J	8.3 J
Copper	mg/kg	3,100	21	21.2	18	19
Iron	mg/kg	55,000	23100	48700	17200	22900
Lead	mg/kg	**250**	7.8	6.9	6.4	11.2
Magnesium	mg/kg	-	5720	5350	3940	5080
Manganese	mg/kg	1,800	578	1150	359	374
Mercury	mg/kg	**2**	0.020 J	0.055	0.019 J	0.049
Nickel	mg/kg	820	20.6	14.5	12.5	15.8

Table G-5
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Sample ID:		**Project Action Limit**	**YTCFLC-SO-17**	**YTCFLC-SO-18**	**YTCFLC-SO-19**	**YTCFLC-SO-20**
Lab Sample ID:			**FA35136-1**	**FA35165-3**	**FA35165-2**	**FA35165-1**
Date Sampled:			**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	1900 J	1360 J	1750 J	2380
Selenium	mg/kg	390	1.0 U	1.3 U	0.89 U	0.88 U
Silver	mg/kg	390	0.42 U	0.50 U	0.35 U	0.35 U
Sodium	mg/kg	-	522 J	565 J	277 J	711 J
Thallium	mg/kg	1	1.0 U	1.3 U	0.89 U	0.88 U
Vanadium	mg/kg	390	44.4	64.1	33.7	45.6
Zinc	mg/kg	23,000	47.3	59.8	38.3	56.7
General Chemistry						
Solids, Percent	%	-	89.9	91.7	96.4	95.1

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:			**FA38124-1/16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	28 U	27 U	32 U	29 U
Benzene	ug/kg	**30**	2.2 U	2.2 U	2.5 U	2.3 U
Bromochloromethane	ug/kg	150,000	2.2 U	2.2 U	2.5 U	2.3 UJ
Bromodichloromethane	ug/kg	290	2.2 U	2.2 U	2.5 U	2.3 U
Bromoform	ug/kg	19,000	2.2 U	2.2 U	2.5 U	2.3 U
2-Butanone (MEK)	ug/kg	27,000,000	11 U	11 U	13 U	12 U
Carbon Disulfide	ug/kg	770,000	2.2 U	2.2 U	2.5 U	2.3 U
Carbon Tetrachloride	ug/kg	650	2.2 U	2.2 U	2.5 U	2.3 U
Chlorobenzene	ug/kg	280,000	2.2 U	2.2 U	2.5 U	2.3 U
Chloroethane	ug/kg	14,000,000	3.9 U	3.8 U	4.4 U	4.1 U
Chloroform	ug/kg	320	2.2 U	2.2 U	2.5 U	2.3 UJ
Cyclohexane	ug/kg	6,500,000	2.2 U	2.2 U	2.5 U	2.3 UJ
Dibromochloromethane	ug/kg	8,300	2.2 U	2.2 U	2.5 U	2.3 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.9 U	3.8 U	4.4 U	4.1 U
1,2-Dibromoethane	ug/kg	**5**	2.2 U	2.2 U	2.5 U	2.3 U
Dichlorodifluoromethane	ug/kg	87,000	3.9 U	3.8 U	4.4 U	4.1 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.2 U	2.2 U	2.5 U	2.3 U
1,3-Dichlorobenzene	ug/kg	-	2.2 U	2.2 U	2.5 U	2.3 U
1,4-Dichlorobenzene	ug/kg	2,600	2.2 U	2.2 U	2.5 U	2.3 U
1,1-Dichloroethane	ug/kg	3,600	2.2 U	2.2 U	2.5 U	2.3 UJ
1,2-Dichloroethane	ug/kg	460	2.2 U	2.2 U	2.5 U	2.3 U
1,1-Dichloroethylene	ug/kg	230,000	2.2 U	2.2 U	2.5 U	2.3 UJ
cis-1,2-Dichloroethylene	ug/kg	160,000	2.2 U	2.2 U	2.5 U	2.3 UJ
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.2 U	2.2 U	2.5 U	2.3 UJ
1,2-Dichloropropane	ug/kg	1,000	2.2 U	2.2 U	2.5 U	2.3 U
cis-1,3-Dichloropropene	ug/kg	-	2.2 U	2.2 U	2.5 U	2.3 U
trans-1,3-Dichloropropene	ug/kg	-	2.2 U	2.2 U	2.5 U	2.3 U
1,4-Dioxane	ug/kg	5,300	110 U	110 U	130 U	120 U
Ethylbenzene	ug/kg	**6,000**	2.2 U	2.2 U	2.5 U	2.3 UJ
Freon 113	ug/kg	40,000,000	2.2 U	2.2 U	2.5 U	2.3 UJ

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:		**Project Action Limit**	**FA38124-1/16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	17 U	16 U	19 U	17 U
Isopropylbenzene	ug/kg	1,900,000	2.2 U	2.2 U	2.5 U	2.3 UJ
Methyl Acetate	ug/kg	78,000,000	22 U	22 U	25 U	23 U
Methyl Bromide	ug/kg	6,800	3.9 U	3.8 U	4.4 U	4.1 U
Methyl Chloride	ug/kg	110,000	3.9 U	3.8 U	4.4 U	4.1 U
Methylcyclohexane	ug/kg	-	2.2 U	2.2 U	2.5 U	2.3 UJ
Methylene Chloride	ug/kg	**20**	5.5 U	5.4 U	6.3 U	5.8 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	22 U	22 U	25 U	23 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.2 U	2.2 U	2.5 U	2.3 U
Styrene	ug/kg	6,000,000	2.2 U	2.2 U	2.5 U	2.3 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.9 U	3.8 U	4.4 U	4.1 U
Tetrachloroethylene	ug/kg	**50**	2.2 U	2.2 U	2.5 U	2.3 U
Toluene	ug/kg	7,000	2.2 U	2.2 U	2.5 U	2.3 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.9 U	3.8 U	4.4 U	4.1 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.9 U	3.8 U	4.4 U	4.1 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.2 U	2.2 U	2.5 U	2.3 UJ
1,1,2-Trichloroethane	ug/kg	1,100	2.2 U	2.2 U	2.5 U	2.3 U
Trichloroethylene	ug/kg	**30**	2.2 U	2.2 U	2.5 U	2.3 U
Trichlorofluoromethane	ug/kg	23,000,000	3.9 U	3.8 U	4.4 U	4.1 UJ
Vinyl Chloride	ug/kg	59	2.2 U	2.2 U	2.5 U	2.3 U
m,p-Xylene	ug/kg	**9,000**	4.4 U	4.3 U	5.1 U	4.6 UJ
o-Xylene	ug/kg	**9,000**	2.2 U	2.2 U	2.5 U	2.3 UJ

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**42**			**43**	
Sample ID:		**Project Action Limit**	**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**
Lab Sample ID:			**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)							
Acetone	ug/kg	61,000,000	34 U	35 U	27 U	32 U	25 U
Benzene	ug/kg	**30**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Bromochloromethane	ug/kg	150,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Bromodichloromethane	ug/kg	290	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Bromoform	ug/kg	19,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
2-Butanone (MEK)	ug/kg	27,000,000	13 U	14 U	11 U	13 U	10 U
Carbon Disulfide	ug/kg	770,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Carbon Tetrachloride	ug/kg	650	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Chlorobenzene	ug/kg	280,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Chloroethane	ug/kg	14,000,000	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
Chloroform	ug/kg	320	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Cyclohexane	ug/kg	6,500,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Dibromochloromethane	ug/kg	8,300	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,2-Dibromo-3-chloropropane	ug/kg	5	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
1,2-Dibromoethane	ug/kg	**5**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Dichlorodifluoromethane	ug/kg	87,000	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,3-Dichlorobenzene	ug/kg	-	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,4-Dichlorobenzene	ug/kg	2,600	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,1-Dichloroethane	ug/kg	3,600	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,2-Dichloroethane	ug/kg	460	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,1-Dichloroethylene	ug/kg	230,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,2-Dichloropropane	ug/kg	1,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
cis-1,3-Dichloropropene	ug/kg	-	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
trans-1,3-Dichloropropene	ug/kg	-	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,4-Dioxane	ug/kg	5,300	130 U	140 U	110 U	130 U	100 U
Ethylbenzene	ug/kg	**6,000**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Freon 113	ug/kg	40,000,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**42**			**43**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**
Lab Sample ID:			**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	20 U	21 U	16 U	19 U	15 U
Isopropylbenzene	ug/kg	1,900,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Methyl Acetate	ug/kg	78,000,000	27 U	28 U	22 U	25 U	20 U
Methyl Bromide	ug/kg	6,800	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
Methyl Chloride	ug/kg	110,000	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
Methylcyclohexane	ug/kg	-	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Methylene Chloride	ug/kg	**20**	6.7 U	7.0 U	5.5 U	6.3 U	5.1 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	27 U	28 U	22 U	25 U	20 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Styrene	ug/kg	6,000,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,1,2,2-Tetrachloroethane	ug/kg	600	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
Tetrachloroethylene	ug/kg	**50**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Toluene	ug/kg	7,000	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,2,3-Trichlorobenzene	ug/kg	63,000	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
1,2,4-Trichlorobenzene	ug/kg	24,000	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
1,1,2-Trichloroethane	ug/kg	1,100	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Trichloroethylene	ug/kg	**30**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
Trichlorofluoromethane	ug/kg	23,000,000	4.7 U	4.9 U	3.8 U	4.4 U	3.6 U
Vinyl Chloride	ug/kg	59	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U
m,p-Xylene	ug/kg	**9,000**	5.4 U	5.6 U	4.4 U	5.1 U	4.1 U
o-Xylene	ug/kg	**9,000**	2.7 U	2.8 U	2.2 U	2.5 U	2.0 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**44**		**45**	
Sample ID:			**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**
Lab Sample ID:			**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**3.5**	**3.5**	**2**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	14.4 J	26 U	20 U	29 U
Benzene	ug/kg	**30**	2.6 U	2.0 U	1.6 U	2.3 U
Bromochloromethane	ug/kg	150,000	2.6 U	2.0 U	1.6 U	2.3 U
Bromodichloromethane	ug/kg	290	2.6 U	2.0 U	1.6 U	2.3 U
Bromoform	ug/kg	19,000	2.6 U	2.0 U	1.6 U	2.3 U
2-Butanone (MEK)	ug/kg	27,000,000	13 U	10 U	8.1 U	12 U
Carbon Disulfide	ug/kg	770,000	2.6 U	2.0 U	1.6 U	2.3 U
Carbon Tetrachloride	ug/kg	650	2.6 U	2.0 U	1.6 U	2.3 U
Chlorobenzene	ug/kg	280,000	2.6 U	2.0 U	1.6 U	2.3 U
Chloroethane	ug/kg	14,000,000	4.6 U	3.6 U	2.8 U	4.1 U
Chloroform	ug/kg	320	2.6 U	2.0 U	1.6 UJ	2.3 U
Cyclohexane	ug/kg	6,500,000	2.6 U	2.0 U	1.6 UJ	2.3 U
Dibromochloromethane	ug/kg	8,300	2.6 U	2.0 U	1.6 U	2.3 U
1,2-Dibromo-3-chloropropane	ug/kg	5	4.6 U	3.6 U	2.8 UJ	4.1 U
1,2-Dibromoethane	ug/kg	**5**	2.6 U	2.0 U	1.6 U	2.3 U
Dichlorodifluoromethane	ug/kg	87,000	4.6 U	3.6 U	2.8 U	4.1 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.6 U	2.0 U	1.6 UJ	2.3 U
1,3-Dichlorobenzene	ug/kg	-	2.6 U	2.0 U	1.6 UJ	2.3 U
1,4-Dichlorobenzene	ug/kg	2,600	2.6 U	2.0 U	1.6 U	2.3 U
1,1-Dichloroethane	ug/kg	3,600	2.6 U	2.0 U	1.6 UJ	2.3 U
1,2-Dichloroethane	ug/kg	460	2.6 U	2.0 U	1.6 UJ	2.3 U
1,1-Dichloroethylene	ug/kg	230,000	2.6 U	2.0 U	1.6 U	2.3 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.6 U	2.0 U	1.6 U	2.3 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.6 U	2.0 U	1.6 U	2.3 U
1,2-Dichloropropane	ug/kg	1,000	2.6 U	2.0 U	1.6 UJ	2.3 U
cis-1,3-Dichloropropene	ug/kg	-	2.6 U	2.0 U	1.6 U	2.3 U
trans-1,3-Dichloropropene	ug/kg	-	2.6 U	2.0 U	1.6 UJ	2.3 U
1,4-Dioxane	ug/kg	5,300	130 U	100 U	81 U	120 U
Ethylbenzene	ug/kg	**6,000**	2.6 U	2.0 U	1.6 UJ	2.3 U
Freon 113	ug/kg	40,000,000	2.6 U	2.0 U	1.6 UJ	2.3 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**44**		**45**	
Sample ID:			**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**
Lab Sample ID:		**Project Action Limit**	**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**3.5**	**3.5**	**2**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	20 U	15 U	12 UJ	18 U
Isopropylbenzene	ug/kg	1,900,000	2.6 U	2.0 U	1.6 U	2.3 U
Methyl Acetate	ug/kg	78,000,000	26 U	20 U	16 U	23 U
Methyl Bromide	ug/kg	6,800	4.6 U	3.6 U	2.8 U	4.1 U
Methyl Chloride	ug/kg	110,000	4.6 U	3.6 U	2.8 U	4.1 U
Methylcyclohexane	ug/kg	-	2.6 U	2.0 U	1.6 UJ	2.3 U
Methylene Chloride	ug/kg	**20**	6.6 U	5.1 U	4.0 U	5.8 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	26 U	20 U	16 UJ	23 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.6 U	2.0 U	1.6 U	2.3 U
Styrene	ug/kg	6,000,000	2.6 U	2.0 U	1.6 U	2.3 U
1,1,2,2-Tetrachloroethane	ug/kg	600	4.6 U	3.6 U	2.8 UJ	4.1 U
Tetrachloroethylene	ug/kg	**50**	2.6 U	2.0 U	1.6 U	2.3 U
Toluene	ug/kg	7,000	2.6 U	2.0 U	1.6 UJ	2.3 U
1,2,3-Trichlorobenzene	ug/kg	63,000	4.6 U	3.6 U	2.8 U	4.1 U
1,2,4-Trichlorobenzene	ug/kg	24,000	4.6 UJ	3.6 UJ	2.8 UJ	4.1 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.6 U	2.0 U	1.6 UJ	2.3 U
1,1,2-Trichloroethane	ug/kg	1,100	2.6 U	2.0 U	1.6 UJ	2.3 U
Trichloroethylene	ug/kg	**30**	2.6 U	2.0 U	1.6 U	2.3 U
Trichlorofluoromethane	ug/kg	23,000,000	4.6 U	3.6 U	2.8 U	4.1 U
Vinyl Chloride	ug/kg	59	2.6 U	2.0 U	1.6 U	2.3 U
m,p-Xylene	ug/kg	**9,000**	5.3 U	4.1 U	3.2 U	4.7 U
o-Xylene	ug/kg	**9,000**	2.6 U	2.0 U	1.6 UJ	2.3 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**46**		**47**	
Sample ID:			**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**	**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**
Lab Sample ID:			**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**	**FA35089-5**	**FA35089-1**
Date Sampled:			**6/22&29 /2016**	**6/22&29 /2016**	**6/28/2016**	**6/28/2016**
Depth:			**2.5**	**3.5**	**2.5**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	27 U	27 U	34 U	39 U
Benzene	ug/kg	**30**	2.2 U	2.2 U	2.7 U	3.1 U
Bromochloromethane	ug/kg	150,000	2.2 U	2.2 U	2.7 U	3.1 U
Bromodichloromethane	ug/kg	290	2.2 U	2.2 U	2.7 U	3.1 U
Bromoform	ug/kg	19,000	2.2 U	2.2 U	2.7 U	3.1 U
2-Butanone (MEK)	ug/kg	27,000,000	11 U	11 U	14 U	16 U
Carbon Disulfide	ug/kg	770,000	2.2 U	2.2 U	2.7 U	3.1 U
Carbon Tetrachloride	ug/kg	650	2.2 U	2.2 U	2.7 U	3.1 U
Chlorobenzene	ug/kg	280,000	2.2 U	2.2 U	2.7 U	3.1 U
Chloroethane	ug/kg	14,000,000	3.8 U	3.8 U	4.8 U	5.5 U
Chloroform	ug/kg	320	2.2 UJ	2.2 U	2.7 U	3.1 U
Cyclohexane	ug/kg	6,500,000	2.2 UJ	2.2 U	2.7 U	3.1 U
Dibromochloromethane	ug/kg	8,300	2.2 U	2.2 U	2.7 U	3.1 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.8 UJ	3.8 U	4.8 U	5.5 U
1,2-Dibromoethane	ug/kg	**5**	2.2 U	2.2 U	2.7 U	3.1 U
Dichlorodifluoromethane	ug/kg	87,000	3.8 U	3.8 U	4.8 U	5.5 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.2 UJ	2.2 U	2.7 U	3.1 U
1,3-Dichlorobenzene	ug/kg	-	2.2 UJ	2.2 U	2.7 U	3.1 U
1,4-Dichlorobenzene	ug/kg	2,600	2.2 U	2.2 U	2.7 U	3.1 U
1,1-Dichloroethane	ug/kg	3,600	2.2 UJ	2.2 U	2.7 U	3.1 U
1,2-Dichloroethane	ug/kg	460	2.2 UJ	2.2 U	2.7 U	3.1 U
1,1-Dichloroethylene	ug/kg	230,000	2.2 U	2.2 U	2.7 U	3.1 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.2 U	2.2 U	2.7 U	3.1 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.2 U	2.2 U	2.7 U	3.1 U
1,2-Dichloropropane	ug/kg	1,000	2.2 UJ	2.2 U	2.7 U	3.1 U
cis-1,3-Dichloropropene	ug/kg	-	2.2 U	2.2 U	2.7 U	3.1 U
trans-1,3-Dichloropropene	ug/kg	-	2.2 UJ	2.2 U	2.7 U	3.1 U
1,4-Dioxane	ug/kg	5,300	95 U	110 U	140 U	160 U
Ethylbenzene	ug/kg	**6,000**	2.2 UJ	2.2 U	2.7 U	3.1 U
Freon 113	ug/kg	40,000,000	2.2 UJ	2.2 U	2.7 UJ	3.1 UJ

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**46**		**47**	
Sample ID:			**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**	**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**
Lab Sample ID:		**Project Action Limit**	**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**	**FA35089-5**	**FA35089-1**
Date Sampled:			**6/22&29 /2016**	**6/22&29 /2016**	**6/28/2016**	**6/28/2016**
Depth:			**2.5**	**3.5**	**2.5**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	16 UJ	16 U	20 U	23 U
Isopropylbenzene	ug/kg	1,900,000	2.2 U	2.2 U	2.7 U	3.1 U
Methyl Acetate	ug/kg	78,000,000	22 U	22 U	27 U	31 U
Methyl Bromide	ug/kg	6,800	3.8 U	3.8 U	4.8 U	5.5 U
Methyl Chloride	ug/kg	110,000	3.8 U	3.8 U	4.8 U	5.5 U
Methylcyclohexane	ug/kg	-	2.2 UJ	2.2 U	2.7 U	3.1 U
Methylene Chloride	ug/kg	**20**	5.4 U	5.5 U	6.8 U	7.8 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	22 UJ	22 U	27 U	31 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.2 U	2.2 U	2.7 U	3.1 U
Styrene	ug/kg	6,000,000	2.2 U	2.2 U	2.7 U	3.1 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.8 UJ	3.8 U	4.8 U	5.5 U
Tetrachloroethylene	ug/kg	**50**	2.2 U	2.2 U	2.7 U	3.1 U
Toluene	ug/kg	7,000	2.2 UJ	2.2 U	2.7 U	3.1 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.8 U	3.8 U	4.8 U	5.5 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.8 UJ	3.8 U	4.8 U	5.5 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.2 UJ	2.2 U	2.7 U	3.1 U
1,1,2-Trichloroethane	ug/kg	1,100	2.2 UJ	2.2 U	2.7 U	3.1 U
Trichloroethylene	ug/kg	**30**	2.2 U	2.2 U	2.7 U	3.1 U
Trichlorofluoromethane	ug/kg	23,000,000	3.8 U	3.8 U	4.8 U	5.5 U
Vinyl Chloride	ug/kg	59	2.2 U	2.2 U	2.7 U	3.1 U
m,p-Xylene	ug/kg	**9,000**	4.3 U	4.4 U	5.4 U	6.3 U
o-Xylene	ug/kg	**9,000**	2.2 UJ	2.2 U	2.7 U	3.1 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**48**		**49**	
Sample ID:			**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**	**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**
Lab Sample ID:			**FA35094-4**	**FA35094-5**	**FA35089-6**	**FA35089-7**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**6**	**7**	**4**	**8**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	24 U	24 U	24 U	23 U
Benzene	ug/kg	**30**	1.9 U	1.9 U	1.9 U	1.8 U
Bromochloromethane	ug/kg	150,000	1.9 U	1.9 U	1.9 U	1.8 U
Bromodichloromethane	ug/kg	290	1.9 U	1.9 U	1.9 U	1.8 U
Bromoform	ug/kg	19,000	1.9 U	1.9 U	1.9 U	1.8 U
2-Butanone (MEK)	ug/kg	27,000,000	9.5 U	9.7 U	9.7 U	9.2 U
Carbon Disulfide	ug/kg	770,000	1.9 U	1.9 U	1.9 U	1.8 U
Carbon Tetrachloride	ug/kg	650	1.9 U	1.9 U	1.9 U	1.8 U
Chlorobenzene	ug/kg	280,000	1.9 U	1.9 U	1.9 U	1.8 U
Chloroethane	ug/kg	14,000,000	3.3 U	3.4 U	3.4 U	3.2 U
Chloroform	ug/kg	320	1.9 U	1.9 U	1.9 U	1.8 U
Cyclohexane	ug/kg	6,500,000	1.9 U	1.9 U	1.9 U	1.8 U
Dibromochloromethane	ug/kg	8,300	1.9 U	1.9 U	1.9 U	1.8 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.3 U	3.4 U	3.4 U	3.2 U
1,2-Dibromoethane	ug/kg	**5**	1.9 U	1.9 U	1.9 U	1.8 U
Dichlorodifluoromethane	ug/kg	87,000	3.3 U	3.4 U	3.4 U	3.2 U
1,2-Dichlorobenzene	ug/kg	1,800,000	1.9 U	1.9 U	1.9 U	1.8 U
1,3-Dichlorobenzene	ug/kg	-	1.9 U	1.9 U	1.9 U	1.8 U
1,4-Dichlorobenzene	ug/kg	2,600	1.9 U	1.9 U	1.9 U	1.8 U
1,1-Dichloroethane	ug/kg	3,600	1.9 U	1.9 U	1.9 U	1.8 U
1,2-Dichloroethane	ug/kg	460	1.9 U	1.9 U	1.9 U	1.8 U
1,1-Dichloroethylene	ug/kg	230,000	1.9 U	1.9 U	1.9 U	1.8 U
cis-1,2-Dichloroethylene	ug/kg	160,000	1.9 U	1.9 U	1.9 U	1.8 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	1.9 U	1.9 U	1.9 U	1.8 U
1,2-Dichloropropane	ug/kg	1,000	1.9 U	1.9 U	1.9 U	1.8 U
cis-1,3-Dichloropropene	ug/kg	-	1.9 U	1.9 U	1.9 U	1.8 U
trans-1,3-Dichloropropene	ug/kg	-	1.9 U	1.9 U	1.9 U	1.8 U
1,4-Dioxane	ug/kg	5,300	95 U	97 U	97 U	92 U
Ethylbenzene	ug/kg	**6,000**	1.9 U	1.9 U	1.9 U	1.8 U
Freon 113	ug/kg	40,000,000	1.9 U	1.9 U	1.9 UJ	1.8 UJ

