GEOENGINEERS

Memorandum

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From:	Nick E. Rohrbach, Ryan M. Tobias and Dustin G. Wasley, PE, GeoEngineers, Inc.
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File:	4296-008-00
Subject:	Revised Technical Memorandum for Saddle Rock Interim Remedial Action Field Sampling Summary: April 2019

INTRODUCTION

This revised technical memorandum (memo) describes the soil sampling and analysis activities completed in support of the interim remedial action (IRA) design data gap assessment (DGA) at the Saddle Rock Natural Area (Site) in Wenatchee, Washington (Figure 1). The Site is comprised of eight areas of interest (AOIs) originally delineated by Hart Crowser (2013a and 2013b) as part of their Remedial Investigation/Feasibility Study (RI/FS). The AOIs were identified as SR01 through SR08 and are associated with historical mining activities and elevated metals concentrations in waste rock piles as shown in Site Plan – Overall, Figure 2.

SR07 is believed to be naturally occurring materials by all parties, so no samples were collected during this DGA. The source piles of SR06 may also have been the result of road work performed in 1957 (RLR 2013) and is likely not from historical mining efforts. The RI identified arsenic as the primary constituent of concern (COC) for human-health receptors across all AOIs.

This memo was revised to address the Washington State Department of Ecology's (Ecology) comments received on May 30, 2019 and a subsequent conference call with the City of Wenatchee (City) and Ecology on June 7, 2019.

PURPOSE

The purpose of this revised memo and the recently completed data gap field investigation was to:

- Determine the extent of contamination in the downslope "toe" areas of the waste rock piles as it was not previously defined; and
- Assess the suitability of the original cleanup level of 14.4 milligrams per kilogram (mg/kg) for total arsenic. Ecology previously concluded native soils in the hydrothermally altered units may have considerably higher natively occurring concentrations of total arsenic than in the adjacent formations. Thus, geological occurrence was considered in determining natural background concentrations for total arsenic and may not be associated with historical mining operations.

SUMMARY FIELD ACTIVITIES

X-ray fluorescence (XRF) field screening and laboratory soil samples were collected between April 8 and 11, 2019. The DGA incorporated upslope and downslope evaluation using XRF measurements and confirmation sampling using analytical laboratory analyses to assist with development of source-specific background concentrations and delineation of downslope contamination. Each waste rock pile was laterally delineated in the field via XRF screening, including downslope boundaries, using temporary flagging. Soil sample locations collected for off-site laboratory analysis were marked via wood staking. Temporary flagging and wood stake locations were surveyed by a Washington Professional Land Surveyor (PLS) and those updated aerial extents are included in this document. Surficial topography data was also collected by the PLS to assist in evaluating vertical dimensions and updated volume estimates for the design report.

The following sections summarizes XRF field screening, soil sample collection methods and processing procedures for the seven AOIs in accordance with the Sampling and Analysis Plan (SAP) (GeoEngineers 2019).

XRF Field Screening

Source piles SR01, 02, 03, 04, 05, 06 and 08 were screened with the XRF typically from three depth intervals (0 to 2 inches, 2 to 4 inches and 4 to 6 inches) for total arsenic as described below;

- SR01, 6 upslope (US-01 to US-06) and 9 downslope locations (DS-01 to DS-09)
- SR02, 5 upslope (US-01 to US-05) and 5 downslope locations (DS-01 to DS-05)
- SR03, 5 upslope (US-01 to US-05) and 10 downslope locations (DS-01 to DS-10)
- SR04, 5 upslope (US-01 to US-05) and 6 downslope locations (DS-01 to DS-06)
- SR05, 6 upslope (US-01 to US-06) and 8 downslope locations (DS-01 to DS-08)
- SR06, 16 upslope (US-01 to US-16) and 15 downslope locations (DS-01 to DS-15)
- SR08, 7 upslope (US-01 to US-07) and 5 downslope locations (DS-01 to DS-05)

A total of 317 XRF samples were analyzed from upslope and downslope locations at 108 locations described above, not including duplicates. XRF concentrations ranged from below the limits of detection (LOD) to 728 parts per million (ppm), excluding duplicates. A detailed statistical analysis of the XRF results is provided below.

A summary of the XRF field screening total arsenic results are presented in Table 1. Field forms including daily field notes and XRF results are provided in Attachment A. The raw XRF data outputs are provided in Attachment B. Photos of each AOI are provided in Attachment C.

Confirmation Soil Sampling

Confirmation soil samples were submitted to the laboratory for total arsenic analysis via U.S. Environmental Protection Agency (EPA) Method 6020B. Samples were selected for laboratory analysis based on the range of XRF readings of total arsenic to confirm high, medium, and low XRF results upslope and downslope from waste rock piles. Table 2 provides the results of the laboratory analysis for soil samples collected for total arsenic.

A smaller subset of laboratory samples (approximately 20 percent) was submitted for total metals including total aluminum, barium, iron, lead, manganese, mercury, selenium and silver per EPA series 6010D/6020B/7471B. Discrete soil samples were homogenized from each depth interval in a stainless bowl and collected in laboratory-supplied containers using a decontaminated stainless-trowel. Samples were placed in a cooler with ice and submitted under chain-of-custody protocol to OnSite Environmental, Inc. in Redmond, Washington (Onsite) for analysis. Results for the soil samples collected and analyzed for total metals are presented in Table 3.

Below is the summary of the total samples submitted from each upslope and downslope pile:

- SR01, three upslope and two downslope locations
- SR02, three upslope and two downslope locations
- SR03, two upslope and four downslope locations
- SR04, three upslope and two downslope locations
- SR05, three upslope and three downslope locations
- SR06, six upslope and six downslope locations
- SR08, two upslope and two downslope locations.

A summary of the analytical sampling results for total arsenic and total metals are provided in Tables 2 and 3. Attachment D provides laboratory analytical data reported by OnSite.

XRF and Laboratory Correlation

Comparability of the XRF data with the laboratory results were assessed using the correlation plot provided in Chart 1. The linear regression calculation identified a correlation coefficient (R^2) of 0.9158, which indicates a strong linear correlation between XRF and laboratory data. In addition, Chart 2 provides a visual output of the Ordinary Least Squares (OLS) regression comparison between the laboratory and XRF arsenic data. Chart 3 shows the Mann-Kendall Trend Test and Chart 4 depicts the quantile-quantile (Q-Q plot) of the distribution of laboratory and XRF arsenic data (Attachment E). Based on discussions with Ecology, the XRF data have been demonstrated to be fully usable. Thus, XRF data are considered adequate for statistical analyses and cleanup level determination.

SITE SPECIFIC BACKGROUND EVALUATION

GeoEngineers performed an evaluation of background total arsenic associated with mapped hydrothermally altered rocks within the Swauk Formation mapped by Gresens (1983). Background soil sample locations were identified upslope from waste rock piles and screened in the field with an XRF to assess metals concentrations. A total of 91 background (upslope) soil samples from SR01, SR02, SR03, SR04, SR05 and SR08 were screened in the field by GeoEngineers.

SR06 was excluded, as it does not appear to have originated from historical mining activity and no mining features were observed.

Background Assessment of All Piles

A collective background assessment of all piles was performed to identify site-wide upslope concentrations of total arsenic Results of the XRF analysis identified a mean total arsenic concentration from all upslope samples at 45.42 mg/kg. In accordance with Washington Administrative Code (WAC) 170-340-709(3), background arsenic was assessed using lognormally distributed data sets, where background is defined as the true upper

90th percentile or four times the true 50th percentile, whichever is lower. GeoEngineers used Ecology's MTCAStat97 program to calculate the 90th percentile and four times the 50th percentile (Ecology 1997). The results of the analysis indicated the 90th percentile (94.99 mg/kg; [rounded to 95 mg/kg]) was lower than four times the 50th percentile (117.55 mg/kg).

Since WAC 170-340-709(5)(c)) also allows "other methods approved by the Department", we also assessed the 95 percent upper confidence limit (UCL) on the mean. The EPA ProUCL Version 5.1 software was initially used to evaluate the appropriate Goodness-of-Fit (GOF) module for the samples. The GOF test indicated the data appeared lognormal at the 0.05 significance level. ProUCL was then used to develop a 95 percent UCL value for background arsenic. A UCL with 95 percent confidence for background total arsenic concentrations in soil represents the value that, when repeatedly calculated for randomly drawn subsets of size (n) from a population, equals or exceeds the population arithmetic mean 95 percent of the time. The calculated 95 UCL value for upslope arsenic across the site was 53.68 mg/kg.

Background Assessment of Individual Piles

A background assessment of individual piles was also performed to identify pile-specific upslope concentrations of total arsenic. Results of the XRF analysis indicated mean total arsenic concentrations varied from 33.73 mg/kg at SR02 to 73.69 mg/kg at SR08. Data exhibited a nonparametric distribution at SR01, SR03 and SR04; while lognormal data distribution were observed at SR02, SR05 and SR08. The 90th percentile, four times the true 50th percentile, and 95 UCL were calculated for each pile. General statistics for upslope total arsenic concentrations at each pile are provided below in Table 4.

Background Discussion

Due to the lognormal distribution of the data for all piles, and the range of concentrations from below the detection limit to 433 mg/kg, the 90th percentile value of 95 mg/kg is considered the most appropriate background (cleanup) level for the overall site. This proposed cleanup goal represents a concentration over six times higher than the original goal of 14.4 mg/kg calculated during the RI (Hart Crowser 2013). The EPA ProUCL outputs and MTCAStat97 calculations are provided in Attachment E. General statistics for background XRF arsenic concentrations are summarized in the table below:

TABLE 4. GENERAL STATISTICS FOR TOTAL ARSENIC BACKGROUND CONCENTRATIONS

Pile	Data Distribution (GOF Test)	n	Min	Max	Mean	Med	SD	90th Percentile (Background)	4 x 50th Percentile	95 UCL
SR01	Nonparametric	15	16	75	47.53	42	23.34	73.8	168	73.8
SR02	Lognormal	15	18	72	33.73	29	13.51	51.95	126.57	39.88
SR03	Nonparametric	15	6	101	19.47	12	23.62	57.8	48	39.97
SR04	Nonparametric	15	8	186	37	17	48.37	133.8	68	91.44
SR05	Lognormal	15	15	153	59.2	44	46.32	127.65	181.06	89.28
SR08	Lognormal	16	7	433	73.69	20.5	107.8	197.9	136.1	191.1
All Piles	Lognormal	91	6	433	45.42	28	56.16	**95**	117.55	53.68

Notes: GOF = Goodness-of-Fit; n = number of samples; Min = minimum; Max = maximum; Med = median; SD = standard deviation;
UCL = upper confidence limit; MTCA = Model Toxics Control Act
Values are shown in mg/kg
Bold represents the proposed cleanup level for the site

XRF RESULTS - COMPARISON OF UPSLOPE AND DOWNSLOPE ARSENIC CONCENTRATIONS

As requested in the Ecology (2018) memorandum, total arsenic XRF results were statistically compared between upslope and downslope using EPA ProUCL software. Data were compiled to test the null hypothesis:

- (H_0) that downslope total arsenic concentrations were less than or equal to upslope arsenic concentrations (background).

A data set comprised of surficial samples collected from the 0- to 2-, 2- to 4-, and 4- to 6-inch-depth intervals upslope from the waste rock piles was compared to the downslope data set at comparable depth intervals. The two-sample nonparametric Wilcoxon-Mann-Whitney (WMW) test was used for data sets without non-detect values to determine if the measures of central locations (mean, median) of the two data sets are significantly different. For data sets with non-detect values, the Gehan and Tarone-Ware tests were used, since these tests are better suited to perform two-sample hypothesis tests using data sets with multiple detection limits (EPA 2015).

To assess the statistical difference between upslope and downslope, we used a null hypothesis and alternative hypothesis to compare the data sets from potentially impacted areas with background data. The ProUCL output for the tests compared the probability (i.e., p-value) with the critical value (i.e., alpha) of 0.05 (set at a 95 percent confidence level). Results of the statistical output from ProUCL are presented in Attachment E.

SR01

The upslope XRF data set for SR01 contained values from five locations (n=15), while the downslope data set contained values from four locations (n=12) used for statistical analyses (Figure 3). Samples SR01-DS-03, SR01-DS-04, SR01-DS-05, SR01-DS-06, and SR01-DS-07 were ultimately considered to have been part of the waste rock pile and were omitted from the analysis. All upslope data collected from SR01 were considered valid and included in the statistical comparison.

The SR01 data set contained values above detection limits, and therefore, the WMW method was used to test the null hypothesis. The mean total arsenic concentration downslope was 29.75 mg/kg, while the mean upslope concentration was 47.53 mg/kg. The test identified a p-value of 0.949, which is greater than the alpha value of 0.05. As such, we do not reject the H_0, and it is determined the downslope total arsenic sample set is less or equal to upslope (background).

SR02

For the statistical analyses run, the upslope (n=15) and downslope (n=15) XRF data sets for SR02 each contained values from five locations (n=30) (Figure 4). All data collected from SR02 were considered valid and included in the statistical comparison.

The SR02 data set contained values above detection limits, and therefore, the WMW method was used to test the null hypothesis. The mean total arsenic concentration downslope was 24.2 mg/kg, while the mean upslope concentration was 33.73 mg/kg. The test identified a p-value of 0.992, which is above than the alpha value of 0.05. Thus, we do not reject the H_0, indicating downslope total arsenic concentrations were less than or equal to background.

SR03

The upslope data set used for statistical evaluation for SR03 included values from 5 locations (n=15), while the downslope data set contained values from 10 locations (n=21). Samples SR03-DS-01, SR03-DS-05, and SR03-DS-07 were ultimately considered to have been part of the waste rock pile and were excluded from the analysis. All upslope data collected from SR03 were considered valid and included in the statistical comparison.

The SR03 data set contained some values below detection limits. Therefore, the Gehan and Tarone-Ware methods were used to test the null hypothesis. The mean total arsenic concentration downslope was 54.62 mg/kg, while the mean upslope concentration was 23.55 mg/kg. The Gehan and Tarone-Ware tests exhibited p-values below the alpha value of 0.05. Thus, we reject the H_0, which indicates a statistically significant difference between the two data sets.

Due to the difference between upslope and downslope arsenic concentrations, additional sampling was completed downslope to delineate the lateral extent of elevated arsenic. During the investigation, a vegetated downslope berm was delineated below the main waste rock pile. XRF screening within the berm identified elevated concentrations of arsenic (up to 138 mg/kg), suggesting potential anthropogenic impacts downslope from the pile. Additional XRF screening downslope from the berm indicated total arsenic concentrations were near or below the mean SR03 background concentration of 23.55 mg/kg (Figure 5).

The bermed area downslope from the waste rock pile at SR03 was well-vegetated, with native bunchgrass species and western serviceberry established on the slopes. Due to the presence of this vegetation, there is no immediate exposure to the shallow soils. The presence of bunchgrass species, with extensive root systems, stabilizes the slopes below the waste rock pile and provides forage for native species. The site is also mapped within the Mission Creek Mule Deer Winter Range (WDFW 2019), and retention of the native bunchgrass community established on the berm is considered beneficial for native wildlife. Furthermore, the mean downslope total arsenic concentration of 54.62 mg/kg is below the calculated 90th percentile and proposed cleanup goal of 95 mg/kg. As such, it is recommended waste rock pile at SR03 be removed and the vegetated berm below the waste rock pile be preserved, as there is no direct exposure for human receptors and disturbance would result in potential deleterious habitat loss.