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**48**		**49**	
Sample ID:			**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**	**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**
Lab Sample ID:			**FA35094-4**	**FA35094-5**	**FA35089-6**	**FA35089-7**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**6**	**7**	**4**	**8**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	14 U	15 U	15 U	14 U
Isopropylbenzene	ug/kg	1,900,000	1.9 U	1.9 U	1.9 U	1.8 U
Methyl Acetate	ug/kg	78,000,000	19 U	19 U	19 U	18 U
Methyl Bromide	ug/kg	6,800	3.3 U	3.4 U	3.4 U	3.2 U
Methyl Chloride	ug/kg	110,000	3.3 U	3.4 U	3.4 U	3.2 U
Methylcyclohexane	ug/kg	-	1.9 U	1.9 U	1.9 U	1.8 U
Methylene Chloride	ug/kg	**20**	4.8 U	4.9 U	4.8 U	4.6 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	19 U	19 U	19 U	18 U
Methyl Tert Butyl Ether	ug/kg	**100**	1.9 U	1.9 U	1.9 U	1.8 U
Styrene	ug/kg	6,000,000	1.9 U	1.9 U	1.9 U	1.8 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.3 U	3.4 U	3.4 U	3.2 U
Tetrachloroethylene	ug/kg	**50**	1.9 U	1.9 U	1.9 U	1.8 U
Toluene	ug/kg	7,000	1.9 U	1.9 U	1.9 U	1.8 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.3 U	3.4 U	3.4 U	3.2 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.3 U	3.4 U	3.4 U	3.2 U
1,1,1-Trichloroethane	ug/kg	**2,000**	1.9 U	1.9 U	1.9 U	1.8 U
1,1,2-Trichloroethane	ug/kg	1,100	1.9 U	1.9 U	1.9 U	1.8 U
Trichloroethylene	ug/kg	**30**	1.9 U	1.9 U	1.9 U	1.8 U
Trichlorofluoromethane	ug/kg	23,000,000	3.3 U	3.4 U	3.4 U	3.2 U
Vinyl Chloride	ug/kg	59	1.9 U	1.9 U	1.9 U	1.8 U
m,p-Xylene	ug/kg	**9,000**	3.8 U	3.9 U	3.9 U	3.7 U
o-Xylene	ug/kg	**9,000**	1.9 U	1.9 U	1.9 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**50**			**51**	
Sample ID:			**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**	**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**
Lab Sample ID:			**FA35089-3**	**FA35089-4**	**FA35089-2**	**FA35026-1**	**FA35026-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/24/2016**	**6/24/2016**
Depth:			**3**	**6**	**6**	**3**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)							
Acetone	ug/kg	61,000,000	26 U	28 U	23 U	28 U	29 U
Benzene	ug/kg	**30**	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Bromochloromethane	ug/kg	150,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Bromodichloromethane	ug/kg	290	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Bromoform	ug/kg	19,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
2-Butanone (MEK)	ug/kg	27,000,000	10 U	11 U	9.3 U	11 U	12 U
Carbon Disulfide	ug/kg	770,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Carbon Tetrachloride	ug/kg	650	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Chlorobenzene	ug/kg	280,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Chloroethane	ug/kg	14,000,000	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
Chloroform	ug/kg	320	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Cyclohexane	ug/kg	6,500,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Dibromochloromethane	ug/kg	8,300	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
1,2-Dibromoethane	ug/kg	**5**	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Dichlorodifluoromethane	ug/kg	87,000	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,3-Dichlorobenzene	ug/kg	-	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,4-Dichlorobenzene	ug/kg	2,600	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,1-Dichloroethane	ug/kg	3,600	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,2-Dichloroethane	ug/kg	460	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,1-Dichloroethylene	ug/kg	230,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,2-Dichloropropane	ug/kg	1,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
cis-1,3-Dichloropropene	ug/kg	-	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
trans-1,3-Dichloropropene	ug/kg	-	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,4-Dioxane	ug/kg	5,300	100 U	110 U	93 U	110 U	120 U
Ethylbenzene	ug/kg	**6,000**	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Freon 113	ug/kg	40,000,000	2.1 UJ	2.3 UJ	1.9 UJ	2.3 U	2.4 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**50**			**51**	
Sample ID:			**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**	**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**
Lab Sample ID:			**FA35089-3**	**FA35089-4**	**FA35089-2**	**FA35026-1**	**FA35026-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/24/2016**	**6/24/2016**
Depth:			**3**	**6**	**6**	**3**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	15 U	17 U	14 U	17 U	18 U
Isopropylbenzene	ug/kg	1,900,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Methyl Acetate	ug/kg	78,000,000	21 U	23 U	19 U	23 U	24 U
Methyl Bromide	ug/kg	6,800	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
Methyl Chloride	ug/kg	110,000	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
Methylcyclohexane	ug/kg	-	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Methylene Chloride	ug/kg	**20**	5.2 U	5.7 U	4.7 U	5.7 U	5.9 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	21 U	23 U	19 U	23 U	24 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Styrene	ug/kg	6,000,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
Tetrachloroethylene	ug/kg	**50**	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Toluene	ug/kg	7,000	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
1,1,2-Trichloroethane	ug/kg	1,100	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
Trichloroethylene	ug/kg	**30**	2.1 U	2.3 U	1.9 U	2.3 U	2.0 J
Trichlorofluoromethane	ug/kg	23,000,000	3.6 U	4.0 U	3.3 U	4.0 U	4.1 U
Vinyl Chloride	ug/kg	59	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U
m,p-Xylene	ug/kg	**9,000**	4.1 U	4.6 U	3.7 U	4.5 U	4.7 U
o-Xylene	ug/kg	**9,000**	2.1 U	2.3 U	1.9 U	2.3 U	2.4 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**52**		**53**	
Sample ID:			**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:			**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	26 U	27 U	26 U	31 U
Benzene	ug/kg	**30**	2.1 U	2.2 U	2.1 U	2.5 U
Bromochloromethane	ug/kg	150,000	2.1 U	2.2 U	2.1 U	2.5 U
Bromodichloromethane	ug/kg	290	2.1 U	2.2 U	2.1 U	2.5 U
Bromoform	ug/kg	19,000	2.1 U	2.2 U	2.1 U	2.5 U
2-Butanone (MEK)	ug/kg	27,000,000	10 U	11 U	10 U	12 U
Carbon Disulfide	ug/kg	770,000	2.1 U	2.2 U	2.1 U	2.5 U
Carbon Tetrachloride	ug/kg	650	2.1 U	2.2 U	2.1 U	2.5 U
Chlorobenzene	ug/kg	280,000	2.1 U	2.2 U	2.1 U	2.5 U
Chloroethane	ug/kg	14,000,000	3.6 U	3.8 U	3.6 U	4.4 U
Chloroform	ug/kg	320	2.1 U	2.2 U	2.1 U	2.5 U
Cyclohexane	ug/kg	6,500,000	2.1 U	2.2 U	2.1 U	2.5 U
Dibromochloromethane	ug/kg	8,300	2.1 U	2.2 U	2.1 U	2.5 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.6 U	3.8 U	3.6 U	4.4 U
1,2-Dibromoethane	ug/kg	**5**	2.1 U	2.2 U	2.1 U	2.5 U
Dichlorodifluoromethane	ug/kg	87,000	3.6 U	3.8 U	3.6 U	4.4 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.1 U	2.2 U	2.1 U	2.5 U
1,3-Dichlorobenzene	ug/kg	-	2.1 U	2.2 U	2.1 U	2.5 U
1,4-Dichlorobenzene	ug/kg	2,600	2.1 U	2.2 U	2.1 U	2.5 U
1,1-Dichloroethane	ug/kg	3,600	2.1 U	2.2 U	2.1 U	2.5 U
1,2-Dichloroethane	ug/kg	460	2.1 U	2.2 U	2.1 U	2.5 U
1,1-Dichloroethylene	ug/kg	230,000	2.1 U	2.2 U	2.1 U	2.5 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.1 U	2.2 U	2.1 U	2.5 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.1 U	2.2 U	2.1 U	2.5 U
1,2-Dichloropropane	ug/kg	1,000	2.1 U	2.2 U	2.1 U	2.5 U
cis-1,3-Dichloropropene	ug/kg	-	2.1 U	2.2 U	2.1 U	2.5 U
trans-1,3-Dichloropropene	ug/kg	-	2.1 U	2.2 U	2.1 U	2.5 U
1,4-Dioxane	ug/kg	5,300	100 U	110 U	100 U	120 U
Ethylbenzene	ug/kg	**6,000**	2.1 U	2.2 U	2.1 U	2.5 U
Freon 113	ug/kg	40,000,000	2.1 U	2.2 U	2.1 U	2.5 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**52**		**53**	
Sample ID:			**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:			**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	16 U	16 U	15 U	19 U
Isopropylbenzene	ug/kg	1,900,000	2.1 U	2.2 U	2.1 U	2.5 U
Methyl Acetate	ug/kg	78,000,000	21 U	22 U	21 U	25 U
Methyl Bromide	ug/kg	6,800	3.6 U	3.8 U	3.6 U	4.4 U
Methyl Chloride	ug/kg	110,000	3.6 U	3.8 U	3.6 U	4.4 U
Methylcyclohexane	ug/kg	-	2.1 U	2.2 U	2.1 U	2.5 U
Methylene Chloride	ug/kg	**20**	5.2 U	5.5 U	5.1 U	6.2 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	21 U	22 U	21 U	25 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.1 U	2.2 U	2.1 U	2.5 U
Styrene	ug/kg	6,000,000	2.1 U	2.2 U	2.1 U	2.5 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.6 U	3.8 U	3.6 U	4.4 U
Tetrachloroethylene	ug/kg	**50**	2.1 U	2.2 U	2.1 U	2.5 U
Toluene	ug/kg	7,000	2.1 U	2.2 U	2.1 U	2.5 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.6 U	3.8 U	3.6 U	4.4 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.6 U	3.8 U	3.6 U	4.4 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.1 U	2.2 U	2.1 U	2.5 U
1,1,2-Trichloroethane	ug/kg	1,100	2.1 U	2.2 U	2.1 U	2.5 U
Trichloroethylene	ug/kg	**30**	2.1 U	2.2 U	2.1 U	2.5 U
Trichlorofluoromethane	ug/kg	23,000,000	3.6 U	3.8 U	3.6 U	4.4 U
Vinyl Chloride	ug/kg	59	2.1 U	2.2 U	2.1 U	2.5 U
m,p-Xylene	ug/kg	**9,000**	4.2 U	4.4 U	4.1 U	5.0 U
o-Xylene	ug/kg	**9,000**	2.1 U	2.2 U	2.1 U	2.5 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:		**Project Action Limit**	**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)							
Acetone	ug/kg	61,000,000	30 U	26 U	29 U	26 U	26 U
Benzene	ug/kg	**30**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Bromochloromethane	ug/kg	150,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Bromodichloromethane	ug/kg	290	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Bromoform	ug/kg	19,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
2-Butanone (MEK)	ug/kg	27,000,000	12 U	10 U	12 U	10 U	10 U
Carbon Disulfide	ug/kg	770,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Carbon Tetrachloride	ug/kg	650	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Chlorobenzene	ug/kg	280,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Chloroethane	ug/kg	14,000,000	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
Chloroform	ug/kg	320	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Cyclohexane	ug/kg	6,500,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Dibromochloromethane	ug/kg	8,300	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,2-Dibromo-3-chloropropane	ug/kg	5	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
1,2-Dibromoethane	ug/kg	**5**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Dichlorodifluoromethane	ug/kg	87,000	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,3-Dichlorobenzene	ug/kg	-	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,4-Dichlorobenzene	ug/kg	2,600	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,1-Dichloroethane	ug/kg	3,600	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,2-Dichloroethane	ug/kg	460	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,1-Dichloroethylene	ug/kg	230,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,2-Dichloropropane	ug/kg	1,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
cis-1,3-Dichloropropene	ug/kg	-	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
trans-1,3-Dichloropropene	ug/kg	-	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,4-Dioxane	ug/kg	5,300	120 U	100 U	120 U	100 U	100 U
Ethylbenzene	ug/kg	**6,000**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Freon 113	ug/kg	40,000,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:		**Project Action Limit**	**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	18 U	16 U	17 U	15 U	15 U
Isopropylbenzene	ug/kg	1,900,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Methyl Acetate	ug/kg	78,000,000	24 U	21 U	23 U	20 U	20 U
Methyl Bromide	ug/kg	6,800	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
Methyl Chloride	ug/kg	110,000	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
Methylcyclohexane	ug/kg	-	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Methylene Chloride	ug/kg	**20**	5.9 U	5.2 U	5.8 U	5.1 U	5.1 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	24 U	21 U	23 U	20 U	20 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Styrene	ug/kg	6,000,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,1,2,2-Tetrachloroethane	ug/kg	600	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
Tetrachloroethylene	ug/kg	**50**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Toluene	ug/kg	7,000	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,2,3-Trichlorobenzene	ug/kg	63,000	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
1,2,4-Trichlorobenzene	ug/kg	24,000	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
1,1,2-Trichloroethane	ug/kg	1,100	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Trichloroethylene	ug/kg	**30**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
Trichlorofluoromethane	ug/kg	23,000,000	4.1 U	3.7 U	4.1 U	3.6 U	3.6 U
Vinyl Chloride	ug/kg	59	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U
m,p-Xylene	ug/kg	**9,000**	4.7 U	4.2 U	4.7 U	4.1 U	4.1 U
o-Xylene	ug/kg	**9,000**	2.4 U	2.1 U	2.3 U	2.0 U	2.0 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:		**Project Action Limit**	**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	30 U	28 U	25 U	30 U	31 U	32 U
Benzene	ug/kg	**30**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Bromochloromethane	ug/kg	150,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Bromodichloromethane	ug/kg	290	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Bromoform	ug/kg	19,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
2-Butanone (MEK)	ug/kg	27,000,000	12 U	11 U	9.9 U	12 U	12 U	13 U
Carbon Disulfide	ug/kg	770,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Carbon Tetrachloride	ug/kg	650	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Chlorobenzene	ug/kg	280,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Chloroethane	ug/kg	14,000,000	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
Chloroform	ug/kg	320	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Cyclohexane	ug/kg	6,500,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Dibromochloromethane	ug/kg	8,300	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,2-Dibromo-3-chloropropane	ug/kg	5	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
1,2-Dibromoethane	ug/kg	**5**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Dichlorodifluoromethane	ug/kg	87,000	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,3-Dichlorobenzene	ug/kg	-	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,4-Dichlorobenzene	ug/kg	2,600	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,1-Dichloroethane	ug/kg	3,600	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,2-Dichloroethane	ug/kg	460	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,1-Dichloroethylene	ug/kg	230,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,2-Dichloropropane	ug/kg	1,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
cis-1,3-Dichloropropene	ug/kg	-	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
trans-1,3-Dichloropropene	ug/kg	-	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,4-Dioxane	ug/kg	5,300	120 U	110 U	99 U	120 U	120 U	130 U
Ethylbenzene	ug/kg	**6,000**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Freon 113	ug/kg	40,000,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:		**Project Action Limit**	**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	18 U	17 U	15 U	18 U	18 U	19 U
Isopropylbenzene	ug/kg	1,900,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Methyl Acetate	ug/kg	78,000,000	24 U	22 U	20 U	24 U	24 U	26 U
Methyl Bromide	ug/kg	6,800	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
Methyl Chloride	ug/kg	110,000	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
Methylcyclohexane	ug/kg	-	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Methylene Chloride	ug/kg	**20**	6.0 U	5.6 U	5.0 U	5.9 U	6.1 U	6.4 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	24 U	22 U	20 U	24 U	24 U	26 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Styrene	ug/kg	6,000,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,1,2,2-Tetrachloroethane	ug/kg	600	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
Tetrachloroethylene	ug/kg	**50**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Toluene	ug/kg	7,000	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,2,3-Trichlorobenzene	ug/kg	63,000	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
1,2,4-Trichlorobenzene	ug/kg	24,000	4.2 U	3.9 U	3.5 U	4.1 UJ	4.3 UJ	4.5 UJ
1,1,1-Trichloroethane	ug/kg	**2,000**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
1,1,2-Trichloroethane	ug/kg	1,100	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Trichloroethylene	ug/kg	**30**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
Trichlorofluoromethane	ug/kg	23,000,000	4.2 U	3.9 U	3.5 U	4.1 U	4.3 U	4.5 U
Vinyl Chloride	ug/kg	59	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U
m,p-Xylene	ug/kg	**9,000**	4.8 U	4.5 U	4.0 U	4.7 U	4.9 U	5.1 U
o-Xylene	ug/kg	**9,000**	2.4 U	2.2 U	2.0 U	2.4 U	2.4 U	2.6 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**58**		**59**		**60**		
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**	**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**
Lab Sample ID:		**Project Action Limit**	**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**	**FA35164-1**	**FA35164-2**	**FA35164-3**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Depth:			**5**	**7**	**5.5**	**5.5**	**4.5**	**8.75**	**8.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)									
Acetone	ug/kg	61,000,000	28 U	27 U	21 U	25 U	23 U	23 U	23 U
Benzene	ug/kg	**30**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Bromochloromethane	ug/kg	150,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 UJ	1.8 UJ	1.8 UJ
Bromodichloromethane	ug/kg	290	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Bromoform	ug/kg	19,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
2-Butanone (MEK)	ug/kg	27,000,000	11 U	11 U	8.4 U	10 U	9.1 U	9.1 U	9.2 U
Carbon Disulfide	ug/kg	770,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 UJ	1.8 UJ	1.8 UJ
Carbon Tetrachloride	ug/kg	650	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Chlorobenzene	ug/kg	280,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Chloroethane	ug/kg	14,000,000	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
Chloroform	ug/kg	320	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Cyclohexane	ug/kg	6,500,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Dibromochloromethane	ug/kg	8,300	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
1,2-Dibromoethane	ug/kg	**5**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Dichlorodifluoromethane	ug/kg	87,000	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,3-Dichlorobenzene	ug/kg	-	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,4-Dichlorobenzene	ug/kg	2,600	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,1-Dichloroethane	ug/kg	3,600	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,2-Dichloroethane	ug/kg	460	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,1-Dichloroethylene	ug/kg	230,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 UJ	1.8 UJ	1.8 UJ
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 UJ	1.8 UJ	1.8 UJ
1,2-Dichloropropane	ug/kg	1,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
cis-1,3-Dichloropropene	ug/kg	-	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
trans-1,3-Dichloropropene	ug/kg	-	2.2 U	2.2 U	1.7 U	2.0 U	1.8 UJ	1.8 UJ	1.8 UJ
1,4-Dioxane	ug/kg	5,300	110 U	110 U	84 U	100 U	91 U	91 U	92 U
Ethylbenzene	ug/kg	**6,000**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Freon 113	ug/kg	40,000,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**58**		**59**		**60**		
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**	**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**
Lab Sample ID:		**Project Action Limit**	**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**	**FA35164-1**	**FA35164-2**	**FA35164-3**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Depth:			**5**	**7**	**5.5**	**5.5**	**4.5**	**8.75**	**8.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	17 U	16 U	13 U	15 U	14 U	14 U	14 U
Isopropylbenzene	ug/kg	1,900,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Methyl Acetate	ug/kg	78,000,000	22 U	22 U	17 U	20 U	18 U	18 U	18 U
Methyl Bromide	ug/kg	6,800	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
Methyl Chloride	ug/kg	110,000	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
Methylcyclohexane	ug/kg	-	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Methylene Chloride	ug/kg	**20**	5.6 U	5.4 U	4.2 U	5.0 U	4.6 U	4.6 U	4.6 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	22 U	22 U	17 U	20 U	18 U	18 U	18 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Styrene	ug/kg	6,000,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
Tetrachloroethylene	ug/kg	**50**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Toluene	ug/kg	7,000	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.9 UJ	3.8 UJ	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
1,1,2-Trichloroethane	ug/kg	1,100	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Trichloroethylene	ug/kg	**30**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
Trichlorofluoromethane	ug/kg	23,000,000	3.9 U	3.8 U	2.9 U	3.5 U	3.2 U	3.2 U	3.2 U
Vinyl Chloride	ug/kg	59	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U
m,p-Xylene	ug/kg	**9,000**	4.5 U	4.3 U	3.4 U	4.0 U	3.7 U	3.7 U	3.7 U
o-Xylene	ug/kg	**9,000**	2.2 U	2.2 U	1.7 U	2.0 U	1.8 U	1.8 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**61**		**62**	
Sample ID:			**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**	**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**
Lab Sample ID:			**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**
Depth:			**3**	**3**	**4**	**4**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	30 U	29 U	25 U	43 U
Benzene	ug/kg	**30**	2.4 U	2.3 U	2.0 U	3.4 U
Bromochloromethane	ug/kg	150,000	2.4 U	2.3 U	2.0 U	3.4 U
Bromodichloromethane	ug/kg	290	2.4 U	2.3 U	2.0 U	3.4 U
Bromoform	ug/kg	19,000	2.4 U	2.3 U	2.0 U	3.4 U
2-Butanone (MEK)	ug/kg	27,000,000	12 U	12 U	10 U	17 U
Carbon Disulfide	ug/kg	770,000	2.4 U	2.3 U	2.0 U	3.4 U
Carbon Tetrachloride	ug/kg	650	2.4 U	2.3 U	2.0 U	3.4 U
Chlorobenzene	ug/kg	280,000	2.4 U	2.3 U	2.0 U	3.4 U
Chloroethane	ug/kg	14,000,000	4.3 U	4.1 U	3.5 U	6.0 U
Chloroform	ug/kg	320	2.4 U	2.3 U	2.0 U	3.4 U
Cyclohexane	ug/kg	6,500,000	2.4 U	2.3 U	2.0 U	3.4 U
Dibromochloromethane	ug/kg	8,300	2.4 U	2.3 U	2.0 U	3.4 U
1,2-Dibromo-3-chloropropane	ug/kg	5	4.3 U	4.1 U	3.5 U	6.0 U
1,2-Dibromoethane	ug/kg	**5**	2.4 U	2.3 U	2.0 U	3.4 U
Dichlorodifluoromethane	ug/kg	87,000	4.3 U	4.1 U	3.5 U	6.0 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.4 U	2.3 U	2.0 U	3.4 U
1,3-Dichlorobenzene	ug/kg	-	2.4 U	2.3 U	2.0 U	3.4 U
1,4-Dichlorobenzene	ug/kg	2,600	2.4 U	2.3 U	2.0 U	3.4 U
1,1-Dichloroethane	ug/kg	3,600	2.4 U	2.3 U	2.0 U	3.4 U
1,2-Dichloroethane	ug/kg	460	2.4 U	2.3 U	2.0 U	3.4 U
1,1-Dichloroethylene	ug/kg	230,000	2.4 U	2.3 U	2.0 U	3.4 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.4 U	2.3 U	2.0 U	3.4 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.4 U	2.3 U	2.0 U	3.4 U
1,2-Dichloropropane	ug/kg	1,000	2.4 U	2.3 U	2.0 U	3.4 U
cis-1,3-Dichloropropene	ug/kg	-	2.4 U	2.3 U	2.0 U	3.4 U
trans-1,3-Dichloropropene	ug/kg	-	2.4 U	2.3 U	2.0 U	3.4 U
1,4-Dioxane	ug/kg	5,300	120 U	120 U	100 U	170 U
Ethylbenzene	ug/kg	**6,000**	2.4 U	2.3 U	2.0 U	3.4 U
Freon 113	ug/kg	40,000,000	2.4 U	2.3 U	2.0 U	3.4 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**61**		**62**	
Sample ID:			**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**	**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**
Lab Sample ID:			**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**
Depth:			**3**	**3**	**4**	**4**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	18 U	17 U	15 U	26 U
Isopropylbenzene	ug/kg	1,900,000	2.4 U	2.3 U	2.0 U	3.4 U
Methyl Acetate	ug/kg	78,000,000	24 U	23 U	20 U	34 U
Methyl Bromide	ug/kg	6,800	4.3 U	4.1 U	3.5 U	6.0 U
Methyl Chloride	ug/kg	110,000	4.3 U	4.1 U	3.5 U	6.0 U
Methylcyclohexane	ug/kg	-	2.4 U	2.3 U	2.0 U	3.4 U
Methylene Chloride	ug/kg	**20**	6.1 U	5.8 U	5.1 U	8.6 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	24 U	23 U	20 U	34 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.4 U	2.3 U	2.0 U	3.4 U
Styrene	ug/kg	6,000,000	2.4 U	2.3 U	2.0 U	3.4 U
1,1,2,2-Tetrachloroethane	ug/kg	600	4.3 U	4.1 U	3.5 U	6.0 U
Tetrachloroethylene	ug/kg	**50**	2.4 U	2.3 U	2.0 U	3.4 U
Toluene	ug/kg	7,000	2.4 U	2.3 U	2.0 U	3.4 U
1,2,3-Trichlorobenzene	ug/kg	63,000	4.3 U	4.1 U	3.5 U	6.0 U
1,2,4-Trichlorobenzene	ug/kg	24,000	4.3 U	4.1 U	3.5 U	6.0 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.4 U	2.3 U	2.0 U	3.4 U
1,1,2-Trichloroethane	ug/kg	1,100	2.4 U	2.3 U	2.0 U	3.4 U
Trichloroethylene	ug/kg	**30**	2.4 U	2.3 U	2.0 U	3.4 U
Trichlorofluoromethane	ug/kg	23,000,000	4.3 U	4.1 U	3.5 U	6.0 U
Vinyl Chloride	ug/kg	59	2.4 U	2.3 U	2.0 U	3.4 U
m,p-Xylene	ug/kg	**9,000**	4.9 U	4.7 U	4.1 U	6.9 U
o-Xylene	ug/kg	**9,000**	2.4 U	2.3 U	2.0 U	3.4 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**63**		**64**	
Sample ID:			**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Volatiles (SW846 8260B)						
Acetone	ug/kg	61,000,000	26 U	26 U	28 U	35 U
Benzene	ug/kg	**30**	2.1 U	2.1 U	2.2 U	2.8 U
Bromochloromethane	ug/kg	150,000	2.1 U	2.1 U	2.2 U	2.8 U
Bromodichloromethane	ug/kg	290	2.1 U	2.1 U	2.2 U	2.8 U
Bromoform	ug/kg	19,000	2.1 U	2.1 U	2.2 U	2.8 U
2-Butanone (MEK)	ug/kg	27,000,000	10 U	11 U	11 U	14 U
Carbon Disulfide	ug/kg	770,000	2.1 U	2.1 U	2.2 U	2.8 U
Carbon Tetrachloride	ug/kg	650	2.1 U	2.1 U	2.2 U	2.8 U
Chlorobenzene	ug/kg	280,000	2.1 U	2.1 U	2.2 U	2.8 U
Chloroethane	ug/kg	14,000,000	3.6 U	3.7 U	3.9 U	4.8 U
Chloroform	ug/kg	320	2.1 U	2.1 U	2.2 U	2.8 U
Cyclohexane	ug/kg	6,500,000	2.1 U	2.1 U	2.2 U	2.8 U
Dibromochloromethane	ug/kg	8,300	2.1 U	2.1 U	2.2 U	2.8 U
1,2-Dibromo-3-chloropropane	ug/kg	5	3.6 U	3.7 U	3.9 U	4.8 U
1,2-Dibromoethane	ug/kg	**5**	2.1 U	2.1 U	2.2 U	2.8 U
Dichlorodifluoromethane	ug/kg	87,000	3.6 U	3.7 U	3.9 U	4.8 U
1,2-Dichlorobenzene	ug/kg	1,800,000	2.1 U	2.1 U	2.2 U	2.8 U
1,3-Dichlorobenzene	ug/kg	-	2.1 U	2.1 U	2.2 U	2.8 U
1,4-Dichlorobenzene	ug/kg	2,600	2.1 U	2.1 U	2.2 U	2.8 U
1,1-Dichloroethane	ug/kg	3,600	2.1 U	2.1 U	2.2 U	2.8 U
1,2-Dichloroethane	ug/kg	460	2.1 U	2.1 U	2.2 U	2.8 U
1,1-Dichloroethylene	ug/kg	230,000	2.1 U	2.1 U	2.2 U	2.8 U
cis-1,2-Dichloroethylene	ug/kg	160,000	2.1 U	2.1 U	2.2 U	2.8 U
trans-1,2-Dichloroethylene	ug/kg	1,600,000	2.1 U	2.1 U	2.2 U	2.8 U
1,2-Dichloropropane	ug/kg	1,000	2.1 U	2.1 U	2.2 U	2.8 U
cis-1,3-Dichloropropene	ug/kg	-	2.1 U	2.1 U	2.2 U	2.8 U
trans-1,3-Dichloropropene	ug/kg	-	2.1 U	2.1 U	2.2 U	2.8 U
1,4-Dioxane	ug/kg	5,300	100 U	110 U	110 U	140 U
Ethylbenzene	ug/kg	**6,000**	2.1 U	2.1 U	2.2 U	2.8 U
Freon 113	ug/kg	40,000,000	2.1 U	2.1 U	2.2 U	2.8 U

Table G-6
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**63**		**64**	
Sample ID:			**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
2-Hexanone	ug/kg	200,000	16 U	16 U	17 U	21 U
Isopropylbenzene	ug/kg	1,900,000	2.1 U	2.1 U	2.2 U	2.8 U
Methyl Acetate	ug/kg	78,000,000	21 U	21 U	22 U	28 U
Methyl Bromide	ug/kg	6,800	3.6 U	3.7 U	3.9 U	4.8 U
Methyl Chloride	ug/kg	110,000	3.6 U	3.7 U	3.9 U	4.8 U
Methylcyclohexane	ug/kg	-	2.1 U	2.1 U	2.2 U	2.8 U
Methylene Chloride	ug/kg	**20**	5.2 U	5.3 U	5.5 U	6.9 U
4-Methyl-2-pentanone (MIBK)	ug/kg	33,000,000	21 U	21 U	22 U	28 U
Methyl Tert Butyl Ether	ug/kg	**100**	2.1 U	2.1 U	2.2 U	2.8 U
Styrene	ug/kg	6,000,000	2.1 U	2.1 U	2.2 U	2.8 U
1,1,2,2-Tetrachloroethane	ug/kg	600	3.6 U	3.7 U	3.9 U	4.8 U
Tetrachloroethylene	ug/kg	**50**	2.1 U	2.1 U	2.2 U	2.8 U
Toluene	ug/kg	7,000	2.1 U	2.1 U	2.2 U	2.8 U
1,2,3-Trichlorobenzene	ug/kg	63,000	3.6 U	3.7 U	3.9 U	4.8 U
1,2,4-Trichlorobenzene	ug/kg	24,000	3.6 U	3.7 U	3.9 U	4.8 U
1,1,1-Trichloroethane	ug/kg	**2,000**	2.1 U	2.1 U	2.2 U	2.8 U
1,1,2-Trichloroethane	ug/kg	1,100	2.1 U	2.1 U	2.2 U	2.8 U
Trichloroethylene	ug/kg	**30**	2.1 U	2.1 U	2.2 U	2.8 U
Trichlorofluoromethane	ug/kg	23,000,000	3.6 U	3.7 U	3.9 U	4.8 U
Vinyl Chloride	ug/kg	59	2.1 U	2.1 U	2.2 U	2.8 U
m,p-Xylene	ug/kg	**9,000**	4.1 U	4.2 U	4.4 U	5.5 U
o-Xylene	ug/kg	**9,000**	2.1 U	2.1 U	2.2 U	2.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:		**Project Action Limit**	**FA38124-1/16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)						
Benzoic Acid	ug/kg	250,000,000	360 U	370 U	370 U	360 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	36 U	37 U	37 U	36 U
2-Chlorophenol	ug/kg	390,000	36 U	37 U	37 U	36 U
2,4-Dichlorophenol	ug/kg	190,000	36 U	37 U	37 U	36 U
2,4-Dimethylphenol	ug/kg	1,300,000	73 U	74 U	75 U	73 U
2,4-Dinitrophenol	ug/kg	130,000	550 U	550 U	560 U	540 U
4,6-Dinitro-o-cresol	ug/kg	5,100	150 U	150 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	36 U	37 U	37 U	36 U
3&4-Methylphenol	ug/kg	-	73 U	74 U	75 U	73 U
2-Nitrophenol	ug/kg	-	36 U	37 U	37 U	36 U
4-Nitrophenol	ug/kg	-	360 U	370 U	370 U	360 U
Pentachlorophenol	ug/kg	1,000	360 U	370 U	370 U	360 U
Phenol	ug/kg	19,000,000	36 U	37 U	37 U	36 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	36 U	37 U	37 U	36 U
2,4,6-Trichlorophenol	ug/kg	49,000	36 U	37 U	37 U	36 U
Aniline	ug/kg	95,000	73 U	74 U	75 U	73 U
Benzidine	ug/kg	1	910 U	920 U	940 U	910 U
Benzyl Alcohol	ug/kg	6,300,000	36 U	37 U	37 U	36 U
4-Bromophenyl phenyl ether	ug/kg	-	36 U	37 U	37 U	36 U
Butyl benzyl phthalate	ug/kg	290,000	73 U	74 U	75 U	73 U
Carbazole	ug/kg	-	36 U	37 U	37 U	36 U
4-Chloroaniline	ug/kg	2,700	36 U	37 U	37 U	36 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	36 U	37 U	37 U	36 U
bis(2-Chloroethyl)ether	ug/kg	230	36 U	37 U	37 U	36 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	36 U	37 U	37 U	36 U
2-Chloronaphthalene	ug/kg	4,800,000	36 U	37 U	37 U	36 U
4-Chlorophenyl phenyl ether	ug/kg	-	36 U	37 U	37 U	36 U
Dibenzofuran	ug/kg	73,000	36 U	37 U	37 U	36 U
1,2-Dichlorobenzene	ug/kg	1,800,000	73 U	74 U	75 U	73 U
1,3-Dichlorobenzene	ug/kg	-	73 U	74 U	75 U	73 U
1,4-Dichlorobenzene	ug/kg	2,600	73 U	74 U	75 U	73 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:			**FA38124-1/16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	73 U	74 U	75 U	73 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	73 U	74 U	75 U	73 U
Di-n-octyl Phthalate	ug/kg	630,000	73 U	74 U	75 U	73 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	36 U	37 U	37 U	36 U
2,6-Dinitrotoluene	ug/kg	360	36 U	37 U	37 U	36 U
1,2-Diphenylhydrazine	ug/kg	680	36 U	37 U	37 U	36 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	36 U	37 U	37 U	36 U
Hexachlorobutadiene	ug/kg	1,200	73 U	74 U	75 U	73 U
Hexachlorocyclopentadiene	ug/kg	1,800	73 UJ	74 UJ	75 UJ	73 U
Hexachloroethane	ug/kg	1,800	73 U	74 U	75 U	73 U
Isophorone	ug/kg	570,000	36 U	37 U	37 U	36 U
2-Nitroaniline	ug/kg	630,000	73 U	74 U	75 U	73 U
3-Nitroaniline	ug/kg	-	73 U	74 U	75 U	73 U
4-Nitroaniline	ug/kg	27,000	73 U	74 U	75 U	73 U
Nitrobenzene	ug/kg	5,100	36 U	37 U	37 U	36 U
N-Nitrosodimethylamine	ug/kg	2	73 U	74 U	75 U	73 U
N-Nitrosodi-n-propylamine	ug/kg	78	36 U	37 U	37 U	36 U
N-Nitrosodiphenylamine	ug/kg	110,000	73 U	74 U	75 U	73 U
Pyridine	ug/kg	78,000	130 U	130 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	36 U	37 U	37 U	36 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)						
Acenaphthene	ug/kg	3,600,000	37 U	37 U	37 U	36 U
Acenaphthylene	ug/kg	-	37 U	37 U	37 U	36 U
Anthracene	ug/kg	18,000,000	37 U	37 U	37 U	36 U
Benzo(a)anthracene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U
Benzo(a)pyrene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U
Benzo(b)fluoranthene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U
Benzo(g,h,i)perylene	ug/kg	-	7.4 U	7.5 U	7.3 U	7.3 U
Benzo(k)fluoranthene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:		**Project Action Limit**	**FA38124-1/16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	7.4 U	3.8 J	7.3 U	7.3 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U
1,4-Dioxane	ug/kg	5,300	58 U	59 UJ	59 U	15 U
Fluoranthene	ug/kg	2,400,000	37 U	37 U	37 U	36 U
Fluorene	ug/kg	2,400,000	37 U	37 U	37 U	36 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.4 U	7.5 U	7.3 U	7.3 U
1-Methylnaphthalene	ug/kg	**5,000**	37 U	37 U	37 U	36 U
2-Methylnaphthalene	ug/kg	**5,000**	37 U	37 U	37 U	36 U
Naphthalene	ug/kg	**5,000**	37 U	37 U	37 U	36 U
Phenanthrene	ug/kg	-	37 U	37 U	37 U	36 U
Pyrene	ug/kg	1,800,000	37 U	37 U	37 U	36 U
Benzo(a)pyrene equivalents	ug/kg	**100**		5.663		

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**42**			**43**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**
Lab Sample ID:		**Project Action Limit**	**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)							
Benzoic Acid	ug/kg	250,000,000	370 U	370 U	370 U	410 U	390 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	37 U	37 U	37 U	41 U	39 U
2-Chlorophenol	ug/kg	390,000	37 U	37 U	37 U	41 U	39 U
2,4-Dichlorophenol	ug/kg	190,000	37 U	37 U	37 U	41 U	39 U
2,4-Dimethylphenol	ug/kg	1,300,000	74 U	74 U	73 U	81 U	77 U
2,4-Dinitrophenol	ug/kg	130,000	560 U	560 U	550 U	610 U	580 U
4,6-Dinitro-o-cresol	ug/kg	5,100	150 U	150 U	150 U	160 U	150 U
2-Methylphenol	ug/kg	3,200,000	37 U	37 U	37 U	41 U	39 U
3&4-Methylphenol	ug/kg	-	74 U	74 U	73 U	81 U	77 U
2-Nitrophenol	ug/kg	-	37 U	37 U	37 U	41 U	39 U
4-Nitrophenol	ug/kg	-	370 U	370 U	370 U	410 U	390 U
Pentachlorophenol	ug/kg	1,000	370 U	370 U	370 U	410 U	390 U
Phenol	ug/kg	19,000,000	37 U	37 U	37 U	41 U	39 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	37 U	37 U	37 U	41 U	39 U
2,4,6-Trichlorophenol	ug/kg	49,000	37 U	37 U	37 U	41 U	39 U
Aniline	ug/kg	95,000	74 U	74 U	73 U	81 U	77 U
Benzidine	ug/kg	1	930 U	930 U	910 U	1000 U	970 U
Benzyl Alcohol	ug/kg	6,300,000	37 U	37 U	37 U	41 U	39 U
4-Bromophenyl phenyl ether	ug/kg	-	37 U	37 U	37 U	41 U	39 U
Butyl benzyl phthalate	ug/kg	290,000	74 U	74 U	73 U	81 U	77 U
Carbazole	ug/kg	-	37 U	37 U	37 U	41 U	39 U
4-Chloroaniline	ug/kg	2,700	37 U	37 U	37 U	41 U	39 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	37 U	37 U	37 U	41 U	39 U
bis(2-Chloroethyl)ether	ug/kg	230	37 U	37 U	37 U	41 U	39 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	37 U	37 U	37 U	41 U	39 U
2-Chloronaphthalene	ug/kg	4,800,000	37 U	37 U	37 U	41 U	39 U
4-Chlorophenyl phenyl ether	ug/kg	-	37 U	37 U	37 U	41 U	39 U
Dibenzofuran	ug/kg	73,000	37 U	37 U	37 U	41 U	39 U
1,2-Dichlorobenzene	ug/kg	1,800,000	74 U	74 U	73 U	81 U	77 U
1,3-Dichlorobenzene	ug/kg	-	74 U	74 U	73 U	81 U	77 U
1,4-Dichlorobenzene	ug/kg	2,600	74 U	74 U	73 U	81 U	77 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**42**			**43**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**
Lab Sample ID:			**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	74 U	74 U	73 U	81 U	77 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	130 U	140 U	140 U
Dimethyl Phthalate	ug/kg	-	74 U	74 U	73 U	81 U	77 U
Di-n-octyl Phthalate	ug/kg	630,000	74 U	74 U	73 U	81 U	77 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	130 U	140 U	140 U
2,4-Dinitrotoluene	ug/kg	1,700	37 U	37 U	37 U	41 U	39 U
2,6-Dinitrotoluene	ug/kg	360	37 U	37 U	37 U	41 U	39 U
1,2-Diphenylhydrazine	ug/kg	680	37 U	37 U	37 U	41 U	39 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	140 U	140 U
Hexachlorobenzene	ug/kg	210	37 U	37 U	37 U	41 U	39 U
Hexachlorobutadiene	ug/kg	1,200	74 U	74 U	73 U	81 U	77 U
Hexachlorocyclopentadiene	ug/kg	1,800	74 U	74 U	73 U	81 UJ	77 UJ
Hexachloroethane	ug/kg	1,800	74 U	74 U	73 U	81 U	77 U
Isophorone	ug/kg	570,000	37 U	37 U	37 U	41 U	39 U
2-Nitroaniline	ug/kg	630,000	74 U	74 U	73 U	81 U	77 U
3-Nitroaniline	ug/kg	-	74 U	74 U	73 U	81 U	77 U
4-Nitroaniline	ug/kg	27,000	74 U	74 U	73 U	81 U	77 U
Nitrobenzene	ug/kg	5,100	37 U	37 U	37 U	41 U	39 U
N-Nitrosodimethylamine	ug/kg	2	74 U	74 U	73 U	81 U	77 U
N-Nitrosodi-n-propylamine	ug/kg	78	37 U	37 U	37 U	41 U	39 U
N-Nitrosodiphenylamine	ug/kg	110,000	74 U	74 U	73 U	81 U	77 U
Pyridine	ug/kg	78,000	130 U	130 U	130 U	140 U	140 U
1,2,4-Trichlorobenzene	ug/kg	24,000	37 U	37 U	37 U	41 U	39 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)							
Acenaphthene	ug/kg	3,600,000	36 U	37 U	36 U	42 U	38 U
Acenaphthylene	ug/kg	-	36 U	37 U	36 U	42 U	38 U
Anthracene	ug/kg	18,000,000	36 U	37 U	36 U	42 U	38 U
Benzo(a)anthracene	ug/kg	**100**	7.3 U	7.4 U	7.2 U	8.3 U	7.7 J
Benzo(a)pyrene	ug/kg	**100**	7.3 U	7.4 U	7.2 U	8.3 U	8.9 J
Benzo(b)fluoranthene	ug/kg	**100**	7.3 U	7.4 U	7.2 U	8.3 U	7.9 J
Benzo(g,h,i)perylene	ug/kg	-	7.3 U	7.4 U	7.2 U	8.3 U	4.5 J
Benzo(k)fluoranthene	ug/kg	**100**	7.3 U	7.4 U	7.2 U	8.3 U	8.7 J

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**42**			**43**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**
Lab Sample ID:			**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	7.3 U	7.4 U	7.2 U	8.3 U	12.7 J
Dibenzo(a,h)anthracene	ug/kg	**100**	7.3 U	7.4 U	7.2 U	8.3 U	7.6 U
1,4-Dioxane	ug/kg	5,300	15 U	15 U	15 U	65 UJ	62 U
Fluoranthene	ug/kg	2,400,000	36 U	37 U	36 U	42 U	38 U
Fluorene	ug/kg	2,400,000	36 U	37 U	36 U	42 U	38 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.3 U	7.4 U	7.2 U	8.3 U	4.4 J
1-Methylnaphthalene	ug/kg	**5,000**	36 U	37 U	36 U	42 U	38 U
2-Methylnaphthalene	ug/kg	**5,000**	36 U	37 U	36 U	42 U	38 U
Naphthalene	ug/kg	**5,000**	36 U	37 U	36 U	42 U	38 U
Phenanthrene	ug/kg	-	36 U	37 U	36 U	42 U	38 U
Pyrene	ug/kg	1,800,000	36 U	37 U	36 U	42 U	38 U
Benzo(a)pyrene equivalents	ug/kg	**100**					12.277

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**44**		**45**	
Sample ID:			**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**
Lab Sample ID:			**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**3.5**	**3.5**	**2**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)						
Benzoic Acid	ug/kg	250,000,000	410 R	390 UJ	370 UJ	370 UJ
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	41 U	39 U	37 U	37 U
2-Chlorophenol	ug/kg	390,000	41 U	39 U	37 U	37 U
2,4-Dichlorophenol	ug/kg	190,000	41 U	39 U	37 U	37 U
2,4-Dimethylphenol	ug/kg	1,300,000	82 U	78 U	75 U	74 U
2,4-Dinitrophenol	ug/kg	130,000	620 UJ	580 UJ	560 U	560 U
4,6-Dinitro-o-cresol	ug/kg	5,100	160 U	160 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	41 U	39 U	37 U	37 U
3&4-Methylphenol	ug/kg	-	82 U	78 U	75 U	74 U
2-Nitrophenol	ug/kg	-	41 U	39 U	37 U	37 U
4-Nitrophenol	ug/kg	-	410 U	390 U	370 U	370 U
Pentachlorophenol	ug/kg	1,000	410 U	390 U	370 U	370 U
Phenol	ug/kg	19,000,000	41 U	39 U	37 U	37 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	41 U	39 U	37 U	37 U
2,4,6-Trichlorophenol	ug/kg	49,000	41 U	39 U	37 U	37 U
Aniline	ug/kg	95,000	82 U	78 U	75 U	74 U
Benzidine	ug/kg	1	1000 U	970 U	940 U	930 U
Benzyl Alcohol	ug/kg	6,300,000	41 U	39 U	37 U	37 U
4-Bromophenyl phenyl ether	ug/kg	-	41 U	39 U	37 U	37 U
Butyl benzyl phthalate	ug/kg	290,000	82 U	78 U	75 U	74 U
Carbazole	ug/kg	-	41 U	39 U	37 U	37 U
4-Chloroaniline	ug/kg	2,700	41 U	39 U	37 U	37 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	41 U	39 U	37 U	37 U
bis(2-Chloroethyl)ether	ug/kg	230	41 U	39 U	37 U	37 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	41 U	39 U	37 U	37 U
2-Chloronaphthalene	ug/kg	4,800,000	41 U	39 U	37 U	37 U
4-Chlorophenyl phenyl ether	ug/kg	-	41 U	39 U	37 U	37 U
Dibenzofuran	ug/kg	73,000	41 U	39 U	37 U	37 U
1,2-Dichlorobenzene	ug/kg	1,800,000	82 U	78 U	75 U	74 U
1,3-Dichlorobenzene	ug/kg	-	82 U	78 U	75 U	74 U
1,4-Dichlorobenzene	ug/kg	2,600	82 U	78 U	75 U	74 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**44**		**45**	
Sample ID:			**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**
Lab Sample ID:			**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**3.5**	**3.5**	**2**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	82 U	78 U	75 U	74 U
Diethyl Phthalate	ug/kg	51,000,000	140 U	140 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	82 U	78 U	75 U	74 U
Di-n-octyl Phthalate	ug/kg	630,000	82 U	78 U	75 U	74 U
Di-n-butyl Phthalate	ug/kg	6,300,000	140 U	140 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	41 U	39 U	37 U	37 U
2,6-Dinitrotoluene	ug/kg	360	41 U	39 U	37 U	37 U
1,2-Diphenylhydrazine	ug/kg	680	41 U	39 U	37 U	37 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	140 U	140 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	41 U	39 U	37 U	37 U
Hexachlorobutadiene	ug/kg	1,200	82 U	78 U	75 U	74 U
Hexachlorocyclopentadiene	ug/kg	1,800	82 UJ	78 UJ	75 U	74 U
Hexachloroethane	ug/kg	1,800	82 U	78 U	75 U	74 U
Isophorone	ug/kg	570,000	41 U	39 U	37 U	37 U
2-Nitroaniline	ug/kg	630,000	82 U	78 U	75 U	74 U
3-Nitroaniline	ug/kg	-	82 U	78 U	75 U	74 U
4-Nitroaniline	ug/kg	27,000	82 U	78 U	75 U	74 U
Nitrobenzene	ug/kg	5,100	41 U	39 U	37 U	37 U
N-Nitrosodimethylamine	ug/kg	2	82 U	78 U	75 U	74 U
N-Nitrosodi-n-propylamine	ug/kg	78	41 U	39 U	37 U	37 U
N-Nitrosodiphenylamine	ug/kg	110,000	82 U	78 U	75 U	74 U
Pyridine	ug/kg	78,000	140 U	140 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	41 U	39 U	37 U	37 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)						
Acenaphthene	ug/kg	3,600,000	41 UJ	39 U	38 U	38 U
Acenaphthylene	ug/kg	-	41 UJ	39 U	38 U	38 U
Anthracene	ug/kg	18,000,000	41 UJ	39 U	38 U	38 U
Benzo(a)anthracene	ug/kg	**100**	8.2 UJ	7.9 U	21.2	8.4 J
Benzo(a)pyrene	ug/kg	**100**	8.2 UJ	7.9 U	24	10.4 J
Benzo(b)fluoranthene	ug/kg	**100**	8.2 UJ	7.9 U	25	12.2 J
Benzo(g,h,i)perylene	ug/kg	-	8.2 UJ	7.9 U	15	6.0 J
Benzo(k)fluoranthene	ug/kg	**100**	8.2 UJ	7.9 U	8.4 J	4.0 J

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**44**		**45**	
Sample ID:			**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**
Lab Sample ID:			**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**3.5**	**3.5**	**2**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	8.2 UJ	7.9 U	19.5	9.3 J
Dibenzo(a,h)anthracene	ug/kg	**100**	8.2 UJ	7.9 U	7.6 U	7.5 U
1,4-Dioxane	ug/kg	5,300	16 U	16 U	15 U	15 U
Fluoranthene	ug/kg	2,400,000	41 UJ	39 U	57.9 J	21.3 J
Fluorene	ug/kg	2,400,000	41 UJ	39 U	38 U	38 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	8.2 UJ	7.9 U	14.9 J	6.2 J
1-Methylnaphthalene	ug/kg	**5,000**	41 UJ	39 U	38 U	38 U
2-Methylnaphthalene	ug/kg	**5,000**	41 UJ	39 U	38 U	38 U
Naphthalene	ug/kg	**5,000**	41 UJ	39 U	38 U	38 U
Phenanthrene	ug/kg	-	41 UJ	39 U	27.3 J	38 U
Pyrene	ug/kg	1,800,000	41 UJ	39 U	50.5 J	19.0 J
Benzo(a)pyrene equivalents	ug/kg	**100**			31.145	13.948

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		Project Action Limit	46		47		48	
Sample ID:			YTCFLC-SS-46-01	YTCFLC-SS-46-02	YTCFLC-SS-47-01	YTCFLC-SS-47-02	YTCFLC-SS-48-01	YTCFLC-SS-48-02
Lab Sample ID:			FA35031-3/ FA35135-3	FA35031-4/ FA35135-4	FA35089-5	FA35089-1	FA35094-4	FA35094-5
Date Sampled:			6/22&29 /2016	6/22&29 /2016	6/28/2016	6/28/2016	6/28/2016	6/28/2016
Depth:			2.5	3.5	2.5	4.5	6	7
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil
GC/MS Semi-volatiles (SW846 8270D)								
Benzoic Acid	ug/kg	250,000,000	380 UJ	380 UJ	410 U	410 U	370 U	370 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	38 U	38 U	41 U	41 U	37 U	37 U
2-Chlorophenol	ug/kg	390,000	38 U	38 U	41 U	41 U	37 U	37 U
2,4-Dichlorophenol	ug/kg	190,000	38 U	38 U	41 U	41 U	37 U	37 U
2,4-Dimethylphenol	ug/kg	1,300,000	76 U	76 U	81 U	83 U	73 U	73 U
2,4-Dinitrophenol	ug/kg	130,000	570 U	570 U	610 U	620 U	550 U	550 U
4,6-Dinitro-o-cresol	ug/kg	5,100	150 U	150 U	160 U	170 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	38 U	38 U	41 U	41 U	37 U	37 U
3&4-Methylphenol	ug/kg	-	76 U	76 U	81 U	83 U	73 U	73 U
2-Nitrophenol	ug/kg	-	38 U	38 U	41 U	41 U	37 U	37 U
4-Nitrophenol	ug/kg	-	380 U	380 U	410 U	410 U	370 U	370 U
Pentachlorophenol	ug/kg	1,000	380 U	380 U	410 U	410 U	370 U	370 U
Phenol	ug/kg	19,000,000	38 U	38 U	41 U	41 U	37 U	37 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	38 U	38 U	41 U	41 U	37 U	37 U
2,4,6-Trichlorophenol	ug/kg	49,000	38 U	38 U	41 U	41 U	37 U	37 U
Aniline	ug/kg	95,000	76 U	76 U	81 U	83 U	73 U	73 U
Benzidine	ug/kg	1	950 U	950 U	1000 U	1000 U	910 U	910 U
Benzyl Alcohol	ug/kg	6,300,000	38 U	38 U	41 U	41 U	37 U	37 U
4-Bromophenyl phenyl ether	ug/kg	-	38 U	38 U	41 U	41 U	37 U	37 U
Butyl benzyl phthalate	ug/kg	290,000	76 U	76 U	81 U	83 U	73 U	73 U
Carbazole	ug/kg	-	38 U	38 U	41 U	41 U	37 U	37 U
4-Chloroaniline	ug/kg	2,700	38 U	38 U	41 U	41 U	37 U	37 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	38 U	38 U	41 U	41 U	37 U	37 U
bis(2-Chloroethyl)ether	ug/kg	230	38 U	38 U	41 U	41 U	37 U	37 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	38 U	38 U	41 U	41 U	37 U	37 U
2-Chloronaphthalene	ug/kg	4,800,000	38 U	38 U	41 U	41 U	37 U	37 U
4-Chlorophenyl phenyl ether	ug/kg	-	38 U	38 U	41 U	41 U	37 U	37 U
Dibenzofuran	ug/kg	73,000	38 U	38 U	41 U	41 U	37 U	37 U
1,2-Dichlorobenzene	ug/kg	1,800,000	76 U	76 U	81 U	83 U	73 U	73 U
1,3-Dichlorobenzene	ug/kg	-	76 U	76 U	81 U	83 U	73 U	73 U
1,4-Dichlorobenzene	ug/kg	2,600	76 U	76 U	81 U	83 U	73 U	73 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**46**		**47**		**48**	
Sample ID:			**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**	**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**	**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**
Lab Sample ID:		**Project Action Limit**	**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**	**FA35089-5**	**FA35089-1**	**FA35094-4**	**FA35094-5**
Date Sampled:			**6/22&29 /2016**	**6/22&29 /2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**2.5**	**3.5**	**2.5**	**4.5**	**6**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	76 U	76 U	81 U	83 U	73 U	73 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	140 U	140 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	76 U	76 U	81 U	83 U	73 U	73 U
Di-n-octyl Phthalate	ug/kg	630,000	76 U	76 U	81 U	83 U	73 U	73 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	140 U	140 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	38 U	38 U	41 U	41 U	37 U	37 U
2,6-Dinitrotoluene	ug/kg	360	38 U	38 U	41 U	41 U	37 U	37 U
1,2-Diphenylhydrazine	ug/kg	680	38 U	38 U	41 U	41 U	37 U	37 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	140 U	140 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	38 U	38 U	41 U	41 U	37 U	37 U
Hexachlorobutadiene	ug/kg	1,200	76 U	76 U	81 U	83 U	73 U	73 U
Hexachlorocyclopentadiene	ug/kg	1,800	76 U	76 U	81 U	83 U	73 U	73 U
Hexachloroethane	ug/kg	1,800	76 U	76 U	81 U	83 U	73 U	73 U
Isophorone	ug/kg	570,000	38 U	38 U	41 U	41 U	37 U	37 U
2-Nitroaniline	ug/kg	630,000	76 U	76 U	81 U	83 U	73 U	73 U
3-Nitroaniline	ug/kg	-	76 U	76 U	81 U	83 U	73 U	73 U
4-Nitroaniline	ug/kg	27,000	76 U	76 U	81 U	83 U	73 U	73 U
Nitrobenzene	ug/kg	5,100	38 U	38 U	41 U	41 U	37 U	37 U
N-Nitrosodimethylamine	ug/kg	2	76 U	76 U	81 U	83 U	73 U	73 U
N-Nitrosodi-n-propylamine	ug/kg	78	38 U	38 U	41 U	41 U	37 U	37 U
N-Nitrosodiphenylamine	ug/kg	110,000	76 U	76 U	81 U	83 U	73 U	73 U
Pyridine	ug/kg	78,000	130 U	130 U	140 U	140 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	38 U	38 U	41 U	41 U	37 U	37 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Acenaphthene	ug/kg	3,600,000	38 U	38 U	41 U	40 U	37 U	36 U
Acenaphthylene	ug/kg	-	38 U	38 U	41 U	40 U	37 U	36 U
Anthracene	ug/kg	18,000,000	38 U	38 U	41 U	40 U	37 U	36 U
Benzo(a)anthracene	ug/kg	**100**	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U
Benzo(a)pyrene	ug/kg	**100**	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U
Benzo(b)fluoranthene	ug/kg	**100**	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U
Benzo(g,h,i)perylene	ug/kg	-	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U
Benzo(k)fluoranthene	ug/kg	**100**	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**46**		**47**		**48**	
Sample ID:			**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**	**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**	**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**
Lab Sample ID:		**Project Action Limit**	**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**	**FA35089-5**	**FA35089-1**	**FA35094-4**	**FA35094-5**
Date Sampled:			**6/22&29 /2016**	**6/22&29 /2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**2.5**	**3.5**	**2.5**	**4.5**	**6**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U
1,4-Dioxane	ug/kg	5,300	15 U	15 U	16 U	17 U	15 U	15 U
Fluoranthene	ug/kg	2,400,000	38 U	38 U	41 U	40 U	37 U	36 U
Fluorene	ug/kg	2,400,000	38 U	38 U	41 U	40 U	37 U	36 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.6 U	7.7 U	8.2 U	8.1 U	7.4 U	7.3 U
1-Methylnaphthalene	ug/kg	**5,000**	38 U	38 U	41 U	40 U	37 U	36 U
2-Methylnaphthalene	ug/kg	**5,000**	38 U	38 U	41 U	40 U	37 U	36 U
Naphthalene	ug/kg	**5,000**	38 U	38 U	41 U	40 U	37 U	36 U
Phenanthrene	ug/kg	-	38 U	38 U	41 U	40 U	37 U	36 U
Pyrene	ug/kg	1,800,000	38 U	38 U	41 U	40 U	37 U	36 U
Benzo(a)pyrene equivalents	ug/kg	**100**						

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**49**		**50**		
Sample ID:			**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**	**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**
Lab Sample ID:			**FA35089-6**	**FA35089-7**	**FA35089-3**	**FA35089-4**	**FA35089-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**4**	**8**	**3**	**6**	**6**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)							
Benzoic Acid	ug/kg	250,000,000	380 U	360 U	370 U	370 U	360 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	38 U	36 U	37 U	37 U	36 U
2-Chlorophenol	ug/kg	390,000	38 U	36 U	37 U	37 U	36 U
2,4-Dichlorophenol	ug/kg	190,000	38 U	36 U	37 U	37 U	36 U
2,4-Dimethylphenol	ug/kg	1,300,000	76 U	73 U	73 U	74 U	73 U
2,4-Dinitrophenol	ug/kg	130,000	570 U	550 U	550 U	550 U	550 U
4,6-Dinitro-o-cresol	ug/kg	5,100	150 U	150 U	150 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	38 U	36 U	37 U	37 U	36 U
3&4-Methylphenol	ug/kg	-	76 U	73 U	73 U	74 U	73 U
2-Nitrophenol	ug/kg	-	38 U	36 U	37 U	37 U	36 U
4-Nitrophenol	ug/kg	-	380 U	360 U	370 U	370 U	360 U
Pentachlorophenol	ug/kg	1,000	380 U	360 U	370 U	370 U	360 U
Phenol	ug/kg	19,000,000	38 U	36 U	37 U	37 U	36 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	38 U	36 U	37 U	37 U	36 U
2,4,6-Trichlorophenol	ug/kg	49,000	38 U	36 U	37 U	37 U	36 U
Aniline	ug/kg	95,000	76 U	73 U	73 U	74 U	73 U
Benzidine	ug/kg	1	950 U	910 U	920 U	920 U	910 U
Benzyl Alcohol	ug/kg	6,300,000	38 U	36 U	37 U	37 U	36 U
4-Bromophenyl phenyl ether	ug/kg	-	38 U	36 U	37 U	37 U	36 U
Butyl benzyl phthalate	ug/kg	290,000	76 U	73 U	73 U	74 U	73 U
Carbazole	ug/kg	-	38 U	36 U	37 U	37 U	36 U
4-Chloroaniline	ug/kg	2,700	38 U	36 U	37 U	37 U	36 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	38 U	36 U	37 U	37 U	36 U
bis(2-Chloroethyl)ether	ug/kg	230	38 U	36 U	37 U	37 U	36 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	38 U	36 U	37 U	37 U	36 U
2-Chloronaphthalene	ug/kg	4,800,000	38 U	36 U	37 U	37 U	36 U
4-Chlorophenyl phenyl ether	ug/kg	-	38 U	36 U	37 U	37 U	36 U
Dibenzofuran	ug/kg	73,000	38 U	36 U	37 U	37 U	36 U
1,2-Dichlorobenzene	ug/kg	1,800,000	76 U	73 U	73 U	74 U	73 U
1,3-Dichlorobenzene	ug/kg	-	76 U	73 U	73 U	74 U	73 U
1,4-Dichlorobenzene	ug/kg	2,600	76 U	73 U	73 U	74 U	73 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**49**		**50**		
Sample ID:			**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**	**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**
Lab Sample ID:			**FA35089-6**	**FA35089-7**	**FA35089-3**	**FA35089-4**	**FA35089-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**4**	**8**	**3**	**6**	**6**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	76 U	73 U	73 U	74 U	73 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	130 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	76 U	73 U	73 U	74 U	73 U
Di-n-octyl Phthalate	ug/kg	630,000	76 U	73 U	73 U	74 U	73 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	130 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	48.3 J	36 U	37 U	37 U	36 U
2,6-Dinitrotoluene	ug/kg	360	38 U	36 U	37 U	37 U	36 U
1,2-Diphenylhydrazine	ug/kg	680	38 U	36 U	37 U	37 U	36 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	38 U	36 U	37 U	37 U	36 U
Hexachlorobutadiene	ug/kg	1,200	76 U	73 U	73 U	74 U	73 U
Hexachlorocyclopentadiene	ug/kg	1,800	76 U	73 U	73 U	74 U	73 U
Hexachloroethane	ug/kg	1,800	76 U	73 U	73 U	74 U	73 U
Isophorone	ug/kg	570,000	38 U	36 U	37 U	37 U	36 U
2-Nitroaniline	ug/kg	630,000	76 U	73 U	73 U	74 U	73 U
3-Nitroaniline	ug/kg	-	76 U	73 U	73 U	74 U	73 U
4-Nitroaniline	ug/kg	27,000	76 U	73 U	73 U	74 U	73 U
Nitrobenzene	ug/kg	5,100	38 U	36 U	37 U	37 U	36 U
N-Nitrosodimethylamine	ug/kg	2	76 U	73 U	73 U	74 U	73 U
N-Nitrosodi-n-propylamine	ug/kg	78	38 U	36 U	37 U	37 U	36 U
N-Nitrosodiphenylamine	ug/kg	110,000	76 U	73 U	73 U	74 U	73 U
Pyridine	ug/kg	78,000	130 U	130 U	130 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	38 U	36 U	37 U	37 U	36 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)							
Acenaphthene	ug/kg	3,600,000	38 U	37 U	37 U	37 U	36 U
Acenaphthylene	ug/kg	-	38 U	37 U	37 U	37 U	36 U
Anthracene	ug/kg	18,000,000	38 U	37 U	37 U	37 U	36 U
Benzo(a)anthracene	ug/kg	**100**	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(a)pyrene	ug/kg	**100**	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(b)fluoranthene	ug/kg	**100**	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(g,h,i)perylene	ug/kg	-	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Benzo(k)fluoranthene	ug/kg	**100**	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**49**		**50**		
Sample ID:			**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**	**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**
Lab Sample ID:			**FA35089-6**	**FA35089-7**	**FA35089-3**	**FA35089-4**	**FA35089-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**4**	**8**	**3**	**6**	**6**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
1,4-Dioxane	ug/kg	5,300	15 U	15 U	15 U	15 U	15 U
Fluoranthene	ug/kg	2,400,000	38 U	37 U	37 U	37 U	36 U
Fluorene	ug/kg	2,400,000	38 U	37 U	37 U	37 U	36 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.6 U	7.4 U	7.4 U	7.4 U	7.1 U
1-Methylnaphthalene	ug/kg	**5,000**	38 U	37 U	37 U	37 U	36 U
2-Methylnaphthalene	ug/kg	**5,000**	38 U	37 U	37 U	37 U	36 U
Naphthalene	ug/kg	**5,000**	38 U	37 U	37 U	37 U	36 U
Phenanthrene	ug/kg	-	38 U	37 U	37 U	37 U	36 U
Pyrene	ug/kg	1,800,000	38 U	37 U	37 U	37 U	36 U
Benzo(a)pyrene equivalents	ug/kg	**100**					

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**51**		**52**		**53**	
Sample ID:			**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**	**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:		**Project Action Limit**	**FA35026-1**	**FA35026-2**	**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**7**	**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)								
Benzoic Acid	ug/kg	250,000,000	360 U	360 U	360 U	360 U	380 U	370 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	36 U	36 U	36 U	36 U	38 U	37 U
2-Chlorophenol	ug/kg	390,000	36 U	36 U	36 U	36 U	38 U	37 U
2,4-Dichlorophenol	ug/kg	190,000	36 U	36 U	36 U	36 U	38 U	37 U
2,4-Dimethylphenol	ug/kg	1,300,000	72 U	73 U	72 U	72 U	76 U	74 U
2,4-Dinitrophenol	ug/kg	130,000	540 U	550 U	540 U	540 U	570 U	550 U
4,6-Dinitro-o-cresol	ug/kg	5,100	140 U	150 U	140 U	140 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	36 U	36 U	36 U	36 U	38 U	37 U
3&4-Methylphenol	ug/kg	-	72 U	73 U	72 U	72 U	76 U	74 U
2-Nitrophenol	ug/kg	-	36 U	36 U	36 U	36 U	38 U	37 U
4-Nitrophenol	ug/kg	-	360 U	360 U	360 U	360 U	380 U	370 U
Pentachlorophenol	ug/kg	1,000	360 U	360 U	360 U	360 U	380 U	370 U
Phenol	ug/kg	19,000,000	36 U	36 U	36 U	36 U	38 U	37 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	36 U	36 U	36 U	36 U	38 U	37 U
2,4,6-Trichlorophenol	ug/kg	49,000	36 U	36 U	36 U	36 U	38 U	37 U
Aniline	ug/kg	95,000	72 U	73 U	72 U	72 U	76 U	74 U
Benzidine	ug/kg	1	900 U	910 U	900 U	900 U	950 U	920 U
Benzyl Alcohol	ug/kg	6,300,000	36 U	36 U	36 U	36 U	38 U	37 U
4-Bromophenyl phenyl ether	ug/kg	-	36 U	36 U	36 U	36 U	38 U	37 U
Butyl benzyl phthalate	ug/kg	290,000	72 U	73 U	72 U	72 U	76 U	74 U
Carbazole	ug/kg	-	36 U	36 U	36 U	36 U	38 U	37 U
4-Chloroaniline	ug/kg	2,700	36 U	36 U	36 U	36 U	38 U	37 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	36 U	36 U	36 U	36 U	38 U	37 U
bis(2-Chloroethyl)ether	ug/kg	230	36 U	36 U	36 U	36 U	38 U	37 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	36 U	36 U	36 U	36 U	38 U	37 U
2-Chloronaphthalene	ug/kg	4,800,000	36 U	36 U	36 U	36 U	38 U	37 U
4-Chlorophenyl phenyl ether	ug/kg	-	36 U	36 U	36 U	36 U	38 U	37 U
Dibenzofuran	ug/kg	73,000	36 U	36 U	36 U	36 U	38 U	37 U
1,2-Dichlorobenzene	ug/kg	1,800,000	72 U	73 U	72 U	72 U	76 U	74 U
1,3-Dichlorobenzene	ug/kg	-	72 U	73 U	72 U	72 U	76 U	74 U
1,4-Dichlorobenzene	ug/kg	2,600	72 U	73 U	72 U	72 U	76 U	74 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**51**		**52**		**53**	
Sample ID:			**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**	**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:		**Project Action Limit**	**FA35026-1**	**FA35026-2**	**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**7**	**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	72 U	73 U	72 U	72 U	76 U	74 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	130 U	130 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	72 U	73 U	72 U	72 U	76 U	74 U
Di-n-octyl Phthalate	ug/kg	630,000	72 U	73 U	72 U	72 U	76 U	74 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	130 U	130 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	36 U	36 U	36 U	36 U	38 U	37 U
2,6-Dinitrotoluene	ug/kg	360	36 U	36 U	36 U	36 U	38 U	37 U
1,2-Diphenylhydrazine	ug/kg	680	36 U	36 U	36 U	36 U	38 U	37 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	36 U	36 U	36 U	36 U	38 U	37 U
Hexachlorobutadiene	ug/kg	1,200	72 U	73 U	72 U	72 U	76 U	74 U
Hexachlorocyclopentadiene	ug/kg	1,800	72 U	73 U	72 U	72 U	76 U	74 U
Hexachloroethane	ug/kg	1,800	72 U	73 U	72 U	72 U	76 U	74 U
Isophorone	ug/kg	570,000	36 U	36 U	36 U	36 U	38 U	37 U
2-Nitroaniline	ug/kg	630,000	72 U	73 U	72 U	72 U	76 U	74 U
3-Nitroaniline	ug/kg	-	72 U	73 U	72 U	72 U	76 U	74 U
4-Nitroaniline	ug/kg	27,000	72 U	73 U	72 U	72 U	76 U	74 U
Nitrobenzene	ug/kg	5,100	36 U	36 U	36 U	36 U	38 U	37 U
N-Nitrosodimethylamine	ug/kg	2	72 U	73 U	72 U	72 U	76 U	74 U
N-Nitrosodi-n-propylamine	ug/kg	78	36 U	36 U	36 U	36 U	38 U	37 U
N-Nitrosodiphenylamine	ug/kg	110,000	72 U	73 U	72 U	72 U	76 U	74 U
Pyridine	ug/kg	78,000	130 U	130 U	130 U	130 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	36 U	36 U	36 U	36 U	38 U	37 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Acenaphthene	ug/kg	3,600,000	35 U	35 U	35 U	36 U	38 U	37 U
Acenaphthylene	ug/kg	-	35 U	35 U	35 U	36 U	38 U	37 U
Anthracene	ug/kg	18,000,000	35 U	35 U	35 U	36 U	38 U	37 U
Benzo(a)anthracene	ug/kg	**100**	5.1 J	7.1 U	7.1 U	7.2 U	7.6 U	7.4 U
Benzo(a)pyrene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.6 U	7.4 U
Benzo(b)fluoranthene	ug/kg	**100**	6.6 J	4.6 J	7.1 U	7.2 U	7.6 U	7.4 U
Benzo(g,h,i)perylene	ug/kg	-	4.2 J	7.1 U	7.1 U	7.2 U	7.6 U	7.4 U
Benzo(k)fluoranthene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.6 U	7.4 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**51**		**52**		**53**	
Sample ID:			**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**	**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:		**Project Action Limit**	**FA35026-1**	**FA35026-2**	**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**7**	**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	8.7 J	6.8 J	7.1 U	7.2 U	7.6 U	7.4 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.6 U	7.4 U
1,4-Dioxane	ug/kg	5,300	14 U	15 U	14 U	14 U	15 U	15 U
Fluoranthene	ug/kg	2,400,000	35 U	35 U	35 U	36 U	38 U	37 U
Fluorene	ug/kg	2,400,000	35 U	35 U	35 U	36 U	38 U	37 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.1 U	7.1 U	7.1 U	7.2 U	7.6 U	7.4 U
1-Methylnaphthalene	ug/kg	**5,000**	35 U	35 U	35 U	36 U	38 U	37 U
2-Methylnaphthalene	ug/kg	**5,000**	35 U	35 U	35 U	36 U	38 U	37 U
Naphthalene	ug/kg	**5,000**	35 U	35 U	35 U	36 U	38 U	37 U
Phenanthrene	ug/kg	-	35 U	35 U	35 U	36 U	38 U	37 U
Pyrene	ug/kg	1,800,000	35 U	35 U	35 U	36 U	38 U	37 U
Benzo(a)pyrene equivalents	ug/kg	**100**	5.872	5.498				

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:			**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)							
Benzoic Acid	ug/kg	250,000,000	380 U	380 U	380 U	370 UJ	390 UJ
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	38 U	38 U	38 U	37 U	39 U
2-Chlorophenol	ug/kg	390,000	38 U	38 U	38 U	37 U	39 U
2,4-Dichlorophenol	ug/kg	190,000	38 U	38 U	38 U	37 U	39 U
2,4-Dimethylphenol	ug/kg	1,300,000	76 U	76 U	75 U	73 U	79 U
2,4-Dinitrophenol	ug/kg	130,000	570 U	570 U	570 U	550 U	590 U
4,6-Dinitro-o-cresol	ug/kg	5,100	150 U	150 U	150 U	150 U	160 U
2-Methylphenol	ug/kg	3,200,000	38 U	38 U	38 U	37 U	39 U
3&4-Methylphenol	ug/kg	-	76 U	76 U	75 U	73 U	79 U
2-Nitrophenol	ug/kg	-	38 U	38 U	38 U	37 U	39 U
4-Nitrophenol	ug/kg	-	380 U	380 U	380 U	370 U	390 U
Pentachlorophenol	ug/kg	1,000	380 U	380 U	380 U	370 U	390 U
Phenol	ug/kg	19,000,000	38 U	38 U	38 U	37 U	39 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	38 U	38 U	38 U	37 U	39 U
2,4,6-Trichlorophenol	ug/kg	49,000	38 U	38 U	38 U	37 U	39 U
Aniline	ug/kg	95,000	76 U	76 U	75 U	73 U	79 U
Benzidine	ug/kg	1	950 U	950 U	940 U	910 U	980 U
Benzyl Alcohol	ug/kg	6,300,000	38 U	38 U	38 U	37 U	39 U
4-Bromophenyl phenyl ether	ug/kg	-	38 U	38 U	38 U	37 U	39 U
Butyl benzyl phthalate	ug/kg	290,000	76 U	76 U	75 U	73 U	79 U
Carbazole	ug/kg	-	38 U	38 U	38 U	37 U	39 U
4-Chloroaniline	ug/kg	2,700	38 U	38 U	38 U	37 U	39 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	38 U	38 U	38 U	37 U	39 U
bis(2-Chloroethyl)ether	ug/kg	230	38 U	38 U	38 U	37 U	39 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	38 U	38 U	38 U	37 U	39 U
2-Chloronaphthalene	ug/kg	4,800,000	38 U	38 U	38 U	37 U	39 U
4-Chlorophenyl phenyl ether	ug/kg	-	38 U	38 U	38 U	37 U	39 U
Dibenzofuran	ug/kg	73,000	38 U	38 U	38 U	37 U	39 U
1,2-Dichlorobenzene	ug/kg	1,800,000	76 U	76 U	75 U	73 U	79 U
1,3-Dichlorobenzene	ug/kg	-	76 U	76 U	75 U	73 U	79 U
1,4-Dichlorobenzene	ug/kg	2,600	76 U	76 U	75 U	73 U	79 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:		**Project Action Limit**	**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	76 U	76 U	75 U	73 U	79 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	130 U	130 U	140 U
Dimethyl Phthalate	ug/kg	-	76 U	76 U	75 U	73 U	79 U
Di-n-octyl Phthalate	ug/kg	630,000	76 U	76 U	75 U	73 U	79 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	130 U	130 U	140 U
2,4-Dinitrotoluene	ug/kg	1,700	38 U	38 U	38 U	37 U	39 U
2,6-Dinitrotoluene	ug/kg	360	38 U	38 U	38 U	37 U	39 U
1,2-Diphenylhydrazine	ug/kg	680	38 U	38 U	38 U	37 U	39 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	140 U
Hexachlorobenzene	ug/kg	210	38 U	38 U	38 U	37 U	39 U
Hexachlorobutadiene	ug/kg	1,200	76 U	76 U	75 U	73 U	79 U
Hexachlorocyclopentadiene	ug/kg	1,800	76 U	76 U	75 U	73 U	79 U
Hexachloroethane	ug/kg	1,800	76 U	76 U	75 U	73 U	79 U
Isophorone	ug/kg	570,000	38 U	38 U	38 U	37 U	39 U
2-Nitroaniline	ug/kg	630,000	76 U	76 U	75 U	73 U	79 U
3-Nitroaniline	ug/kg	-	76 U	76 U	75 U	73 U	79 U
4-Nitroaniline	ug/kg	27,000	76 U	76 U	75 U	73 U	79 U
Nitrobenzene	ug/kg	5,100	38 U	38 U	38 U	37 U	39 U
N-Nitrosodimethylamine	ug/kg	2	76 U	76 U	75 U	73 U	79 U
N-Nitrosodi-n-propylamine	ug/kg	78	38 U	38 U	38 U	37 U	39 U
N-Nitrosodiphenylamine	ug/kg	110,000	76 U	76 U	75 U	73 U	79 U
Pyridine	ug/kg	78,000	130 U	130 U	130 U	130 U	140 U
1,2,4-Trichlorobenzene	ug/kg	24,000	38 U	38 U	38 U	37 U	39 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)							
Acenaphthene	ug/kg	3,600,000	38 U	38 U	38 U	36 U	39 U
Acenaphthylene	ug/kg	-	38 U	38 U	38 U	36 U	39 U
Anthracene	ug/kg	18,000,000	38 U	38 U	38 U	36 U	39 U
Benzo(a)anthracene	ug/kg	**100**	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(a)pyrene	ug/kg	**100**	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(b)fluoranthene	ug/kg	**100**	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(g,h,i)perylene	ug/kg	-	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Benzo(k)fluoranthene	ug/kg	**100**	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:		**Project Action Limit**	**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
1,4-Dioxane	ug/kg	5,300	15 U	15 U	15 U	15 U	16 U
Fluoranthene	ug/kg	2,400,000	38 U	38 U	38 U	36 U	39 U
Fluorene	ug/kg	2,400,000	38 U	38 U	38 U	36 U	39 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.6 U	7.6 U	7.5 U	7.1 U	7.8 U
1-Methylnaphthalene	ug/kg	**5,000**	38 U	38 U	38 U	36 U	39 U
2-Methylnaphthalene	ug/kg	**5,000**	38 U	38 U	38 U	36 U	39 U
Naphthalene	ug/kg	**5,000**	38 U	38 U	38 U	36 U	39 U
Phenanthrene	ug/kg	-	38 U	38 U	38 U	36 U	39 U
Pyrene	ug/kg	1,800,000	38 U	38 U	38 U	36 U	39 U
Benzo(a)pyrene equivalents	ug/kg	**100**					

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**56**			**57**		
Sample ID:		**Project Action Limit**	**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:			**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)								
Benzoic Acid	ug/kg	250,000,000	400 U	410 U	400 U	390 R	390 R	390 R
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	40 U	41 U	40 U	39 U	39 U	39 U
2-Chlorophenol	ug/kg	390,000	40 U	41 U	40 U	39 U	39 U	39 U
2,4-Dichlorophenol	ug/kg	190,000	40 U	41 U	40 U	39 U	39 U	39 U
2,4-Dimethylphenol	ug/kg	1,300,000	81 U	82 U	79 U	79 U	78 U	77 U
2,4-Dinitrophenol	ug/kg	130,000	600 U	620 U	590 U	590 UJ	580 UJ	580 UJ
4,6-Dinitro-o-cresol	ug/kg	5,100	160 U	160 U	160 U	160 U	160 U	150 U
2-Methylphenol	ug/kg	3,200,000	40 U	41 U	40 U	39 U	39 U	39 U
3&4-Methylphenol	ug/kg	-	81 U	82 U	79 U	79 U	78 U	77 U
2-Nitrophenol	ug/kg	-	40 U	41 U	40 U	39 U	39 U	39 U
4-Nitrophenol	ug/kg	-	400 U	410 U	400 U	390 U	390 U	390 U
Pentachlorophenol	ug/kg	1,000	400 U	410 U	400 U	390 U	390 U	390 U
Phenol	ug/kg	19,000,000	40 U	41 U	40 U	39 U	39 U	39 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	40 U	41 U	40 U	39 U	39 U	39 U
2,4,6-Trichlorophenol	ug/kg	49,000	40 U	41 U	40 U	39 U	39 U	39 U
Aniline	ug/kg	95,000	81 U	82 U	79 U	79 U	78 U	77 U
Benzidine	ug/kg	1	1000 R	1000 R	990 R	980 U	980 U	970 U
Benzyl Alcohol	ug/kg	6,300,000	40 U	41 U	40 U	39 U	39 U	39 U
4-Bromophenyl phenyl ether	ug/kg	-	40 U	41 U	40 U	39 U	39 U	39 U
Butyl benzyl phthalate	ug/kg	290,000	81 U	82 U	79 U	79 U	78 U	77 U
Carbazole	ug/kg	-	40 U	41 U	40 U	39 U	39 U	39 U
4-Chloroaniline	ug/kg	2,700	40 U	41 U	40 U	39 U	39 U	39 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	40 U	41 U	40 U	39 U	39 U	39 U
bis(2-Chloroethyl)ether	ug/kg	230	40 U	41 U	40 U	39 U	39 U	39 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	40 U	41 U	40 U	39 U	39 U	39 U
2-Chloronaphthalene	ug/kg	4,800,000	40 U	41 U	40 U	39 U	39 U	39 U
4-Chlorophenyl phenyl ether	ug/kg	-	40 U	41 U	40 U	39 U	39 U	39 U
Dibenzofuran	ug/kg	73,000	40 U	41 U	40 U	39 U	39 U	39 U
1,2-Dichlorobenzene	ug/kg	1,800,000	81 U	82 U	79 U	79 U	78 U	77 U
1,3-Dichlorobenzene	ug/kg	-	81 U	82 U	79 U	79 U	78 U	77 U
1,4-Dichlorobenzene	ug/kg	2,600	81 U	82 U	79 U	79 U	78 U	77 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:			**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	81 U	82 U	79 U	79 U	78 U	77 U
Diethyl Phthalate	ug/kg	51,000,000	140 U	140 U	140 U	140 U	140 U	140 U
Dimethyl Phthalate	ug/kg	-	81 U	82 U	79 U	79 U	78 U	77 U
Di-n-octyl Phthalate	ug/kg	630,000	81 U	82 U	79 U	79 U	78 U	77 U
Di-n-butyl Phthalate	ug/kg	6,300,000	140 U	140 U	140 U	140 U	140 U	140 U
2,4-Dinitrotoluene	ug/kg	1,700	40 U	41 U	40 U	39 U	39 U	39 U
2,6-Dinitrotoluene	ug/kg	360	40 U	41 U	40 U	39 U	39 U	39 U
1,2-Diphenylhydrazine	ug/kg	680	40 U	41 U	40 U	39 U	39 U	39 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	140 U	140 U	140 U	104 J	140 UJ	140 U
Hexachlorobenzene	ug/kg	210	40 U	41 U	40 U	39 U	39 U	39 U
Hexachlorobutadiene	ug/kg	1,200	81 U	82 U	79 U	79 U	78 U	77 U
Hexachlorocyclopentadiene	ug/kg	1,800	81 U	82 U	79 U	79 UJ	78 UJ	77 UJ
Hexachloroethane	ug/kg	1,800	81 U	82 U	79 U	79 U	78 U	77 U
Isophorone	ug/kg	570,000	40 U	41 U	40 U	39 U	39 U	39 U
2-Nitroaniline	ug/kg	630,000	81 U	82 U	79 U	79 U	78 U	77 U
3-Nitroaniline	ug/kg	-	81 U	82 U	79 U	79 U	78 U	77 U
4-Nitroaniline	ug/kg	27,000	81 U	82 U	79 U	79 U	78 U	77 U
Nitrobenzene	ug/kg	5,100	40 U	41 U	40 U	39 U	39 U	39 U
N-Nitrosodimethylamine	ug/kg	2	81 U	82 U	79 U	79 U	78 U	77 U
N-Nitrosodi-n-propylamine	ug/kg	78	40 U	41 U	40 U	39 U	39 U	39 U
N-Nitrosodiphenylamine	ug/kg	110,000	81 U	82 U	79 U	79 U	78 U	77 U
Pyridine	ug/kg	78,000	140 U	140 U	140 U	140 U	140 U	140 U
1,2,4-Trichlorobenzene	ug/kg	24,000	40 U	41 U	40 U	39 U	39 U	39 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Acenaphthene	ug/kg	3,600,000	40 U	41 U	39 U	39 UJ	40 U	39 U
Acenaphthylene	ug/kg	-	40 U	41 U	39 U	39 UJ	40 U	39 U
Anthracene	ug/kg	18,000,000	40 U	41 U	39 U	39 UJ	40 U	39 U
Benzo(a)anthracene	ug/kg	**100**	8.0 U	8.2 U	7.9 U	7.9 J	4.9 J	7.9 U
Benzo(a)pyrene	ug/kg	**100**	8.0 U	8.2 U	7.9 U	39.4 J	5.0 J	7.9 U
Benzo(b)fluoranthene	ug/kg	**100**	8.0 U	8.2 U	7.9 U	84.7 J	7.0 J	7.9 U
Benzo(g,h,i)perylene	ug/kg	-	8.0 U	8.2 U	7.9 U	57.3 J	6.2 J	4.3 J
Benzo(k)fluoranthene	ug/kg	**100**	8.0 U	8.2 U	7.9 U	51.5 J	7.9 UJ	7.9 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:		**Project Action Limit**	**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	8.0 U	8.2 U	7.9 U	23.7 J	7.9 J	7.9 U
Dibenzo(a,h)anthracene	ug/kg	**100**	8.0 U	8.2 U	7.9 U	21.8 J	7.9 UJ	7.9 U
1,4-Dioxane	ug/kg	5,300	16 U	16 U	16 U	16 U	16 U	16 U
Fluoranthene	ug/kg	2,400,000	40 U	41 U	39 U	39 UJ	40 U	39 U
Fluorene	ug/kg	2,400,000	40 U	41 U	39 U	39 UJ	40 U	39 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	8.0 U	8.2 U	7.9 U	57.4 J	5.2 J	7.9 U
1-Methylnaphthalene	ug/kg	**5,000**	40 U	41 U	39 U	39 UJ	40 U	39 U
2-Methylnaphthalene	ug/kg	**5,000**	40 U	41 U	39 U	39 UJ	40 U	39 U
Naphthalene	ug/kg	**5,000**	40 U	41 U	39 U	39 UJ	40 U	39 U
Phenanthrene	ug/kg	-	40 U	41 U	39 U	39 UJ	21.5 J	39 U
Pyrene	ug/kg	1,800,000	40 U	41 U	39 U	39 UJ	40 U	39 U
Benzo(a)pyrene equivalents	ug/kg	**100**				61.967	7.579	