SR04

The upslope data set used for statistical evaluation for SR04 included values from five locations (n=15), and the downslope data set contained values from five locations (n=15). Sample SR04-DS-01 was ultimately considered to have been part of the waste rock pile and was excluded from the analysis. All upslope data collected from SR04 were considered valid and included in the statistical comparison.

The SR04 data set contained values above detection limits, and therefore, the WMW method was used to test the null hypothesis. The mean total arsenic concentration downslope was 61.67 mg/kg, while the mean upslope concentration was 37 mg/kg. The WMW test exhibited a p-value below the alpha value of 0.05. Thus, we reject the H_0, which indicates a statistically significant difference between the two data sets.

Due to the difference between upslope and downslope arsenic concentrations, additional assessment was completed downslope to further delineate the lateral extent of elevated arsenic. Similar to the pile at SR03, a downslope berm was delineated below the main waste rock pile. XRF screening within the berm at SR04 also identified elevated concentrations of arsenic, indicating human-induced alteration. Additional XRF screening downslope from the berm indicated total arsenic concentrations were below the mean SR04 background concentration of 37 mg/kg (Figure 6).

The bermed area downslope from the waste rock pile at SR04 was also well-vegetated, with native bunchgrass species established on the slopes. SR04 exhibited similar characteristics to SR03, and there is no immediate exposure to human receptors to the shallow soils. The presence of bunchgrass species, with extensive root systems, stabilizes the slopes below the waste rock pile and provides forage for native species. SR04 is also mapped within the Mission Creek Winter Range, and retention of the native bunchgrass community established on the berm is considered beneficial for native wildlife. Furthermore, the mean downslope total arsenic concentration of 61.67 mg/kg is below the calculated 90th percentile and proposed cleanup goal of 95 mg/kg. Therefore, it is recommended waste rock pile at SR04 be removed and the berm below the waste rock pile be preserved, as there is no direct exposure for human receptors and disturbance would result in possible loss of habitat.

SR05

The upslope XRF data set for SR05 used in the statistical analyses included values from five locations (n=15), while the downslope data set contained values from seven locations (n=21). The data from upslope location SR05-US-04 and downslope location SR05-DS-04 were excluded since these samples appeared to be collected directly on an eroded mineralized outcrop, which skewed the total arsenic concentrations upward (Figure 7).

The SR05 data set contained values above detection limits. As such, the WMW method was used to test the null hypothesis. The mean total arsenic concentration downslope was 57.62 mg/kg, while the mean upslope concentration was 59.2 mg/kg. The WMW test identified a p-value of 0.172, which is greater than the alpha value of 0.05. As such, we do not reject the H_0, demonstrating the two sample sets are from similar distributions and downslope total arsenic concentrations were less than or equal to background.

SR06

For statistical evaluation, the upslope XRF data set for SR06 contained values from 16 locations (n=48), while the downslope data set contained values from 15 locations (n=45). No mining features were observed at SR06 and all data were considered valid and included in the statistical comparison.

The SR06 data set contained some values below detection limits. Therefore, the Gehan and Tarone-Ware methods were used to test the null hypothesis. The mean total arsenic concentration downslope was 212 mg/kg, while the mean upslope concentration was 101.5 mg/kg. Both tests identified p-values below the alpha value of 0.05. As such, we reject the H_0, indicating the two sample sets are not from similar distributions.

Although an overall statistical difference was observed between upslope and downslope at SR06, there appeared to be a thin mineralized zone upslope from the road cut that quickly trended to lower metals concentrations (to below detection limits) with distance to the southeast. In addition, the highest XRF concentration (728 mg/kg) was identified upslope from the road cut, which may be representative of erosion of the underlying mineralized structures and naturally elevated arsenic. Moreover, the mean upslope concentration of 101.5 mg/kg exceeds the 95 UCL value and cleanup goal of 88.6 mg/kg for the site. Furthermore, elevated arsenic concentrations were identified at least 100 feet northwest (across a dry gulch) and 300 feet downslope from the road cut, well beyond presumed anthropogenic impacts (Figure 8). This suggests an extensive lateral zone of naturally elevated arsenic concentrations at SR06, upslope, crossgradient, and downslope from the road. Considering there is no evidence of mining activity at SR06, the mean upslope concentration of total arsenic exceeds the proposed cleanup level, and a widespread zone of naturally elevated arsenic is present in the area; removal is not considered practical or feasible. Thus, institutional and engineering controls, along with potential hiking path realignment to areas identified with lower total arsenic concentrations are recommended for SR06.

SR08

The upslope XRF data set for SR08 used for the statistical evaluation included values from six locations (n=16), while the downslope data set contained values from five locations (n=15) (Figure 5). Sample SR08-US-07 only contained one value, collected from the 0- to 2-inch interval. In addition, the data from upslope location SR08-US-04 were omitted since the samples appeared to be collected directly on an eroded mineralized outcrop, which skewed the upslope total arsenic concentrations higher.

The SR08 data set contained some values below detection limits. Therefore, the Gehan and Tarone-Ware methods were used to test the null hypothesis. The mean total arsenic concentration downslope was 19.64 mg/kg, while the mean upslope concentration was 93.58 mg/kg. The Gehan test exhibited a p-value of 0.921, while the Tarone-Ware test identified p-value of 0.844, which are above than the alpha value of 0.05. Thus, we do not reject the H_0, indicating downslope total arsenic concentrations were less than or equal to background.

Summary of Upslope and Downslope XRF Data

In general, XRF arsenic data generated from the site indicated there was no statistical difference between the downslope and upslope distributions at piles SR01, SR02, SR05 and SR08. Source piles SR03 and SR04 contained downslope berms, apparently the result of human-induced alterations. Statistical analyses from these piles indicated a significant difference between downslope and upslope data sets. However, as discussed, the berms were delineated in the field and disruption to those vegetated slopes is considered potentially detrimental to the sagebrush-steppe habitat. Pile SR06 also demonstrated a statistical difference between downslope and upslope data sets. Nonetheless, both upslope and downslope mean arsenic concentrations were above the proposed cleanup goal, and widespread elevated arsenic conditions are not likely indicative of former mining activities at SR06.

Summary statistics for the upslope and downslope comparison is provided in Table 5 below.

TABLE 5. SUMMARY STATISTICS FOR XRF UPSLOPE AND DOWNSLOPE ARSENIC CONCENTRATIONS

Source Pile	Mean Downslope	Mean Upslope	p-value	Null Hypothesis	Proposed Cleanup Goal (mg/kg)	Downslope Mean Exceeds Cleanup Goal?	Upslope Mean Exceeds Cleanup Goal?
	mg/kg						
SR01	29.75	47.53	0.949	Do Not Reject	**95**	No	No
SR02	24.2	33.73	0.992	Do Not Reject		No	No
SR03	54.62	23.55	2.3766E-5	Reject		No	No
SR04	61.67	37	0.00131	Reject		No	No
SR05	57.62	59.2	0.172	Do Not Reject		No	No
SR06*	212	101.5	1.564E-13	Reject		Yes	Yes
SR08	19.64	93.58	0.844	No Not Reject		No	No

* SR06 did not appear to be associated with historical mining activities but is shown for comparison purposes in the table.

LABORATORY ANALYTICAL RESULTS SUMMARY

Additional detailed analysis of background, waste rock, bermed soils, and downslope areas was completed per Ecology comments, as part of this assessment. This task incorporated waste rock data compiled by Hart Crowser (2013a) with XRF data generated during the April 2019 field assessment. A summary of the results is provided in Table 6 below:

TABLE 6. SUMMARY STATISTICS FOR ARSENIC IN SOIL AND WASTE ROCK PILES

Source Pile	Sub Area	Locations	Samples (n)	Min	Max	Mean	Median	SD
SR01	Waste Rock	11	19	53.3	212	122.2	111	50.69
	Background	5	15	16	75	47.53	41.5	23.34
	Downslope	4	12	17	48	29.75	28.77	8.159
SR02	Waste Rock	10	10	82.8	513	187	167	121.3
	Background	5	15	18	72	33.73	29	13.51
	Downslope	5	15	11	44	24.2	24	9.451
SR03	Waste Rock	14	20	49	417	113.9	93.65	80.66
	Bermed Area	1	3	77	138	106.7	105	30.53
	Background	5	15	7	101	23.55	12	26.67
	Downslope	7	21	21	138	54.62	45	32.2
SR04	Waste Rock	6	8	43	134	86.96	82	32.82
	Bermed Area	2	6	28	160	76.17	65	49.81
	Background	5	15	8	186	37	17	48.37
	Downslope	3	9	31	85	52	53	18.41
SR05	Waste Rock	5	5	122	1,290	508.2	216	495.6
	Background	5	15	15	153	59.2	44	46.32

Source Pile	Sub Area	Locations	Samples (n)	Min	Max	Mean	Median	SD
	Downslope	7	21	29	102	57.62	52	20.81
SR06*	Background	16	48	10	728	101.5	42.5	156.2
	Downslope	15	45	74	675	212	177	128
SR08	Waste Rock	5	5	305	412	355.2	366	48.2
	Background	7	16	7	433	83.14	21	112.4
	Downslope	5	15	10	38	19.64	14	7.685

Notes: n = number of samples; Min = minimum; Max = maximum; SD = standard deviation
Values are shown in mg/kg
* SR06 did not appear to be associated with historical mining activities but is shown for comparison purposes in the table.

Raw statistical output and accompanying summary statistics box and whisker plots are provided in Attachment E. The box and whisker plots are depicted in the sequence of higher to lower topography (i.e., background, waste rock, bermed area, and downslope) (Attachment E).

As presented in Tables 2 and 3, and Figures 2 through 8, certain soil sample location chemical analytical results are greater than MTCA Method A and/or B cleanup levels (especially for total arsenic). In these cases, the locations will likely not be removed because they are either an upgradient background sample, located in a lower berm area, or located in a naturally occurring mineralized area. The remaining locations will likely be removed during Phase1 IRA remediation construction or left in place because they are less than the cleanup goal (95 mg/kg) to be utilized during remedial excavation work.

Total mercury was also detected at or above the MTCA Method A CUL of 1 mg/kg in two samples from the SR-06 area. Because this area has been identified as not being generated from former mining activities, and historical mining references indicate cinnabar may occur naturally at the Site, these sample locations will not be removed during Phase 2 IRA remedial construction.

All other associated Site metals were either below laboratory detection limits or less than applicable MTCA CUL criteria during the DGA event. Because arsenic is the primary COC for the Site, other Site metals will likely be removed to less than MTCA criteria or naturally-occurring background levels during remedial excavation work.

STATISTICAL DISTRIBUTION

Graphical distribution of XRF arsenic background data and trends were compared between areas using Q-Q Plots. Distribution graphs for Phase 1 (Chart 5) and Phase 2 (Chart 6) areas are provided in Attachment E. As shown, SR08 data distribution appears to differ from SR01, SR02 and SR03, which is likely due the pronounced mineralization south and southwest of the waste rock pile. These data are consistent with field observations of low background (below limits of detection) trending quickly to elevated arsenic concentrations within a thin mineralized zone at the site.

Pile SR04 and the road cut at SR06 exhibited similar trends, with consistent distribution, except for several elevated samples, which are assumed to have been screened within a thin mineralized zone. Based on this, there is a possibility narrow mineralized areas may be encountered during remediation, and consideration of potential elevated areas of naturally occurring total arsenic will be needed during remediation.

SUPPLEMENTAL SOIL SAMPLING

Sample data collected during the RI completed by Hart Crowser (2013) were submitted to Waste Management (WM) for initial disposal approval at the Greater Wenatchee Regional Landfill, a Resource Conservation and Recovery Act (RCRA) Subtitle D facility. However, correspondence with the WM Waste Approvals Manager indicated additional sampling and analysis was needed from discreet samples of waste rock prior to approval for disposal.

Based on this, supplemental soil sampling from discreet locations exhibiting the highest total aluminum, arsenic, and iron concentrations during the RI was conducted. Sample SR06-C02-Assay, which was collected for aluminum analysis, did not receive follow-up testing since this pile (SR06) was determined to not have originated from historical mining activities and no removal is anticipated.

Hazardous/Dangerous Waste Determination

Additional sampling and analysis were completed from a discreet sample of waste rock from pile SR05 for disposal approval at the Subtitle D Landfill (Table 7). Initial analysis of sample SR05-D05-TCLP identified a total arsenic concentration of 990 mg/kg. Follow-up analysis was requested using the Toxicity Characteristic Leaching Procedure (TCLP) to assess whether it exhibits the characteristic of toxicity that could define it as a hazardous waste under federal regulations (40 CFR Part 261) or a Dangerous Waste under Washington Administrative Code (WAC) 173-303. The sample was also analyzed using the Synthetic Precipitation Leaching Procedure (SPLP), since TCLP analysis can exaggerate metal mobility in mining waste.

Analysis of sample SR05-D05-TCLP via EPA Method 1311 indicated it did not contain arsenic in extract above the laboratory reporting limit of 0.025 milligrams per liter (mg/L). SPLP analysis using EPA Method 1312 identified arsenic in the extract at a concentration of 0.11 mg/L, which is well below the federal hazardous waste toxicity characteristic level and state Dangerous Waste criterion of 5.0 mg/L (40 CFR 261.24, 2001; WAC 173-303). Based on this, the sample collected from SR05, which represents a worst-case scenario for the site, would not be considered a hazardous or Dangerous Waste. As such, waste rock material with elevated total arsenic concentrations excavated during the Remedial Action should be suitable for disposal at the local Subtitle D Landfill.

Bioassay Analysis

Due to elevated total iron and aluminum concentrations at SR02 identified by Hart Crowser (2013), WM requested an additional sample be collected for bioassay analysis. The sample was identified as SR02-D09-Assay and was analyzed per Ecology Method 80-12 to assess the potential for the material to designate as a State of Washington Dangerous Waste. Results of the analysis indicated no fish mortality. Based on this, the sample collected from SR02, which represents a worst-case scenario for the site, does not designate as a Dangerous Waste. As such, waste rock material with elevated total iron concentrations excavated during the Remedial Action should be suitable for disposal at the local Subtitle D Landfill.

SAMPLING AND ANALYSIS PLAN DEVIATIONS

This section summarizes deviations from the Saddle Rock IRA SAP (GeoEngineers 2019). Deviations from the approved SAP documents resulted in a change or update to sample collection and/or processing procedures, where needed, based on sampling limitations and conditions encountered in the field.

Per the SAP, XRF screening was to utilize a 20-foot by 20-foot grid pattern downslope from the waste rock pile(s) which was not followed due to field conditions. Most AOIs had a downslope footprint that required more than 20 feet between sample locations due to irregularities in pile formation and naturally occurring gullies and berms.

Sample identification nomenclature was revised to include the start and end depth of the sample interval; i.e. SR01-US-01-0-2 (Source Pile No. 1, US = Upslope, Sample number 01, 0 to 2 inches below ground).

XRF Field Screening

No deviations occurred during XRF field screening.

Soil Sampling

Soil sampling deviations from the Saddle Rock IRA SAP (GeoEngineers 2019) are as follows:

- At upslope locations with a range of XRF field screening results, three soil samples were submitted to the laboratory rather than two to provide a range of low to high concentrations to help delineate the pile extents.

No other deviations occurred during field activities.

ADITS/PHYSICAL HAZARD ASSESSMENT

Adits were assessed at waste rock piles SR01, 02, 04, 07 and 08. The field team was unable to identify an adit or exploratory hole at source piles SR03, 05 and 06. The adit portal at SR02 was covered with available on-site material during the field assessment. However, the portal should be opened and explored during the Remedial Action construction to identify the most appropriate closure mechanism (i.e., bat gate, cable/steel netting, polyurethane foam, concrete and rebar, etc.) The adits at SR04 and SR07 appeared to be shallow explorations (less than 6 feet into the formations). As such, these adits are anticipated to pose a lower risk and do not likely support bat hibernacula. Therefore, adits at SR04 and SR07 could be sealed in place to prevent access.

Adits at SR01 and 08 adits may be more extensive and could pose a higher risk to human receptors. Therefore, during the Remedial Action construction, the adits should be opened and exposed to identify potential for bat gate installation or other applicable closure method as discussed above. Photos of each adit are provided in Attachment B.

QUALITY ASSURANCE/QUALITY CONTROL

Field and laboratory quality assurance/quality control (QA/QC) objectives and procedures for the IRA Design are detailed in the Quality Assurance Project Plan (QAPP) (GeoEngineers 2019).

Data Quality Objectives

The Quality objective for technical data to collect environmental monitoring data for known acceptable, and documentable quality was met per the QAPP (GeoEngineers 2019). All data are acceptable as described in the Data Validation Report provided in Attachment F.

Field Duplicate Samples

Field QA samples required by the Saddle Rock IRA SAP include field duplicates (GeoEngineers 2019). Thirty-seven XRF field duplicates were taken with soil samples to confirm adequate homogenization of samples and precision of analysis. Results of the field duplicates are included in Table 8, and indicate that in general, field precision is adequate. The relative percent difference (RPD) for all samples was within 20 percent, with the exception of duplicate XRF samples from SR03-DS-05-0-2, SR04-US-05-2-4, SR04-DS-05-4-6 and SR08-US-01-4-6, where RPDs ranged from 25 percent to 50 percent. However, the overall average RPD was 11.24 percent for the 37 duplicate samples.

Performance Standard Evaluation

Low and high arsenic performance standards were provided by Ecology for the field assessment. Laboratory analysis of these performance standards at OnSite Environmental, Inc. identified total concentrations of 8.1 mg/kg for the low standard and 99 mg/kg for the high standard. The performance standard samples were analyzed with the XRF at the beginning and end of each day. Results are shown on Table 9 and indicate that the performance standard evaluation is adequate. The RPD for all samples was within 20 percent except for performance standard samples collected the morning of April 9, 2019 and the morning of April 11, 2019. However, the overall average RPD for the 16 performance standard samples was 10.52 percent during the course of the study.

WASTE ROCK DELINEATION

Fieldwork conducted during the DGA assessed the lateral extent of waste rock piles at the site, as well as the extent of downslope areas requiring cleanup. Waste rock piles and downslope areas were temporarily flagged until the PLS could survey the extents of each location. Site Plans, Figures 2 to 8 show updated lateral waste rock pile delineations based on field observations and XRF analysis. In general, GeoEngineers' observed the updated waste rock pile boundaries deviated from the RI (Hart Crowser 2013a). Updated waste rock pile volumes are provided separately in the IRA Design Report, based on the recently completed survey with lateral waste rock pile delineations and vertical profiles. Attachment G figures provides a comparison of GeoEngineers' waste rock pile delineations to Hart Crowser's delineations (2013a).

Berms located downslope from the waste rock piles at SR03 and SR04 were also delineated in the field based on topography and XRF screening. However, additional delineation will be conducted during the Phase 1 IRA remedial construction to further assess these berms and provide additional discussion regarding the decision to leave these in place.

REMEDIAL ACTION OBJECTIVES

The Remedial Action construction will consist of excavation and offsite disposal of waste rock. The boundary between waste rock and native soil will be identified by the City's field Geologist/Engineer through a combination of visual assessment of materials, estimated original topography, and field XRF arsenic data. A set of post-excavation remedial objectives (RAOs) for each waste rock pile location are appropriate for determining when excavation work is complete. Those criteria are presented in the section below.

Following removal of waste rock at each pile location, a grid sampling program will be used to collect confirmation soil samples for total arsenic analysis at the offsite laboratory (OnSite). The results of the confirmatory sampling will be compared with the area-specific 90th percentile background concentration (cleanup goal) of 95 mg/kg. In addition, the cumulative distribution of the confirmatory sampling results will be overlain with the cumulative distribution of the area-specific background data.

As recommended by Ecology, this proposed approach would appear to be provide the greatest confidence that remediation of anthropogenically derived materials is complete, while not driving remediation and removal of native soils.

CONCLUSIONS AND RECOMMENDATIONS

Results of this DGA identified the following conclusions:

- XRF analysis of upslope (background) total arsenic identified a mean concentration of 45.2 mg/kg. The calculated 90th percentile is 95 mg/kg for total arsenic. Therefore, a cleanup goal of 95 mg/kg will be used during Phase 1 and 2 remedial construction work to remove each waste rock pile.
- XRF arsenic data indicated there was no statistical difference between the downslope and upslope distributions at piles SR01, SR02, SR05 and SR08.
- Source piles SR03 and SR04 contained downslope berms, apparently the result of human-induced alterations. Berms located downslope from the waste rock piles at SR03 and SR04 were delineated in the field based on topography and XRF screening. Statistical analyses from XRF data at these piles indicated a significant difference between downslope and upslope data sets. However, the berms were stable, no visible waste rock was observed, and were both vegetated with native species (without vegetation coverage stress or loss), allowing minimal exposure to human receptors.
    - Additional XRF field work assessment, at the request of Ecology, of these two berm areas are scheduled to be completed during Phase 1 remedial construction activities. The intent of this additional assessment is to verify that in place arsenic concentrations are generally within the range of background concentration ranges observed by Ecology and GeoEngineers. If arsenic concentrations are confirmed to be generally within background concentrations, no additional removal of the bermed area soil is anticipated as part of remedial actions in Phase 1 or 2.
- Source pile SR06, previously delineated by Hart Crowser (2013) does not appear to be associated with historical mining activities. XRF analysis demonstrated a statistical difference between downslope and upslope data sets. Nonetheless, both upslope and downslope mean arsenic concentrations were above the proposed cleanup goal, and widespread elevated arsenic conditions are probably more indicative of eroded mineralization with naturally occurring elevated metals concentrations.
- Statistical analysis from individual piles indicate SR08 data distribution differs from SR01, SR02 and SR03, which is likely due the pronounced mineralization area south and southwest of the waste rock pile. In addition, SR04 and the road cut at SR06 exhibited similar trends, with consistent distribution, except for several elevated samples, which are assumed to have been screened within a thin mineralized zone.

- Supplemental discreet soil sampling from SR05 identified leachable arsenic at a concentration below the federal hazardous waste and state Dangerous Waste toxicity criteria of 5.0 mg/L. Discreet soil sampling from SR02 resulted in no fish mortality using bioassay analysis, indicating the material does not designate as Dangerous Waste.
- The adits at SR04 and SR07 appeared to be shallow explorations (less than 6 feet into the formations). As such, these are expected to pose a lower risk and do not likely support bat hibernacula. Adits at SR01 and SR08 may be more extensive and would require excavation to open the portals during the Remedial Action. The adit at SR02 was covered with onsite material and would need to be opened to identify the most appropriate closure mechanism.
- Laboratory QA/QC is considered acceptable and all data generated are valid. Field duplicate XRF analyses indicated RPDs for the majority of samples was within 20 percent, and the average RPD was 11.24 percent. Performance standard evaluation indicated RPDs for most of the samples was within 20 percent, and the average for all samples was 10.52 percent.
- The lateral boundaries of waste rock piles were delineated in the field via temporary flagging and wood staking, utilizing XRF field screening and visual observations. These flagging and staking areas were then surveyed by a PLS so that updated waste rock pile dimensions could be created for design report purposes. Updated waste rock pile boundaries generally deviated from the RI and are presented in Figures 3 through 8.
- The Remedial Action will consist of excavation and offsite disposal of waste rock. The boundary between waste rock and native soil will be identified by the field Geologist/Engineer through a combination of visual assessment of materials, estimated original topography, and field XRF arsenic data.

Based on the results of the DGA, the following recommendations are provided:

- The correlation of confirmatory soil sample laboratory data and the XRF screening data indicates a strong correlation in total arsenic concentrations observed, as presented in Attached E. Performance standard data also confirms the accuracy of the XRF readings. Thus, the XRF can be utilized as a primary sampling method in the field to confirm the vertical and lateral limits of waste rock piles during remediation construction.
- The 90th percentile value of 95 mg/kg for total arsenic should be used as the cleanup goal for the overall Site (Phase 1 and 2), not the previously calculated cleanup goal of 14.4 mg/kg. Based on the heterogeneous formations and elevated total arsenic concentrations at various locations, 95 mg/kg represents a more reasonable cleanup goal, and better characterizes the varied background mineralization at the Site.
- Downslope berms delineated below SR03 and SR04 with elevated total arsenic concentrations should be left in place. Although they may be the result of anthropogenic activities, they are well-vegetated with native grasses and shrubs, shown no visible waste rock, are situated within mapped mule deer winter range, and pose minimal hazards to human receptors.
- Source pile SR06 does not appear to be the result of historical mining activities and naturally occurring elevated metals concentrations are widespread at this site. Therefore, institutional and engineering

controls, along with potential hiking path realignment to areas identified with lower arsenic concentrations are recommended during Phase 2 design and construction activities.

- There is a possibility narrow mineralized areas may be encountered during remediation construction, and these areas of total arsenic will likely be left in place, after further XRF evaluation and consultation with Ecology, during remediation construction.
- Waste rock in the Phase 1 and 2 areas do not exhibit relevant toxicity that would characterize it as hazardous or Dangerous Waste. Thus, it should be excavated, removed, and disposed at the local Greater Wenatchee Regional Subtitle D Landfill.
- Adits at SR04 and SR07 should be sealed to prevent access. This can be accomplished with concrete or polyurethane foam. Alternatively, cable/steel netting could be used to block access. Adits at SR01, SR02 and SR08 will need to be assessed when the portals are exposed during the Phase 1 IRA remediation construction to determine if bat gates are warranted.
- The DGA fieldwork completed in April 2019 do not indicate the need to complete any additional sampling work to finish final design elements. However, additional delineation will be conducted during the Phase 1 IRA remediation construction to further assess downslope berms at SR03 and SR04 and provide additional discussion regarding the decision to leave these in place.
- Per the RAO section stated above, cleanup of each waste rock pile will be verified by the City's field Engineer/Geologist based on the following criteria:
  - No visible waste rock remains.
  - The final topography is consistent with the estimated native topography.
  - Most confirmatory laboratory data are less than the area-specific 90th percentile background value of 95 mg/kg.
  - The distribution of confirmatory XRF and laboratory data is consistent with the distribution of background data.

  In consultation with Ecology, the City will be notified during remedial action construction when each specific waste rock pile has obtained the above criteria.

Please do not hesitate to reach out to discussion the results presented above, and we look forward to continuing to support this project for the City.

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Attachments:

Table 1. XRF Total Arsenic Concentration Summary Results

Table 2. Analytical Sampling Results for Total Arsenic

Table 3. Analytical Sampling Results for Total Metals

Table 7. Additional Waste Determination Sample Results

Table 8. Quality Assurance/Quality Control - XRF Duplicate Samples

Table 9. Quality Assurance/Quality Control - Performance Standards

Figure 1. Vicinity Map

Figures 2 through 8. Site Plan

Attachment A. Field Forms

Attachment B. Raw XRF Output Files

Attachment C. Site Photographs

Attachment D. Laboratory Reports

Attachment E. ProUCL Stats Results and Graphical Chart Presentations (Chart 1 through 6)

- Attachment E-1. All Pile Background Assessment
- Attachment E-2. Box and Whisker Charts
- Attachment E-3. Individual Pile Background Assessment
- Attachment E-4. Lab vs XRF
- Attachment E-5. Statistical Distribution
- Attachment E-6. XRF Upslope vs Downslope

Attachment F. Data Validation Report

Attachment G. Waste Rock Pile Comparison

Table 1
XRF Total Arsenic Concentration Summary Results
Saddle Rock Interim Remedial Action
Wenatchee, Washington

Sample Location	Sample ID	Depth (inches)	Date	Time	Sample Location	Arsenic Concentration (ppm)
SR-01						
SR01-US-01	SR01-US-01-0-2	0-2	4/8/2019	8:38	Background	33
	SR01-US-01-2-4	2-4	4/8/2019	8:45		42
	SR01-US-01-4-6	4-6	4/8/2019	8:49		70
SR01-US-02	SR01-US-02-0-2	0-2	4/8/2019	9:42	Background	75
	SR01-US-02-2-4	2-4	4/8/2019	9:50		70
	SR01-US-02-4-6	4-6	4/8/2019	9:53		65
SR01-US-03	SR01-US-03-0-2	0-2	4/8/2019	9:59	Background	71
	SR01-US-03-2-4	2-4	4/8/2019	10:02		71
	SR01-US-03-4-6	4-6	4/8/2019	10:04		73
SR01-US-04	SR01-US-04-0-2	0-2	4/8/2019	10:10	Background	19
	SR01-US-04-2-4	2-4	4/8/2019	10:12		21
	SR01-US-04-4-6	4-6	4/8/2019	10:14		16
SR01-US-05	SR01-US-05-0-2	0-2	4/8/2019	10:20	Background	25
	SR01-US-05-2-4	2-4	4/8/2019	10:24		32
	SR01-US-05-4-6	4-6	4/8/2019	10:25		30
SR01-DS-01	SR01-DS-01-0-2	0-2	4/8/2019	10:55	Downslope	17
	SR01-DS-01-2-4	2-4	4/8/2019	10:58		23
	SR01-DS-01-4-6	4-6	4/8/2019	11:00		23
SR01-DS-02	SR01-DS-02-0-2	0-2	4/8/2019	11:10	Downslope	48
	SR01-DS-02-2-4	2-4	4/8/2019	11:12		37
	SR01-DS-02-4-6	4-6	4/8/2019	11:14		27
SR01-DS-03	SR01-DS-03-0-2	0-2	4/8/2019	11:22	Waste Rock	129
	SR01-DS-03-2-4	2-4	4/8/2019	11:25		134
	SR01-DS-03-4-6	4-6	4/8/2019	11:28		199
SR01-DS-04	SR01-DS-04-0-2	0-2	4/8/2019	11:31	Waste Rock	92
	SR01-DS-04-2-4	2-4	4/8/2019	11:33		67
	SR01-DS-04-4-6	4-6	4/8/2019	11:34		56
SR01-DS-05	SR01-DS-05-0-2	0-2	4/8/2019	11:39	Waste Rock	110
SR01-DS-06	SR01-DS-06-0-2	0-2	4/8/2019	11:44	Waste Rock	58
	SR01-DS-06-2-4	2-4	4/8/2019	11:48		68
	SR01-DS-06-4-6	4-6	4/8/2019	11:50		142
SR01-DS-07	SR01-DS-07-0-2	0-2	4/8/2019	11:54	Waste Rock	111
	SR01-DS-07-2-4	2-4	4/8/2019	12:02		110
	SR01-DS-07-4-6	4-6	4/8/2019	12:05		118
SR01-DS-08	SR01-DS-08-0-2	0-2	4/8/2019	11:56	Downslope	31
	SR01-DS-08-2-4	2-4	4/8/2019	12:15		26
	SR01-DS-08-4-6	4-6	4/8/2019	12:17		35
SR01-DS-09	SR01-DS-09-0-2	0-2	4/8/2019	12:00	Downslope	26
	SR01-DS-09-2-4	2-4	4/8/2019	12:24		35
	SR01-DS-09-4-6	4-6	4/8/2019	12:26		29