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**58**		**59**	
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**
Lab Sample ID:			**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**
Depth:			**5**	**7**	**5.5**	**5.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)						
Benzoic Acid	ug/kg	250,000,000	360 R	390 R	380 U	390 U
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	36 U	39 U	38 U	39 U
2-Chlorophenol	ug/kg	390,000	36 U	39 U	38 U	39 U
2,4-Dichlorophenol	ug/kg	190,000	36 U	39 U	38 U	39 U
2,4-Dimethylphenol	ug/kg	1,300,000	72 U	78 U	76 U	78 U
2,4-Dinitrophenol	ug/kg	130,000	540 UJ	590 UJ	570 U	590 U
4,6-Dinitro-o-cresol	ug/kg	5,100	140 U	160 U	150 U	160 U
2-Methylphenol	ug/kg	3,200,000	36 U	39 U	38 U	39 U
3&4-Methylphenol	ug/kg	-	72 U	78 U	76 U	78 U
2-Nitrophenol	ug/kg	-	36 U	39 U	38 U	39 U
4-Nitrophenol	ug/kg	-	360 U	390 U	380 U	390 U
Pentachlorophenol	ug/kg	1,000	360 U	390 U	380 U	390 U
Phenol	ug/kg	19,000,000	36 U	39 U	38 U	39 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	36 U	39 U	38 U	39 U
2,4,6-Trichlorophenol	ug/kg	49,000	36 U	39 U	38 U	39 U
Aniline	ug/kg	95,000	72 U	78 U	76 U	78 U
Benzidine	ug/kg	1	900 U	980 U	940 U	980 U
Benzyl Alcohol	ug/kg	6,300,000	36 U	39 U	38 U	39 U
4-Bromophenyl phenyl ether	ug/kg	-	36 U	39 U	38 U	39 U
Butyl benzyl phthalate	ug/kg	290,000	72 U	78 U	76 U	78 U
Carbazole	ug/kg	-	36 U	39 U	38 U	39 U
4-Chloroaniline	ug/kg	2,700	36 U	39 U	38 U	39 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	36 U	39 U	38 U	39 U
bis(2-Chloroethyl)ether	ug/kg	230	36 U	39 U	38 U	39 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	36 U	39 U	38 U	39 U
2-Chloronaphthalene	ug/kg	4,800,000	36 U	39 U	38 U	39 U
4-Chlorophenyl phenyl ether	ug/kg	-	36 U	39 U	38 U	39 U
Dibenzofuran	ug/kg	73,000	36 U	39 U	38 U	39 U
1,2-Dichlorobenzene	ug/kg	1,800,000	72 U	78 U	76 U	78 U
1,3-Dichlorobenzene	ug/kg	-	72 U	78 U	76 U	78 U
1,4-Dichlorobenzene	ug/kg	2,600	72 U	78 U	76 U	78 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**58**		**59**	
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**
Lab Sample ID:			**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**
Depth:			**5**	**7**	**5.5**	**5.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	72 U	78 U	76 U	78 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	140 U	130 U	140 U
Dimethyl Phthalate	ug/kg	-	72 U	78 U	76 U	78 U
Di-n-octyl Phthalate	ug/kg	630,000	72 U	78 U	76 U	78 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	140 U	130 U	140 U
2,4-Dinitrotoluene	ug/kg	1,700	36 U	39 U	38 U	39 U
2,6-Dinitrotoluene	ug/kg	360	36 U	39 U	38 U	39 U
1,2-Diphenylhydrazine	ug/kg	680	36 U	39 U	38 U	39 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	140 U	130 U	140 U
Hexachlorobenzene	ug/kg	210	36 U	39 U	38 U	39 U
Hexachlorobutadiene	ug/kg	1,200	72 U	78 U	76 U	78 U
Hexachlorocyclopentadiene	ug/kg	1,800	72 UJ	78 UJ	76 U	78 U
Hexachloroethane	ug/kg	1,800	72 U	78 U	76 U	78 U
Isophorone	ug/kg	570,000	36 U	39 U	38 U	39 U
2-Nitroaniline	ug/kg	630,000	72 U	78 U	76 U	78 U
3-Nitroaniline	ug/kg	-	72 U	78 U	76 U	78 U
4-Nitroaniline	ug/kg	27,000	72 U	78 U	76 U	78 U
Nitrobenzene	ug/kg	5,100	36 U	39 U	38 U	39 U
N-Nitrosodimethylamine	ug/kg	2	72 U	78 U	76 U	78 U
N-Nitrosodi-n-propylamine	ug/kg	78	36 U	39 U	38 U	39 U
N-Nitrosodiphenylamine	ug/kg	110,000	72 U	78 U	76 U	78 U
Pyridine	ug/kg	78,000	130 U	140 U	130 U	140 U
1,2,4-Trichlorobenzene	ug/kg	24,000	36 U	39 U	38 U	39 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)						
Acenaphthene	ug/kg	3,600,000	36 U	38 U	36 U	37 U
Acenaphthylene	ug/kg	-	36 U	38 U	36 U	37 U
Anthracene	ug/kg	18,000,000	36 U	38 U	36 U	37 U
Benzo(a)anthracene	ug/kg	**100**	7.3 U	7.7 U	7.3 U	7.4 U
Benzo(a)pyrene	ug/kg	**100**	7.3 U	4.2 J	7.3 U	7.4 U
Benzo(b)fluoranthene	ug/kg	**100**	7.3 U	5.3 J	7.3 U	7.4 U
Benzo(g,h,i)perylene	ug/kg	-	7.3 U	6.5 J	7.3 U	7.4 U
Benzo(k)fluoranthene	ug/kg	**100**	7.3 U	5.1 J	7.3 U	7.4 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**58**		**59**	
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**
Lab Sample ID:			**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**
Depth:			**5**	**7**	**5.5**	**5.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	7.3 U	7.6 J	7.3 U	7.4 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.3 U	7.7 U	7.3 U	7.4 U
1,4-Dioxane	ug/kg	5,300	14 U	16 U	15 U	16 U
Fluoranthene	ug/kg	2,400,000	36 U	38 U	36 U	37 U
Fluorene	ug/kg	2,400,000	36 U	38 U	36 U	37 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.3 U	7.7 U	7.3 U	7.4 U
1-Methylnaphthalene	ug/kg	**5,000**	36 U	38 U	36 U	37 U
2-Methylnaphthalene	ug/kg	**5,000**	36 U	38 U	36 U	37 U
Naphthalene	ug/kg	**5,000**	36 U	38 U	36 U	37 U
Phenanthrene	ug/kg	-	36 U	38 U	36 U	37 U
Pyrene	ug/kg	1,800,000	36 U	38 U	36 U	37 U
Benzo(a)pyrene equivalents	ug/kg	**100**		6.471		

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**60**			**61**	
Sample ID:			**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**	**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**
Lab Sample ID:			**FA35164-1**	**FA35164-2**	**FA35164-3**	**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**
Date Sampled:			**6/30/2016**	**6/30/2016**	**6/30/2016**	**10/27/2016**	**10/27/2016**
Depth:			**4.5**	**8.75**	**8.75**	**3**	**3**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)							
Benzoic Acid	ug/kg	250,000,000	390 U	380 U	380 U	380 UJ	370 UJ
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	39 U	38 U	38 U	38 U	37 U
2-Chlorophenol	ug/kg	390,000	39 U	38 U	38 U	38 U	37 U
2,4-Dichlorophenol	ug/kg	190,000	39 U	38 U	38 U	38 U	37 U
2,4-Dimethylphenol	ug/kg	1,300,000	78 U	76 U	76 U	75 U	75 U
2,4-Dinitrophenol	ug/kg	130,000	590 U	570 U	570 U	560 U	560 U
4,6-Dinitro-o-cresol	ug/kg	5,100	160 U	150 U	150 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	39 U	38 U	38 U	38 U	37 U
3&4-Methylphenol	ug/kg	-	78 U	76 U	76 U	75 U	75 U
2-Nitrophenol	ug/kg	-	39 U	38 U	38 U	38 U	37 U
4-Nitrophenol	ug/kg	-	390 U	380 U	380 U	380 U	370 U
Pentachlorophenol	ug/kg	1,000	390 U	380 U	380 U	380 U	370 U
Phenol	ug/kg	19,000,000	39 U	38 U	38 U	38 U	37 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	39 U	38 U	38 U	38 U	37 U
2,4,6-Trichlorophenol	ug/kg	49,000	39 U	38 U	38 U	38 U	37 U
Aniline	ug/kg	95,000	78 U	76 U	76 U	75 U	75 U
Benzidine	ug/kg	1	980 U	950 U	950 U	940 U	940 U
Benzyl Alcohol	ug/kg	6,300,000	39 U	38 U	38 U	38 U	37 U
4-Bromophenyl phenyl ether	ug/kg	-	39 U	38 U	38 U	38 U	37 U
Butyl benzyl phthalate	ug/kg	290,000	78 U	76 U	76 U	75 U	75 U
Carbazole	ug/kg	-	39 U	38 U	38 U	38 U	37 U
4-Chloroaniline	ug/kg	2,700	39 U	38 U	38 U	38 U	37 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	39 U	38 U	38 U	38 U	37 U
bis(2-Chloroethyl)ether	ug/kg	230	39 U	38 U	38 U	38 U	37 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	39 U	38 U	38 U	38 U	37 U
2-Chloronaphthalene	ug/kg	4,800,000	39 U	38 U	38 U	38 U	37 U
4-Chlorophenyl phenyl ether	ug/kg	-	39 U	38 U	38 U	38 U	37 U
Dibenzofuran	ug/kg	73,000	39 U	38 U	38 U	38 U	37 U
1,2-Dichlorobenzene	ug/kg	1,800,000	78 U	76 U	76 U	75 U	75 U
1,3-Dichlorobenzene	ug/kg	-	78 U	76 U	76 U	75 U	75 U
1,4-Dichlorobenzene	ug/kg	2,600	78 U	76 U	76 U	75 U	75 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**60**			**61**	
Sample ID:			**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**	**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**
Lab Sample ID:			**FA35164-1**	**FA35164-2**	**FA35164-3**	**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**
Date Sampled:			**6/30/2016**	**6/30/2016**	**6/30/2016**	**10/27/2016**	**10/27/2016**
Depth:			**4.5**	**8.75**	**8.75**	**3**	**3**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	78 U	76 U	76 U	75 U	75 U
Diethyl Phthalate	ug/kg	51,000,000	140 U	130 U	130 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	78 U	76 U	76 U	75 U	75 U
Di-n-octyl Phthalate	ug/kg	630,000	78 U	76 U	76 U	75 U	75 U
Di-n-butyl Phthalate	ug/kg	6,300,000	140 U	130 U	130 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	39 U	38 U	38 U	38 U	37 U
2,6-Dinitrotoluene	ug/kg	360	39 U	38 U	38 U	38 U	37 U
1,2-Diphenylhydrazine	ug/kg	680	39 U	38 U	38 U	38 U	37 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	140 U	130 U	130 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	39 U	38 U	38 U	38 U	37 U
Hexachlorobutadiene	ug/kg	1,200	78 U	76 U	76 U	75 U	75 U
Hexachlorocyclopentadiene	ug/kg	1,800	78 U	76 U	76 U	75 UJ	75 UJ
Hexachloroethane	ug/kg	1,800	78 U	76 U	76 U	75 U	75 U
Isophorone	ug/kg	570,000	39 U	38 U	38 U	38 U	37 U
2-Nitroaniline	ug/kg	630,000	78 U	76 U	76 U	75 U	75 U
3-Nitroaniline	ug/kg	-	78 U	76 U	76 U	75 U	75 U
4-Nitroaniline	ug/kg	27,000	78 U	76 U	76 U	75 U	75 U
Nitrobenzene	ug/kg	5,100	39 U	38 U	38 U	38 U	37 U
N-Nitrosodimethylamine	ug/kg	2	78 U	76 U	76 U	75 U	75 U
N-Nitrosodi-n-propylamine	ug/kg	78	39 U	38 U	38 U	38 U	37 U
N-Nitrosodiphenylamine	ug/kg	110,000	78 U	76 U	76 U	75 U	75 U
Pyridine	ug/kg	78,000	140 U	130 U	130 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	39 U	38 U	38 U	38 U	37 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)							
Acenaphthene	ug/kg	3,600,000	38 UJ	38 U	36 U	38 U	36 U
Acenaphthylene	ug/kg	-	38 UJ	38 U	36 U	38 U	36 U
Anthracene	ug/kg	18,000,000	38 UJ	38 U	36 U	38 U	36 U
Benzo(a)anthracene	ug/kg	**100**	7.5 UJ	7.7 U	7.3 U	7.6 U	7.2 U
Benzo(a)pyrene	ug/kg	**100**	6.8 J	7.7 U	7.3 U	7.6 U	7.2 U
Benzo(b)fluoranthene	ug/kg	**100**	7.5 UJ	7.7 U	7.3 U	7.6 U	7.2 U
Benzo(g,h,i)perylene	ug/kg	-	11.3 J	7.7 U	7.3 U	7.6 U	7.2 U
Benzo(k)fluoranthene	ug/kg	**100**	7.5 UJ	7.7 U	7.3 U	7.6 U	7.2 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**60**			**61**	
Sample ID:			**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**	**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**
Lab Sample ID:			**FA35164-1**	**FA35164-2**	**FA35164-3**	**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**
Date Sampled:			**6/30/2016**	**6/30/2016**	**6/30/2016**	**10/27/2016**	**10/27/2016**
Depth:			**4.5**	**8.75**	**8.75**	**3**	**3**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	4.6 J	7.7 U	7.3 U	7.6 U	7.2 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.5 UJ	7.7 U	7.3 U	7.6 U	7.2 U
1,4-Dioxane	ug/kg	5,300	16 U	15 UJ	15 U	60 U	59 UJ
Fluoranthene	ug/kg	2,400,000	38 UJ	38 U	36 U	38 U	36 U
Fluorene	ug/kg	2,400,000	38 UJ	38 U	36 U	38 U	36 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.5 UJ	7.7 U	7.3 U	7.6 U	7.2 U
1-Methylnaphthalene	ug/kg	**5,000**	38 UJ	38 U	36 U	38 U	36 U
2-Methylnaphthalene	ug/kg	**5,000**	38 UJ	38 U	36 U	38 U	36 U
Naphthalene	ug/kg	**5,000**	38 UJ	38 U	36 U	38 U	36 U
Phenanthrene	ug/kg	-	38 UJ	38 U	36 U	38 U	36 U
Pyrene	ug/kg	1,800,000	38 UJ	38 U	36 U	38 U	36 U
Benzo(a)pyrene equivalents	ug/kg	**100**	8.721				

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**62**		**63**		**64**	
Sample ID:			**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**	**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:		**Project Action Limit**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**	**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**10/27/2016**	**10/27/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**4**	**4**	**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC/MS Semi-volatiles (SW846 8270D)								
Benzoic Acid	ug/kg	250,000,000	360 UJ	360 U	370 U	370 U	370 UJ	360 UJ
4-Chloro-3-methyl Phenol	ug/kg	6,300,000	36 U	36 U	37 U	37 U	37 U	36 U
2-Chlorophenol	ug/kg	390,000	36 U	36 U	37 U	37 U	37 U	36 U
2,4-Dichlorophenol	ug/kg	190,000	36 U	36 U	37 U	37 U	37 U	36 U
2,4-Dimethylphenol	ug/kg	1,300,000	72 U	72 U	74 U	75 U	75 U	73 U
2,4-Dinitrophenol	ug/kg	130,000	540 U	540 U	550 U	560 U	560 U	550 U
4,6-Dinitro-o-cresol	ug/kg	5,100	140 U	140 U	150 U	150 U	150 U	150 U
2-Methylphenol	ug/kg	3,200,000	36 U	36 U	37 U	37 U	37 U	36 U
3&4-Methylphenol	ug/kg	-	72 U	72 U	74 U	75 U	75 U	73 U
2-Nitrophenol	ug/kg	-	36 U	36 U	37 U	37 U	37 U	36 U
4-Nitrophenol	ug/kg	-	360 U	360 U	370 U	370 U	370 U	360 U
Pentachlorophenol	ug/kg	1,000	360 U	360 U	370 U	370 U	370 U	360 U
Phenol	ug/kg	19,000,000	36 U	36 U	37 U	37 U	37 U	36 U
2,4,5-Trichlorophenol	ug/kg	6,300,000	36 U	36 U	37 U	37 U	37 U	36 U
2,4,6-Trichlorophenol	ug/kg	49,000	36 U	36 U	37 U	37 U	37 U	36 U
Aniline	ug/kg	95,000	72 U	72 U	74 U	75 U	75 U	73 U
Benzidine	ug/kg	1	900 U	900 U	920 U	930 U	940 R	910 R
Benzyl Alcohol	ug/kg	6,300,000	36 U	36 U	37 U	37 U	37 U	36 U
4-Bromophenyl phenyl ether	ug/kg	-	36 U	36 U	37 U	37 U	37 U	36 U
Butyl benzyl phthalate	ug/kg	290,000	72 U	72 U	74 U	75 U	75 U	73 U
Carbazole	ug/kg	-	36 U	36 U	37 U	37 U	37 U	36 U
4-Chloroaniline	ug/kg	2,700	36 U	36 U	37 U	37 U	37 U	36 U
bis(2-Chloroethoxy)methane	ug/kg	190,000	36 U	36 U	37 U	37 U	37 U	36 U
bis(2-Chloroethyl)ether	ug/kg	230	36 U	36 U	37 U	37 U	37 U	36 U
bis(2-Chloroisopropyl)ether	ug/kg	3,100,000	36 U	36 U	37 U	37 U	37 U	36 U
2-Chloronaphthalene	ug/kg	4,800,000	36 U	36 U	37 U	37 U	37 U	36 U
4-Chlorophenyl phenyl ether	ug/kg	-	36 U	36 U	37 U	37 U	37 U	36 U
Dibenzofuran	ug/kg	73,000	36 U	36 U	37 U	37 U	37 U	36 U
1,2-Dichlorobenzene	ug/kg	1,800,000	72 U	72 U	74 U	75 U	75 U	73 U
1,3-Dichlorobenzene	ug/kg	-	72 U	72 U	74 U	75 U	75 U	73 U
1,4-Dichlorobenzene	ug/kg	2,600	72 U	72 U	74 U	75 U	75 U	73 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**62**		**63**		**64**	
Sample ID:			**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**	**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**	**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**10/27/2016**	**10/27/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**4**	**4**	**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
3,3'-Dichlorobenzidine	ug/kg	1,200	72 U	72 U	74 U	75 U	75 U	73 U
Diethyl Phthalate	ug/kg	51,000,000	130 U	130 U	130 U	130 U	130 U	130 U
Dimethyl Phthalate	ug/kg	-	72 U	72 U	74 U	75 U	75 U	73 U
Di-n-octyl Phthalate	ug/kg	630,000	72 U	72 U	74 U	75 U	75 U	73 U
Di-n-butyl Phthalate	ug/kg	6,300,000	130 U	130 U	130 U	130 U	130 U	130 U
2,4-Dinitrotoluene	ug/kg	1,700	36 U	36 U	37 U	37 U	37 U	36 U
2,6-Dinitrotoluene	ug/kg	360	36 U	36 U	37 U	37 U	37 U	36 U
1,2-Diphenylhydrazine	ug/kg	680	36 U	36 U	37 U	37 U	37 U	36 U
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	130 U	130 U	130 U	130 U	130 U	130 U
Hexachlorobenzene	ug/kg	210	36 U	36 U	37 U	37 U	37 U	36 U
Hexachlorobutadiene	ug/kg	1,200	72 U	72 U	74 U	75 U	75 U	73 U
Hexachlorocyclopentadiene	ug/kg	1,800	72 UJ	72 UJ	74 U	75 U	75 U	73 U
Hexachloroethane	ug/kg	1,800	72 U	72 U	74 U	75 U	75 U	73 U
Isophorone	ug/kg	570,000	36 U	36 U	37 U	37 U	37 U	36 U
2-Nitroaniline	ug/kg	630,000	72 U	72 U	74 U	75 U	75 U	73 U
3-Nitroaniline	ug/kg	-	72 U	72 U	74 U	75 U	75 U	73 U
4-Nitroaniline	ug/kg	27,000	72 U	72 U	74 U	75 U	75 U	73 U
Nitrobenzene	ug/kg	5,100	36 U	36 U	37 U	37 U	37 U	36 U
N-Nitrosodimethylamine	ug/kg	2	72 U	72 U	74 U	75 U	75 U	73 U
N-Nitrosodi-n-propylamine	ug/kg	78	36 U	36 U	37 U	37 U	37 U	36 U
N-Nitrosodiphenylamine	ug/kg	110,000	72 U	72 U	74 U	75 U	75 U	73 U
Pyridine	ug/kg	78,000	130 U	130 U	130 U	130 U	130 U	130 U
1,2,4-Trichlorobenzene	ug/kg	24,000	36 U	36 U	37 U	37 U	37 U	36 U
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Acenaphthene	ug/kg	3,600,000	36 U	37 U	37 U	37 U	38 U	37 U
Acenaphthylene	ug/kg	-	36 U	37 U	37 U	37 U	38 U	37 U
Anthracene	ug/kg	18,000,000	36 U	37 U	37 U	37 U	38 U	37 U
Benzo(a)anthracene	ug/kg	**100**	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(a)pyrene	ug/kg	**100**	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(b)fluoranthene	ug/kg	**100**	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(g,h,i)perylene	ug/kg	-	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Benzo(k)fluoranthene	ug/kg	**100**	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U

Table G-7
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**62**		**63**		**64**	
Sample ID:			**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**	**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:		**Project Action Limit**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**	**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**10/27/2016**	**10/27/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**4**	**4**	**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Chrysene	ug/kg	**100**	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
Dibenzo(a,h)anthracene	ug/kg	**100**	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
1,4-Dioxane	ug/kg	5,300	56 UJ	58 U	15 U	15 U	15 U	15 U
Fluoranthene	ug/kg	2,400,000	36 U	37 U	37 U	37 U	38 U	37 U
Fluorene	ug/kg	2,400,000	36 U	37 U	37 U	37 U	38 U	37 U
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	7.3 U	7.4 U	7.4 U	7.4 U	7.6 U	7.3 U
1-Methylnaphthalene	ug/kg	**5,000**	36 U	37 U	37 U	37 U	38 U	37 U
2-Methylnaphthalene	ug/kg	**5,000**	36 U	37 U	37 U	37 U	69.4 J	37 U
Naphthalene	ug/kg	**5,000**	36 U	37 U	37 U	37 U	65.2 J	37 U
Phenanthrene	ug/kg	-	36 U	37 U	37 U	37 U	38 U	37 U
Pyrene	ug/kg	1,800,000	36 U	37 U	37 U	37 U	38 U	37 U
Benzo(a)pyrene equivalents	ug/kg	**100**						

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**40**		**41**		**42**		
Sample ID:		**Project Action Limit**	**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**	**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**
Lab Sample ID:			**FA38124-1/ 16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**	**FA35094-1**	**FA35094-2**	**FA35094-3**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**3**	**7**	**7**	**4.25**	**4.25**	**4.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)									
TPH (Gasoline)	mg/kg	**100**	3.16 U	3.08 U	3.15 U	3.25 U	4.1 UJ	4.3 UJ	4.3 UJ
GC Semi-volatiles (NWTPH-DX W SGC)									
TPH (Diesel)	mg/kg	**2,000**	5.48 UJ	3.25 J	2.76 U	2.60 J	11.9 J	10.6 J	4.52 J
TPH (Motor Oil)	mg/kg	4,000	5.70 J	8.49 J	5.52 UJ	5.54 U	177 J	174 J	39 J

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**43**		**44**		**45**	
Sample ID:			**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**	**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**
Lab Sample ID:			**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**	**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**10**	**10**	**3.5**	**3.5**	**2**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.73 U	3.32 U	3.73 U	3.30 U	4.1 U	3.5 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	4.46 J	20.3 J	3.08 U	2.93 U	2.66 J	2.08 J
TPH (Motor Oil)	mg/kg	4,000	10.5 J	47.7	6.02 U	5.86 U	8.89 J	10.5 J

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**46**		**47**		**48**	
Sample ID:			**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**	**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**	**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**
Lab Sample ID:			**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**	**FA35089-5**	**FA35089-1**	**FA35094-4**	**FA35094-5**
Date Sampled:			**6/22&29 /2016**	**6/22&29 /2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**2.5**	**3.5**	**2.5**	**4.5**	**6**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	4.7 U	5.1 U	5.2 UJ	4.4 UJ	3.5 UJ	3.3 UJ
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	1.52 J	2.3 UJ	1.31 J	2.07 J	3.10 J	1.75 J
TPH (Motor Oil)	mg/kg	4,000	6.64 UJ	10 J	14.3 J	17 J	15.6 J	10.3 J

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**49**		**50**		
Sample ID:		**Project Action Limit**	**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**	**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**
Lab Sample ID:			**FA35089-6**	**FA35089-7**	**FA35089-3**	**FA35089-4**	**FA35089-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**4**	**8**	**3**	**6**	**6**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)							
TPH (Gasoline)	mg/kg	**100**	3.6 UJ	3.5 UJ	3.7 UJ	3.7 UJ	5.3 UJ
GC Semi-volatiles (NWTPH-DX W SGC)							
TPH (Diesel)	mg/kg	**2,000**	3.23 J	1.28 J	4.24 J	5.26 J	7.47 J
TPH (Motor Oil)	mg/kg	4,000	19 J	3.55 UJ	34.9 J	35.5 J	42.1 J

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**51**		**52**		**53**	
Sample ID:			**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**	**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:			**FA35026-1**	**FA35026-2**	**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**7**	**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.9 UJ	5.6 UJ	3.8 UJ	3.9 UJ	3.7 U	4.3 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	22 UJ	19.0 J	1.44 J	3.86 J	2.35 J	1.91 J
TPH (Motor Oil)	mg/kg	4,000	147 J	226 J	12.9 J	20.8 J	19.1	12.6

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:			**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)							
TPH (Gasoline)	mg/kg	**100**	3.7 U	4.1 U	4.1 U	3.5 U	4.0 U
GC Semi-volatiles (NWTPH-DX W SGC)							
TPH (Diesel)	mg/kg	**2,000**	2.3 UJ	2.3 UJ	1.85 J	1.78 J	2.4 U
TPH (Motor Oil)	mg/kg	4,000	3.88 UJ	3.98 UJ	3.52 UJ	14.3 J	8.42 UJ

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:			**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.69 U	4.14 U	3.40 U	3.60 U	4.27 U	3.66 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	2.88 U	3.09 U	3.08 U	10.9 U	10.3 U	5.78 U
TPH (Motor Oil)	mg/kg	4,000	5.77 U	6.18 U	6.16 U	31.4	32.6	11.5

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**58**		**59**	
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**
Lab Sample ID:			**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**
Depth:			**5**	**7**	**5.5**	**5.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)						
TPH (Gasoline)	mg/kg	**100**	3.09 U	3.86 U	3.1 U	3.6 U
GC Semi-volatiles (NWTPH-DX W SGC)						
TPH (Diesel)	mg/kg	**2,000**	2.66 U	7.13 U	1.89 J	1.75 J
TPH (Motor Oil)	mg/kg	4,000	5.51 U	14.1	7.69	13.1

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**60**			**61**		
Sample ID:			**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**	**YTCFLC-SS-61-01**	**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**
Lab Sample ID:			**FA35164-1**	**FA35164-2**	**FA35164-3**	**FA38194-1/ 16J0471-01**	**16K000-05**	**FA38194-2/ 16J0471-02**
Date Sampled:			**6/30/2016**	**6/30/2016**	**6/30/2016**	**10/27/2016**	**10/31/2016**	**10/27/2016**
Depth:			**4.5**	**8.75**	**8.75**	**3**	**3**	**3**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.4 U	3.4 U	3.4 U	-	3.87 U	3.22 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	27.6	2.53 J	2.31 J	5.49 UJ	-	2.75 U
TPH (Motor Oil)	mg/kg	4,000	198	21.3	18.6	4.23 J	-	5.49 UJ

Table G-8
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**62**		**63**		**64**	
Sample ID:			**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**	**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**	**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**10/27/2016**	**10/27/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**4**	**4**	**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
GC Volatiles (NWTPH-GX)								
TPH (Gasoline)	mg/kg	**100**	3.79 U	3.63 U	3.3 UJ	3.7 UJ	4.1 U	9.1 U
GC Semi-volatiles (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	2.65 U	2.68 U	1.35 J	1.79 J	1.63 J	2.2 U
TPH (Motor Oil)	mg/kg	4,000	5.30 UJ	5.37 UJ	7.5 UJ	14.5 J	18 J	10.8 J

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:		**Project Action Limit**	**FA38124-1/ 16J0428-01**	**FA38124-2/ 16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)						
Aldrin	ug/kg	39	0.94 U	0.92 U	0.91 U	0.93 U
alpha-BHC	ug/kg	86	0.94 U	0.92 U	0.91 U	0.93 U
beta-BHC	ug/kg	300	0.94 U	0.92 U	0.91 U	0.93 U
delta-BHC	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
gamma-BHC (Lindane)	ug/kg	**10**	0.94 U	0.92 U	0.91 U	0.93 U
Chlordane	ug/kg	1,700	9.4 U	9.2 U	9.1 U	9.3 U
alpha-Chlordane	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
gamma-Chlordane	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
Dieldrin	ug/kg	34	0.94 U	0.92 U	0.91 U	0.93 U
4,4'-DDD	ug/kg	2,300	0.94 U	1.3 J	0.91 U	0.93 U
4,4'-DDE	ug/kg	2,000	0.99 J	9.9	0.91 U	0.93 U
4,4'-DDT	ug/kg	**3,000**	1.1 J	11.1	0.91 U	0.93 U
Endrin	ug/kg	19,000	0.94 U	0.92 U	0.91 U	0.93 U
Endosulfan sulfate	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
Endrin aldehyde	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
Endrin ketone	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
Endosulfan-I	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
Endosulfan-II	ug/kg	-	0.94 U	0.92 U	0.91 U	0.93 U
Heptachlor	ug/kg	130	0.94 U	0.92 U	0.91 U	0.93 U
Heptachlor epoxide	ug/kg	70	0.94 U	0.92 U	0.91 U	0.93 U
Methoxychlor	ug/kg	320,000	1.9 U	1.8 U	1.8 U	1.9 U
Toxaphene	ug/kg	490	47 U	46 U	46 U	47 U
PCBs (SW846 8082A)						
Aroclor 1016	ug/kg	**1,000**	9.4 U	9.2 U	9.1 U	9.3 U
Aroclor 1221	ug/kg	**1,000**	15 U	15 U	15 U	15 U
Aroclor 1232	ug/kg	**1,000**	15 U	15 U	15 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.4 U	9.2 U	9.1 U	9.3 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:		**Project Action Limit**	**FA38124-1/ 16J0428-01**	**FA38124-2/ 16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.4 U	9.2 U	9.1 U	9.3 U
Aroclor 1254	ug/kg	**1,000**	15 U	15 U	15 U	15 U
Aroclor 1260	ug/kg	**1,000**	9.4 U	9.2 U	9.1 U	9.3 U
Herbicides (SW846 8151A)						
2,4-D	ug/kg	700,000	18 U	18 U	18 U	18 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.8 U	1.8 U	1.8 U
2,4,5-T	ug/kg	630,000	1.8 U	1.8 U	1.8 U	1.8 U
Dicamba	ug/kg	1,900,000	1.8 UJ	1.8 UJ	1.8 UJ	1.8 R
Dinoseb	ug/kg	63,000	37 U	36 U	37 U	36 U
Dalapon	ug/kg	1,900,000	73 U	72 U	73 U	73 R
Dichloroprop	ug/kg	-	18 U	18 U	18 U	18 U
2,4-DB	ug/kg	510,000	18 U	18 U	18 U	18 U
MCPP	ug/kg	63,000	1800 U	1800 U	1800 U	1800 UJ
MCPA	ug/kg	32,000	1800 U	1800 U	1800 U	1800 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.8 U	1.8 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**42**			**43**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**
Lab Sample ID:		**Project Action Limit**	**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)							
Aldrin	ug/kg	39	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
alpha-BHC	ug/kg	86	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
beta-BHC	ug/kg	300	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
delta-BHC	ug/kg	-	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
gamma-BHC (Lindane)	ug/kg	**10**	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Chlordane	ug/kg	1,700	9.3 U	9.3 U	9.0 U	10 U	19 U
alpha-Chlordane	ug/kg	-	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
gamma-Chlordane	ug/kg	-	0.93 U	0.93 U	0.90 U	0.82 J	1.7 J
Dieldrin	ug/kg	34	1.4 J	0.93 U	0.90 U	2.9	5.1
4,4'-DDD	ug/kg	2,300	1.2 J	0.93 U	0.90 U	0.72 J	2.9 J
4,4'-DDE	ug/kg	2,000	12.6	6 J	3.6 J	4.1	15.3
4,4'-DDT	ug/kg	**3,000**	17.2 J	3.9 J	4.4 J	18.4	62.1
Endrin	ug/kg	19,000	0.93 U	0.93 U	0.90 U	1.2 J	3.4 J
Endosulfan sulfate	ug/kg	-	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Endrin aldehyde	ug/kg	-	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Endrin ketone	ug/kg	-	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Endosulfan-I	ug/kg	-	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Endosulfan-II	ug/kg	-	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Heptachlor	ug/kg	130	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Heptachlor epoxide	ug/kg	70	0.93 U	0.93 U	0.90 U	1.0 U	1.9 U
Methoxychlor	ug/kg	320,000	1.9 U	1.9 U	1.8 U	2.1 U	3.8 U
Toxaphene	ug/kg	490	47 U	46 U	45 U	52 U	96 U
PCBs (SW846 8082A)							
Aroclor 1016	ug/kg	**1,000**	9.3 U	9.3 U	9.0 U	10 U	9.6 U
Aroclor 1221	ug/kg	**1,000**	15 U	15 U	14 U	17 U	15 U
Aroclor 1232	ug/kg	**1,000**	15 U	15 U	14 U	17 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.3 U	9.3 U	9.0 U	10 U	9.6 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**42**			**43**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**
Lab Sample ID:		**Project Action Limit**	**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.3 U	9.3 U	9.0 U	10 U	9.6 U
Aroclor 1254	ug/kg	**1,000**	15 U	15 U	14 U	21.3 J	38.7 J
Aroclor 1260	ug/kg	**1,000**	9.3 U	9.3 U	9.0 U	16.4 J	22.5 J
Herbicides (SW846 8151A)							
2,4-D	ug/kg	700,000	18 U	19 U	18 U	20 U	19 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.9 U	1.8 U	2.0 U	3.8 J
2,4,5-T	ug/kg	630,000	1.8 U	1.9 U	1.8 U	2.0 U	1.9 U
Dicamba	ug/kg	1,900,000	1.8 U	1.9 U	1.8 U	2.0 UJ	1.9 U
Dinoseb	ug/kg	63,000	37 U	37 U	36 U	40 U	39 U
Dalapon	ug/kg	1,900,000	73 U	74 U	71 U	79 U	77 U
Dichloroprop	ug/kg	-	18 U	19 U	18 U	20 U	19 U
2,4-DB	ug/kg	510,000	18 U	19 U	18 U	20 U	19 U
MCPP	ug/kg	63,000	1800 U	1900 U	1800 U	2000 U	1900 U
MCPA	ug/kg	32,000	1800 U	1900 U	1800 U	2000 U	1900 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.9 U	1.8 U	2.0 U	1.9 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**44**		**45**		**46**	
Sample ID:			**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**	**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**
Lab Sample ID:		**Project Action Limit**	**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**	**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**3.5**	**3.5**	**2**	**4.5**	**2.5**	**3.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
alpha-BHC	ug/kg	86	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
beta-BHC	ug/kg	300	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
delta-BHC	ug/kg	-	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
gamma-BHC (Lindane)	ug/kg	**10**	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Chlordane	ug/kg	1,700	10 U	9.7 U	9.2 U	9.4 U	9.5 U	9.7 U
alpha-Chlordane	ug/kg	-	1.0 U	0.97 U	0.92 U	1.0 J	0.95 U	0.97 U
gamma-Chlordane	ug/kg	-	1.0 U	0.97 U	0.92 U	1.1 J	0.95 U	0.97 U
Dieldrin	ug/kg	34	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
4,4'-DDD	ug/kg	2,300	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
4,4'-DDE	ug/kg	2,000	1.0 U	0.97 U	11.4	12.2	1.7 J	1.3 J
4,4'-DDT	ug/kg	**3,000**	1.0 U	0.97 U	7.9	8.7	0.95 U	0.97 U
Endrin	ug/kg	19,000	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Endosulfan sulfate	ug/kg	-	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Endrin aldehyde	ug/kg	-	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Endrin ketone	ug/kg	-	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Endosulfan-I	ug/kg	-	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Endosulfan-II	ug/kg	-	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Heptachlor	ug/kg	130	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Heptachlor epoxide	ug/kg	70	1.0 U	0.97 U	0.92 U	0.94 U	0.95 U	0.97 U
Methoxychlor	ug/kg	320,000	2.1 U	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U
Toxaphene	ug/kg	490	52 U	49 U	46 U	47 U	47 U	48 U
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	**1,000**	10 U	9.7 U	9.2 U	9.4 U	9.5 U	9.7 U
Aroclor 1221	ug/kg	**1,000**	17 U	16 U	15 U	15 U	15 U	15 U
Aroclor 1232	ug/kg	**1,000**	17 U	16 U	15 U	15 U	15 U	15 U
Aroclor 1242	ug/kg	**1,000**	10 U	9.7 U	9.2 U	9.4 U	9.5 U	9.7 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**44**		**45**		**46**	
Sample ID:			**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**	**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**	**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**
Lab Sample ID:		**Project Action Limit**	**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**	**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**	**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/22&29 /2016**	**6/22&29 /2016**	**6/22&29 /2016**	**6/22&29 /2016**
Depth:			**3.5**	**3.5**	**2**	**4.5**	**2.5**	**3.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	10 U	9.7 U	9.2 U	9.4 U	9.5 U	9.7 U
Aroclor 1254	ug/kg	**1,000**	17 U	16 U	15 U	15 U	15 U	15 U
Aroclor 1260	ug/kg	**1,000**	10 U	9.7 U	9.2 U	9.4 U	9.5 U	9.7 U
Herbicides (SW846 8151A)								
2,4-D	ug/kg	700,000	21 UJ	19 R	18 U	19 U	19 U	19 U
2,4,5-TP (Silvex)	ug/kg	510,000	2.1 UJ	1.9 R	1.8 U	1.9 U	1.9 U	1.9 U
2,4,5-T	ug/kg	630,000	2.1 UJ	1.9 R	1.8 U	1.9 U	1.9 U	1.9 U
Dicamba	ug/kg	1,900,000	2.1 UJ	1.9 R	1.8 U	1.9 U	1.9 U	1.9 U
Dinoseb	ug/kg	63,000	41 UJ	38 R	37 U	38 U	38 U	39 U
Dalapon	ug/kg	1,900,000	82 UJ	77 R	74 U	76 U	76 U	77 U
Dichloroprop	ug/kg	-	21 UJ	19 R	18 U	19 U	19 U	19 U
2,4-DB	ug/kg	510,000	21 UJ	19 R	18 U	19 U	19 U	19 U
MCPP	ug/kg	63,000	2100 UJ	1900 R	1800 U	1900 U	1900 U	1900 U
MCPA	ug/kg	32,000	2100 UJ	1900 R	1800 U	1900 U	1900 U	1900 U
Pentachlorophenol	ug/kg	1,000	2.1 UJ	1.9 R	1.8 U	1.9 U	1.9 U	1.9 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**47**		**48**		**49**	
Sample ID:			**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**	**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**	**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**
Lab Sample ID:		**Project Action Limit**	**FA35089-5**	**FA35089-1**	**FA35094-4**	**FA35094-5**	**FA35089-6**	**FA35089-7**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**2.5**	**4.5**	**6**	**7**	**4**	**8**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
alpha-BHC	ug/kg	86	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
beta-BHC	ug/kg	300	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
delta-BHC	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
gamma-BHC (Lindane)	ug/kg	**10**	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Chlordane	ug/kg	1,700	10 U	10 U	9.2 U	9.0 U	9.6 U	9.0 U
alpha-Chlordane	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
gamma-Chlordane	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Dieldrin	ug/kg	34	1.0 U	2.0 J	0.92 U	0.90 U	0.96 U	0.90 U
4,4'-DDD	ug/kg	2,300	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
4,4'-DDE	ug/kg	2,000	1.0 U	1.0 U	6	2.3 J	0.96 U	0.90 U
4,4'-DDT	ug/kg	**3,000**	1.0 U	3.4 J	7.5 J	2.7 J	4.2	0.90 U
Endrin	ug/kg	19,000	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Endosulfan sulfate	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Endrin aldehyde	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Endrin ketone	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Endosulfan-I	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Endosulfan-II	ug/kg	-	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Heptachlor	ug/kg	130	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Heptachlor epoxide	ug/kg	70	1.0 U	1.0 U	0.92 U	0.90 U	0.96 U	0.90 U
Methoxychlor	ug/kg	320,000	2.0 U	2.1 U	1.8 U	1.8 U	1.9 U	1.8 U
Toxaphene	ug/kg	490	50 U	51 U	46 U	45 U	48 U	45 U
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	**1,000**	10 U	10 U	9.2 U	9.0 U	9.6 U	9.0 U
Aroclor 1221	ug/kg	**1,000**	16 U	16 U	15 U	14 U	15 U	14 U
Aroclor 1232	ug/kg	**1,000**	16 U	16 U	15 U	14 U	15 U	14 U
Aroclor 1242	ug/kg	**1,000**	10 U	10 U	9.2 U	9.0 U	9.6 U	9.0 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**47**		**48**		**49**	
Sample ID:			**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**	**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**	**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**
Lab Sample ID:		**Project Action Limit**	**FA35089-5**	**FA35089-1**	**FA35094-4**	**FA35094-5**	**FA35089-6**	**FA35089-7**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**2.5**	**4.5**	**6**	**7**	**4**	**8**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	10 U	10 U	9.2 U	9.0 U	9.6 U	9.0 U
Aroclor 1254	ug/kg	**1,000**	16 U	16 U	15 U	14 U	15 U	14 U
Aroclor 1260	ug/kg	**1,000**	10 U	10 U	9.2 U	9.0 U	9.6 U	9.0 U
Herbicides (SW846 8151A)								
2,4-D	ug/kg	700,000	20 U	21 U	18 U	18 U	19 U	18 U
2,4,5-TP (Silvex)	ug/kg	510,000	2.0 U	2.1 U	1.8 U	1.8 U	1.9 U	1.8 U
2,4,5-T	ug/kg	630,000	2.0 U	2.1 U	1.8 U	1.8 U	1.9 U	1.8 U
Dicamba	ug/kg	1,900,000	2.0 U	2.1 U	1.8 U	1.8 U	1.9 U	1.8 U
Dinoseb	ug/kg	63,000	40 U	41 U	37 U	35 U	38 U	36 U
Dalapon	ug/kg	1,900,000	80 U	82 U	73 U	71 U	76 U	71 U
Dichloroprop	ug/kg	-	20 U	21 U	18 U	18 U	19 U	18 U
2,4-DB	ug/kg	510,000	20 U	21 U	18 U	18 U	19 U	18 U
MCPP	ug/kg	63,000	2000 U	2100 U	1800 U	1800 U	1900 U	1800 U
MCPA	ug/kg	32,000	2000 U	2100 U	1800 U	1800 U	1900 U	1800 U
Pentachlorophenol	ug/kg	1,000	2.0 U	2.1 U	1.8 U	1.8 U	1.9 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**50**			**51**	
Sample ID:			**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**	**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**
Lab Sample ID:			**FA35089-3**	**FA35089-4**	**FA35089-2**	**FA35026-1**	**FA35026-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/24/2016**	**6/24/2016**
Depth:			**3**	**6**	**6**	**3**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)							
Aldrin	ug/kg	39	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
alpha-BHC	ug/kg	86	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
beta-BHC	ug/kg	300	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
delta-BHC	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
gamma-BHC (Lindane)	ug/kg	**10**	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Chlordane	ug/kg	1,700	9.1 U	9.0 U	9.0 U	8.8 U	9.1 U
alpha-Chlordane	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	0.81 J
gamma-Chlordane	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	4.1
Dieldrin	ug/kg	34	0.91 U	0.90 U	0.90 U	1.8	8.4
4,4'-DDD	ug/kg	2,300	0.91 U	0.90 U	0.90 U	3.2 J	28.0 J
4,4'-DDE	ug/kg	2,000	0.91 U	0.90 U	0.90 U	17.9	101 J
4,4'-DDT	ug/kg	**3,000**	4.3	4.7	5.2	74.5	330 J
Endrin	ug/kg	19,000	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Endosulfan sulfate	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Endrin aldehyde	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Endrin ketone	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Endosulfan-I	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Endosulfan-II	ug/kg	-	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Heptachlor	ug/kg	130	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Heptachlor epoxide	ug/kg	70	0.91 U	0.90 U	0.90 U	0.88 U	0.91 U
Methoxychlor	ug/kg	320,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Toxaphene	ug/kg	490	45 U	45 U	45 U	44 U	46 U
PCBs (SW846 8082A)							
Aroclor 1016	ug/kg	**1,000**	9.1 U	9.0 U	9.0 U	8.8 U	9.1 U
Aroclor 1221	ug/kg	**1,000**	14 U	14 U	14 U	14 U	15 U
Aroclor 1232	ug/kg	**1,000**	14 U	14 U	14 U	14 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.1 U	9.0 U	9.0 U	8.8 U	9.1 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**50**			**51**	
Sample ID:			**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**	**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**
Lab Sample ID:			**FA35089-3**	**FA35089-4**	**FA35089-2**	**FA35026-1**	**FA35026-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/24/2016**	**6/24/2016**
Depth:			**3**	**6**	**6**	**3**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.1 U	9.0 U	9.0 U	8.8 U	9.1 U
Aroclor 1254	ug/kg	**1,000**	14 U	14 U	14 U	14 U	15 U
Aroclor 1260	ug/kg	**1,000**	9.1 U	9.0 U	9.0 U	8.8 U	9.1 U
Herbicides (SW846 8151A)							
2,4-D	ug/kg	700,000	18 U	18 U	18 U	18 U	18 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
2,4,5-T	ug/kg	630,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Dicamba	ug/kg	1,900,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Dinoseb	ug/kg	63,000	36 U	37 U	35 U	35 U	36 U
Dalapon	ug/kg	1,900,000	73 U	74 U	70 U	71 U	73 U
Dichloroprop	ug/kg	-	18 U	18 U	18 U	18 U	18 U
2,4-DB	ug/kg	510,000	18 U	18 U	18 U	18 U	18 U
MCPP	ug/kg	63,000	1800 U	1800 U	1800 U	1800 U	1800 U
MCPA	ug/kg	32,000	1800 U	1800 U	1800 U	1800 U	1800 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**52**		**53**	
Sample ID:			**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:			**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)						
Aldrin	ug/kg	39	0.90 U	2.5	0.95 U	0.92 U
alpha-BHC	ug/kg	86	0.90 U	0.89 U	0.95 U	0.92 U
beta-BHC	ug/kg	300	0.90 U	0.89 U	0.95 U	0.92 U
delta-BHC	ug/kg	-	0.90 U	1.1 J	0.95 U	0.92 U
gamma-BHC (Lindane)	ug/kg	**10**	0.90 U	0.89 U	0.95 U	0.92 U
Chlordane	ug/kg	1,700	9.0 U	8.9 U	9.5 U	9.2 U
alpha-Chlordane	ug/kg	-	0.90 U	1.3 J	0.95 U	0.92 U
gamma-Chlordane	ug/kg	-	0.90 U	10.2	0.95 U	0.92 U
Dieldrin	ug/kg	34	0.90 U	0.89 U	0.95 U	0.92 U
4,4'-DDD	ug/kg	2,300	0.90 U	1.1 J	0.95 U	0.92 U
4,4'-DDE	ug/kg	2,000	1.6 J	1.4 J	4.5	2.4 J
4,4'-DDT	ug/kg	**3,000**	0.94 J	11.8	6.4	5.8
Endrin	ug/kg	19,000	0.90 U	0.89 U	0.95 U	0.92 U
Endosulfan sulfate	ug/kg	-	0.90 U	1.0 J	0.95 U	0.92 U
Endrin aldehyde	ug/kg	-	0.90 U	0.89 U	0.95 U	0.92 U
Endrin ketone	ug/kg	-	0.90 U	0.89 U	0.95 U	0.92 U
Endosulfan-I	ug/kg	-	0.90 U	0.89 U	0.95 U	0.92 U
Endosulfan-II	ug/kg	-	0.90 U	0.89 U	0.95 U	0.92 U
Heptachlor	ug/kg	130	0.90 U	0.89 U	0.95 U	0.92 U
Heptachlor epoxide	ug/kg	70	0.90 U	0.89 U	0.95 U	0.92 U
Methoxychlor	ug/kg	320,000	1.8 U	1.8 U	1.9 U	1.8 U
Toxaphene	ug/kg	490	45 U	44 U	47 U	46 U
PCBs (SW846 8082A)						
Aroclor 1016	ug/kg	**1,000**	9.0 U	8.9 U	9.5 U	9.2 U
Aroclor 1221	ug/kg	**1,000**	14 U	14 U	15 U	15 U
Aroclor 1232	ug/kg	**1,000**	14 U	14 U	15 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.0 U	8.9 U	9.5 U	9.2 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**52**		**53**	
Sample ID:			**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:			**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.0 U	8.9 U	9.5 U	9.2 U
Aroclor 1254	ug/kg	**1,000**	14 U	14 U	15 U	15 U
Aroclor 1260	ug/kg	**1,000**	9.0 U	8.9 U	9.5 U	9.2 U
Herbicides (SW846 8151A)						
2,4-D	ug/kg	700,000	18 U	18 U	19 U	18 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.8 U	1.9 U	1.8 U
2,4,5-T	ug/kg	630,000	1.8 U	1.8 U	1.9 U	1.8 U
Dicamba	ug/kg	1,900,000	1.8 U	1.8 U	1.9 U	1.8 U
Dinoseb	ug/kg	63,000	36 U	36 U	38 U	37 U
Dalapon	ug/kg	1,900,000	72 U	71 U	76 U	74 U
Dichloroprop	ug/kg	-	18 U	18 U	19 U	18 U
2,4-DB	ug/kg	510,000	18 U	18 U	19 U	18 U
MCPP	ug/kg	63,000	1800 U	1800 U	1900 U	1800 U
MCPA	ug/kg	32,000	1800 U	1800 U	1900 U	1800 U
Pentachlorophenol	ug/kg	1,000	1.8 U	1.8 U	1.9 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:		**Project Action Limit**	**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)							
Aldrin	ug/kg	39	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
alpha-BHC	ug/kg	86	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
beta-BHC	ug/kg	300	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
delta-BHC	ug/kg	-	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
gamma-BHC (Lindane)	ug/kg	**10**	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Chlordane	ug/kg	1,700	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U
alpha-Chlordane	ug/kg	-	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
gamma-Chlordane	ug/kg	-	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Dieldrin	ug/kg	34	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
4,4'-DDD	ug/kg	2,300	2.0 J	11.8 J	39.3	0.89 U	0.95 U
4,4'-DDE	ug/kg	2,000	0.94 U	0.95 U	0.93 U	5.3	0.95 U
4,4'-DDT	ug/kg	**3,000**	0.94 U	0.95 U	0.93 U	4.4	0.95 U
Endrin	ug/kg	19,000	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Endosulfan sulfate	ug/kg	-	3.6 J	5	8.3	0.89 U	0.95 U
Endrin aldehyde	ug/kg	-	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Endrin ketone	ug/kg	-	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Endosulfan-I	ug/kg	-	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Endosulfan-II	ug/kg	-	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Heptachlor	ug/kg	130	0.94 U	0.95 U	0.93 U	0.88 J	0.95 U
Heptachlor epoxide	ug/kg	70	0.94 U	0.95 U	0.93 U	0.89 U	0.95 U
Methoxychlor	ug/kg	320,000	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
Toxaphene	ug/kg	490	47 U	47 U	46 U	45 U	48 U
PCBs (SW846 8082A)							
Aroclor 1016	ug/kg	**1,000**	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U
Aroclor 1221	ug/kg	**1,000**	15 U	15 U	15 U	14 U	15 U
Aroclor 1232	ug/kg	**1,000**	15 U	15 U	15 U	14 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:		**Project Action Limit**	**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U
Aroclor 1254	ug/kg	**1,000**	15 U	15 U	15 U	14 U	15 U
Aroclor 1260	ug/kg	**1,000**	9.4 U	9.5 U	9.3 U	8.9 U	9.5 U
Herbicides (SW846 8151A)							
2,4-D	ug/kg	700,000	19 U	19 U	18 U	18 U	19 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.9 U	1.9 U	1.8 U	1.8 U	1.9 U
2,4,5-T	ug/kg	630,000	1.9 U	1.9 U	1.8 U	1.8 U	1.9 U
Dicamba	ug/kg	1,900,000	1.9 U	1.9 U	1.8 U	1.8 U	1.9 U
Dinoseb	ug/kg	63,000	37 U	37 U	37 U	36 U	39 U
Dalapon	ug/kg	1,900,000	74 U	75 U	74 U	72 U	78 U
Dichloroprop	ug/kg	-	19 U	19 U	18 U	18 U	19 U
2,4-DB	ug/kg	510,000	19 U	19 U	18 U	18 U	19 U
MCPP	ug/kg	63,000	1900 U	1900 U	1800 U	1800 U	1900 U
MCPA	ug/kg	32,000	1900 U	1900 U	1800 U	1800 U	1900 U
Pentachlorophenol	ug/kg	1,000	1.9 U	1.9 U	1.8 U	1.8 U	1.9 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:		**Project Action Limit**	**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
alpha-BHC	ug/kg	86	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
beta-BHC	ug/kg	300	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
delta-BHC	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
gamma-BHC (Lindane)	ug/kg	**10**	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Chlordane	ug/kg	1,700	9.9 U	11 U	10 U	19 U	19 U	97 U
alpha-Chlordane	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
gamma-Chlordane	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 UJ	1.8 J	9.7 U
Dieldrin	ug/kg	34	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
4,4'-DDD	ug/kg	2,300	0.99 U	1.1 U	1.0 U	3.8 J	25 J	56.4
4,4'-DDE	ug/kg	2,000	0.99 U	1.1 U	1.0 U	1.4 J	5.9 J	9.7 U
4,4'-DDT	ug/kg	**3,000**	0.99 U	1.1 U	1.0 U	1.9 UJ	7.5 J	9.7 U
Endrin	ug/kg	19,000	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Endosulfan sulfate	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Endrin aldehyde	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Endrin ketone	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Endosulfan-I	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Endosulfan-II	ug/kg	-	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Heptachlor	ug/kg	130	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Heptachlor epoxide	ug/kg	70	0.99 U	1.1 U	1.0 U	1.9 U	1.9 U	9.7 U
Methoxychlor	ug/kg	320,000	2.0 U	2.1 U	2.0 U	3.8 U	3.9 U	19 U
Toxaphene	ug/kg	490	50 U	53 U	51 U	94 U	97 U	480 U
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	**1,000**	9.9 U	11 U	11 U	9.6 J	10.1 J	9.7 U
Aroclor 1221	ug/kg	**1,000**	16 U	17 U	17 U	15 U	15 U	15 U
Aroclor 1232	ug/kg	**1,000**	16 U	17 U	17 U	15 U	15 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.9 U	11 U	11 U	9.4 U	9.7 U	9.7 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:		**Project Action Limit**	**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.9 U	11 U	11 U	9.4 U	9.7 U	9.7 U
Aroclor 1254	ug/kg	**1,000**	16 U	17 U	17 U	20.0 J	35.0 J	15 U
Aroclor 1260	ug/kg	**1,000**	9.9 U	11 U	11 U	8.8 J	16.5 J	9.7 U
Herbicides (SW846 8151A)								
2,4-D	ug/kg	700,000	20 U	21 U	20 U	20 U	19 U	19 UJ
2,4,5-TP (Silvex)	ug/kg	510,000	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	1.9 UJ
2,4,5-T	ug/kg	630,000	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	1.9 UJ
Dicamba	ug/kg	1,900,000	2.0 U	2.1 U	2.0 U	2.0 U	1.9 U	1.9 UJ
Dinoseb	ug/kg	63,000	41 U	42 U	40 U	40 U	39 U	38 UJ
Dalapon	ug/kg	1,900,000	81 U	84 U	79 U	81 U	78 U	77 UJ
Dichloroprop	ug/kg	-	20 U	21 U	20 U	20 U	19 U	19 UJ
2,4-DB	ug/kg	510,000	20 U	21 U	20 U	20 U	19 U	19 UJ
MCPP	ug/kg	63,000	2000 U	2100 U	2000 U	2000 U	1900 U	1900 UJ
MCPA	ug/kg	32,000	2000 U	2100 U	2000 U	2000 U	1900 U	1900 UJ
Pentachlorophenol	ug/kg	1,000	2.0 U	2.1 U	2.0 U	3.5 J	4.9	2.3 J

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**58**		**59**		**60**		
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**	**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**
Lab Sample ID:		**Project Action Limit**	**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**	**FA35164-1**	**FA35164-2**	**FA35164-3**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Depth:			**5**	**7**	**5.5**	**5.5**	**4.5**	**8.75**	**8.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)									
Aldrin	ug/kg	39	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
alpha-BHC	ug/kg	86	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
beta-BHC	ug/kg	300	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
delta-BHC	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
gamma-BHC (Lindane)	ug/kg	**10**	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Chlordane	ug/kg	1,700	9.3 U	9.2 U	9.6 U	9.9 U	9.8 U	9.4 U	9.2 U
alpha-Chlordane	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
gamma-Chlordane	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Dieldrin	ug/kg	34	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
4,4'-DDD	ug/kg	2,300	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
4,4'-DDE	ug/kg	2,000	2.3 J	0.92 U	0.96 U	0.99 U	2.4 J	0.94 UJ	2.1 J
4,4'-DDT	ug/kg	**3,000**	2.8 J	0.92 U	0.96 U	0.99 U	6	1.5 J	3.0 J
Endrin	ug/kg	19,000	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Endosulfan sulfate	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Endrin aldehyde	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Endrin ketone	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Endosulfan-I	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Endosulfan-II	ug/kg	-	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Heptachlor	ug/kg	130	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Heptachlor epoxide	ug/kg	70	0.93 U	0.92 U	0.96 U	0.99 U	0.98 U	0.94 U	0.92 U
Methoxychlor	ug/kg	320,000	1.9 U	1.8 U	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U
Toxaphene	ug/kg	490	46 U	46 U	48 U	50 U	49 U	47 U	46 U
PCBs (SW846 8082A)									
Aroclor 1016	ug/kg	**1,000**	9.3 U	9.2 U	9.6 U	9.7 U	9.8 U	9.5 U	9.4 U
Aroclor 1221	ug/kg	**1,000**	15 U	15 U	15 U	16 U	16 U	15 U	15 U
Aroclor 1232	ug/kg	**1,000**	15 U	15 U	15 U	16 U	16 U	15 U	15 U
Aroclor 1242	ug/kg	**1,000**	9.3 U	9.2 U	9.6 U	9.7 U	9.8 U	9.5 U	9.4 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**58**		**59**		**60**		
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**	**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**
Lab Sample ID:		**Project Action Limit**	**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**	**FA35164-1**	**FA35164-2**	**FA35164-3**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**	**6/30/2016**	**6/30/2016**	**6/30/2016**
Depth:			**5**	**7**	**5.5**	**5.5**	**4.5**	**8.75**	**8.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.3 U	9.2 U	9.6 U	9.7 U	9.8 U	9.5 U	9.4 U
Aroclor 1254	ug/kg	**1,000**	15 U	15.0 J	15 U	16 U	16 U	15 U	15 U
Aroclor 1260	ug/kg	**1,000**	9.3 U	9.2 U	9.6 U	9.7 U	9.8 U	9.5 U	9.4 U
Herbicides (SW846 8151A)									
2,4-D	ug/kg	700,000	19 R	20 R	18 U	19 U	19 U	19 U	19 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.9 R	2.0 R	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U
2,4,5-T	ug/kg	630,000	1.9 R	2.0 R	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U
Dicamba	ug/kg	1,900,000	1.9 R	2.0 R	1.8 U	1.9 U	1.9 U	1.9 UJ	1.9 UJ
Dinoseb	ug/kg	63,000	38 R	39 R	37 U	38 U	39 U	37 U	38 U
Dalapon	ug/kg	1,900,000	75 R	78 R	73 U	76 U	78 U	75 U	76 U
Dichloroprop	ug/kg	-	19 R	20 R	18 U	19 U	19 U	19 U	19 U
2,4-DB	ug/kg	510,000	19 R	20 R	18 U	19 U	19 U	19 U	19 U
MCPP	ug/kg	63,000	1900 R	2000 R	1800 U	1900 U	1900 U	1900 U	1900 U
MCPA	ug/kg	32,000	1900 R	2000 R	1800 U	1900 U	1900 U	1900 U	1900 U
Pentachlorophenol	ug/kg	1,000	1.9 R	2.0 R	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**61**		**62**	
Sample ID:			**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**	**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**
Lab Sample ID:			**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**
Depth:			**3**	**3**	**4**	**4**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)						
Aldrin	ug/kg	39	0.91 U	0.95 U	0.87 U	0.87 U
alpha-BHC	ug/kg	86	0.91 U	0.95 U	0.87 U	0.87 U
beta-BHC	ug/kg	300	0.91 U	0.95 U	0.87 U	0.87 U
delta-BHC	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
gamma-BHC (Lindane)	ug/kg	**10**	0.91 U	0.95 U	0.87 U	0.87 U
Chlordane	ug/kg	1,700	9.1 U	9.5 U	8.7 U	8.7 U
alpha-Chlordane	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
gamma-Chlordane	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
Dieldrin	ug/kg	34	0.91 U	0.95 U	0.87 U	0.87 U
4,4'-DDD	ug/kg	2,300	0.91 U	0.95 U	0.87 U	0.87 U
4,4'-DDE	ug/kg	2,000	0.91 U	0.95 U	0.87 U	0.87 U
4,4'-DDT	ug/kg	**3,000**	0.91 U	0.95 U	0.87 U	0.87 U
Endrin	ug/kg	19,000	0.91 U	0.95 U	0.87 U	0.87 U
Endosulfan sulfate	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
Endrin aldehyde	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
Endrin ketone	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
Endosulfan-I	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
Endosulfan-II	ug/kg	-	0.91 U	0.95 U	0.87 U	0.87 U
Heptachlor	ug/kg	130	0.91 U	0.95 U	0.87 U	0.87 U
Heptachlor epoxide	ug/kg	70	0.91 U	0.95 U	0.87 U	0.87 U
Methoxychlor	ug/kg	320,000	1.8 U	1.9 U	1.7 U	1.7 U
Toxaphene	ug/kg	490	45 U	48 U	44 U	43 U
PCBs (SW846 8082A)						
Aroclor 1016	ug/kg	**1,000**	9.1 U	9.5 U	8.7 U	8.7 U
Aroclor 1221	ug/kg	**1,000**	15 U	15 U	14 U	14 U
Aroclor 1232	ug/kg	**1,000**	15 U	15 U	14 U	14 U
Aroclor 1242	ug/kg	**1,000**	9.1 U	9.5 U	8.7 U	8.7 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location			**61**		**62**	
Sample ID:			**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**	**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**
Lab Sample ID:		**Project Action Limit**	**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**
Date Sampled:			**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**
Depth:			**3**	**3**	**4**	**4**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.1 U	9.5 U	8.7 U	8.7 U
Aroclor 1254	ug/kg	**1,000**	15 U	15 U	14 U	14 U
Aroclor 1260	ug/kg	**1,000**	9.1 U	9.5 U	8.7 U	8.7 U
Herbicides (SW846 8151A)						
2,4-D	ug/kg	700,000	19 U	19 U	17 U	18 U
2,4,5-TP (Silvex)	ug/kg	510,000	1.9 U	1.9 U	1.7 U	1.8 U
2,4,5-T	ug/kg	630,000	1.9 U	1.9 U	1.7 U	1.8 U
Dicamba	ug/kg	1,900,000	1.9 U	1.9 U	1.7 R	1.8 U
Dinoseb	ug/kg	63,000	37 U	38 U	34 U	36 U
Dalapon	ug/kg	1,900,000	74 U	77 U	69 U	73 U
Dichloroprop	ug/kg	-	19 U	19 U	17 U	18 U
2,4-DB	ug/kg	510,000	19 U	19 U	17 U	18 U
MCPP	ug/kg	63,000	1900 U	1900 U	1700 U	1800 U
MCPA	ug/kg	32,000	1900 U	1900 U	1700 U	1800 U
Pentachlorophenol	ug/kg	1,000	1.9 U	1.9 U	1.7 U	1.8 U

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**63**		**64**	
Sample ID:			**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Pesticides (SW846 8081B)						
Aldrin	ug/kg	39	0.90 U	0.94 U	0.91 U	0.91 U
alpha-BHC	ug/kg	86	0.90 U	0.94 U	0.91 U	0.91 U
beta-BHC	ug/kg	300	0.90 U	0.94 U	0.91 U	0.91 U
delta-BHC	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
gamma-BHC (Lindane)	ug/kg	**10**	0.90 U	0.94 U	0.91 U	0.91 U
Chlordane	ug/kg	1,700	9.0 U	9.4 U	9.1 U	9.1 U
alpha-Chlordane	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
gamma-Chlordane	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
Dieldrin	ug/kg	34	0.90 U	0.94 U	0.82 J	0.91 U
4,4'-DDD	ug/kg	2,300	0.90 U	0.94 U	0.91 U	0.91 U
4,4'-DDE	ug/kg	2,000	0.90 U	0.94 U	1.4 J	0.82 J
4,4'-DDT	ug/kg	**3,000**	0.90 U	0.94 U	12	2.0 J
Endrin	ug/kg	19,000	0.90 U	0.94 U	0.91 U	0.91 U
Endosulfan sulfate	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
Endrin aldehyde	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
Endrin ketone	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
Endosulfan-I	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
Endosulfan-II	ug/kg	-	0.90 U	0.94 U	0.91 U	0.91 U
Heptachlor	ug/kg	130	0.90 U	0.94 U	0.91 U	0.91 U
Heptachlor epoxide	ug/kg	70	0.90 U	0.94 U	0.91 U	0.91 U
Methoxychlor	ug/kg	320,000	1.8 U	1.9 U	1.8 U	1.8 U
Toxaphene	ug/kg	490	45 U	47 U	46 U	45 U
PCBs (SW846 8082A)						
Aroclor 1016	ug/kg	**1,000**	9.0 U	9.4 U	9.1 U	8.8 U
Aroclor 1221	ug/kg	**1,000**	14 U	15 U	15 U	14 U
Aroclor 1232	ug/kg	**1,000**	14 U	15 U	15 U	14 U
Aroclor 1242	ug/kg	**1,000**	9.0 U	9.4 U	9.1 U	8.8 U

Table G-9
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**63**		**64**	
Sample ID:			**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Aroclor 1248	ug/kg	**1,000**	9.0 U	9.4 U	9.1 U	8.8 U
Aroclor 1254	ug/kg	**1,000**	14 U	15 U	15 U	14 U
Aroclor 1260	ug/kg	**1,000**	9.0 U	9.4 U	9.1 U	8.8 U
Herbicides (SW846 8151A)						
2,4-D	ug/kg	700,000	18 U	19 U	19 U	18 UJ
2,4,5-TP (Silvex)	ug/kg	510,000	1.8 U	1.9 U	1.9 U	1.8 UJ
2,4,5-T	ug/kg	630,000	1.8 U	1.9 U	1.9 U	1.8 UJ
Dicamba	ug/kg	1,900,000	1.8 U	1.9 U	1.9 R	1.8 R
Dinoseb	ug/kg	63,000	36 U	38 U	38 U	37 UJ
Dalapon	ug/kg	1,900,000	71 U	75 U	76 U	74 UJ
Dichloroprop	ug/kg	-	18 U	19 U	19 U	18 UJ
2,4-DB	ug/kg	510,000	18 U	19 U	19 U	18 UJ
MCPP	ug/kg	63,000	1800 U	1900 U	1900 U	1800 UJ
MCPA	ug/kg	32,000	1800 U	1900 U	1900 U	1800 UJ
Pentachlorophenol	ug/kg	1,000	1.8 U	1.9 U	1.9 U	1.8 UJ