Sample Location	Sample ID	Depth (inches)	Date	Time	Sample Location	Arsenic Concentration (ppm)
SR-02						
SR02-US-01	SR02-US-01-0-2	0-2	4/8/2019	14:00	Background	72
	SR02-US-01-2-4	2-4	4/8/2019	14:05		33
	SR02-US-01-4-6	4-6	4/8/2019	14:10		36
SR02-US-02	SR02-US-02-0-2	0-2	4/8/2019	14:14	Background	24
	SR02-US-02-2-4	2-4	4/8/2019	14:16		26
	SR02-US-02-4-6	4-6	4/8/2019	14:18		18
SR02-US-03	SR02-US-03-0-2	0-2	4/8/2019	14:28	Background	27
	SR02-US-03-2-4	2-4	4/8/2019	14:32		29
	SR02-US-03-4-6	4-6	4/8/2019	14:34		28
SR02-US-04	SR02-US-04-0-2	0-2	4/8/2019	14:36	Background	39
	SR02-US-04-2-4	2-4	4/8/2019	14:39		44
	SR02-US-04-4-6	4-6	4/8/2019	14:40		47
SR02-US-05	SR02-US-05-0-2	0-2	4/8/2019	14:48	Background	29
	SR02-US-05-2-4	2-4	4/8/2019	14:50		18
	SR02-US-05-4-6	4-6	4/8/2019	14:52		36
SR02-DS-01	SR02-DS-01-0-2	0-2	4/8/2019	15:50	Downslope	23
	SR02-DS-01-2-4	2-4	4/8/2019	15:55		37
	SR02-DS-01-4-6	4-6	4/8/2019	15:58		44
SR02-DS-02	SR02-DS-02-0-2	0-2	4/8/2019	15:59	Downslope	15
	SR02-DS-02-2-4	2-4	4/8/2019	16:00		11
	SR02-DS-02-4-6	4-6	4/8/2019	16:01		12
SR02-DS-03	SR02-DS-03-0-2	0-2	4/8/2019	16:09	Downslope	25
	SR02-DS-03-2-4	2-4	4/8/2019	16:11		26
	SR02-DS-03-4-6	4-6	4/8/2019	16:13		24
SR02-DS-04	SR02-DS-04-0-2	0-2	4/8/2019	16:18	Downslope	24
	SR02-DS-04-2-4	2-4	4/8/2019	16:20		24
	SR02-DS-04-4-6	4-6	4/8/2019	16:22		25
SR02-DS-05	SR02-DS-05-0-2	0-2	4/8/2019	15:42	Downslope	17
	SR02-DS-05-2-4	2-4	4/8/2019	15:44		38
	SR02-DS-05-4-6	4-6	4/8/2019	15:46		18
SR-03						
SR03-US-01	SR03-US-01-0-2	0-2	4/9/2019	12:20	Background	12
	SR03-US-01-2-4	2-4	4/9/2019	12:23		13
	SR03-US-01-4-6	4-6	4/9/2019	12:25		7
SR03-US-02	SR03-US-02-0-2	0-2	4/9/2019	12:27	Background	17
	SR03-US-02-2-4	2-4	4/9/2019	12:30		9
	SR03-US-02-4-6	4-6	4/9/2019	12:33		8
SR03-US-03	SR03-US-03-0-2	0-2	4/9/2019	12:40	Background	< 11
	SR03-US-03-2-4	2-4	4/9/2019	12:42		26
	SR03-US-03-4-6	4-6	4/9/2019	12:45		16
SR03-US-04	SR03-US-04-0-2	0-2	4/9/2019	12:47	Background	< 9
	SR03-US-04-2-4	2-4	4/9/2019	12:49		< 6
	SR03-US-04-4-6	4-6	4/9/2019	12:51		< 7
SR03-US-05	SR03-US-05-0-2	0-2	4/9/2019	12:56	Background	21
	SR03-US-05-2-4	2-4	4/9/2019	12:59		29
	SR03-US-05-4-6	4-6	4/9/2019	13:01		101

Sample Location	Sample ID	Depth (inches)	Date	Time	Sample Location	Arsenic Concentration (ppm)
SR03-DS-01	SR03-DS-01-0-2	0-2	4/9/2019	13:27	Waste Rock	99
	SR03-DS-01-2-4	2-4	4/9/2019	13:30		132
	SR03-DS-01-4-6	4-6	4/9/2019	13:32		108
SR03-DS-02	SR03-DS-02-0-2	0-2	4/9/2019	13:38	Downslope	43
	SR03-DS-02-2-4	2-4	4/9/2019	13:41		40
	SR03-DS-02-4-6	4-6	4/9/2019	13:44		38
SR03-DS-03	SR03-DS-03-0-2	0-2	4/9/2019	13:49	Downslope	45
	SR03-DS-03-2-4	2-4	4/9/2019	13:51		46
	SR03-DS-03-4-6	4-6	4/9/2019	13:54		52
SR03-DS-04	SR03-DS-04-0-2	0-2	4/9/2019	14:00	Downslope	31
	SR03-DS-04-2-4	2-4	4/9/2019	14:03		46
	SR03-DS-04-4-6	4-6	4/9/2019	14:05		75
SR03-DS-05	SR03-DS-05-0-2	0-2	4/9/2019	14:08	Waste Rock	75
	SR03-DS-05-2-4	2-4	4/9/2019	14:10		121
	SR03-DS-05-4-6	4-6	4/9/2019	14:12		49
SR03-DS-06	SR03-DS-06-0-2	0-2	4/9/2019	14:10	Downslope	36
	SR03-DS-06-2-4	2-4	4/9/2019	14:20		23
	SR03-DS-06-4-6	4-6	4/9/2019	14:22		25
SR03-DS-07	SR03-DS-07-0-2	0-2	4/9/2019	14:33	Waste Rock	75
	SR03-DS-07-2-4	2-4	4/9/2019	14:35		59
	SR03-DS-07-4-6	4-6	4/9/2019	14:38		66
SR03-DS-08	SR03-DS-08-0-2	0-2	4/9/2019	14:45	Waste Rock	76
	SR03-DS-08-2-4	2-4	4/9/2019	14:48		84
	SR03-DS-08-4-6	4-6	4/9/2019	14:51		101
SR03-DS-09	SR03-DS-09-0-2	0-2	4/9/2019	14:58	Bermed Area	105
	SR03-DS-09-2-4	2-4	4/9/2019	15:02		77
	SR03-DS-09-4-6	4-6	4/9/2019	15:05		138
SR03-DS-10	SR03-DS-10-0-2	0-2	4/9/2019	15:31	Downslope	21
	SR03-DS-10-2-4	2-4	4/9/2019	15:34		24
	SR03-DS-10-4-6	4-6	4/9/2019	15:36		21
SR-04						
SR04-US-01	SR04-US-01-0-2	0-2	4/11/2019	6:40	Background	15
	SR04-US-01-2-4	2-4	4/11/2019	6:42		8
	SR04-US-01-4-6	4-6	4/11/2019	6:44		12
SR04-US-02	SR04-US-02-0-2	0-2	4/11/2019	6:45	Background	9
	SR04-US-02-2-4	2-4	4/11/2019	6:47		13
	SR04-US-02-4-6	4-6	4/11/2019	6:49		11
SR04-US-03	SR04-US-03-0-2	0-2	4/11/2019	6:50	Background	71
	SR04-US-03-2-4	2-4	4/11/2019	6:52		99
	SR04-US-03-4-6	4-6	4/11/2019	6:54		186
SR04-US-04	SR04-US-04-0-2	0-2	4/11/2019	6:56	Background	15
	SR04-US-04-2-4	2-4	4/11/2019	6:58		17
	SR04-US-04-4-6	4-6	4/11/2019	6:59		17
SR04-US-05	SR04-US-05-0-2	0-2	4/11/2019	7:00	Background	25
	SR04-US-05-2-4	2-4	4/11/2019	7:01		28
	SR04-US-05-4-6	4-6	4/11/2019	7:03		29
SR04-DS-01	SR04-DS-01-0-2	0-2	4/11/2019	7:16	Waste Rock	43
	SR04-DS-01-2-4	2-4	4/11/2019	7:18		70
	SR04-DS-01-4-6	4-6	4/11/2019	7:19		94

Sample Location	Sample ID	Depth (inches)	Date	Time	Sample Location	Arsenic Concentration (ppm)
SR04-DS-02	SR04-DS-02-0-2	0-2	4/11/2019	7:26	Bermed Area	55
	SR04-DS-02-2-4	2-4	4/11/2019	7:30		75
	SR04-DS-02-4-6	4-6	4/11/2019	7:28		105
SR04-DS-03	SR04-DS-03-0-2	0-2	4/11/2019	7:35	Bermed Area	160
	SR04-DS-03-2-4	2-4	4/11/2019	7:37		28
	SR04-DS-03-4-6	4-6	4/11/2019	7:39		34
SR04-DS-04	SR04-DS-04-0-2	0-2	4/11/2019	7:39	Bermed Area	85
	SR04-DS-04-2-4	2-4	4/11/2019	7:41		72
	SR04-DS-04-4-6	4-6	4/11/2019	7:43		56
SR04-DS-05	SR04-DS-05-0-2	0-2	4/11/2019	7:45	Downslope	33
	SR04-DS-05-2-4	2-4	4/11/2019	7:47		32
	SR04-DS-05-4-6	4-6	4/11/2019	7:49		31
SR04-DS-06	SR04-DS-04-0-2	0-2	4/11/2019	7:52	Downslope	52
	SR04-DS-04-2-4	2-4	4/11/2019	7:54		53
	SR04-DS-04-4-6	4-6	4/11/2019	7:56		54
SR-05						
SR05-US-01	SR05-US-01-0-2	0-2	4/10/2019	12:54	Background	56
	SR05-US-01-2-4	2-4	4/10/2019	12:56		40
	SR05-US-01-4-6	4-6	4/10/2019	12:58		44
SR05-US-02	SR05-US-02-0-2	0-2	4/10/2019	13:06	Background	59
	SR05-US-02-2-4	2-4	4/10/2019	13:08		63
	SR05-US-02-4-6	4-6	4/10/2019	13:10		67
SR05-US-03	SR05-US-03-0-2	0-2	4/10/2019	13:12	Background	28
	SR05-US-03-2-4	2-4	4/10/2019	13:14		28
	SR05-US-03-4-6	4-6	4/10/2019	13:16		23
SR05-US-04	SR05-US-04-0-2	0-2	4/10/2019	13:18	Background	174
	SR05-US-04-2-4	2-4	4/10/2019	13:20		204
	SR05-US-04-4-6	4-6	4/10/2019	13:22		699
SR05-US-05	SR05-US-05-0-2	0-2	4/10/2019	13:28	Background	136
	SR05-US-05-2-4	2-4	4/10/2019	13:30		153
	SR05-US-05-4-6	4-6	4/10/2019	13:32		138
SR05-US-06	SR05-US-06-0-2	0-2	4/10/2019	13:33	Background	20
	SR05-US-06-2-4	2-4	4/10/2019	13:35		18
	SR05-US-06-4-6	4-6	4/10/2019	13:37		15
SR05-DS-01	SR05-DS-01-0-2	0-2	4/10/2019	18:07	Downslope	49
	SR05-DS-01-2-4	2-4	4/10/2019	18:09		29
	SR05-DS-01-4-6	4-6	4/10/2019	18:11		29
SR05-DS-02	SR05-DS-02-0-2	0-2	4/10/2019	18:20	Downslope	64
	SR05-DS-02-2-4	2-4	4/10/2019	18:22		69
	SR05-DS-02-4-6	4-6	4/10/2019	18:24		55
SR05-DS-03	SR05-DS-03-0-2	0-2	4/10/2019	18:32	Downslope	67
	SR05-DS-03-2-4	2-4	4/10/2019	18:34		46
	SR05-DS-03-4-6	4-6	4/10/2019	18:36		44
SR05-DS-04	SR05-DS-04-0-2	0-2	4/10/2019	19:00	Downslope	180
	SR05-DS-04-2-4	2-4	4/10/2019	19:02		123
	SR05-DS-04-4-6	4-6	4/10/2019	19:04		162
SR05-DS-05	SR05-DS-05-0-2	0-2	4/10/2019	19:08	Downslope	102
	SR05-DS-05-2-4	2-4	4/10/2019	19:10		101
	SR05-DS-05-4-6	4-6	4/10/2019	19:14		98