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:			**FA38124-1/16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/ 16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis						
Aluminum	mg/kg	77,000	32700 J	26000 J	20400 J	18400 J
Antimony	mg/kg	31	0.63 J	1.2 J	0.64 J	1.3 UJ
Arsenic	mg/kg	**20**	4.5 J	7.8 J	4.4 J	3.3 J
Barium	mg/kg	15,000	216 J	210 J	155 J	121
Beryllium	mg/kg	160	0.62 J	0.52 J	0.60 J	0.55 J
Cadmium	mg/kg	**2**	0.26 UJ	0.31 J	0.26 UJ	0.25 U
Calcium	mg/kg	-	17800 J	18800 J	7440 J	9900 J
Chromium	mg/kg	**2,000**	14.1	22	18.7	16.4
Cobalt	mg/kg	23	12.4 J	10.7 J	10.9 J	9.4 J
Copper	mg/kg	3,100	27.1 J	50 J	20.4 J	19.4
Iron	mg/kg	55,000	23100 J	31400 J	24800 J	24400 J
Lead	mg/kg	**250**	12.9	238	7.5	6.2
Magnesium	mg/kg	-	10800 J	8810 J	6630 J	6700
Manganese	mg/kg	1,800	407 J	515 J	450 J	380 J
Mercury	mg/kg	**2**	0.12	0.088	0.040 J	0.13
Nickel	mg/kg	820	17 J	19.6 J	19.3 J	17

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**40**		**41**	
Sample ID:			**YTCFLC-SS-40-01**	**YTCFLC-SS-40-02**	**YTCFLC-SS-41-01**	**YTCFLC-SS-41-02**
Lab Sample ID:			**FA38124-1/16J0428-01**	**FA38124-2/16J0428-02**	**FA38124-3/16J0428-03**	**FA38083-1/16J0428-04**
Date Sampled:			**10/25/2016**	**10/25/2016**	**10/25/2016**	**10/25/2016**
Depth:			**3**	**3**	**7**	**7**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	2630	2880	2190 J	1460 J
Selenium	mg/kg	390	1.3 U	1.3 U	1.3 U	1.3 U
Silver	mg/kg	390	0.51 U	0.30 J	0.52 U	0.51 U
Sodium	mg/kg	-	1340 J	1270 J	1270 J	1270 J
Thallium	mg/kg	0.78	1.3 U	1.3 U	0.29 J	1.3 U
Vanadium	mg/kg	390	43 J	42.2 J	45.9 J	44.6
Zinc	mg/kg	23,000	57 J	286 J	47.4 J	49.9
General Chemistry						
Solids, Percent	%	-	90.7	90.6	90.6	91.6

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**42**			**43**		**44**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**	**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**
Lab Sample ID:			**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**	**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**	**10/28/2016**	**10/28/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**	**3.5**	**3.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis									
Aluminum	mg/kg	77,000	30600	28200	31600	25200 J	21600 J	22800	18300
Antimony	mg/kg	31	1.1 U	1.0 UJ	0.31 J	0.68 J	0.92 J	1.5 U	1.3 U
Arsenic	mg/kg	**20**	5.2	6.7	4.9	4.9 J	4.7 J	4	2.2 J
Barium	mg/kg	15,000	279	214	235	170 J	182 J	347	113
Beryllium	mg/kg	160	0.60 J	0.57 J	0.60 J	0.64 J	0.64 J	0.61 J	0.48 J
Cadmium	mg/kg	**2**	0.21 U	0.21 UJ	0.14 J	0.27 UJ	0.27 UJ	0.31 U	0.25 U
Calcium	mg/kg	-	16600	27100	23900	11200 J	12000 J	56600	6750
Chromium	mg/kg	**2,000**	14.9	14.8	17.1	15.2	19.7	11.9	13.6
Cobalt	mg/kg	23	9.8 J	12.1	12.5	10.7 J	12.3 J	9.8 J	9.3 J
Copper	mg/kg	3,100	39.4	41.1	53.8	22.2 J	35.2 J	23.6	18.4
Iron	mg/kg	55,000	24700	24700	28700	28400 J	39100 J	38200	32600
Lead	mg/kg	**250**	19.1	19.1 J	37.1 J	13.3	32.9	6.4	9.4
Magnesium	mg/kg	-	10500	11100	12000	9220 J	7530 J	13000	6940
Manganese	mg/kg	1,800	310	384	387	392 J	569 J	245	312
Mercury	mg/kg	**2**	0.13	0.12	0.11	0.071	0.065	0.13	0.098
Nickel	mg/kg	820	15.1 J	16.0 J	16.2	13.7 J	21.2 J	12.2	12.5

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**42**			**43**		**44**	
Sample ID:			**YTCFLC-SS-42-01**	**YTCFLC-SS-42-02**	**YTCFLC-SS-42-2D**	**YTCFLC-SS-43-01**	**YTCFLC-SS-43-02**	**YTCFLC-SS-44-01**	**YTCFLC-SS-44-02**
Lab Sample ID:			**FA35094-1**	**FA35094-2**	**FA35094-3**	**FA38124-4/ 16J0428-05**	**FA38124-5/ 16J0428-06**	**FA38249-1/ 16J0492-01**	**FA38249-2/ 16J0492-02**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**10/25/2016**	**10/25/2016**	**10/28/2016**	**10/28/2016**
Depth:			**4.25**	**4.25**	**4.25**	**10**	**10**	**3.5**	**3.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	3010	2540	2800	2310 J	2480 J	1920 J	966 J
Selenium	mg/kg	390	1.1 U	1.0 U	1.1 U	1.3 U	1.4 U	1.5 U	1.3 U
Silver	mg/kg	390	0.42 U	0.42 U	0.44 U	0.53 U	0.55 U	0.62 U	0.51 U
Sodium	mg/kg	-	1320 J	1080 J	1210 J	1220 J	884 J	2370 J	1550 J
Thallium	mg/kg	0.78	1.1 U	1.0 U	1.1 U	1.3 U	0.45 J	1.5 U	0.66 J
Vanadium	mg/kg	390	48.2	56.5	71.5	58.5 J	54.9 J	73.9	119
Zinc	mg/kg	23,000	71	64.4	83.9	69 J	991 J	42.5	46.2
General Chemistry									
Solids, Percent	%	-	89.4	89.9	91.3	82.3	86.6	79.5	86.2

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		Project Action Limit	45		46		47	
Sample ID:			YTCFLC-SS-45-01	YTCFLC-SS-45-02	YTCFLC-SS-46-01	YTCFLC-SS-46-02	YTCFLC-SS-47-01	YTCFLC-SS-47-02
Lab Sample ID:			FA35031-1/ FA35135-1	FA35031-2/ FA35135-2	FA35031-3/ FA35135-3	FA35031-4/ FA35135-4	FA35089-5	FA35089-1
Date Sampled:			6/22&29 /2016	6/22&29 /2016	6/22&29 /2016	6/22&29 /2016	6/28/2016	6/28/2016
Depth:			2	4.5	2.5	3.5	2.5	4.5
Matrix:			Soil	Soil	Soil	Soil	Soil	Soil
Metals Analysis								
Aluminum	mg/kg	77,000	21000 J	19700 J	24300 J	27700 J	37500	33800
Antimony	mg/kg	31	1.2 UJ	1.0 UJ	1.0 UJ	1.1 UJ	1.2 U	1.1 U
Arsenic	mg/kg	**20**	3.9	3.9	1.9 J	1.5 J	2.1 J	2.6
Barium	mg/kg	15,000	167	155	203	230	386	492
Beryllium	mg/kg	160	0.18 J	0.15 J	0.30 J	0.40 J	0.86 J	0.75 J
Cadmium	mg/kg	**2**	0.34 J	0.27 J	0.21 J	0.19 J	0.24 U	0.22 U
Calcium	mg/kg	-	8970 J	7370 J	7010 J	13800 J	16700	26800
Chromium	mg/kg	**2,000**	15.3	14.2	17.9	16.9 J	21.5	19.5
Cobalt	mg/kg	23	10.6 J	10.6	11.2	10.7 J	12.3	11.7
Copper	mg/kg	3,100	23.2 J	20.7 J	22.1 J	24.2 J	42.3	36.7
Iron	mg/kg	55,000	25800 J	24800 J	27100 J	26700 J	31100	28100
Lead	mg/kg	**250**	24.9 J	23.8 J	13.6 J	11.2 J	8.7	10
Magnesium	mg/kg	-	6690	6070 [I]	7320	9730	16300	15500
Manganese	mg/kg	1,800	536 J	504 J	464 J	335 J	245	342
Mercury	mg/kg	**2**	0.11 J	0.042 J	0.027 J	0.047 J	0.076	0.098
Nickel	mg/kg	820	14.6	16.3	15.5	14.8	24.1 J	18.5 J

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**45**		**46**		**47**	
Sample ID:			**YTCFLC-SS-45-01**	**YTCFLC-SS-45-02**	**YTCFLC-SS-46-01**	**YTCFLC-SS-46-02**	**YTCFLC-SS-47-01**	**YTCFLC-SS-47-02**
Lab Sample ID:			**FA35031-1/ FA35135-1**	**FA35031-2/ FA35135-2**	**FA35031-3/ FA35135-3**	**FA35031-4/ FA35135-4**	**FA35089-5**	**FA35089-1**
Date Sampled:			**6/22&29 /2016**	**6/22&29 /2016**	**6/22&29 /2016**	**6/22&29 /2016**	**6/28/2016**	**6/28/2016**
Depth:			**2**	**4.5**	**2.5**	**3.5**	**2.5**	**4.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	3080	3080	3850	3890	2860	2960
Selenium	mg/kg	390	1.2 U	1.0 U	1.0 U	1.1 U	1.2 U	1.1 U
Silver	mg/kg	390	0.58 J	0.51 J	0.66 J	0.58 J	0.47 U	0.45 U
Sodium	mg/kg	-	616 J	607 J	667 J	1500 J	2410	2220
Thallium	mg/kg	0.78	***1.1 J***	***0.97 J***	***0.96 J***	0.61 J	1.2 U	1.1 U
Vanadium	mg/kg	390	50.1	48.4	63.7	65.6	70.3	69.9
Zinc	mg/kg	23,000	55.4	50.4	55.2	57	71.5	65.9
General Chemistry								
Solids, Percent	%	-	87.6	88.3	87.8	86.3	81.4	80.1

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**48**		**49**		**50**		
Sample ID:			**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**	**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**	**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**
Lab Sample ID:			**FA35094-4**	**FA35094-5**	**FA35089-6**	**FA35089-7**	**FA35089-3**	**FA35089-4**	**FA35089-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**6**	**7**	**4**	**8**	**3**	**6**	**6**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis									
Aluminum	mg/kg	77,000	19900	21300	21000	21100	21700	20100	17200
Antimony	mg/kg	31	1.1 U	1.5 J	0.96 U	0.92 U	1.0 U	0.27 J	0.70 J
Arsenic	mg/kg	**20**	3.9	3.5	3.3	1.8	3.2	3.4 J	5.4 J
Barium	mg/kg	15,000	166	206	151	176	179	173	156
Beryllium	mg/kg	160	0.55 J	0.58 J	0.61 J	0.46 J	0.60 J	0.55 J	0.48 J
Cadmium	mg/kg	**2**	0.22 U	0.18 J	0.19 U	0.18 U	0.21 U	0.92	0.66 J
Calcium	mg/kg	-	8740	11200	11000	8290	11300	12100	10400
Chromium	mg/kg	**2,000**	23	18.6	20.7	17	18.9	23.6	31.5
Cobalt	mg/kg	23	10.4 J	11.0 J	11	9.6	10.8	11.2	11.1 J
Copper	mg/kg	3,100	32.7	207	26.3	21.4	35.4	103 J	1010 J
Iron	mg/kg	55,000	25400	28900	26300	22700	25500	30400 J	47500 J
Lead	mg/kg	**250**	22.2	107	15.9	4.8	14.9	69.9	77.3
Magnesium	mg/kg	-	6310	7490	7590	7540	7540	7080	6400
Manganese	mg/kg	1,800	426	636	477	394	427	464	574
Mercury	mg/kg	**2**	0.045	0.057	0.044	0.022 J	0.067	0.064	0.063
Nickel	mg/kg	820	19.3	18.5	22.1 J	17.2 J	19.1 J	20.6 J	30.3 J

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**48**		**49**		**50**		
Sample ID:			**YTCFLC-SS-48-01**	**YTCFLC-SS-48-02**	**YTCFLC-SS-49-01**	**YTCFLC-SS-49-02**	**YTCFLC-SS-50-01**	**YTCFLC-SS-50-02**	**YTCFLC-SS-50-2D**
Lab Sample ID:			**FA35094-4**	**FA35094-5**	**FA35089-6**	**FA35089-7**	**FA35089-3**	**FA35089-4**	**FA35089-2**
Date Sampled:			**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**	**6/28/2016**
Depth:			**6**	**7**	**4**	**8**	**3**	**6**	**6**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	2240	3210	2110	1950	2500	2610	2400
Selenium	mg/kg	390	1.1 U	1.4 U	0.96 U	0.92 U	1.0 U	1.0 U	1.2 U
Silver	mg/kg	390	0.43 U	0.54 U	0.39 U	0.37 U	0.42 U	0.34 J	0.35 J
Sodium	mg/kg	-	995 J	1310 J	1310 J	1540 J	777 J	658 J	700 J
Thallium	mg/kg	0.78	1.1 U	1.4 U	0.96 U	0.92 U	1.0 U	1.0 U	1.2 U
Vanadium	mg/kg	390	50.9	52.8	57.8	64.6	57.6	57	56.3
Zinc	mg/kg	23,000	257	796	66.3	43.5	63.7	137	158
General Chemistry									
Solids, Percent	%	-	89.9	91.2	87.2	90.3	90.2	90.1	91.7

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**51**		**52**		**53**	
Sample ID:			**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**	**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:			**FA35026-1**	**FA35026-2**	**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**7**	**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis								
Aluminum	mg/kg	77,000	18200 J	25000 J	15700 J	16300 J	21200	19500
Antimony	mg/kg	31	0.99 UJ	18.7 J	0.93 UJ	18.9 J	1.3 U	3.1 J
Arsenic	mg/kg	**20**	3.1 J	7.3 J	2.8 J	7.2 J	3.4	8.4
Barium	mg/kg	15,000	149 J	368 J	135 J	140 J	161	451
Beryllium	mg/kg	160	0.55 J	0.51 J	0.49 J	0.49 J	0.15 J	0.46 U
Cadmium	mg/kg	**2**	0.21 J	***3.9 J***	0.25 J	1.2 J	0.18 J	***3.8***
Calcium	mg/kg	-	8580 J	15900 J	7010 J	7160 J	12900	15700
Chromium	mg/kg	**2,000**	28.2 J	61.0 J	18.4 J	40.1 J	22.3	34.2
Cobalt	mg/kg	23	10.2	19.5	11.2	17.7	10.3 J	15.4 J
Copper	mg/kg	3,100	109 J	498 J	38.5 J	126 J	25.6	243
Iron	mg/kg	55,000	22900 J	***102000 J***	26600 J	***72800 J***	27400	***75200***
Lead	mg/kg	**250**	68.5 J	***4130 J***	21.0 J	157 J	16.3	***405***
Magnesium	mg/kg	-	5930 J	8430 J	5150 J	5160 J	8050	5050
Manganese	mg/kg	1,800	441 J	1300 J	550 J	1160 J	459	1030
Mercury	mg/kg	**2**	0.11	0.071	0.064	0.064	0.05	0.021 J
Nickel	mg/kg	820	18.6 J	65.0 J	19.8 J	42.6 J	22.9	62.9

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**51**		**52**		**53**	
Sample ID:			**YTCFLC-SS-51-01**	**YTCFLC-SS-51-02**	**YTCFLC-SS-52-01**	**YTCFLC-SS-52-02**	**YTCFLC-SS-53-01**	**YTCFLC-SS-53-02**
Lab Sample ID:			**FA35026-1**	**FA35026-2**	**FA35026-3**	**FA35026-4**	**FA35063-6**	**FA35063-5**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**7**	**8**	**10**	**2.5**	**6.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	2300 J	4340 J	1700 J	1780 J	2260 J	2340 J
Selenium	mg/kg	390	0.99 UJ	5.4 UJ	0.93 UJ	2.4 UJ	1.3 U	2.3 U
Silver	mg/kg	390	0.40 U	1.5 J	0.19 J	0.38 U	0.69 J	2.2 J
Sodium	mg/kg	-	422 J	1800 J	717 J	903 J	1140 J	2000 J
Thallium	mg/kg	0.78	0.99 UJ	***3.9 J***	0.37 J	2.4 UJ	***1.4 J***	0.72 J
Vanadium	mg/kg	390	52.3 J	51.4 J	49.2 J	46.8 J	60.8	43.5
Zinc	mg/kg	23,000	88.2 J	809 J	649 J	781 J	60.1	1190
General Chemistry								
Solids, Percent	%	-	92.7	91.5	91.7	92.2	87.4	89.6

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:			**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis							
Aluminum	mg/kg	77,000	17400	16300	19700	17000	23900
Antimony	mg/kg	31	1.3 UJ	5.5 J	1.3 U	0.32 J	1.3 U
Arsenic	mg/kg	**20**	3.6 J	**24.1 J**	3.5	7.9	4.6
Barium	mg/kg	15,000	130	111	164	156	249
Beryllium	mg/kg	160	0.26 U	0.25 U	0.26 U	0.18 J	0.30 J
Cadmium	mg/kg	**2**	0.26 UJ	0.69 J	0.26 U	0.31 J	0.15 J
Calcium	mg/kg	-	18900	16600	17200	8270	14200
Chromium	mg/kg	**2,000**	17	16.8	19.4	21.7	21.4
Cobalt	mg/kg	23	8.7 J	10.4 J	10.0 J	11	10.6 J
Copper	mg/kg	3,100	22.1	20.8	25.2	30.1	35.2
Iron	mg/kg	55,000	21500	20600	24300	24000	26200
Lead	mg/kg	**250**	8.4 J	17.2 J	9.7	36.5	10.8
Magnesium	mg/kg	-	7610	6440	8090	5900	11300
Manganese	mg/kg	1,800	400	407	458	543	388
Mercury	mg/kg	**2**	0.039 J	0.039 J	0.031 J	0.031 J	0.092
Nickel	mg/kg	820	18.9	20.2	20.5	20.6	38.9

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**54**			**55**	
Sample ID:			**YTCFLC-SS-54-01**	**YTCFLC-SS-5401D**	**YTCFLC-SS-54-02**	**YTCFLC-SS-55-01**	**YTCFLC-SS-55-02**
Lab Sample ID:			**FA35063-3/ FA35063-3R**	**FA35063-2/ FA35063-2R**	**FA35063-1/ FA35063-1R**	**FA35066-1**	**FA35066-2**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
Depth:			**2**	**2**	**4.5**	**2**	**5.75**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	1970 J	1870 J	2150 J	2000	2030 J
Selenium	mg/kg	390	1.3 UJ	17.8 J	1.3 U	0.91 U	1.3 U
Silver	mg/kg	390	0.47 J	0.47 J	0.59 J	0.62 J	0.68 J
Sodium	mg/kg	-	1640 J	1560 J	2050 J	1080 J	2270 J
Thallium	mg/kg	0.78	***1.5 J***	***1.1 J***	***1.3 J***	***1.2 J***	***1.0 J***
Vanadium	mg/kg	390	52.7	47.6	55.8	46.4	61.4
Zinc	mg/kg	23,000	40.8	39.8	48	210	48.7
General Chemistry							
Solids, Percent	%	-	87.5	87.2	87.6	91.2	84.7

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:			**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis								
Aluminum	mg/kg	77,000	17500 J	15600 J	15400 J	19200	17100	18100
Antimony	mg/kg	31	1.4 UJ	1.5 UJ	1.1 UJ	4.1 J	3.5 J	2.1 J
Arsenic	mg/kg	**20**	2.4 J	3.6 J	2.5 J	6	6.3	6.7
Barium	mg/kg	15,000	80.2	133	124	228	237	184
Beryllium	mg/kg	160	0.53 J	0.42 J	0.38 J	0.41 J	0.39 J	0.48 J
Cadmium	mg/kg	**2**	0.28 U	0.29 U	0.22 U	***2.1***	***2.3***	***2***
Calcium	mg/kg	-	10500 J	33500 J	29900 J	12400 J	25500 J	11400
Chromium	mg/kg	**2,000**	16.3	20.2	16.2	29.7	28.5	35.4
Cobalt	mg/kg	23	7.7 J	9.4 J	8.6 J	15.4	16.5	15
Copper	mg/kg	3,100	19.5	18.7	18.4	578 J	305 J	298
Iron	mg/kg	55,000	22100 J	22300 J	19500 J	64600	49900	52100
Lead	mg/kg	**250**	5.0 J	5.8 J	4.8	1630 J	744 J	297
Magnesium	mg/kg	-	9950	11500	10000	5760	7010	5990
Manganese	mg/kg	1,800	284 J	409 J	380 J	1500	1460	1280
Mercury	mg/kg	**2**	0.022 J	0.018 J	0.013 J	2.4 J	1.3 J	0.31
Nickel	mg/kg	820	16.8	25.3	20	91.9	99.5	62.6

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**56**			**57**		
Sample ID:			**YTCFLC-SS-56-01**	**YTCFLC-SS-56-02**	**YTCFLC-SS-56-02D**	**YTCFLC-SS-57-1**	**YTCFLC-SS-57-1D**	**YTCFLC-SS-57-2**
Lab Sample ID:			**FA38316-1/ 16K0007-03**	**FA38316-2/ 16K0007-04**	**FA38316-3/ 16K0007-07**	**FA38249-7/ 16J0492-05**	**FA38249-10 16J0492-08**	**FA38249-8/ 16J0492-06**
Date Sampled:			**10/31/2016**	**10/31/2016**	**10/31/2016**	**10/28/2016**	**10/28/2016**	**10/28/2016**
Depth:			**8.5**	**8.5**	**8.5**	**5**	**5**	**5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	1680 J	1690 J	1620 J	2490	3310	2500 J
Selenium	mg/kg	390	1.4 U	0.86 J	1.1 UJ	1.1 U	1.4 U	1.3 U
Silver	mg/kg	390	0.56 U	0.59 U	0.44 U	2.3	1.8 J	1.6 J
Sodium	mg/kg	-	462 J	414 J	459 J	1940 J	2780 J	1370 J
Thallium	mg/kg	0.78	1.4 U	1.5 U	1.1 U	0.70 J	0.43 J	0.66 J
Vanadium	mg/kg	390	57.3	49.5	45.4	154	146	87.5
Zinc	mg/kg	23,000	38.8	47	37.5	1300	1000	1210
General Chemistry								
Solids, Percent	%	-	83.8	81.4	83.2	84.6	85.2	86.2

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**58**		**59**	
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**
Lab Sample ID:			**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**
Depth:			**5**	**7**	**5.5**	**5.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis						
Aluminum	mg/kg	77,000	12700	21000	13700	12600
Antimony	mg/kg	31	1.2 U	9.1	0.27 U	0.28 U
Arsenic	mg/kg	**20**	3.9	7.6	3.6	3.4
Barium	mg/kg	15,000	109	549	101	98.1
Beryllium	mg/kg	160	0.43 J	0.55 J	0.43	0.39
Cadmium	mg/kg	**2**	0.24 U	***4.3***	0.053 J	0.050 J
Calcium	mg/kg	-	10100	19300	23000	21200
Chromium	mg/kg	**2,000**	12.5	221	11.1	9.8
Cobalt	mg/kg	23	7.2 J	17.3	5.5	5
Copper	mg/kg	3,100	19.1	320	17.3	15.2
Iron	mg/kg	55,000	20800	58400	13900	12900
Lead	mg/kg	**250**	8.6	713	6.3	5.8
Magnesium	mg/kg	-	5500	13900	8980	9140
Manganese	mg/kg	1,800	328	992	215	188
Mercury	mg/kg	**2**	0.014 J	0.038 J	0.023 J	0.022 J
Nickel	mg/kg	820	14.9	113	13.4	11.7

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**58**		**59**	
Sample ID:			**YTCFLC-SS-58-01**	**YTCFLC-SS-58-02**	**YTCFLC-59-01**	**YTCFLC-59-02**
Lab Sample ID:			**FA38249-3/ 16J0492-03**	**FA38249-4/ 16J0492-04**	**FA35133-3**	**FA35133-4**
Date Sampled:			**10/28/2016**	**10/28/2016**	**6/29/2016**	**6/29/2016**
Depth:			**5**	**7**	**5.5**	**5.5**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	1900 J	4700	1660	1630
Selenium	mg/kg	390	1.2 U	1.4 U	0.27 U	0.14 J
Silver	mg/kg	390	0.48 U	2.2 J	0.14 J	0.13 J
Sodium	mg/kg	-	1100 J	2200 J	1970	1310
Thallium	mg/kg	0.78	1.2 U	0.95 J	0.27 U	0.28 U
Vanadium	mg/kg	390	33.8	90.9	37.4	33.8
Zinc	mg/kg	23,000	89.6	1710	25.6	23.9
General Chemistry						
Solids, Percent	%	-	91.5	86.8	87.9	85.6

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**60**			**61**		**62**	
Sample ID:			**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**	**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**	**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**
Lab Sample ID:			**FA35164-1**	**FA35164-2**	**FA35164-3**	**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**
Date Sampled:			**6/30/2016**	**6/30/2016**	**6/30/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**
Depth:			**4.5**	**8.75**	**8.75**	**3**	**3**	**4**	**4**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis									
Aluminum	mg/kg	77,000	18700	15700	16700	18200	16100	13700	14400
Antimony	mg/kg	31	1.2 U	1.3 U	1.0 U	1.3 U	1.1 U	1.2 U	1.1 U
Arsenic	mg/kg	**20**	3.9	3.5	3.4	4.4	4.9	5	4.3
Barium	mg/kg	15,000	145	154	129	169	146	127	127
Beryllium	mg/kg	160	0.70 J	0.52 J	0.54 J	0.43 J	0.32 J	0.20 J	0.24 J
Cadmium	mg/kg	**2**	0.32 J	0.27 U	0.20 U	0.26 U	0.22 U	0.24 U	0.23 U
Calcium	mg/kg	-	7190	7170	6760	11700	23800	21600	8010
Chromium	mg/kg	**2,000**	18	17.7	18.7	15.6	13.8	12.1	13.4
Cobalt	mg/kg	23	17.1	10.4 J	10.9	8.5 J	7.3 J	6.5 J	7.5 J
Copper	mg/kg	3,100	31.1	24.6	29.1	20.7	19.3	16.7	17.6
Iron	mg/kg	55,000	23200	22600	23400	21800	20300	17400	19000
Lead	mg/kg	**250**	23.2	8.5	8	10.4	7.5	5.7	12.2
Magnesium	mg/kg	-	5640	4780	5270	6630	6920	6930	4520
Manganese	mg/kg	1,800	821	499	498	431	344	283	350
Mercury	mg/kg	**2**	0.049	0.051 J	0.032 J	0.033 J	0.027 J	0.026 J	0.015 J
Nickel	mg/kg	820	66.9	21.1	24.5	15.6	14.8	13	13.6

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**60**			**61**		**62**	
Sample ID:			**YTCFLC-SS-60-01**	**YTCFLC-SS-60-02**	**YTCFLC-SS-60-2D**	**YTCFLC-SS-61-01**	**YTCFLC-SS-61-02**	**YTCFLC-SS-62-01**	**YTCFLC-SS-62-02**
Lab Sample ID:			**FA35164-1**	**FA35164-2**	**FA35164-3**	**FA38194-1/ 16J0471-01**	**FA38194-2/ 16J0471-02**	**FA38194-3/ 16J0471-03**	**FA38194-4/ 16J0471-04**
Date Sampled:			**6/30/2016**	**6/30/2016**	**6/30/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**	**10/27/2016**
Depth:			**4.5**	**8.75**	**8.75**	**3**	**3**	**4**	**4**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	1650 J	1910 J	1890 J	2230 J	2140 J	2020 J	2110 J
Selenium	mg/kg	390	1.2 U	1.3 U	1.0 U	1.3 U	1.1 U	1.2 U	1.1 U
Silver	mg/kg	390	0.48 U	0.26 J	0.26 J	0.71 J	0.65 J	0.52 J	0.52 J
Sodium	mg/kg	-	895 J	2130 J	2240	849 J	1020 J	1500 J	448 J
Thallium	mg/kg	0.78	1.2 U	1.3 U	1.0 U	1.3 U	1.1 U	1.2 U	1.1 U
Vanadium	mg/kg	390	85.5	52.7	57.8	45.9	45	44.3	38.6
Zinc	mg/kg	23,000	282	60.9	55.1	41.2	39.2	35.6	39.2
General Chemistry									
Solids, Percent	%	-	85.2	87.9	88.4	90.1	89.8	93.8	92.8

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**63**		**64**	
Sample ID:			**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Metals Analysis						
Aluminum	mg/kg	77,000	18300 J	18100 J	20900	17000
Antimony	mg/kg	31	1.1 UJ	0.88 UJ	3.6 J	13.3
Arsenic	mg/kg	**20**	3.3 J	2.1 J	4.5	15.7
Barium	mg/kg	15,000	144 J	115 J	389	369
Beryllium	mg/kg	160	0.59 J	0.54 J	0.18 J	0.53 U
Cadmium	mg/kg	**2**	0.21 UJ	0.11 J	***2***	***2.0 J***
Calcium	mg/kg	-	6200 J	13400 J	18300	26100
Chromium	mg/kg	**2,000**	20.4 J	15.9 J	27	51.1
Cobalt	mg/kg	23	10.9 J	10.6	12.1 J	22.4 J
Copper	mg/kg	3,100	23.6 J	21.1 J	54.2	429
Iron	mg/kg	55,000	23500 J	22400 J	43000	***124000***
Lead	mg/kg	**250**	6.3 J	6.7 J	***809***	***721***
Magnesium	mg/kg	-	7120 J	7360 J	7720	5710
Manganese	mg/kg	1,800	455 J	361 J	479	1020
Mercury	mg/kg	**2**	0.049	0.068	0.12	0.082
Nickel	mg/kg	820	24.1 J	15.5 J	24.3	55.4

Table G-10
Surface Soil VOC Results
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Test Pit Location		**Project Action Limit**	**63**		**64**	
Sample ID:			**YTCFLC-SS-63-01**	**YTCFLC-SS-63-02**	**YTCFLC-SS-64-02**	**YTCFLC-SS-64-01**
Lab Sample ID:			**FA35026-5**	**FA35026-6**	**FA35062-1**	**FA35062-2**
Date Sampled:			**6/24/2016**	**6/24/2016**	**6/27/2016**	**6/27/2016**
Depth:			**3**	**6**	**6**	**7.25**
Matrix:			**Soil**	**Soil**	**Soil**	**Soil**
Potassium	mg/kg	-	2710 J	1860 J	2220 J	2880 J
Selenium	mg/kg	390	1.1 UJ	0.88 UJ	1.3 J	1.3 J
Silver	mg/kg	390	0.42 U	0.35 U	1.3 J	3.2 J
Sodium	mg/kg	-	717 J	1240 J	1590 J	2260 J
Thallium	mg/kg	0.78	1.1 UJ	0.88 UJ	***0.92 J***	2.7 U
Vanadium	mg/kg	390	50.7 J	71.2 J	67.4	52.7
Zinc	mg/kg	23,000	47.1 J	47.2 J	1010	666
General Chemistry						
Solids, Percent	%	-	90.6	88.8	88.2	90.5

Footnotes:
Bold - Washington MTCA level
Bold/Italics - Exceeds screening level
U = Not detected
UJ = Estimated not detected
J = Estimated
R = Rejected

APPENDIX H
ELECTRONIC LABORATORY ANALYTICAL DATA

Provided on CD

APPENDIX I
LABORATORY ANALYTICAL DATA REPORT

CHEMICAL DATA QUALITY REPORT
SAMPLING EVENTS JUNE 22 – JUNE 30, 2016
AND OCTOBER 25 – OCTOBER 31, 2016

SITE INSPECTION

FORMER LANDFILL COMPLEX

YAKIMA TRAINING CENTER
YAKIMA, WASHINGTON 98901

Prepared for:

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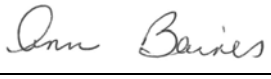
January 2017

Data Quality Assessment Summary Report Signature Sheet

The Undersigned have prepared, reviewed and approved this Data Quality Assessment Summary Report upon approval of USACE.

Prepared By:		Date	12/7/2016
	Regina Kleiner Project Chemist		
Approved By:		Date:	12/7/2016
	Ann Baines TPMC Project Manager		
Accepted By:		Date:	
	Bill Graney Project Manager US Army Corps of Engineers		

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List of Tables

List of Acronyms

DoD	Department of Defense
DQO	Data quality objectives
DRO	Diesel range organics
ECY	Washington Department of Ecology
FLC	Former Landfill Complex
GRO	Gasoline range organic
LCS	Laboratory control sample
LOQ	Limit of quantitation
mg/kg	Milligram per kilogram
^{o}C	Degrees Celsius
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyls
QA	Quality Assurance
QC	Quality control
RCRA	Resource Conservation and Recovery Act
SI	Site Inspection
SOP	Standard Operating Procedures
SVOC	Semi-volatile organic compounds
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TCL	Target compound list
TCLP	Toxicity characteristic leaching procedure
TPH	Total petroleum hydrocarbons
TPMC	TerranearPMC
UFP-QAPP	Uniform Federal Policy-Quality Assurance Project Plan
ug/m^3	Micrograms per meter cubed
USACE	Army Corps of Engineers
USEPA	US Environmental Protection Agency
VOC	Volatile organic compounds
YTC	Yakima Training Center

1.0 Introduction

This data quality assessment for the Site Inspection (SI) for the Former Landfill Complex (FLC) in the vicinity of Solid Waste Management Unit (SWMU) 57 within the Yakima Training Center (YTC), Washington, presents results of the quality assurance/quality control (QA/QC) measures implemented for the sampling and analysis activities for the June 2016 and October 2016 sampling events. The quality indicators of the data collection have been reviewed, and an assessment of the data with regard to project-specific objectives is presented. Execution of project-specific objectives and procedures provides strong support for the acceptance of the data generated as adequate for the purpose of evaluating the analytical results from this assessment at the Yakima Training Center Former Landfill Complex.

Sampling activities for this report were conducted between June 22 - 30 and October 25 – 31, 2016. Samples were analyzed by SGS Accutest Inc. Southeast Laboratory, Orlando, FL for all analytes except TPH-GRO/DRO. During the first mobilization in June, TPH-GRO/DRO were analyzed by SGS Accutest Inc. West Coast Laboratory, San Jose, CA. Due to closure of the SGS Accutest Inc. West Coast Laboratory, samples collected for TPH-GRO/DRO during the second mobilization were analyzed by Analytical Resources, Incorporated, Tukwila, WA. Samples were organized into Sample Delivery Groups (SDG) FA35026, FA35031, FA35041, FA35042, FA35062, FA35063, FA35065, FA35066, FA35089, FA35094, FA35125, FA35133, FA35134, FA35135, FA35136, FA35164, FA35165, FA38083, FA38124, FA38194, FA38249, FA38316, 16J0428, 16J0471, 16J0492, and 16K0007. SDG and sample listings are presented in Table 1.

Due to sample receipt out of holding time and temperature, samples organized into SDGs FA35041 and FA35042 were cancelled and the associated test pits were resampled on subsequent sampling days. SDGs FA35065 and FA35134 contain samples collected for soil waste characterization parameters. These SDGs were not subject to full validation with ADR.net and a qualitative verification of package contents was performed. These packages met the analytical requirements for waste characterization and are not discussed further in this document.

Of the data analyzed, the data were verified for accuracy, completeness, and project/method compliance. Verification and validation followed the QA/QC guidance outlined in the May 2016 Work Plan for the Site Inspection, Former Landfill Complex, Yakima Training Center, Washington and the U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines. Verification and validation included a comprehensive, Stage 2A review of the data using Automated Data Review software (ADR.net) of data packages submitted by the laboratory. ADR validation reports are included as Appendix H to this report and all ADR validation qualifiers have been added to the analytical results tables.

Data were evaluated against specific criteria to verify the achievement of precision, accuracy, representativeness, comparability, completeness, and sensitivity goals established to meet the project data quality objectives (DQO) as outlined in the Quality Assurance Project Plan (QAPP). To verify that these DQOs were met, field measurements, sampling and handling procedures, laboratory analysis and reporting, and any nonconformance and/or discrepancies in the data were examined to determine compliance with the appropriate methods and applicable procedures. The results of this review are presented in the following sections, with any analytical outliers or nonconformance discussed where they occurred.

This report is divided into three subsections. Section 2.0 discusses the overall field investigation and QC procedures used during the sampling effort. Section 3.0 outlines the analytical program and the associated QC activities performed. Section 4.0 summarizes the data findings and their overall impact on the usability of the analytical data.

2.0 Field Sampling and QC Activities

Sampling activities for the site inspection included the collection of 20 surface soil field samples plus two field duplicate samples, an equipment rinsate blank, and a field blank. Surface soil samples were analyzed for volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), polycyclic aromatic hydrocarbons (PAH), pesticides, herbicides, polychlorinated biphenyl compounds (PCB), total petroleum hydrocarbons (TPH), metals, and mercury. Fifty subsurface soil samples plus six field duplicate samples, an equipment rinsate blank, and a field blank were analyzed for volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), polycyclic aromatic hydrocarbons (PAH), pesticides, herbicides, polychlorinated biphenyl compounds (PCB), total petroleum hydrocarbons (TPH), metals, and mercury. Five soil waste characterization samples were collected and analyzed for TCLP VOC, TCLP SVOC, TCLP RCRA 8 Metals, TCLP Ignitability, TCLP Reactive Cyanide/Sulfide, and TCLP Corrosivity.

A trip blank was included in each cooler containing samples for VOC and TPH-GRO analysis. A total of 30 trip blanks were analyzed during this site inspection.

Sample shipments from the field were performed under custody and documented using standard Chain of Custody (COC) forms. These forms provided project-specific analytical specifications and QC instructions to the laboratory.

Table 1 summarizes the field sample number, correlating lab sample number, sample purpose, date of collection, and the requested analytical program for each sample collected.

3.0 Analytical Program and QC Activities

The project QA/QC program described in the QAPP was followed for the collection and laboratory analysis of samples. Each of the analytical methods used require that method-

specific QA/QC protocols be followed during sample analysis. These protocols are a critical part of the methods employed and were followed by the laboratory during sample analysis. Specific measures included detailed record keeping procedures, instrument calibrations, and analysis of method blanks, blank spikes, surrogates, and internal standards. The following analytical methods were used to analyze samples:

Parameter	Analytical Method
Volatile Organic Compounds (VOCs)	SW8260B
Semivolatile Organic Compounds (SVOCs)	SW8270D
Polycyclic Aromatic Hydrocarbons (PAHs) and 1,4-Dioxane	SW8270M
Polychlorinated Biphenyl Compounds (PCBs)	SW8082A
Pesticides	SW8081B
Herbicides	SW8151A
TAL Metals and Mercury	SW6010C/7471B
Total Petroleum Hydrocarbons-Gasoline Range Organics (TPH-GRO)	NWTPH-GX
Total Petroleum Hydrocarbons-Diesel Range Organics (TPH-DRO)	NWTPH-DXSG
Percent Solids	SM19 2540G

Data were validated by ADR software using QA/QC criteria defined in the QAPP, USACE, and EPA guidelines to evaluate the data for all applicable parameters at a level of 100%. An additional manual validation was performed where anomalies were identified. If acceptance criteria were not provided in in the QAPP, USACE, and EPA guidelines, laboratory-derived acceptance criteria were used by the validator to qualify data or the criteria established in the analytical method or validation guidelines were used. Data qualifiers and definitions for laboratory qualified data can be found in the individual data packages provided by the laboratory. Sample dilution factors and corrections were noted for all samples included in each data package.

3.1 Laboratory QA/QC Procedures

The following sections discuss specific QA/QC protocols required and performed by the laboratory during this investigation. Details of the specific samples and analytes that received validation qualifiers as a result of data review of the following QA/QC protocols are presented in Appendix H and the analytical results table.

3.1.1 Blanks

A method blank was analyzed with each method batch. Trip blanks were analyzed with soil samples analyzed for VOCs by 8260B and TPH-GRO NWTPH-GX. All blanks analyzed in support of this investigation met the analysis criteria with few exceptions. Where analytes in the blank were detected between the MDL and RL and the sample result was less than or equal to the RL or less than 5 x the blank result (10x for common laboratory contaminants, Methylene

chloride, Acetone, and 2-Butanone), the sample result was qualified as “not-detected” (U). Sample results that were not detected or that were detected at a level above the RL/blank result (10x for common laboratory contaminants) were not qualified.

One surface soil field blank, one surface soil equipment rinsate blank, one subsurface soil field blank, and one subsurface soil equipment rinsate blank were collected in the field and analyzed for all analytical parameters. While some metals were detected in field and equipment blanks, they were at concentrations below reporting limits and did not impact the field sample results. No field sample results were qualified as a result of field blank or equipment rinsate blank contamination. Field blank and equipment rinsate blank outlier reports are presented in the ADR validation reports in Appendix H.

3.1.2 Surrogate Standards (System Monitoring Compounds)

Some surrogate compounds were recovered outside of acceptance criteria for pesticides, herbicides, VOCs, and SVOCs. Analytes associated with surrogates recovered below the lower acceptance limit that were not detected in the affected samples were qualified as “estimated not-detected” (UJ) and detected analytes were qualified as “estimated” (J). Some surrogates were recovered below the lower estimation limit and the associated analytes that were not detected in the in the affected samples were qualified as “rejected” (R) and detected analytes were qualified as “estimated” (J). All other surrogate standards analyzed in support of this investigation were recovered within the acceptance limits and met the analysis criteria. Surrogate outliers and specific samples and analytes qualified due to surrogate recovery are identified in the ADR validation reports presented in Appendix H.

3.1.3 Matrix Spikes and Laboratory Control Spikes

Some MS/MSD and LCS results were recovered above the upper acceptance limit for some analytes indicating a high bias. Affected analytes that were detected in samples were qualified as “estimated” (J), analytes that were not detected in the associated field samples were not qualified. Some analytical results were qualified as “estimated not detected” (UJ) because the MS/MSD was recovered outside of lower acceptance limits. Several analytical results were qualified as “estimated” (J) or “estimated not detected” (UJ) because the RPD between the MS and MSD was outside of criteria. Several analytical results for antimony, dicamba, and benzidine were qualified as “rejected” (R) due to gross low recovery outside of acceptance limits in the MS/MSD; however, upon manual review of acceptable post-digestion spike recovery results, antimony results were qualified as “estimated not detected” (UJ) using professional judgment. LCS/LCSD and MS/MSD recoveries and precision data for all other analyses performed in support of this investigation met established QC criteria. Outlier reports for MS/MSD and LCS/LCSD recoveries and specific samples and analytes qualified due to MS and/or LCS recoveries are identified in the ADR validation reports presented in Appendix H.

For a majority of MS/MSD analyses performed in support of this investigation, project samples were utilized. Occasionally, batch associated, but not project-associated, samples were utilized for MS/MSD analysis, particularly in the case where re-extractions, dilutions, or reanalysis was warranted. Where non-project samples were utilized for MS/MSD analyses, LCS/LCSD recoveries were utilized as a measure of analytical performance.

3.1.4 Field and Laboratory Duplicate Samples

Field precision was measured through the use of field duplicate samples for samples collected in support of this investigation. Analytical precision was measured through the use of laboratory duplicate samples which were analyzed at a rate of one per preparatory batch for some analytical methods. The data generated from the analysis of field and laboratory duplicate samples are used to evaluate the precision of sampling (for field sample duplicates) and analysis procedures.

RPD is calculated by using the following formula:

$$\text{RPD} = \left|\frac{\text{A-B}}{(\text{A+B})/2}\right| \text{ x } 100$$

Where:

A = original sample result

B = duplicate sample result

For several analytes, the RPD for duplicate analysis was not within criteria. The affected analytes were qualified as “estimated” (J) or as “estimated not-detected” (UJ). Field duplicate outlier reports and specific samples and analytes qualified due to field duplicate precision are identified in the ADR validation reports presented in Appendix H.

3.2 Method Detection and Reporting Limit

Limits of Quantitation (LOQs) or RLs, used for this project are those statistically determined by Accutest. The LOQ calculation adjusts the limit by a predetermined mathematical factor for the analysis of actual environmental sample matrices (i.e. soil, groundwater, etc.). For purposes of clarity and consistency with respect to terminology, the term "reporting limit" has been substituted for LOQ when referencing the limit reported by the laboratory for each individual sample and parameter. The actual values reported have been corrected for all necessary dilutions, dryness, and interference factors as applicable based on the resulting analytical data for a sample.

Laboratory standard operating procedures (SOP) address MDL, LOQs, and RLs when dealing with low concentrations of analytes in samples. These limits are defined as follows:

- ***MDL.*** The minimum analyte concentration that must be present in a sample to give a specified probability of measuring a response greater than the critical value, leading one to conclude correctly that there is analyte in the sample.

- ***LOQ/RL.*** The lowest level that the laboratory has demonstrated its ability to reliably quantitate target analytes within the criteria required for a given method. It is the lowest concentration at which the data are reported without qualification. It is set at the lowest standard used for the calibration curve.

Some analytical results were qualified as "estimated" because the result was greater than the MDL, but less than the RL.

3.3 Holding Times, Sample Collection, and Preservation

All laboratory results submitted for this investigation have been reviewed with respect to laboratory adherence to preparation and analysis holding times. Due to sample receipt out of holding time and temperature, samples organized into SDGs FA35041 and FA35042 were cancelled and the associated test pits were resampled on subsequent sampling days. Samples associated with SDG FA35026, SDG FA35089, and SDG FA35094 collected for TPH-GRO/DRO arrived at the laboratory at 6.6° C, 6.8° C, and 6.8° C, respectively. Upon inspection of the lab receipt checklist, it was determined that ice was present in the coolers, the samples were properly preserved, and the initial temperatures were 5.6° C, 5.8° C, and 5.8° C upon receipt and the temperature met the laboratory criteria. The temperature was adjusted by the laboratory and reported at the higher value in the data deliverable. Because the temperatures are adjusted based on thermometer calibration and because the initial temperature was at the upper limit of the temperature acceptance criteria, analytes in the affected samples that were not detected were qualified as "estimated not-detected" (UJ) and analytes that were detected were qualified as "estimated" (J) as a conservative measure.

All other project field samples were collected and shipped compliant to all prescribed preservation, packaging, and documentation requirements.

4.0 Data Evaluation and Usability

The analytical data review process identified a few analytical nonconformance issues that were noted during this analytical program. These anomalies were discussed in the previous sections of this appendix.

The following definitions are used for defining precision, accuracy, representativeness, completeness, and comparability as they have been applied to this evaluation.

Precision. Precision is a measurement of mutual agreement among individual measurements of the same property, usually under prescribed similar conditions. Precision data were obtained

through the analysis and evaluation of duplicate QA samples. Some precision results were outside of the acceptance criteria resulting in the qualification of some analytical results as estimated or estimated not detected. All other examined precision parameters met the acceptance criteria.

Accuracy. Accuracy is a measurement of bias in a system and is expressed as a percent recovery. These QA samples were collected and/or analyzed at the frequency established in the SAP, verifying the completeness element of the DQOs along with the evaluation of holding times and reporting limits. Percent recovery is calculated as follows:

$$\text{Percent Recovery} = \left(\frac{(x-s)}{T}\right) \times 100$$

Where:

X = the lab determined concentration of a spiked sample

S = the sample native concentration prior to spike

T = the true concentration of the spike

Relative Percent Difference is calculated as follows:

$$\text{Relative Percent Difference} = \left[\frac{|D1-D2|}{(D1+D2)/2}\right] \times 100$$

Where:

D1 and D2 = the results of duplicate measurements

Some accuracy result recoveries results were outside of the acceptance criteria resulting in the qualification of some analytical results as estimated, estimated not detected, or rejected.

All other examined accuracy parameters met the acceptance criteria.

Representativeness. Representativeness is a qualitative parameter that expresses the degree to which sample data actually represent the matrix and site conditions. Requirements and procedures for sample collection and handling are designed to maximize sample representativeness. Representativeness also can be monitored by reviewing field documentation and by performing field audits.

The samples for each analytical method were collected using SOPs and were fully documented through the use of standard field forms. Samples are representative of the matrix and site sampled.

Completeness. Completeness is a measure of the amount of valid data that are obtained during a sampling event as compared to the amount of data planned to be collected under optimum conditions. The minimum acceptance criterion for completeness is 95%. Some data for this project were qualified as estimated, estimated not detected, or rejected in the validation process because of the outliers noted in this assessment.

Completeness is calculated as follows:

$$\text{Completeness } \% = \left(\frac{D_r}{D_c}\right) \text{x } 100$$

Where:

D_r = the number of data points for which valid results are reported

D_c = the number of valid samples/data points that are collected and reach the laboratory for analysis.

During this task, 78 field samples were collected resulting in 14,976 analytical result records. All but 64 validated data results were determined to be usable. Using the above calculation, 99.6% completeness was achieved for the validated data analyzed for each method as part of the Yakima Training Center Former Landfill Complex Site Inspection.

Comparability. Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. Comparability ensures that results for the sampling event can be compared with data from other past and/or future sampling programs. Comparability for this sampling event was achieved for each analytical method and matrix through the use of established and recognized techniques and accepted standard EPA methods. All samples collected and analyzed were subjected to the same sampling, handling, preparation, analysis, reporting, and validation criteria for the purpose of achieving comparability goals within the data set.

4.1 Statement of Data Usability

The overall results of the analyses of the Yakima Training Center Former Landfill Complex environmental assessment samples, as discussed in this evaluation, suggest that representative samples were collected and analyzed, and the results are indicative of the media analyzed, with the exception of the few anomalies noted in the previous sections. The data are usable for their intended purpose.

TABLES

Table 1
Cross-reference of Sample Numbers
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Field Sample ID	Laboratory Sample ID	Sample Delivery Group	Sample Date	Sample Matrix	Sample Type	Analyte Group									
						VOC SW8260B	SVOC SW8270D	PAH SW8270M	PCB SW8082A	Herbicides SW8151A	Pesticides SW8081B	TAL Metals SW6010C/7471B	TPH-GRO NWTPH-GX	TPH-DRO NWTPH-DXSG	Percent Solids SM19 2540G
YTCFLC-SO-01	FA38194-10/16J0471-05	FA38194/16J0471	10/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-02	16K0007-06	16K0007	10/31/2016	Soil	Field Sample								X	X	
YTCFLC-SO-02	FA38194-11/16J0471-06	FA38194/16J0471	10/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-03	FA38083-2/16J0428-07	FA38083/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-04	FA35063-4	FA35063	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-04	FA35063-4R	FA35063R	6/27/2016	Soil	Field Sample									X	
YTCFLC-SO-05	FA35066-3	FA35066	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-06	FA38083-3/16J0428-08	FA38083/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-07	FA38083-4	FA38083	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X			X
YTCFLC-SO-07	16J0492-07	16J0492	10/28/2016	Soil	Field Sample								X	X	
YTC-FLC-SO-08	FA35125-2	FA35125	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SO-09	FA35125-1	FA35125	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-11	FA38249-5	FA38249	10/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SO-11	FA35125-7	FA35125	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-12	FA35136-5	FA35136	6/29/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-13	FA38194-12/16J0471-07	FA38194/16J0471	10/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-15	FA35136-2	FA35136	6/29/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-15D	FA35136-3	FA35136	6/29/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-16	FA35136-4	FA35136	6/29/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-17	FA35136-1	FA35136	6/29/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-18	FA35165-3	FA35165	6/30/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-19	FA35165-2	FA35165	6/30/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-20	FA35165-1	FA35165	6/30/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SO-EQB01	FA38194-8/16J0471-09	FA38194/16J0471	10/27/2016	Water	Equipment Rinsate Blank	X	X	X	X	X	X	X	X	X	
YTCFLC-SO-FB-01	FA38194-6/16J0471-08	FA38194/16J0471	10/27/2016	Water	Field Blank	X	X	X	X	X	X	X	X	X	
YTC-FLC-SS-09-D	FA35125-3	FA35125	6/28/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-10	FA35125-5	FA35125	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-14	FA35125-4	FA35125	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-40-01	FA38124-1/16J0428-01	FA38124/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-40-02	FA38124-2/16J0428-02	FA38124/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X

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Field Sample ID	Laboratory Sample ID	Sample Delivery Group	Sample Date	Sample Matrix	Sample Type	Analyte Group									
						VOC SW8260B	SVOC SW8270D	PAH SW8270M	PCB SW8082A	Herbicides SW8151A	Pesticides SW8081B	TAL Metals SW6010C/7471B	TPH-GRO NWTPH-GX	TPH-DRO NWTPH-DXSG	Percent Solids SM19 2540G
YTCFLC-SS-41-01	FA38124-3/16J0428-03	FA38124/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-41-02	FA38083-1/16J0428-04	FA38083/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-42-01	FA35094-1	FA35094	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-42-02	FA35094-2	FA35094	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-42-2D	FA35094-3	FA35094	6/27/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-43-01	FA38124-4/16J0428-05	FA38124/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-43-02	FA38124-5/16J0428-06	FA38124/16J0428	10/25/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-44-01	FA38249-1/16J0492-01	FA38249/16J0492	10/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-44-02	FA38249-2/16J0492-02	FA38249/16J0492	10/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-45-01	FA35031-1	FA35031	6/22/2016	Soil	Field Sample		X	X	X	X	X	X	X	X	X
YTCFLC-SS-45-01	FA35135-1	FA35135	6/29/2016	Soil	Field Sample	X									X
YTCFLC-SS-45-02	FA35031-2	FA35031	6/22/2016	Soil	Field Sample		X	X	X	X	X	X	X	X	X
YTCFLC-SS-45-02	FA35135-2	FA35135	6/29/2016	Soil	Field Sample	X									X
YTCFLC-SS-46-01	FA35031-3	FA35031	6/22/2016	Soil	Field Sample		X	X	X	X	X	X	X	X	X
YTCFLC-SS-46-01	FA35135-3	FA35135	6/29/2016	Soil	Field Sample	X									X
YTCFLC-SS-46-02	FA35031-4	FA35031	6/22/2016	Soil	Field Sample		X	X	X	X	X	X	X	X	X
YTCFLC-SS-46-02	FA35135-4	FA35135	6/29/2016	Soil	Field Sample	X									X
YTC-FLC-SS-47-01	FA35089-5	FA35089	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-47-02	FA35089-1	FA35089	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-48-01	FA35094-4	FA35094	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-48-02	FA35094-5	FA35094	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-49-01	FA35089-6	FA35089	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-49-02	FA35089-7	FA35089	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-50-01	FA35089-3	FA35089	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-50-02	FA35089-4	FA35089	6/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-50-2D	FA35089-2	FA35089	6/28/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-51-01	FA35026-1	FA35026	6/24/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-51-02	FA35026-2	FA35026	6/24/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-52-01	FA35026-3	FA35026	6/24/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-52-02	FA35026-4	FA35026	6/24/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X

Table 1
Cross-reference of Sample Numbers
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Field Sample ID	Laboratory Sample ID	Sample Delivery Group	Sample Date	Sample Matrix	Sample Type	Analyte Group									
						VOC SW8260B	SVOC SW8270D	PAH SW8270M	PCB SW8082A	Herbicides SW8151A	Pesticides SW8081B	TAL Metals SW6010C/7471B	TPH-GRO NWTPH-GX	TPH-DRO NWTPH-DXSG	Percent Solids SM19 2540G
YTCFLC-SS-53-01	FA35063-6	FA35063	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-53-02	FA35063-5	FA35063	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-54-01	FA35063-3	FA35063	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-54-01	FA35063-3R	FA35063R	6/27/2016	Soil	Field Sample									X	
YTCFLC-SS-5401D	FA35063-2	FA35063	6/27/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-5401D	FA35063-2R	FA35063R	6/27/2016	Soil	Field Duplicate									X	
YTCFLC-SS-54-02	FA35063-1	FA35063	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-54-02	FA35063-1R	FA35063R	6/27/2016	Soil	Field Sample									X	
YTCFLC-SS-54-02	FA35136-6	FA35136	6/29/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-55-01	FA35066-1	FA35066	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-55-02	FA35066-2	FA35066	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-56-01	FA38316-1/16K0007-03	FA38316/16K0007	10/31/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-56-02	FA38316-2/16K0007-04	FA38316/16K0007	10/31/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-56-2D	FA38316-3/16K0007-07	FA38316/16K0007	10/31/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-57-1	FA38249-7/16J0492-05	FA38249/16J0492	10/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-57-1D	FA38249-10/16J0492-08	FA38249/16J0492	10/28/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-57-2	FA38249-8/16J0492-06	FA38249/16J0492	10/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-58-01	FA38249-3/16J0492-03	FA38249/16J0492	10/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-58-02	FA38249-4/16J0492-04	FA38249/16J0492	10/28/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-59-01	FA35133-3	FA35133	6/29/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTC-FLC-SS-59-02	FA35133-4	FA35133	6/29/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-60-01	FA35164-1	FA35164	6/30/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-60-02	FA35164-2	FA35164	6/30/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-60-2D	FA35164-3	FA35164	6/30/2016	Soil	Field Duplicate	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-61-01	16K000-05	16K000	10/31/2016	Soil	Field Sample								X	X	
YTCFLC-SS-61-01	FA38194-1/16J0471-01	FA38194/16J0471	10/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-61-02	FA38194-2/16J0471-02	FA38194/16J0471	10/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-62-01	FA38194-3/16J0471-03	FA38194/16J0471	10/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-62-02	FA38194-4/16J0471-04	FA38194/16J0471	10/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-63-01	FA35026-5	FA35026	6/24/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X

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						VOC SW8260B	SVOC SW8270D	PAH SW8270M	PCB SW8082A	Herbicides SW8151A	Pesticides SW8081B	TAL Metals SW6010C/7471B	TPH-GRO NWTPH-GX	TPH-DRO NWTPH-DXSG	Percent Solids SM19 2540G
YTCFLC-SS-63-02	FA35026-6	FA35026	6/24/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-64-01	FA35062-2	FA35062	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-64-02	FA35062-1	FA35062	6/27/2016	Soil	Field Sample	X	X	X	X	X	X	X	X	X	X
YTCFLC-SS-EQB01	FA38316-7/16K0007-01	FA38316/16K0007	10/31/2016	Water	Equipment Rinsate Blank	X	X	X	X	X	X	X	X	X	
YTCFLC-SS-FB-01	FA38316-5/16K0007-02	FA38316/16K0007	10/31/2016	Water	Field Blank	X	X	X	X	X	X	X	X	X	
YTCFLC-SS-TB-06	FA35026-7	FA35026	6/24/2016	Soil	Trip Blank	X									
YTCFLC-SS-TB-07	FA35026-8	FA35026	6/24/2016	Soil	Trip Blank								X		
YTCFLC-SS-TB-11	FA35062-3	FA35062	6/27/2016	Soil	Trip Blank	X									
YTCFLC-TB-08	FA35066-4	FA35066	6/27/2016	Soil	Trip Blank	X									
YTCFLC-TB-09	FA35063-7	FA35063	6/27/2016	Soil	Trip Blank	X									
YTCFLC-TB-1	FA38124-6	FA38124	10/25/2016	Soil	Trip Blank	X									
YTCFLC-TB-10	FA35066-5	FA35066	6/17/2016	Soil	Trip Blank								X		
YTC-FLC-TB-12	FA35094-6	FA35094	6/27/2016	Soil	Trip Blank	X									
YTC-FLC-TB-13	FA35094-7	FA35094	6/27/2016	Soil	Trip Blank								X		
YTC-FLC-TB-14	FA35089-8	FA35089	6/28/2016	Soil	Trip Blank	X									
YTCFLC-TB-16	FA35136-8	FA35136	6/29/2016	Soil	Trip Blank								X		
YTCFLC-TB-17	FA35136-7	FA35136	6/29/2016	Soil	Trip Blank	X									
YTC-FLC-TB-18	FA35125-6	FA35125	6/28/2016	Soil	Trip Blank	X									
YTC-FLC-TB-19	FA35133-5	FA35133	6/29/2016	Soil	Trip Blank	X									
YTCFLC-TB-20	FA35165-4	FA35165	6/30/2016	Soil	Trip Blank	X									
YTCFLC-TB-21	FA35165-5	FA35165	6/30/2016	Soil	Trip Blank								X		
YTCFLC-TB-24	FA38316-8	FA38316	10/31/2016	Water	Trip Blank	X									
YTCFLC-TB-25	16J0428-10	16J0428	10/25/2016	Soil	Trip Blank								X		
YTCFLC-TB-26	FA38083-5	FA38083	10/25/2016	Soil	Trip Blank	X									
YTCFLC-TB-27	FA38194-5	FA38194	10/27/2016	Water	Trip Blank	X									
YTCFLC-TB-28	FA38194-13	FA38194	10/27/2016	Soil	Trip Blank	X									
YTCFLC-TB-29	FA38249-6	FA38249	10/28/2016	Soil	Trip Blank	X									
YTCFLC-TB-30	16J0471-10	16J0471	10/27/2016	Soil	Trip Blank								X		
YTCFLC-TB-31	FA38194-9	FA38194	10/27/2016	Water	Trip Blank	X									
YTCFLC-TB-33	FA38249-9	FA38249	10/28/2016	Soil	Trip Blank	X									

Table 1
Cross-reference of Sample Numbers
Former Landfill Complex
Yakima Training Center
Yakima, Washington

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						VOC SW8260B	SVOC SW8270D	PAH SW8270M	PCB SW8082A	Herbicides SW8151A	Pesticides SW8081B	TAL Metals SW6010C/7471B	TPH-GRO NWTPH-GX	TPH-DRO NWTPH-DXSG	Percent Solids SM19 2540G
YTCFLC-TB-34	16J0492-09	16J0492	10/28/2016	Soil	Trip Blank								X		
YTCFLC-TB-35	FA38316-6	FA38316	10/31/2016	Water	Trip Blank	X									
YTCFLC-TB-36	FA38316-4	FA38316	10/31/2016	Soil	Trip Blank	X									
YTCFLC-TB-37	16K0007-08	16K0007	10/31/2016	Soil	Trip Blank								X		

APPENDIX J
PHOTOGRAPHIC LOG

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 1	**Date:** 6-22-16

Description: Test Pit 40
Vegetation typical of the study area includes Goldenrod, Sagebrush and Locoweed. Looking north across the study area.

Photo: 2	**Date:** 10-25-16

Description: Test Pit 40
Test Pit 40 was excavated with a north/ south orientation.
Soil and debris pile excavated from Test Pit 40.
The debris consisted of glass bottles, cans and miscellaneous metal scrap from 2.5 feet bgs to 3 feet bgs.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 3	**Date:** 10-25-16

Description: Test Pit 40
Test pit 40 at a depth of 2.5 feet, showing the top of the debris interval.

Photo: 4	**Date:** 10-25-16

Description: Test Pit 40
Contents of test pit debris.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 5	**Date:** 10-25-16

Description: Test Pit 41
Test Pit 41 was excavated with a north/ south orientation to a total depth of 7 feet bgs. No staining or debris encountered**.**

Photo: 6	**Date:** 10-25-16

Description: Test Pit 41
Test Pit 41 total depth of 7 feet bgs.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 7	**Date:**

Description: Test Pit 43
Beginning of Test Pit 43 excavation. Pit orientation is north/south.

Photo: 8	**Date:** 10-25-16

Description: Test Pit 43
At a depth of 3 feet bgs, unearthed barbwire.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 9	**Date:** 10-25-16

Description: Test Pit 43
Tan loamy layer mixed with 2 inch gravel and interspersing with 12 inch round boulders to the final depth of 10 feet. Rolls of barbwire were removed throughout this interval.

Photo: 10	**Date:** 10-25-16

Description: Test Pit 43
Barbwire excavated from Test Pit 43.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 11	**Date:** 10-28-16

Description: Test Pit 44
Test Pit 44 excavated with an east/west orientation.

Photo: 12	**Date:** 10-25-16

Description: Test Pit 44
Tan sandy loamy layer mixture with fractured basalt with no soil staining. Reached refusal at the depth of 4.0 feet.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 13	**Date:** 6-22-16

Description: Test Pit 45
Beginning excavation of test pit using a Caterpillar 312D excavator. Looking north-northeast across the study area.

Photo: 14	**Date:** 6-22-16

Description: Test Pit 48
Close-up of waste observed in pit approximately 5 ft below grade.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 15	**Date:** 6-22-16

Description: Test Pit 48
Waste observed 6 to 7 ft below grade (total depth).

Photo: 16	**Date:** 6-22-16

Description: Test Pit 48
Waste material excavated.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 17	**Date:** 6-22-16

Description: Test Pit 48
Backfilling test pit. Looking west across the study area.

Photo: 18	**Date:** 6-27-16

Description: Test Pit 50
Mixed waste (ash, glass bottles and cans) observed 3 to 8 ft below grade (total depth)

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 19	**Date:** 6-27-16

Description: Test Pit 50
Examples of waste excavated from test pit.

Photo: 20	**Date:** 6-24-16

Description: Test Pit 51
Start of excavation.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 21	**Date:** 6-24-16

Description: Test Pit 51
Metal waste encountered to 8 ft (total depth).

Photo: 22	**Date:** 6-24-16

Description: Test Pit 51
Examples of waste encountered during pit excavation.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 23	**Date:** 6-24-16

Description: Test Pit 52
Drums encountered during excavation to approximately 11 ft below grade.

Photo: 24	**Date:** 6-27-16

Description: Test Pit 53
Abundant metal waste encountered 2 to 6.6 ft below grade (total depth).

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 25	**Date:** 10-27-16

Description: Test Pit 56
Test Pit 56 excavated with a north/south orientation

The soil matrix to the depth of 3 feet consists of a tan loamy soil with a moist consistency.

The soil matrix from 3 to 8.5 feet consists of a moist dark brown sandy clay matrix. No detected odor or staining to the refusal depth of 8.5 feet.

Photo: 26	**Date:** 6-30-16

Description: Test Pit 57
Waste material encountered 1.5 to 7 ft below grade.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 27	**Date:** 6-30-16

Description: Test Pit 57
Inert 105mm projectile found in Test Pit 57.

Photo: 28	**Date:** 10-28-16

Description: Test Pit 58
Start of excavation with a north/south orientation

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 29	**Date:** 10-28-16

Description: Test Pit 58 Interval 0 to 3 feet, a tan sandy clay layer

Photo: 30	**Date:** 10-27-16

Description: Test Pit 58 Interval 3 to 5 feet; a tan sandy clay layer with glass, metal and wood fibers intermixed. The red staining is due to rusting metal.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 31	**Date:** 6-30-16

Description: Test Pit 60
Waste material encountered 1.5 to 7 ft below grade.

Photo: 32	**Date:** 10-27-16

Description: Test Pit 61
Start of excavation with a north/south orientation

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 33	**Date:** 10-27-16

Description: Test Pit 61
Tan loamy layer from 0 to 3 feet, Reached refusal at 3.0 feet.

Photo: 34	**Date:** 10-27-16

Description: Test Pit 62
Test Pit 62 excavated with a north/south orientation.

TerranearPMC

PHOTOGRAPHIC LOG

Client Name: US Army Corp of Engineers	**Project Name**: Site Inspection, Former Landfill Complex	**Site Location:** Yakima Training Center, Yakima, Washington	**Project No.:** 46040

Photo: 35	**Date:** 10-27-16

Description: Test Pit 62

Soil matrix consists of a tan loamy layer from 0.5 to 4 feet. No soil staining present. Refusal reached at 4.0 feet

Photo: 36	**Date:** 6-27-16

Description: Test Pit 64

Material removed from bottom of pit for sample collection.

APPENDIX K
WASTE VOLUME ESTIMATION

WASTE VOLUME ESTIMATION

SITE INSPECTION

FORMER LANDFILL COMPLEX

YAKIMA TRAINING CENTER
YAKIMA, WASHINGTON 98901

Prepared for:

Joint Base Lewis-McChord Public Works – Environmental Division
IMLM-PWE
Box 339500 MS 17
Joint Base Lewis-McChord, Washington 98433

Prepared by:

TerranearPMC, LLC
222 Valley Creek Blvd, Suite 210
Exton, Pennsylvania 19341

January 2017

Waste Volume Estimation Report Signature Sheet

The Undersigned have prepared, reviewed and approved this Waste Volume Estimation Report upon approval of USACE.

Prepared By: _____ Date 1/23/2017
Jeffery Case, P.E.
Project Engineer

Approved By: _____ Date: 1/23/2017
Ann Baines
TPMC Project Manager

Washington State Department of Ecology Statement

January 19, 2017

This Appendix presents a methodology to estimate waste volumes and associated disposal costs based on currently available information. Ecology understands these are only estimates, which could be used to evaluate potential future actions and use of the site. Many factors were used in the methodology to determine the waste estimates and disposal costs. Correspondingly, many assumptions were necessary to develop the estimates and disposal costs. These specific assumptions have not been reviewed, accepted or approved by Ecology at this time.

To be clear, Ecology considers the Appendix to be general and preliminary in scope, and does not consider the Appendix to represent a cleanup plan for the site. Finalizing the Site Investigation document does not constitute an agency approval of the approach and disposal methods mentioned in the Appendix. If additional cleanup is determined to be necessary, the next steps in the corrective action process would be a feasibility study of potential cleanup actions, selection of a cleanup action, followed by work plans for cleanup implementation, etc. as required under Washington State's Model Toxics Control Act, and the federal RCRA Corrective Action regulations.

Table of Contents

1.0 Introduction

The waste estimation evaluation focused on the portion of the approximately 20 acre study area where the National Guard has proposed to construct barracks and a dining hall. Assessment of this portion of the study area was performed in consultation with the US Army and USACE to support future planning, in the event that construction is planned in the approximately 2 acres represented by the proposed building footprints and driveways and pathways contained in the PWS' government supplied documents (USACE, 2015).

2.0 Waste Estimation Methodology

The waste volume was estimated based upon the information pertaining to waste content collected during the SI. No major excavation or detailed geophysical investigation was performed. As noted, the geophysics investigation showed heterogeneous results pertaining to disturbances in the area. Therefore, any calculations regarding potential waste volume can only be used as a rough order of magnitude and can vary significantly across the site.

Based on the trenching observations, approximately twelve of the test pits were located directly within the footprint of the potential development area. Available plans lacked limits of disturbance or building envelopes, thus this assessment focuses on the footprint of the buildings, driveways and pathways. Portions of the building footprint where test pits were present and did not contain debris were excluded from these calculations. Because the delineation of buried waste was not exhaustive, the estimates of aerial extent within the buildings and paved areas should be considered a rough estimate. In addition, for this assessment, no consideration of the potential costs associated with UXO, or UXO escort support has been incorporated pending a future US Army Hazard Assessment associated with the discovery of two inert shells unearthed in the northern portion of the study area during the SI investigation.

The most common debris types found included broken glass, glass bottles, plastic containers, metal cans, miscellaneous metal, drums/drum remnants, wood debris, and small pockets of ash. Waste volume calculations were considered under two different scenarios: 1) all excavated soil will be considered impacted by waste and subsequently will be disposed of as non-hazardous material in a construction-type landfill; or 2) waste will be physically segregated from the soil (which will be remain on site) and disposed of separately. While Option 1 is easier to implement, it means a larger cost for waste management. Option 2 would have less disposal costs, but would be offset in part by segregation costs (e.g., magnets, screens, etc.) and additional handling. Given the data available at the time and no definitive excavation limits, it is difficult to make a definitive determination on the cost benefit of the options.

Using the information gathered, test pit depths ranged to 11 ft bgs, with an average between 6

and 7 ft. Typically, waste was identified between 2 and 8 ft bgs. Assuming no construction would include a basement, it is expected that excavations would not proceed any deeper than the test pits. For the purpose of this calculation, it was assumed that the average construction excavation would be to five ft and that any waste below that depth would be left undisturbed in place.

The amount of waste encountered in the test pits varied significantly, making any estimate of waste volume very difficult. However, for the purposes of this report, it was assumed that removable waste material would make up approximately 5% of the total excavated material.

3.0 Waste Estimates and Potential Disposal Costs

For estimation purposes, the following table provides a summation of excavated material and potential waste volumes. Note that within some of the potential development area, no test pits were performed and/or no waste was observed; these areas were excluded from the calculations.