Sample Location	Sample ID	Depth (inches)	Date	Time	Sample Location	Arsenic Concentration (ppm)
SR05-DS-06	SR05-DS-06-0-2	0-2	4/10/2019	19:20	Downslope	50
	SR05-DS-06-2-4	2-4	4/10/2019	19:22		47
	SR05-DS-06-4-6	4-6	4/10/2019	19:24		49
SR05-DS-07	SR05-DS-07-0-2	0-2	4/11/2019	11:04	Downslope	64
	SR05-DS-07-2-4	2-4	4/11/2019	11:07		55
	SR05-DS-07-4-6	4-6	4/11/2019	11:10		58
SR05-DS-08	SR05-DS-08-0-2	0-2	4/11/2019	11:20	Downslope	52
	SR05-DS-08-2-4	2-4	4/11/2019	11:22		40
	SR05-DS-08-4-6	4-6	4/11/2019	11:24		42
SR-06						
SR06-US-01	SR06-US-01-0-2	0-2	4/9/2019	17:18	Background	44
	SR06-US-01-2-4	2-4	4/9/2019	17:20		120
	SR06-US-01-4-6	4-6	4/9/2019	17:24		278
SR06-US-02	SR06-US-01-0-2	0-2	4/9/2019	17:30	Background	54
	SR06-US-01-2-4	2-4	4/9/2019	17:35		45
	SR06-US-01-4-6	4-6	4/9/2019	17:39		76
SR06-US-03	SR06-US-03-0-2	0-2	4/9/2019	17:38	Background	54
	SR06-US-03-2-4	2-4	4/9/2019	17:39		41
	SR06-US-03-4-6	4-6	4/9/2019	17:42		35
SR06-US-04	SR06-US-04-0-2	0-2	4/9/2019	17:42	Background	16
	SR06-US-04-2-4	2-4	4/9/2019	17:44		10
	SR06-US-04-4-6	4-6	4/9/2019	17:46		12
SR06-US-05	SR06-US-05-0-2	0-2	4/9/2019	17:50	Background	14
	SR06-US-05-2-4	2-4	4/9/2019	17:52		< 10
	SR06-US-05-4-6	4-6	4/9/2019	17:54		< 6
SR06-US-06	SR06-US-06-0-2	0-2	4/9/2019	17:55	Background	26
	SR06-US-06-2-4	2-4	4/9/2019	17:58		37
	SR06-US-06-4-6	4-6	4/9/2019	18:00		64
SR06-US-07	SR06-US-07-0-2	0-2	4/10/2019	7:04	Background	728
	SR06-US-07-2-4	2-4	4/10/2019	7:06		660
	SR06-US-07-4-6	4-6	4/10/2019	7:08		411
SR06-US-08	SR06-US-08-0-2	0-2	4/10/2019	7:09	Background	59
	SR06-US-08-2-4	2-4	4/10/2019	7:11		78
	SR06-US-08-4-6	4-6	4/10/2019	7:14		88
SR06-US-09	SR06-US-09-0-2	0-2	4/10/2019	7:17	Background	38
	SR06-US-09-2-4	2-4	4/10/2019	7:20		33
	SR06-US-09-4-6	4-6	4/10/2019	7:22		29
SR06-US-10	SR06-US-10-0-2	0-2	4/10/2019	7:23	Background	24
	SR06-US-10-2-4	2-4	4/10/2019	7:24		37
	SR06-US-10-4-6	4-6	4/10/2019	7:26		32
SR06-US-11	SR06-US-11-0-2	0-2	4/10/2019	7:27	Background	37
	SR06-US-11-2-4	2-4	4/10/2019	7:29		36
	SR06-US-11-4-6	4-6	4/10/2019	7:31		41
SR06-US-12	SR06-US-12-0-2	0-2	4/10/2019	7:36	Background	31
	SR06-US-12-2-4	2-4	4/10/2019	7:38		21
	SR06-US-12-4-6	4-6	4/10/2019	7:40		23
SR06-US-13	SR06-US-13-0-2	0-2	4/10/2019	7:42	Background	26
	SR06-US-13-2-4	2-4	4/10/2019	7:44		20
	SR06-US-13-4-6	4-6	4/10/2019	7:47		29

Sample Location	Sample ID	Depth (inches)	Date	Time	Sample Location	Arsenic Concentration (ppm)
SR06-US-14	SR06-US-14-0-2	0-2	4/10/2019	7:48	Background	46
	SR06-US-14-2-4	2-4	4/10/2019	7:50		45
	SR06-US-14-4-6	4-6	4/10/2019	7:52		81
SR06-US-15	SR06-US-15-0-2	0-2	4/10/2019	7:55	Background	60
	SR06-US-15-2-4	2-4	4/10/2019	7:58		74
	SR06-US-15-4-6	4-6	4/10/2019	8:00		64
SR06-US-16	SR06-US-16-0-2	0-2	4/10/2019	8:07	Background	301
	SR06-US-16-2-4	2-4	4/10/2019	8:09		296
	SR06-US-16-4-6	4-6	4/10/2019	8:11		295
SR06-DS-01	SR06-DS-01-0-2	0-2	4/10/2019	8:43	Downslope	293
	SR06-DS-01-2-4	2-4	4/10/2019	8:45		348
	SR06-DS-01-4-6	4-6	4/10/2019	8:47		509
SR06-DS-02	SR06-DS-02-0-2	0-2	4/10/2019	9:00	Downslope	212
	SR06-DS-02-2-4	2-4	4/10/2019	9:03		127
	SR06-DS-02-4-6	4-6	4/10/2019	9:07		172
SR06-DS-03	SR06-DS-03-0-2	0-2	4/10/2019	9:12	Downslope	109
	SR06-DS-03-2-4	2-4	4/10/2019	9:14		107
	SR06-DS-03-4-6	4-6	4/10/2019	9:17		102
SR06-DS-04	SR06-DS-04-0-2	0-2	4/10/2019	9:27	Downslope	163
	SR06-DS-04-2-4	2-4	4/10/2019	9:29		179
	SR06-DS-04-4-6	4-6	4/10/2019	9:31		232
SR06-DS-05	SR06-DS-05-0-2	0-2	4/10/2019	9:35	Downslope	235
	SR06-DS-05-2-4	2-4	4/10/2019	9:38		218
	SR06-DS-05-4-6	4-6	4/10/2019	9:40		234
SR06-DS-06	SR06-DS-06-0-2	0-2	4/10/2019	9:43	Downslope	284
	SR06-DS-06-2-4	2-4	4/10/2019	9:45		307
	SR06-DS-06-4-6	4-6	4/10/2019	9:47		313
SR06-DS-07	SR06-DS-07-0-2	0-2	4/10/2019	9:52	Downslope	504
	SR06-DS-07-2-4	2-4	4/10/2019	9:53		675
	SR06-DS-07-4-6	4-6	4/10/2019	9:55		544
SR06-DS-08	SR06-DS-08-0-2	0-2	4/10/2019	10:07	Downslope	114
	SR06-DS-08-2-4	2-4	4/10/2019	10:10		132
	SR06-DS-08-4-6	4-6	4/10/2019	10:12		121
SR06-DS-09	SR06-DS-09-0-2	0-2	4/10/2019	10:17	Downslope	104
	SR06-DS-09-2-4	2-4	4/10/2019	10:19		157
	SR06-DS-09-4-6	4-6	4/10/2019	10:22		162
SR06-DS-10	SR06-DS-10-0-2	0-2	4/10/2019	10:26	Downslope	152
	SR06-DS-10-2-4	2-4	4/10/2019	10:28		197
	SR06-DS-10-4-6	4-6	4/10/2019	10:30		199
SR06-DS-11	SR06-DS-11-0-2	0-2	4/10/2019	10:33	Downslope	126
	SR06-DS-11-2-4	2-4	4/10/2019	10:36		157
	SR06-DS-11-4-6	4-6	4/10/2019	10:38		177
SR06-DS-12	SR06-DS-12-0-2	0-2	4/10/2019	10:42	Downslope	181
	SR06-DS-12-2-4	2-4	4/10/2019	10:45		130
	SR06-DS-12-4-6	4-6	4/10/2019	10:47		179

Sample Location	Sample ID	Depth (inches)	Date	Time	Sample Location	Arsenic Concentration (ppm)
SR06-DS-13	SR06-DS-13-0-2	0-2	4/10/2019	10:46	Downslope	87
	SR06-DS-13-2-4	2-4	4/10/2019	10:48		74
	SR06-DS-13-4-6	4-6	4/10/2019	10:50		104
SR06-DS-14	SR06-DS-14-0-2	0-2	4/10/2019	10:54	Downslope	139
	SR06-DS-14-2-4	2-4	4/10/2019	10:56		165
	SR06-DS-14-4-6	4-6	4/10/2019	10:58		203
SR06-DS-15	SR06-DS-15-0-2	0-2	4/10/2019	11:00	Downslope	166
	SR06-DS-15-2-4	2-4	4/10/2019	11:02		182
	SR06-DS-15-4-6	4-6	4/10/2019	11:04		266
SR-08						
SR08-US-01	SR08-US-01-0-2	0-2	4/9/2019	8:04	Background	20
	SR08-US-01-2-4	2-4	4/9/2019	8:07		21
	SR08-US-01-4-6	4-6	4/9/2019	8:11		14
SR08-US-02	SR08-US-02-0-2	0-2	4/9/2019	8:20	Background	< 7
	SR08-US-02-2-4	2-4	4/9/2019	8:24		< 8
	SR08-US-02-4-6	4-6	4/9/2019	8:26		7
SR08-US-03	SR08-US-03-0-2	0-2	4/9/2019	8:32	Background	18
	SR08-US-03-2-4	2-4	4/9/2019	8:35		16
	SR08-US-03-4-6	4-6	4/9/2019	8:37		14
SR08-US-04	SR08-US-04-0-2	0-2	4/9/2019	8:43	Background	306
	SR08-US-04-2-4	2-4	4/9/2019	8:46		389
	SR08-US-04-4-6	4-6	4/9/2019	8:49		489
SR08-US-05	SR08-US-05-0-2	0-2	4/9/2019	8:59	Background	111
	SR08-US-05-2-4	2-4	4/9/2019	9:02		89
	SR08-US-05-4-6	4-6	4/9/2019	9:05		89
SR08-US-06	SR08-US-06-0-2	0-2	4/9/2019	9:10	Background	144
	SR08-US-06-2-4	2-4	4/9/2019	9:18		44
	SR08-US-06-4-6	4-6	4/9/2019	9:22		433
SR08-US-07	SR08-US-07-0-2	0-2	4/9/2019	NA	Background	144
SR08-DS-01	SR08-DS-01-0-2	0-2	4/9/2019	9:53	Downslope	< 7
	SR08-DS-01-2-4	2-4	4/9/2019	9:56		< 7
	SR08-DS-01-4-6	4-6	4/9/2019	9:57		< 7
SR08-DS-02	SR08-DS-02-0-2	0-2	4/9/2019	10:00	Downslope	14
	SR08-DS-02-2-4	2-4	4/9/2019	10:05		14
	SR08-DS-02-4-6	4-6	4/9/2019	10:07		< 7
SR08-DS-03	SR08-DS-03-0-2	0-2	4/9/2019	10:15	Downslope	25
	SR08-DS-03-2-4	2-4	4/9/2019	10:20		25
	SR08-DS-03-4-6	4-6	4/9/2019	10:18		38
SR08-DS-04	SR08-DS-04-0-2	0-2	4/9/2019	10:22	Downslope	14
	SR08-DS-04-2-4	2-4	4/9/2019	10:25		20
	SR08-DS-04-4-6	4-6	4/9/2019	10:28		19
SR08-DS-05	SR08-DS-05-0-2	0-2	4/9/2019	10:36	Downslope	17
	SR08-DS-05-2-4	2-4	4/9/2019	10:39		10
	SR08-DS-05-4-6	4-6	4/9/2019	10:42		20

Notes

NA - Not available

ppm - parts per million

Table 2

Analytical Sampling Results for Total Arsenic

Saddle Rock Interim Remedial Action
Wenatchee, Washington

Location ID	Sample ID	Sample Date	Sample Location	Start Depth (in)	End Depth (in)	Total Arsenic (mg/Kg)
Screening level: Soil, Method A, Unrestricted Land Use (mg/kg)						**20**
Proposed Site Specific Cleanup Level (mg/kg)						**94.99**
SR01	SR01-US-01-2-4	4/8/2019	Background	2	4	65
	SR01-US-03-4-6	4/8/2019	Background	4	6	**110**
	SR01-US-04-4-6	4/8/2019	Background	4	6	19
	SR01-DS-03-4-6	4/8/2019	Waste Rock	4	6	170
	SR01-DS-07-4-6	4/8/2019	Waste Rock	4	6	87
	SR-01-WR-1C-PS	3/26/2019	Standard Performance Sample	NA	NA	**99**
SR02	SR02-US-01-0-2	4/8/2019	Background	0	2	**100**
	SR02-US-02-4-6	4/8/2019	Background	4	6	28
	SR02-US-05-4-6	4/8/2019	Background	4	6	24
	SR02-DS-01-4-6	4/8/2019	Downslope	4	6	47
	SR02-DS-05-2-4	4/8/2019	Downslope	2	4	40
	SR-2-4C-PS	3/26/2019	Standard Performance Sample	NA	NA	8.1
SR03	SR03-US-01-4-6	4/9/2019	Background	4	6	6.8
	SR03-US-05-4-6	4/9/2019	Background	4	6	87
	SR03-DS-01-2-4	4/9/2019	Waste Rock	2	4	**110**
	SR03-DS-03-4-6	4/9/2019	Downslope	4	6	49
	SR03-DS-05-2-4	4/9/2019	Waste Rock	2	4	**190**
	SR03-DS-09-4-6	4/9/2019	Bermed Area	4	6	**140**
SR04	SR04-US-01-2-4	4/11/2019	Background	2	4	17
	SR04-US-03-4-6	4/11/2019	Background	4	6	**110**
	SR04-US-05-4-6	4/11/2019	Background	4	6	34
	SR04-DS-02-4-6	4/11/2019	Bermed Area	4	6	**200**
	SR04-DS-03-0-2	4/11/2019	Bermed Area	0	2	41
SR05	SR05-US-02-0-2	4/10/2019	Background	0	2	**100**
	SR05-US-05-2-4	4/10/2019	Background	2	4	**150**
	SR05-US-06-2-4	4/10/2019	Background	2	4	18
	SR05-DS-02-2-4	4/10/2019	Downslope	2	4	89
	SR05-DS-03-0-2	4/10/2019	Downslope	0	2	**95**
	SR05-DS-07-0-2	4/11/2019	Downslope	0	2	78
	SR05-D05-TCLP	4/11/2019		0	12	**990**

Location ID	Sample ID	Sample Date	Sample Location	Start Depth (in)	End Depth (in)	Total Arsenic (mg/Kg)
SR06	SR06-US-02-4-6	4/9/2019	Background	4	6	65
	SR06-US-06-0-2	4/9/2019	Background	0	2	31
	SR06-US-07-0-2	4/10/2019	Background	0	2	**660**
	SR06-US-08-4-6	4/10/2019	Background	4	6	90
	SR06-US-12-2-4	4/10/2019	Background	2	4	43
	SR06-US-16-0-2	4/10/2019	Background	0	2	**220**
	SR06-DS-01-4-6	4/10/2019	Downslope	4	6	**570**
	SR06-DS-03-4-6	4/10/2019	Downslope	4	6	**100**
	SR06-DS-05-4-6	4/10/2019	Downslope	4	6	**330**
	SR06-DS-07-4-6	4/10/2019	Downslope	4	6	**740**
	SR06-DS-13-0-2	4/10/2019	Downslope	0	2	**110**
	SR06-DS-15-4-6	4/10/2019	Downslope	4	6	**250**
SR08	SR08-US-02-0-2	4/9/2019	Background	0	2	2.8
	SR08-US-05-0-2	4/9/2019	Background	0	2	**170**
	SR08-DS-03-4-6	4/9/2019	Downslope	4	6	44
	SR08-DS-04-2-4	4/9/2019	Downslope	2	4	16

Notes

Exceeds MTCA Method A Cleanup level for arsenic (20 mg/kg).