Portion of Proposed Construction	**Impacted Area*** sqft	**Excavation Depth** ft	**Excavation Volume (waste and soil)** cuft	**Excavation Volume** cuyd	**Excavation Volume** tons	**Estimated Removal & Disposal Cost**
Barracks	15,543	5	77,715	2,878	4,605	$322,400
DFAC	NA	5	NA	NA	NA	NA
Barracks Driveway	11,596	5	57,980	2,147	3,436	$240,500
Pathways	2,533	5	12,665	469	751	$52,500

Notes:

* - Area of portion of proposed building footprint (not construction envelope) predicted to be impacted by debris, based on SI test pit results.

Costs assume upper end disposal cost for non-hazardous waste of $70/ton

sqft – square feet

cuft – cubic feet

cuyd – bank cubic yards

The volumes shown in the table are the estimated volumes designated for management/disposal if waste was not segregated. Since the soil excavation would be part of a larger construction effort, it is difficult to estimate the cost to remove because of potential rate limitations. As such, the cost of waste excavation would be included in any construction estimate and therefore is not included at this time. The cost to transport and dispose of non-hazardous waste can range anywhere from $50 - $70/ton depending on transportation distance and individual landfill costs. Using this range, an order of magnitude cost for disposal of the total volume would be between $615,000 and $1,480,000. Again, it should be pointed out that these costs assume excavation of between 0.7 and 1.6 acres to a depth of five ft. Any actual excavation would likely be less than this since not all work may require depths to five ft (e.g. sidewalks, etc.).

Assuming that segregation is utilized, the volume to be disposed would be expected to be significantly less (275 – 1000 bank cuyds). Estimating segregation costs are too difficult at this time since no true excavation limits are available. However, based upon experience, it can be assumed that the cost to segregate and dispose of waste material only will become more beneficial as the volume increases.

4.0 Reference

U.S. Army Corps of Engineers (USACE), 2015. FY16 Washington Army National Guard 100% submittal document. August.

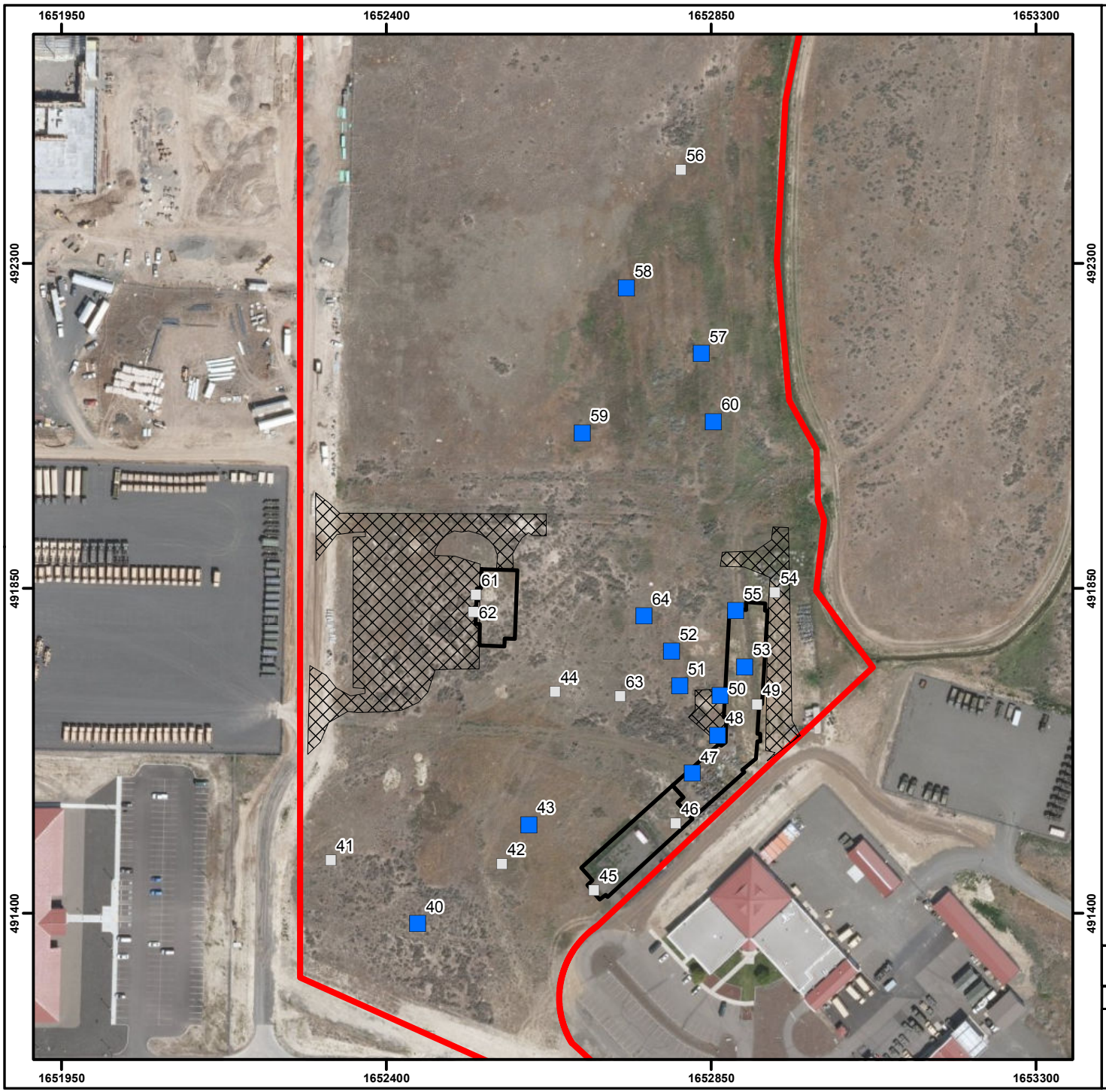

Figure K-1
Debris Distribution

Site Inspection Former Landfill Complex
Yakima Training Center, Washington

Legend

- Former Landfill Complex Boundary
- Proposed Pavement Area
- Proposed Building Footprint
- Test Pit (no debris)
- Test Pit (debris)

N

0 87.5 175 262.5 350
Feet

1 in = 200 feet

US State Plane Projection
Washington South (feet), NAD83

Contract: W912DW-11-D-1037	Date: 12/20/2016

Document Name: Figure_Appendix_K

PUBLIC WORKS

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APPENDIX L
RELATIVE RISK EVALUATION WORKSHEETS

RELATIVE RISK SITE EVALUATION WORKSHEET

SITE[1] BACKGROUND INFORMATION

Installation/Property Name: Yakima Training Center Date Entered /Updated (day, month, year): 19 December 2016

Location (City/County State): Yakima, Yakima County, WA Media Evaluated (GW, SW, Sediment, Soil, Sed Eco, Soil Eco.): Soil

Site /Project (Name/Project No.): Former Landfill Complex Phase of Execution: SI

Point of Contact (Name/Phone): Meseret Ghebresllassie, (253) 477-3742

SITE SUMMARY

(Include only the key elements of information used to conduct the relative risk site evaluation. Attach map view of site if desired.)

Brief Site Description (include site type, materials disposed of, dates of operation, and other relevant information):

The Former Landfill Complex (FLC) includes SWMU 57 extending south to the northwestern border of Building 870. SWMU 57 is approximately three acres in size and the area surrounding the SWMU is approximately 24 acres. The area included in the SI (called the study area) is centered at approximately 46°40'55.77"N and 120°27'4.64"W and is approximately 20 acres in size. The study area was initially identified as the 1954-1968 Landfill/Burn Pits. The Decision Document for SWMU 57 (OGC, 2007) indicates that municipal solid waste generated in the Cantonment Area and training areas was burned and disposed of in up to seven unlined pits between 1954 and 1968. The pits were backfilled with at least 1.5 feet of soil over the waste materials. SWMU 57 was operated from 1954 to 1974 as a waste disposal landfill that included municipal refuse, hazardous waste from vehicle maintenance, batteries, paint cans, and empty oil containers. The waste was placed in open unlined trenches that were east-west oriented and frequently burned (Hart Crowser 2003). Based on the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) (Hart Crowser 2003), the Decision Document (OGC 2007) identified that the selected remedy for FLC in the vicinity of SWMU 57 was to implement land use controls (LUCs). The LUCs restricted residential use that could pose unacceptable risk associated with potential use of groundwater. During the SI test pit installation, inert shell casings (UXOs) were unearthed within the boundary of SWMU 57.

1 The term Site is defined as a discrete area for which suspected contamination has been verified and requires further response action.

Brief Description of Pathways (Groundwater, Soil, Surface Water [Human], Surface Water [Ecological], Sediment [Human], Sediment [Ecological]):

Debris and waste have been observed in subsurface soil. Existing investigation and LUCs have addressed the potential groundwater pathway. There is no complete migration pathway to surface water or sediment. Thus the potential exposure pathway is associate with direct contact to soil; inhalation of constituents detected in soil that exceeded project action limits (PALs) is not considered to be complete for this assessment because all constituents were all metals. Soil vapor analysis did reveal detections of VOCs that should be evaluated separately.

Brief Description of Receptors (Human and Ecological):

The FLC is located on Yakima Training Center, an active military installation. The FLC is an open and unused area that portions of it have, most recently, been used as a laydown area for equipment or supplies. There are no structures currently constructed on the FLC; as a result, there is no current worker or residential exposure to soils in the study area. Under current and future conditions, direct contact by human with the waste would likely not occur because of the depth and the limits to site activities that would include digging the impacted soil. Under future landuse, potential construction of barracks and a dining hall has been considered. In this scenario, potential contact with subsurface soil and waste could occur as a result of excavation.

GROUNDWATER

Not applicable

CONTAMINANT HAZARD FACTOR (CHF)[1]

Contaminant	Max. Concentration (ug/l)	Comparison Value (ug/l)	Ratio[2]
		Total	

1 Evaluate for human contaminants only
2 Ratio = Max. Concentration/Comparison Value

(Place an "X" next to one below)

Significant (if Total >100) _____

Moderate (if Total 2-100) _____

Minimal (if Total <2) _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the groundwater is moving or has moved away from the source area

Potential - Contamination in the groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates that the potential for contaminant migration from the source via the groundwater is limited (due to geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

RECEPTOR FACTOR (RF)

Identified - There is a threatened water supply downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer)

Potential - There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture, (equivalent to Class I, IIA, or IIB aquifer)
Limited - There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only)

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

Groundwater Category _____
(High, Medium, Low)

SURFACE WATER/HUMAN ENDPOINT

Not Applicable

CONTAMINANT HAZARD FACTOR (CHF)

Contaminant	Max. Concentration (ug/l)	Comparison Value (ug/l)	Ratio[1]
		Total	

[1] Ratio = Max. Concentration/Comparison Value

(Place an "X" next to one below)

Significant (if Total >100) _____

Moderate (if Total 2-100) _____

Minimal (if Total <2) _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, moving toward, or has moved to a point of exposure

Potential - Contamination in surface water or sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contaminant migration from the source to a potential point of exposure (could be due to presence of geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water or sediment to which contamination has moved or can move

Potential - Potential for receptors to have access to surface water or sediment to which contamination has moved or can move

Limited - Little or no potential for receptors to have access to surface water or sediment to which contamination has moved or can move

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

Surface Water/Human Endpoint Category _____

(High, Medium, Low)

SEDIMENT/HUMAN ENDPOINT

Not Applicable

CONTAMINANT HAZARD FACTOR (CHF)

Contaminant	Max. Concentration (ug/ kg)	Comparison Value (ug/ kg)	Ratio[1]

[1] Ratio = Max. Concentration/Comparison Value

Total

(Place an "X" next to one below)

Significant (if Total >100) _____

Moderate (if Total 2-100) _____

Minimal (if Total <2) _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, moving toward, or has moved to a point of exposure

Potential - Contamination in surface water or sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contaminant migration from the source to a potential point of exposure (could be due to presence of geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water or sediment to which contamination has moved or can move

Potential - Potential for receptors to have access to surface water or sediment to which contamination has moved or can move

Limited - Little or no potential for receptors to have access to surface water or sediment to which contamination has moved or can move

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

Sediment/Human Health Category _____

(High, Medium, Low)

SURFACE WATER/ECOLOGICAL ENDPOINT

Not Applicable

CONTAMINANT HAZARD FACTOR (CHF)

Contaminant	Max. Concentration (ug/l)	Comparison Value (ug/l)	Ratio[1]
		Total	

[1] Ratio = Max. Concentration/Comparison Value

(Place an "X" next to one below)

Significant (if Total >100) _____

Moderate (if Total 2-100) _____

Minimal (if Total <2) _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, moving toward, or has moved to a point of exposure

Potential - Contamination in surface water or sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contaminant migration from the source to a potential point of exposure (could be due to presence of geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water or sediment to which contamination has moved or can move

Potential - Potential for receptors to have access to surface water or sediment to which contamination has moved or can move

Limited - Little or no potential for receptors to have access to surface water or sediment to which contamination has moved or can move

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

Surface Water/Ecological Endpoint Category _____

(High, Medium, Low)

SEDIMENT/ECOLOGICAL ENDPOINT

Not Applicable

CONTAMINANT HAZARD FACTOR (CHF)

Contaminant	Max. Concentration (ug/ kg)	Comparison Value (ug/ kg)	Ratio[1]
		Total	

[1] Ratio = Max. Concentration/Comparison Value

(Place an "X" next to one below)

Significant (if Total >100) _____

Moderate (if Total 2-100) _____

Minimal (if Total <2) _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence indicates that contamination in the media is present at, moving toward, or has moved to a point of exposure

Potential - Contamination in surface water or sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined

Confined - Information indicates a low potential for contaminant migration from the source to a potential point of exposure (could be due to presence of geological structures or physical controls)

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to surface water or sediment to which contamination has moved or can move

Potential - Potential for receptors to have access to surface water or sediment to which contamination has moved or can move

Limited - Little or no potential for receptors to have access to surface water or sediment to which contamination has moved or can move

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: _____

Brief Rationale for Selection: _____

Sediment/Ecological Endpoint Category _____

(High, Medium, Low)

SOIL*

See Attached tables for CHF calculations

CONTAMINANT HAZARD FACTOR (CHF)[1]

Contaminant	Max. Concentration (ug/kg)	Comparison Value (ug/ kg)	Ratio[2]
		Total	

1 Evaluate for human contaminants only
2 Ratio = Max. Concentration/Comparison Value

(Place an "X" next to one below)

Significant (if Total >100) _____

Moderate (if Total 2-100) __X___

Minimal (if Total <2) _____

MIGRATION PATHWAY FACTOR (MPF)

Evident - Analytical data or observable evidence that contamination is present at, is moving toward, or has moved to a point of exposure

Potential - contamination has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined

Confined - Low possibility for contamination to be present at or migrate to a point of exposure

(Place an "X" next to one below)

Evident: _____

Potential: _____

Confined: __X___

Brief Rationale for Selection: _____

RECEPTOR FACTOR (RF)

Identified - Receptors identified that have access to contaminated soil

Potential - Potential for receptors to have access to contaminated soil

Limited - Little or no potential for receptors to have access to contaminated soil

(Place an "X" next to one below)

Evident: _____

Potential: _X____

Confined: _____

Brief Rationale for Selection: _____

Soil Category **Low**
(High, Medium, Low)

*Soil samples should be from a depth of 0–6 inches. If samples are not available from the 0–6 inch interval, results from depths up to, but not exceeding, 24 inches can be used

Subsurface soil ratios have been calculated to assess future residential use following construction.

NOTE: This assessment is for chemical compounds only; soil gas and UXO risks are not addressed by this assessment.

Table L-1
Surface Soil Relative Risk CHF Calculation
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Analytes		Project Action Levels	Carc/ Non carc	Minimum Detection	Maximum Detection	Frequency of Detection	Estimated Risk	Estimated Hazard
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	n	20.9	20.9	1		0.0000003
Trichloroethylene	ug/kg	**30**	**c**			0		
GC/MS Semi-volatiles (SW846 8270D)								
2,4-Dinitrotoluene	ug/kg	1,700	c			0		
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	c			0		
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Benzo(a)anthracene	ug/kg	**100**	**c**	4.7	5.5	3		
Benzo(a)pyrene	ug/kg	**100**	**c**	5.6	7.3	4		
Benzo(b)fluoranthene	ug/kg	**100**	**c**	6.5	11.5	3		
Benzo(g,h,i)perylene	ug/kg	-		5.7	14.1	2		
Benzo(k)fluoranthene	ug/kg	**100**	**c**	5.6	5.6	1		
Chrysene	ug/kg	**100**	**c**	4.9	8.4	4		
Dibenzo(a,h)anthracene	ug/kg	**100**	**c**			0		
Fluoranthene	ug/kg	2,400,000	n			0		
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	**c**	4.9	10.5	2		
2-Methylnaphthalene	ug/kg	**5,000**	**n**			0		
Naphthalene	ug/kg	**5,000**	**n**			0		
Phenanthrene	ug/kg	-				0		
Pyrene	ug/kg	1,800,000	n			0		
Benzo(a)pyrene equivalents	ug/kg	**100**	**c**	7.8	10.6	4	0.11	
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	**n**	1.24	13.6	18		0.007
TPH (Motor Oil)	mg/kg	**4,000**	**n**	4.74	22.2	19		0.006
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	c			0		
delta-BHC	ug/kg	-				0		
Chlordane	ug/kg	1,700	c	178	178	1	0.10	
alpha-Chlordane	ug/kg	-		0.62	31	4		
gamma-Chlordane	ug/kg	-		1.3	28.5	2		
Dieldrin	ug/kg	34	c	24.4	24.4	1	0.72	
4,4'-DDD	ug/kg	2,300	c	0.94	45	4	0.02	
4,4'-DDE	ug/kg	2,000	c	1.1	337	15	0.17	
4,4'-DDT	ug/kg	**3,000**	**c**	1.2	489	14	0.16	
Endrin	ug/kg	19,000	n			0		
Endosulfan sulfate	ug/kg	-		5.3	8	3		
Endrin ketone	ug/kg	-		3.1	3.1	1		
Heptachlor	ug/kg	130	c	0.86	0.86	1	0.007	
Heptachlor epoxide	ug/kg	70	c	2.5	2.5	1	0.036	
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	4,100	n			0		
Aroclor 1254	ug/kg	240	c	40.1	40.1	1	0.17	
Aroclor 1260	ug/kg	240	c			0		
Herbicides (SW846 8151A)								
2,4,5-TP (Silvex)	ug/kg	510,000	n			0		
Pentachlorophenol	ug/kg	1,000	c			0		
Metals analysis								
Aluminum	mg/kg	77,000	n	11300	24500	22		0.32
Antimony	mg/kg	31	n	0.33	0.79	5		0.025
Arsenic	mg/kg	**20**	**b**	2.1	5	22		0.25
Barium	mg/kg	15,000	n	89.7	201	22		0.013
Beryllium	mg/kg	160	c	0.19	0.63	22	0.004	
Cadmium	mg/kg	71	n	0.11	0.24	5		0.003
Calcium	mg/kg	-		3850	17600	22		
Chromium	mg/kg	**2,000**	**n**	9.7	22.6	22		0.011
Cobalt	mg/kg	23	n	7.2	15.6	22		0.68
Copper	mg/kg	3,100	n	16.6	27.1	22		0.009
Iron	mg/kg	55,000	n	17200	48700	22		0.89
Lead	mg/kg	**250**	**n**	4.9	463	22		***1.9***
Magnesium	mg/kg	-		3860	7830	22		
Manganese	mg/kg	1,800	n	346	1150	22		0.64
Mercury	mg/kg	**2**	**n**	0.015	0.16	22		0.080
Nickel	mg/kg	820	n	12.2	23.6	22		0.029
Potassium	mg/kg	-		1360	3160	22		
Selenium	mg/kg	390	n			0		
Silver	mg/kg	390	n	0.22	0.75	7		0.002
Sodium	mg/kg	-		204	1330	22		
Thallium	mg/kg	0.78	n	0.27	1.2	4		***1.5***
Vanadium	mg/kg	390	n	33.7	64.1	22		0.16
Zinc	mg/kg	23,000	n	37.3	91.2	22		0.004
						Total:	**1.5**	**7**

Notes:

Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10^{-5} and a hazard index of 1.0 and Washington State MCTA (bolded levels) fro hypothetical residential landuse.

Shaded/Bold/Italics denotes concentrations that exceed the project action levels and represent a potentially unacceptable risk.

b = value is based on statewide background

Table L-2
Subsurface Soil Relative Risk CHF Calculation
Former Landfill Complex
Yakima Training Center
Yakima, Washington

		Project Action Levels	Carc/ Non carc	Minimum Detection	Maximum Detection	Frequency of Detection	Estimated Risk	Estimated Hazard
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	n	14.4	14.4	1		0.0000002
Trichloroethylene	ug/kg	**30**	**c**	2	2	1	0.067	
GC/MS Semi-volatiles (SW846 8270D)								
2,4-Dinitrotoluene	ug/kg	1,700	c	48.3	48.3	1	0.028	
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	c	104	104	1	0.0027	
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Benzo(a)anthracene	ug/kg	**100**	**c**	4.9	21.2	6		
Benzo(a)pyrene	ug/kg	**100**	**c**	4.2	39.4	7		
Benzo(b)fluoranthene	ug/kg	**100**	**c**	4.6	84.7	8		
Benzo(g,h,i)perylene	ug/kg	-		4.2	57.3	9		
Benzo(k)fluoranthene	ug/kg	**100**	**c**	4	51.5	5		
Chrysene	ug/kg	**100**	**c**	3.8	23.7	10		
Dibenzo(a,h)anthracene	ug/kg	**100**	**c**	21.8	21.8	1		
Fluoranthene	ug/kg	2,400,000	n	21.3	57.9	2		0.000024
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	**c**	4.4	57.4	5		
2-Methylnaphthalene	ug/kg	**5,000**	**n**	69.4	69.4	1		0.014
Naphthalene	ug/kg	**5,000**	**n**	65.2	65.2	1		0.013
Phenanthrene	ug/kg	-		21.5	27.3	2		
Pyrene	ug/kg	1,800,000	n	19	50.5	2		0.000028
Benzo(a)pyrene equivalents	ug/kg	**100**	**c**	5.5	62.0	12.0	0.62	
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	**n**	1.28	27.6	34		0.014
TPH (Motor Oil)	mg/kg	**4,000**	**n**	4.23	226	38		0.057
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	c	2.5	2.5	1	0.06	
delta-BHC	ug/kg	-		1.1	1.1	1		
Chlordane	ug/kg	1,700	c			0		
alpha-Chlordane	ug/kg	-		0.8	1.3	3		
gamma-Chlordane	ug/kg	-		0.82	10.2	6		
Dieldrin	ug/kg	34	c	0.82	8.4	7	0.25	
4,4'-DDD	ug/kg	2,300	c	0.72	56.4	13	0.025	
4,4'-DDE	ug/kg	2,000	c	0.82	101	27	0.05	
4,4'-DDT	ug/kg	**3,000**	**c**	0.94	330	30	0.11	
Endrin	ug/kg	19,000	n	1.20	3.4	2		0.00018
Endosulfan sulfate	ug/kg	-		1	8.3	4		
Endrin ketone	ug/kg	-				0		
Heptachlor	ug/kg	130	c	0.88	0.88	1	0.007	
Heptachlor epoxide	ug/kg	70	c			0		
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	4,100	n	9.6	10.1	2		0.0025
Aroclor 1254	ug/kg	240	c	15	38.7	5	0.16	
Aroclor 1260	ug/kg	240	c	8.8	22.5	4	0.09	
Herbicides (SW846 8151A)								
2,4,5-TP (Silvex)	ug/kg	510,000	n	3.8	3.8	1		0.000007
Pentachlorophenol	ug/kg	1,000	c	2.3	4.9	3	0.0049	
Metals analysis								
Aluminum	mg/kg	77,000	n	12,600	37,500	56		0.49
Antimony	mg/kg	31	n	0.27	18.90	20		0.61
Arsenic	mg/kg	**20**	**b**	1.5	24	56		1.21
Barium	mg/kg	15,000	n	80	549	56		0.04
Beryllium	mg/kg	160	c	0.15	0.86	51	0.01	
Cadmium	mg/kg	71	n	0.05	4.3	28		0.06
Calcium	mg/kg	-		6,200	56,600	56		
Chromium	mg/kg	**2,000**	**n**	10	221	56		0.11
Cobalt	mg/kg	23	n	5.0	22	56		0.97
Copper	mg/kg	3,100	n	15	1,010	56		0.33
Iron	mg/kg	55,000	n	12,900	124,000	56		2.25
Lead	mg/kg	**250**	**n**	4.8	4,130	56		16.52
Magnesium	mg/kg	-		4,520	16,300	56		
Manganese	mg/kg	1,800	n	188	1,500	56		0.83
Mercury	mg/kg	**2**	**n**	0.013	2.4	56		1.20
Nickel	mg/kg	820	n	12	113	56		0.14
Potassium	mg/kg	-		966	4,700	56		
Selenium	mg/kg	390	n	0.14	17.80	5		0.05
Silver	mg/kg	390	n	0.13	3.20	30		0.01
Sodium	mg/kg	-		414	2,780	56		
Thallium	mg/kg	0.78	n	0.29	3.9	21		5.00
Vanadium	mg/kg	390	n	34	154	56		0.39
Zinc	mg/kg	23,000	n	24	1,710	56		0.07
						Total:	**1.5**	**30**

Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10^{-5} and a hazard index of 1.0 and Washington State MCTA (bolded levels) fro hypothetical residential landuse.

Shaded/Bold/Italics denotes concentrations that exceed the project action levels and represent a potentially unacceptable risk.

b = value is based on statewide background

Table L-1
Surface Soil Relative Risk CHF Calculation
Former Landfill Complex
Yakima Training Center
Yakima, Washington

Analytes		Project Action Levels	Carc/ Non carc	Minimum Detection	Maximum Detection	Frequency of Detection	Estimated Risk	Estimated Hazard
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	n	20.9	20.9	1		0.0000003
Trichloroethylene	ug/kg	**30**	**c**			0		
GC/MS Semi-volatiles (SW846 8270D)								
2,4-Dinitrotoluene	ug/kg	1,700	c			0		
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	c			0		
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Benzo(a)anthracene	ug/kg	**100**	**c**	4.7	5.5	3		
Benzo(a)pyrene	ug/kg	**100**	**c**	5.6	7.3	4		
Benzo(b)fluoranthene	ug/kg	**100**	**c**	6.5	11.5	3		
Benzo(g,h,i)perylene	ug/kg	-		5.7	14.1	2		
Benzo(k)fluoranthene	ug/kg	**100**	**c**	5.6	5.6	1		
Chrysene	ug/kg	**100**	**c**	4.9	8.4	4		
Dibenzo(a,h)anthracene	ug/kg	**100**	**c**			0		
Fluoranthene	ug/kg	2,400,000	n			0		
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	**c**	4.9	10.5	2		
2-Methylnaphthalene	ug/kg	**5,000**	**n**			0		
Naphthalene	ug/kg	**5,000**	**n**			0		
Phenanthrene	ug/kg	-				0		
Pyrene	ug/kg	1,800,000	n			0		
Benzo(a)pyrene equivalents	ug/kg	**100**	**c**	7.8	10.6	4	0.11	
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	**n**	1.24	13.6	18		0.007
TPH (Motor Oil)	mg/kg	**4,000**	**n**	4.74	22.2	19		0.006
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	c			0		
delta-BHC	ug/kg	-				0		
Chlordane	ug/kg	1,700	c	178	178	1	0.10	
alpha-Chlordane	ug/kg	-		0.62	31	4		
gamma-Chlordane	ug/kg	-		1.3	28.5	2		
Dieldrin	ug/kg	34	c	24.4	24.4	1	0.72	
4,4'-DDD	ug/kg	2,300	c	0.94	45	4	0.02	
4,4'-DDE	ug/kg	2,000	c	1.1	337	15	0.17	
4,4'-DDT	ug/kg	**3,000**	**c**	1.2	489	14	0.16	
Endrin	ug/kg	19,000	n			0		
Endosulfan sulfate	ug/kg	-		5.3	8	3		
Endrin ketone	ug/kg	-		3.1	3.1	1		
Heptachlor	ug/kg	130	c	0.86	0.86	1	0.007	
Heptachlor epoxide	ug/kg	70	c	2.5	2.5	1	0.036	
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	4,100	n			0		
Aroclor 1254	ug/kg	240	c	40.1	40.1	1	0.17	
Aroclor 1260	ug/kg	240	c			0		
Herbicides (SW846 8151A)								
2,4,5-TP (Silvex)	ug/kg	510,000	n			0		
Pentachlorophenol	ug/kg	1,000	c			0		
Metals analysis								
Aluminum	mg/kg	77,000	n	11300	24500	22		0.32
Antimony	mg/kg	31	n	0.33	0.79	5		0.025
Arsenic	mg/kg	**20**	**b**	2.1	5	22		0.25
Barium	mg/kg	15,000	n	89.7	201	22		0.013
Beryllium	mg/kg	160	c	0.19	0.63	22	0.004	
Cadmium	mg/kg	71	n	0.11	0.24	5		0.003
Calcium	mg/kg	-		3850	17600	22		
Chromium	mg/kg	**2,000**	**n**	9.7	22.6	22		0.011
Cobalt	mg/kg	23	n	7.2	15.6	22		0.68
Copper	mg/kg	3,100	n	16.6	27.1	22		0.009
Iron	mg/kg	55,000	n	17200	48700	22		0.89
Lead	mg/kg	**250**	**n**	4.9	463	22		***1.9***
Magnesium	mg/kg	-		3860	7830	22		
Manganese	mg/kg	1,800	n	346	1150	22		0.64
Mercury	mg/kg	**2**	**n**	0.015	0.16	22		0.080
Nickel	mg/kg	820	n	12.2	23.6	22		0.029
Potassium	mg/kg	-		1360	3160	22		
Selenium	mg/kg	390	n			0		
Silver	mg/kg	390	n	0.22	0.75	7		0.002
Sodium	mg/kg	-		204	1330	22		
Thallium	mg/kg	0.78	n	0.27	1.2	4		***1.5***
Vanadium	mg/kg	390	n	33.7	64.1	22		0.16
Zinc	mg/kg	23,000	n	37.3	91.2	22		0.004
						Total:	**1.5**	**7**

Notes:

Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10^{-5} and a hazard index of 1.0 and Washington State MCTA (bolded levels) fro hypothetical residential landuse.

Shaded/Bold/Italics denotes concentrations that exceed the project action levels and represent a potentially unacceptable risk.

b = value is based on statewide background

Table L-2
Subsurface Soil Relative Risk CHF Calculation
Former Landfill Complex
Yakima Training Center
Yakima, Washington

		Project Action Levels	Carc/ Non carc	Minimum Detection	Maximum Detection	Frequency of Detection	Estimated Risk	Estimated Hazard
GC/MS Volatiles (SW846 8260B)								
Acetone	ug/kg	61,000,000	n	14.4	14.4	1		0.0000002
Trichloroethylene	ug/kg	**30**	**c**	2	2	1	0.067	
GC/MS Semi-volatiles (SW846 8270D)								
2,4-Dinitrotoluene	ug/kg	1,700	c	48.3	48.3	1	0.028	
bis(2-Ethylhexyl)phthalate	ug/kg	39,000	c	104	104	1	0.0027	
GC/MS Semi-volatiles (SW846 8270D BY SIM)								
Benzo(a)anthracene	ug/kg	**100**	**c**	4.9	21.2	6		
Benzo(a)pyrene	ug/kg	**100**	**c**	4.2	39.4	7		
Benzo(b)fluoranthene	ug/kg	**100**	**c**	4.6	84.7	8		
Benzo(g,h,i)perylene	ug/kg	-		4.2	57.3	9		
Benzo(k)fluoranthene	ug/kg	**100**	**c**	4	51.5	5		
Chrysene	ug/kg	**100**	**c**	3.8	23.7	10		
Dibenzo(a,h)anthracene	ug/kg	**100**	**c**	21.8	21.8	1		
Fluoranthene	ug/kg	2,400,000	n	21.3	57.9	2		0.000024
Indeno(1,2,3-cd)pyrene	ug/kg	**100**	**c**	4.4	57.4	5		
2-Methylnaphthalene	ug/kg	**5,000**	**n**	69.4	69.4	1		0.014
Naphthalene	ug/kg	**5,000**	**n**	65.2	65.2	1		0.013
Phenanthrene	ug/kg	-		21.5	27.3	2		
Pyrene	ug/kg	1,800,000	n	19	50.5	2		0.000028
Benzo(a)pyrene equivalents	ug/kg	**100**	**c**	5.5	62.0	12.0	0.62	
Total Petroleum Hydrocarbons (NWTPH-DX W SGC)								
TPH (Diesel)	mg/kg	**2,000**	**n**	1.28	27.6	34		0.014
TPH (Motor Oil)	mg/kg	**4,000**	**n**	4.23	226	38		0.057
Pesticides (SW846 8081B)								
Aldrin	ug/kg	39	c	2.5	2.5	1	0.06	
delta-BHC	ug/kg	-		1.1	1.1	1		
Chlordane	ug/kg	1,700	c			0		
alpha-Chlordane	ug/kg	-		0.8	1.3	3		
gamma-Chlordane	ug/kg	-		0.82	10.2	6		
Dieldrin	ug/kg	34	c	0.82	8.4	7	0.25	
4,4'-DDD	ug/kg	2,300	c	0.72	56.4	13	0.025	
4,4'-DDE	ug/kg	2,000	c	0.82	101	27	0.05	
4,4'-DDT	ug/kg	**3,000**	**c**	0.94	330	30	0.11	
Endrin	ug/kg	19,000	n	1.20	3.4	2		0.00018
Endosulfan sulfate	ug/kg	-		1	8.3	4		
Endrin ketone	ug/kg	-				0		
Heptachlor	ug/kg	130	c	0.88	0.88	1	0.007	
Heptachlor epoxide	ug/kg	70	c			0		
PCBs (SW846 8082A)								
Aroclor 1016	ug/kg	4,100	n	9.6	10.1	2		0.0025
Aroclor 1254	ug/kg	240	c	15	38.7	5	0.16	
Aroclor 1260	ug/kg	240	c	8.8	22.5	4	0.09	
Herbicides (SW846 8151A)								
2,4,5-TP (Silvex)	ug/kg	510,000	n	3.8	3.8	1		0.000007
Pentachlorophenol	ug/kg	1,000	c	2.3	4.9	3	0.0049	
Metals analysis								
Aluminum	mg/kg	77,000	n	12,600	37,500	56		0.49
Antimony	mg/kg	31	n	0.27	18.90	20		0.61
Arsenic	mg/kg	**20**	**b**	1.5	24	56		1.21
Barium	mg/kg	15,000	n	80	549	56		0.04
Beryllium	mg/kg	160	c	0.15	0.86	51	0.01	
Cadmium	mg/kg	71	n	0.05	4.3	28		0.06
Calcium	mg/kg	-		6,200	56,600	56		
Chromium	mg/kg	**2,000**	**n**	10	221	56		0.11
Cobalt	mg/kg	23	n	5.0	22	56		0.97
Copper	mg/kg	3,100	n	15	1,010	56		0.33
Iron	mg/kg	55,000	n	12,900	124,000	56		2.25
Lead	mg/kg	**250**	**n**	4.8	4,130	56		16.52
Magnesium	mg/kg	-		4,520	16,300	56		
Manganese	mg/kg	1,800	n	188	1,500	56		0.83
Mercury	mg/kg	**2**	**n**	0.013	2.4	56		1.20
Nickel	mg/kg	820	n	12	113	56		0.14
Potassium	mg/kg	-		966	4,700	56		
Selenium	mg/kg	390	n	0.14	17.80	5		0.05
Silver	mg/kg	390	n	0.13	3.20	30		0.01
Sodium	mg/kg	-		414	2,780	56		
Thallium	mg/kg	0.78	n	0.29	3.9	21		5.00
Vanadium	mg/kg	390	n	34	154	56		0.39
Zinc	mg/kg	23,000	n	24	1,710	56		0.07
						Total:	**1.5**	**30**

Project Action Levels are based on USEPA Regional Screening Levels (November 2015) for a carcinogenic risk of 1 x 10^{-5} and a hazard index of 1.0 and Washington State MCTA (bolded levels) fro hypothetical residential landuse.

Shaded/Bold/Italics denotes concentrations that exceed the project action levels and represent a potentially unacceptable risk.

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