Bold indicates the concentration exceeds the proposed cleanup goal of 94.99 mg/kg

NA - Not available

ppm - parts per million

Table 3

Analytical Sampling Results for Total Metals

Saddle Rock Interim Remedial Action

Wenatchee, Washington

					Analyte	Aluminum	Arsenic	Barium	Iron	Lead	Manganese	Mercury	Selenium	Silver
					Screening Level: Soil, Method A, Unrestricted Land Use (mg/kg)	NS	20	NS	NS	250	NS	1	NS	NS
					Screening Level: Soil, Method B, Non cancer (mg/kg)	80,000	24	16,000	56,000	NS	11,200	NS	400	400
					Proposed Site Specific Cleanup Level (mg/kg)	NC	94.99	NC	NC	NC	NC	NC	NC	NC
					Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location ID	**Sample ID**	**Sample Date**	**Sample Location**	**Start Depth (in)**	**End Depth (in)**	**Aluminum**	**Arsenic**	**Barium**	**Iron**	**Lead**	**Manganese**	**Mercury**	**Selenium**	**Silver**
SR01	SR01-DS-07-4-6	4/8/2019	Waste Rock	4	6	--	**87**	**170**	**34,000**	**19**	**570**	**0.40**	**0.68**	**3.0**
SR01	SR01-US-04-4-6	4/8/2019	Waste Rock	4	6	--	**19**	**150**	**20,000**	**7.1**	**460**	**0.032**	**0.18**	0.73 U
SR02	SR02-D09-ASSAY	4/11/2019	Waste Rock	0	12	--	**990**	--	**35,000**	--	--	--	--	--
SR03	SR03-DS-09-4-6	4/9/2019	Bermed Area	4	6	--	**140**	**86**	**27,000**	**6.9**	**180**	**0.40**	**1.1**	**6.6**
SR05	SR05-DS-07-0-2	4/11/2019	Downslope	0	2	--	**78**	**81**	**14,000**	**7.1**	**500**	0.028 U	**0.38**	**3.8**
SR05	SR05-US-02-0-2	4/10/2019	Background	0	2	--	**100**	**210**	**21,000**	**14**	**420**	**0.13**	**0.25**	0.79 U
SR06	SR06-DS-07-4-6	4/10/2019	Downslope	4	6	--	**740**	**170**	**22,000**	**8.4**	**260**	**0.80**	**0.36**	0.76 U
SR06	SR06-US-06-0-2	4/9/2019	Background	0	2	--	**31**	**220**	**24,000**	**9.9**	**500**	**1.0**	**0.20**	0.79 U
SR06	SR06-US-12-2-4	4/10/2019	Background	2	4	--	**43**	**130**	**21,000**	**13**	**640**	**2.0**	**0.16**	0.73 U
SR06	SR06-C02-ASSAY	4/10/2019	Waste Rock	0	12	**14,000**	--	--	--	--	--	--	--	--

Notes

Bold = Detected

Equals or Exceeds MTCA Method A Cleanup level.

-- = Not analyzed; NS = No Standard; NC = Not Calculated

mg/kg = milligram per kilogram

U = The analyte was not detected above the reported sample quantitation limit.

Table 7

Additional Waste Determination Sample Results

Saddle Rock Interim Remedial Action

Wenatchee, Washington

Sample Number	Location	Depth	Environmental Testing[1]	Analytical Result (mg/kg)	Analytical Result (mg/L)	Analytical Result (percent mortality)
SR05-D05-TCLP	SR-05	0 - 12 inches	SPLP Arsenic	--	0.11	--
			TCLP Arsenic	--	< 0.025	--
			Total Arsenic	990	--	--
SR02-D09-Assay	SR-02	0 - 12 inches	Aquatic Bioassay	--	--	0
			Total Iron	35,000	--	--
			Total Aluminum	19,000	--	--
SR06-C02-D-Assay	SR-06	0 - 6 inches	Aquatic Bioassay	--	--	--
			Total Aluminum	14,000	--	--
Hazardous/Dangerous Waste Regulatory Level for Arsenic[3]				NA	5	NA

Notes:

[1]TCLP and SPLP Analyses were performed by OnSite Environmental, Redmond Washington. Bioassay analyses were subcontracted by Rainier Environmental Laboratory, Fife, Washington.

[3]TCLP analysis is intended to identify constituents that exhibit the characteristic of toxicity for disposal purposes.

RCRA D004 = Resource Conservation and Recovery Act Hazardous Waste Number for arsenic

-- = Not analyzed; mg/kg = milligrams per kilogram; mg/L = milligrams per liter

NA - Not available

Table 8

Quality Assurance/Quality Control - XRF Duplicate Samples

Saddle Rock Interim Remedial Action

Wenatchee, Washington

Sample Location	Sample ID	Depth (inches)	Date	Time	XRF Arsenic Concentration (ppm)	Duplicate XRF Arsenic Concentration (ppm)	Relative Percent Difference
SR01	SR01-US-05-0-2	0-2	4/8/2019	10:20	25	28	11.32%
SR01	SR01-DS-03-0-2	0-2	4/8/2019	11:22	129	127	1.56%
SR02	SR02-US-03-0-2	0-2	4/8/2019	14:28	24	29	18.87%
SR02	SR02-US-04-4-6	4-6	4/8/2019	14:40	47	42	11.24%
SR02	SR02-DS-01-2-4	2-4	4/8/2019	15:55	37	39	5.26%
SR02	SR02-DS-04-2-4	2-4	4/8/2019	16:20	24	26	8.00%
SR03	SR03-US-02-4-6	4-6	4/9/2019	12:33	8	9	11.76%
SR03	SR03-US-04-0-2	0-2	4/9/2019	12:47	< 9	9	0.00%
SR03	SR03-DS-02-0-2	0-2	4/9/2019	13:38	38	43	12.35%
SR03	SR03-DS-05-0-2	0-2	4/9/2019	14:08	75	45	50.00%
SR04	SR04-US-01-0-2	0-2	4/11/2019	6:40	15	14	6.90%
SR04	SR04-US-03-4-6	4-6	4/11/2019	6:54	186	224	18.54%
SR04	SR04-US-05-2-4	2-4	4/11/2019	7:01	28	45	46.58%
SR04	SR04-DS-03-2-4	2-4	4/11/2019	7:37	28	29	3.51%
SR04	SR04-DS-05-4-6	4-6	4/11/2019	7:49	31	40	25.35%
SR05	SR05-US-03-0-2	0-2	4/10/2019	13:12	28	31	10.17%
SR05	SR05-US-04-4-6	4-6	4/10/2019	13:22	699	743	6.10%
SR05	SR05-DS-03-0-2	0-2	4/10/2019	18:32	67	76	12.59%
SR05	SR05-DS-05-2-4	24-	4/10/2019	19:10	101	110	8.53%
SR06	SR06-US-01-0-2	0-2	4/9/2019	17:18	44	45	2.25%
SR06	SR06-US-02-0-2	0-2	4/9/2019	17:30	54	48	11.76%
SR06	SR06-US-06-4-6	4-6	4/9/2019	18:00	64	65	1.55%
SR06	SR06-US-08-4-6	4-6	4/10/2019	7:14	88	89	1.13%
SR06	SR06-US-11-0-2	0-2	4/10/2019	7:27	37	36	2.74%
SR06	SR06-US-12-2-4	2-4	4/10/2019	7:38	21	25	17.39%
SR06	SR06-US-15-0-2	0-2	4/10/2019	7:55	60	64	6.45%
SR06	SR06-DS-01-0-2	0-2	4/10/2019	8:43	293	302	3.03%
SR06	SR06-DS-03-4-6	4-6	4/10/2019	9:17	102	97	5.03%
SR06	SR06-DS-05-0-2	0-2	4/10/2019	9:35	235	228	3.02%
SR06	SR06-DS-09-4-6	4-6	4/10/2019	10:22	162	149	8.36%
SR06	SR06-DS-11-0-2	0-2	4/10/2019	10:33	126	143	12.64%
SR06	SR06-DS-13-4-6	4-6	4/10/2019	10:50	104	92	12.24%
SR06	SR06-DS-15-2-4	2-4	4/10/2019	11:02	182	164	10.40%
SR08	SR08-US-01-4-6	4-6	4/9/2019	8:11	14	10	33.33%
SR08	SR08-US-04-0-2	0-2	4/9/2019	8:43	306	296	3.32%
SR08	SR08-DS-02-0-2	0-2	4/9/2019	10:00	14	13	7.41%
SR08	SR08-DS-04-2-4	2-4	4/9/2019	10:25	20	19	5.13%
						Average Percent Relative Difference	**11.24%**

Notes

mg/kg - milligram per kilogram

NA - Not available

ppm - parts per million

Table 9

Quality Assurance/Quality Control - Performance Standards

Saddle Rock Interim Remedial Action

Wenatchee, Washington

Sample Location	Sample ID	Depth (inches)	Date	Time	Performance Standard Arsenic Concentration (ppm)	XRF Arsenic Concentration (ppm)	Relative Percent Difference[2]
Performance Standards [1]	SR-2-4C-PS	NA	4/8/2019	7:50	8.1	< 9	10.53%
	SR01-WR-1C-PS	NA			99	107	7.77%
	SR-2-4C-PS	NA	4/8/2019	15:40	8.1	< 9	10.53%
	SR01-WR-1C-PS	NA			99	113	13.21%
	SR-2-4C-PS	NA	4/9/2019	11:25	8.1	11	30.37%
	SR01-WR-1C-PS	NA			99	105	5.88%
	SR-2-4C-PS	NA	4/9/2019	18:30	8.1	< 9	10.53%
	SR01-WR-1C-PS	NA			99	90	9.52%
	SR-2-4C-PS	NA	4/10/2019	6:30	8.1	< 9	10.53%
	SR01-WR-1C-PS	NA			99	97	2.04%
	SR-2-4C-PS	NA	4/10/2019	17:35	8.1	9	10.53%
	SR01-WR-1C-PS	NA			99	103	3.96%
	SR-2-4C-PS	NA	4/11/2019	5:42	8.1	< 10	20.99%
	SR01-WR-1C-PS	NA			99	83	17.58%
	SR-2-4C-PS	NA	4/11/2019	13:50	8.1	< 8	1.24%
	SR01-WR-1C-PS	NA			99	96	3.08%
						Average Percent Relative Difference	**10.52%**

Notes

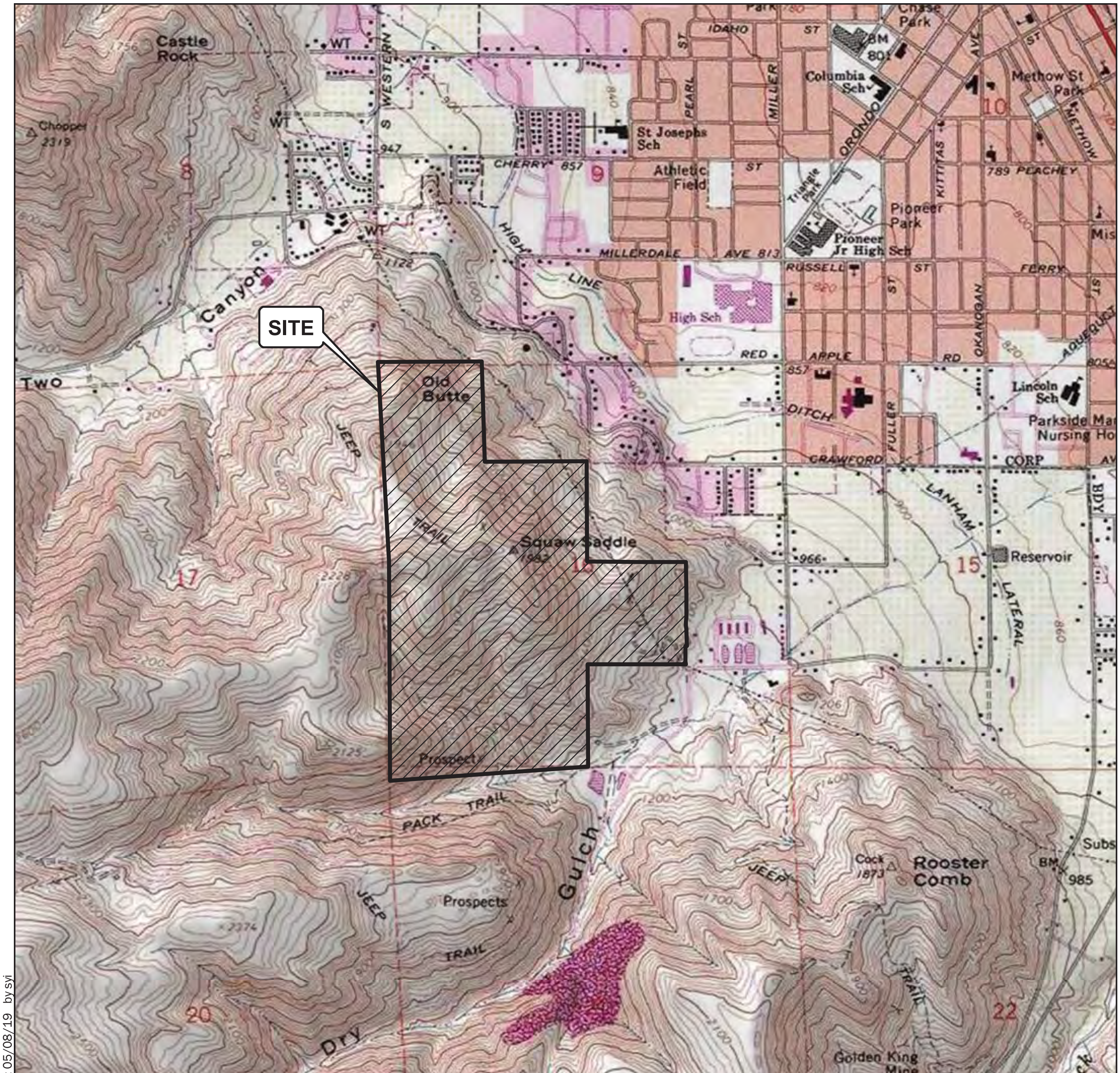
[1]Performance standard samples SR-2-4C-PS and SR01-WR-1C-PS were collected by Frank Winslow (Ecology) and provided to GeoEngineers during the IRA investigation. Samples were anlayzed for total arsenic by EPA Method 6020B by OnSite Environmental, Inc. in Redmond, Washington.

[2]Where arsenic was identifed below the limit of detection (LOD) the LOD value was used for comparison.

mg/kg - milligram per kilogram

NA - Not available

ppm - parts per million



N
W E
S

2,000 0 2,000

Feet

Vicinity Map

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

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Figure 1

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

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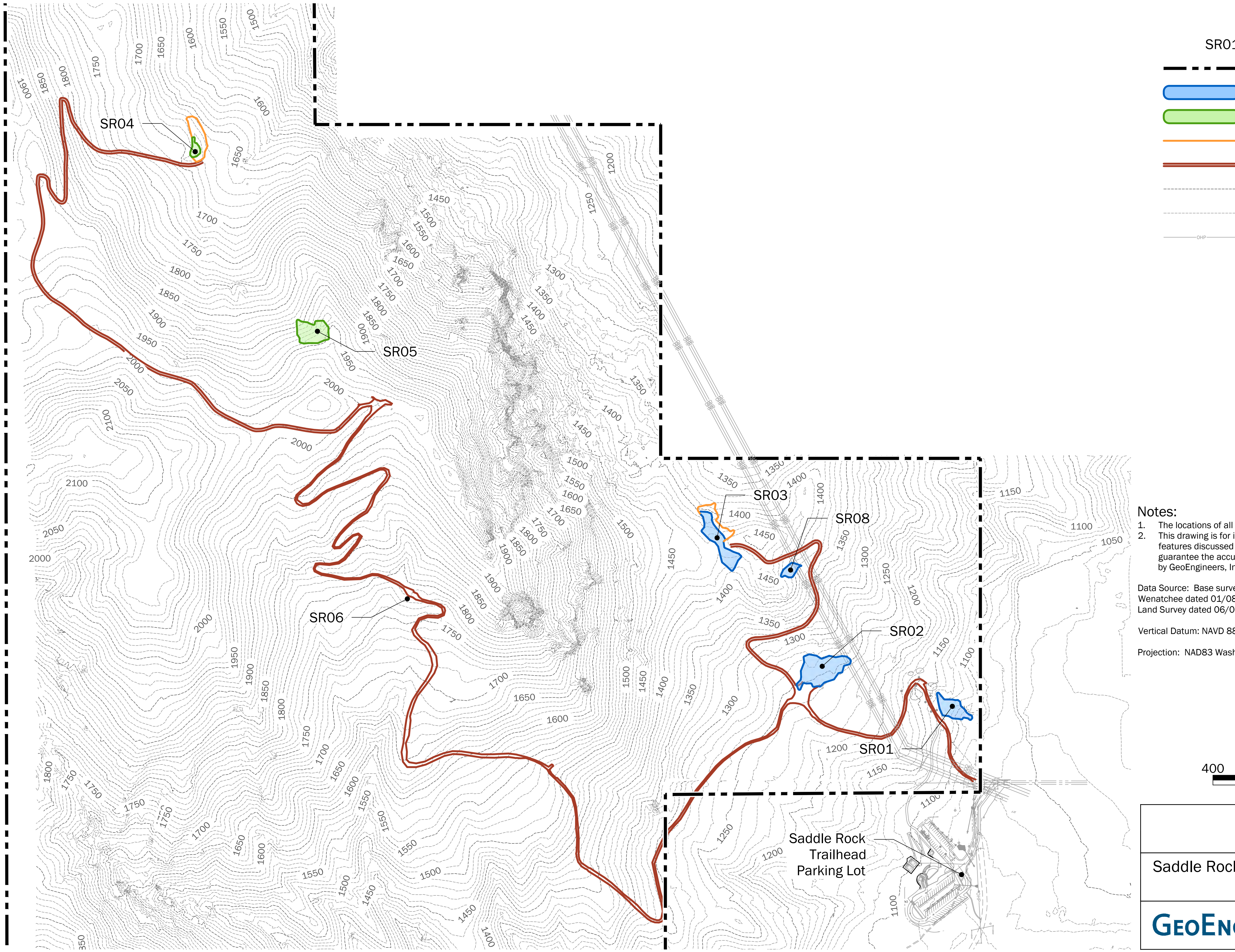

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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

Saddle Rock Interim Remedial Action Project

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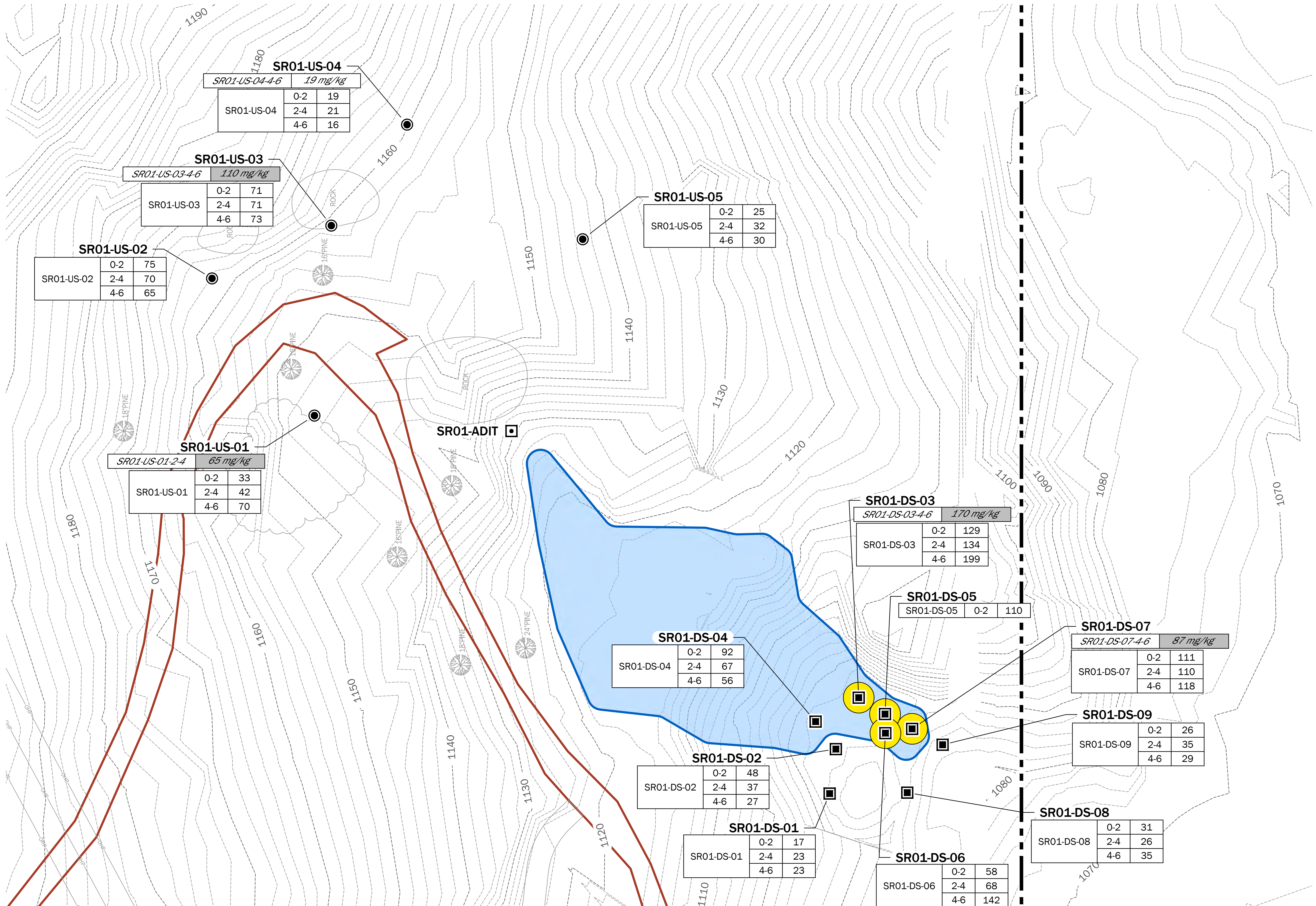

SR01

SR01-DS-01

SR01-US-01

SR01-ADIT

XRF Arsenic Concentration Results:

SR01-US-03

Analytical Laboratory Total Arsenic Concentrations:

SR01-US-03-4-6

>20 mg/kg

Data Box Explanation:

MTCA

mg/kg

ppm

Notes:
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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

N E S W

40 0 40
Feet

Saddle Rock Interim Remedial Action Project

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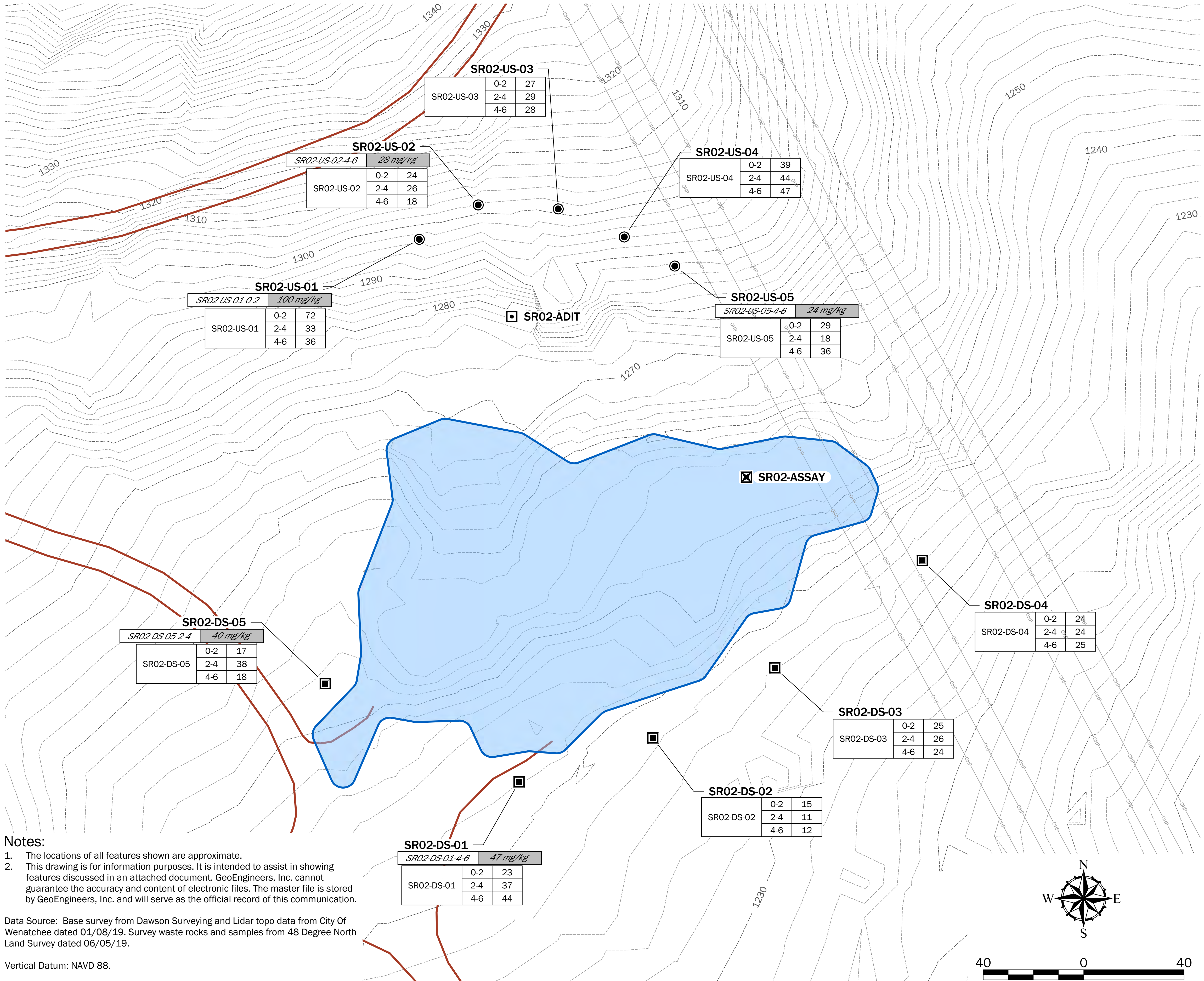

SR02

SR02-DS-01

SR02-US-01

SR02-ADIT

SR02-ASSAY

XRF Arsenic Concentration Results:

SR02-US-01

Analytical Laboratory Total Arsenic Concentrations:

SR02-US-01-0-2

>20 mg/kg

Data Box Explanation:

MTCA

mg/kg

ppm

Notes:

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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

Saddle Rock Interim Remedial Action Project

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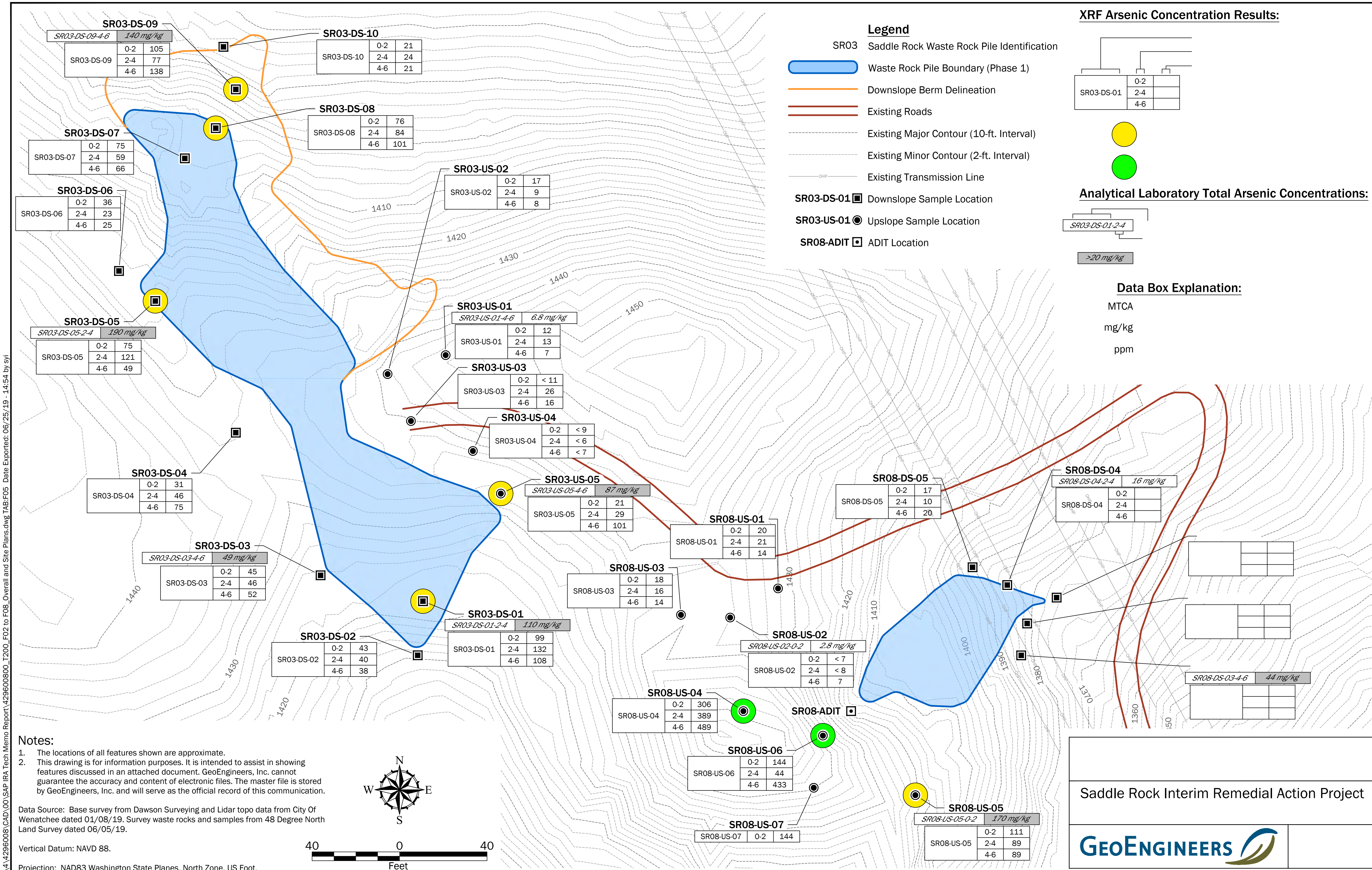
XRF Arsenic Concentration Results:
SR03-DS-01 0-2 2-4 4-6
Analytical Laboratory Total Arsenic Concentrations:
SR03-DS-01-2-4
>20 mg/kg
Data Box Explanation:
MTCA
mg/kg
ppm
Legend
SR03 Saddle Rock Waste Rock Pile Identification
Waste Rock Pile Boundary (Phase 1)
Downslope Berm Delineation
Existing Roads
Existing Major Contour (10-ft. Interval)
Existing Minor Contour (2-ft. Interval)
Existing Transmission Line
SR03-DS-01 Downslope Sample Location
SR03-US-01 Upslope Sample Location
SR08-ADIT ADIT Location
SR03-DS-09
SR03-DS-09-4-6 140 mg/kg
SR03-DS-09 0-2 105 2-4 77 4-6 138
SR03-DS-10
SR03-DS-10 0-2 21 2-4 24 4-6 21
SR03-DS-08
SR03-DS-08 0-2 76 2-4 84 4-6 101
SR03-DS-07
SR03-DS-07 0-2 75 2-4 59 4-6 66
SR03-DS-06
SR03-DS-06 0-2 36 2-4 23 4-6 25
SR03-US-02
SR03-US-02 0-2 17 2-4 9 4-6 8
SR03-US-01
SR03-US-01-4-6 6.8 mg/kg
SR03-US-01 0-2 12 2-4 13 4-6 7
SR03-DS-05
SR03-DS-05-2-4 190 mg/kg
SR03-DS-05 0-2 75 2-4 121 4-6 49
SR03-US-03
SR03-US-03 0-2 < 11 2-4 26 4-6 16
SR03-US-04
SR03-US-04 0-2 < 9 2-4 < 6 4-6 < 7
SR03-DS-04
SR03-DS-04 0-2 31 2-4 46 4-6 75
SR03-US-05
SR03-US-05-4-6 87 mg/kg
SR03-US-05 0-2 21 2-4 29 4-6 101
SR08-US-01
SR08-US-01 0-2 20 2-4 21 4-6 14
SR08-DS-05
SR08-DS-05 0-2 17 2-4 10 4-6 20
SR08-DS-04
SR08-DS-04-2-4 16 mg/kg
SR08-DS-04 0-2 2-4 4-6
SR03-DS-03
SR03-DS-03-4-6 49 mg/kg
SR03-DS-03 0-2 45 2-4 46 4-6 52
SR08-US-03
SR08-US-03 0-2 18 2-4 16 4-6 14
SR03-DS-01
SR03-DS-01-2-4 110 mg/kg
SR03-DS-01 0-2 99 2-4 132 4-6 108
SR03-DS-02
SR03-DS-02 0-2 43 2-4 40 4-6 38
SR08-US-02
SR08-US-02-0-2 2.8 mg/kg
SR08-US-02 0-2 < 7 2-4 < 8 4-6 7
SR08-DS-03-4-6 44 mg/kg
SR08-US-04
SR08-US-04 0-2 306 2-4 389 4-6 489
SR08-ADIT
SR08-US-06
SR08-US-06 0-2 144 2-4 44 4-6 433
SR08-US-07
SR08-US-07 0-2 144
SR08-US-05
SR08-US-05-0-2 170 mg/kg
SR08-US-05 0-2 111 2-4 89 4-6 89
1410
1420
1430
1440
1450
1400
1390
1380
1370
1360
N
S
E
W
40 0 40
Feet
Saddle Rock Interim Remedial Action Project
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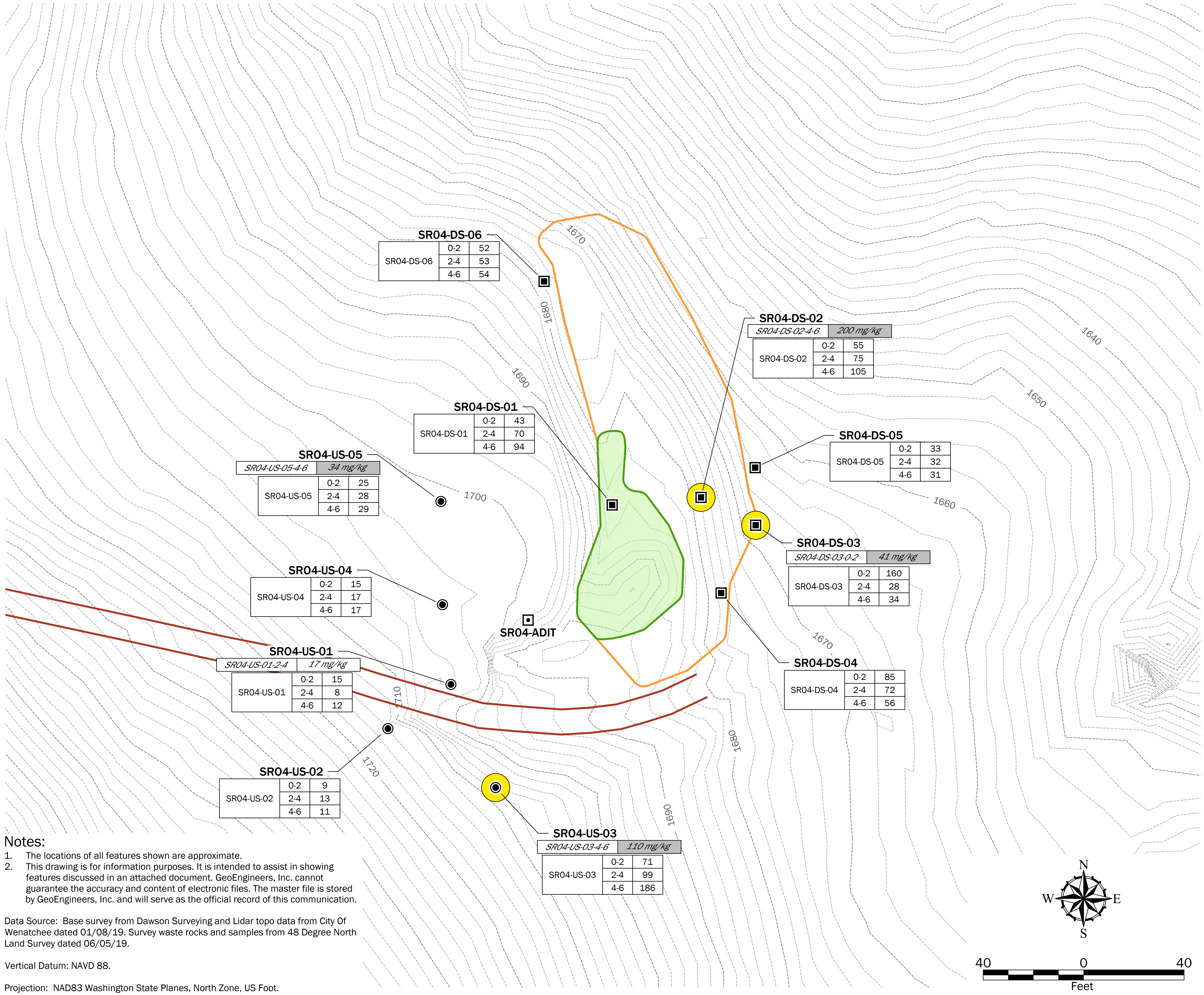
Vertical Datum: NAVD 88.
Projection: NAD83 Washington State Planes, North Zone, US Foot.



SR04

SR04-DS-01

SR04-US-01

SR04-ADIT

XRF Arsenic Concentration Results:

SR04-US-01

Analytical Laboratory Total Arsenic Concentrations:

SR04-US-01-2-4

>20 mg/kg

Data Box Explanation:

MTCA

mg/kg

ppm

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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

Saddle Rock Interim Remedial Action Project

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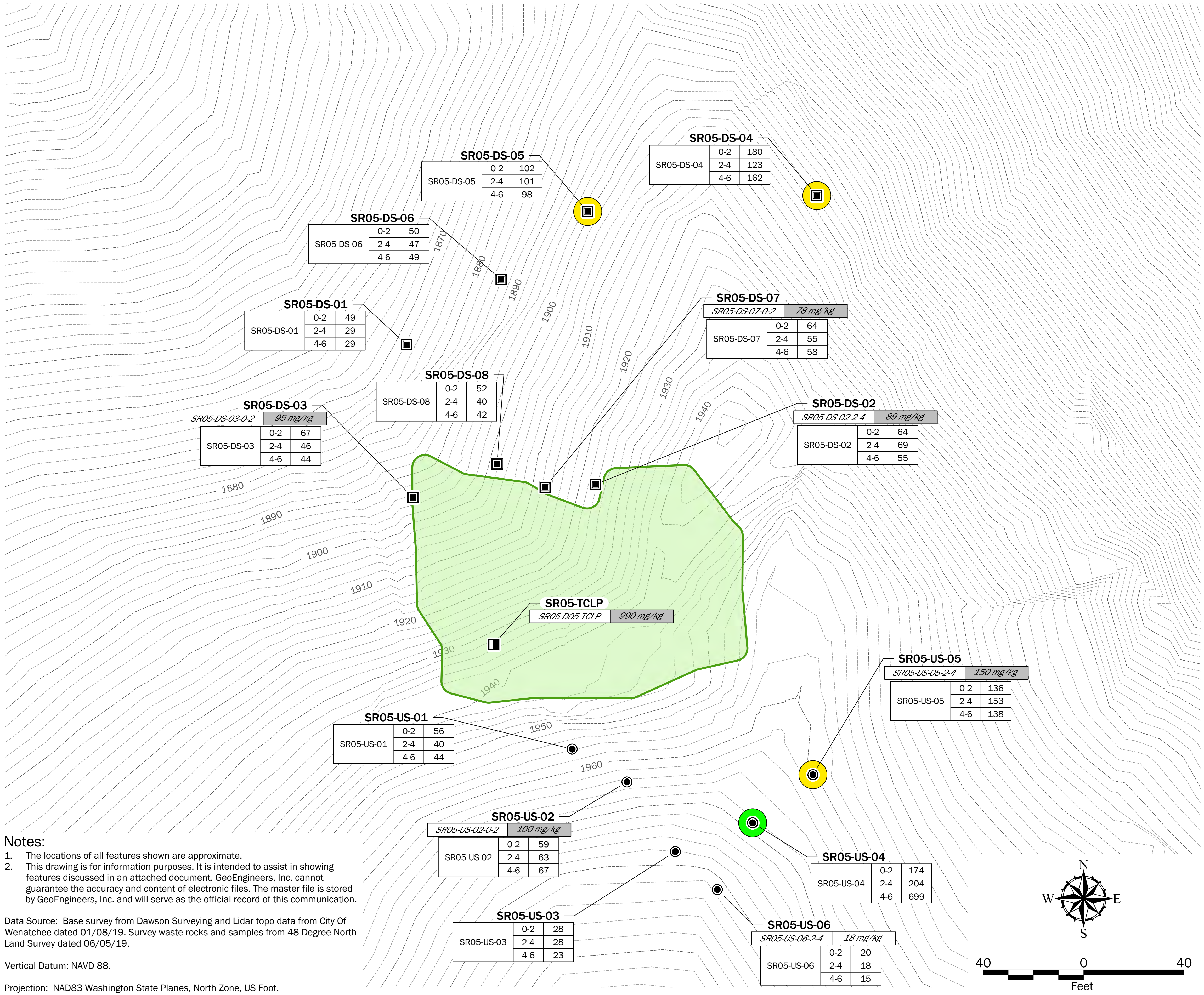

SR05

SR05-DS-01

SR05-US-01

SR05-TCLP

XRF Arsenic Concentration Results:

SR05-DS-02

Analytical Laboratory Total Arsenic Concentrations:

SR05-DS-02-2-4

>20 mg/kg

Data Box Explanation:

MTCA

mg/kg

ppm

Notes:

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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

Saddle Rock Interim Remedial Action Project

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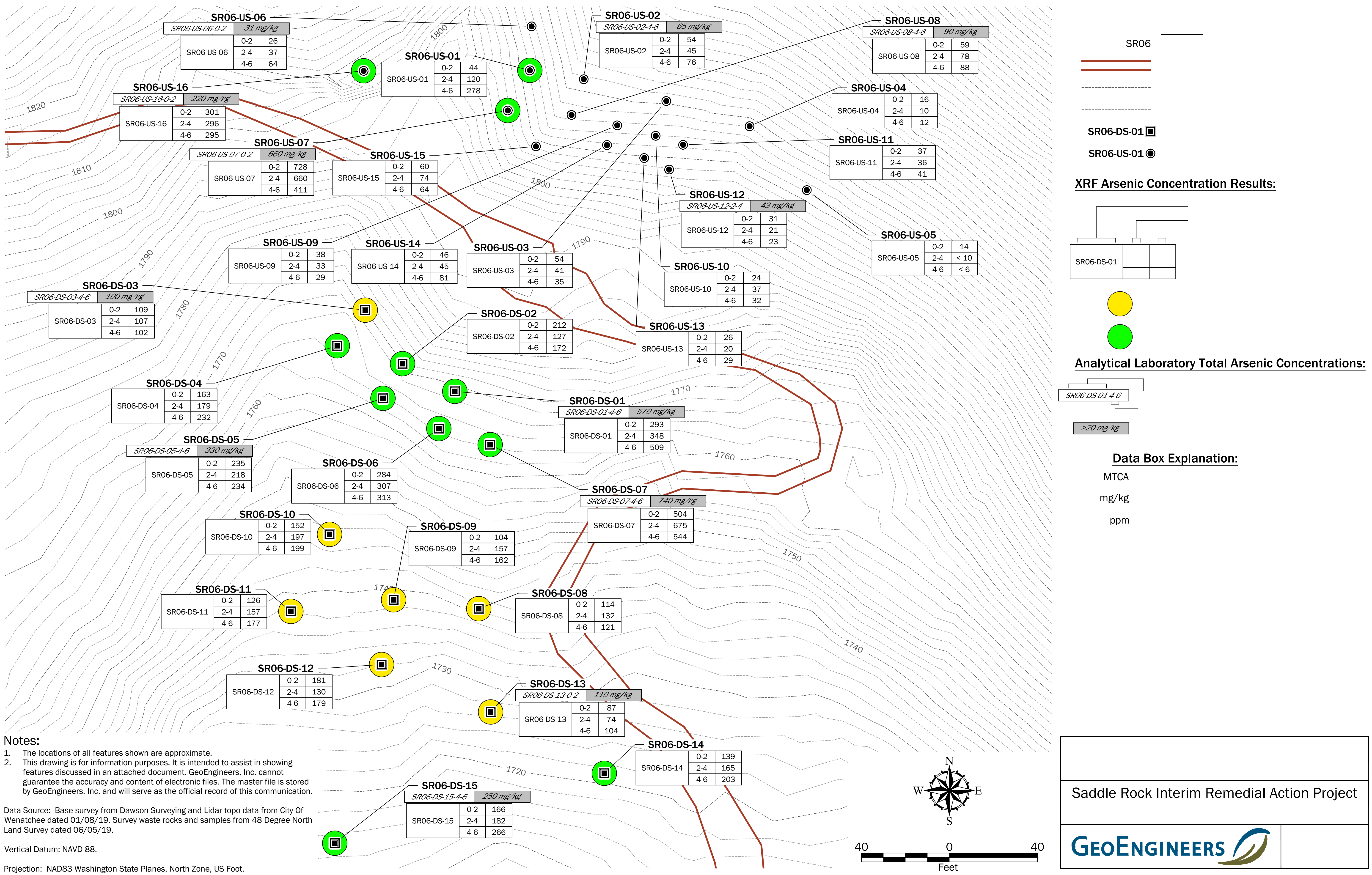

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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

Saddle Rock Interim Remedial Action Project

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ATTACHMENT A
Field Forms

4/8/19 Lt Rain 50°

0730- Poblas / Heaven onsite
(Covered H&S Plan) Hazard
JHA

745 - Calibrate XRF

750 - Performance Standard
SR2-YL-PS = ~~#~~ >9 ppm
SR-CAMP-PS = 107 ppm

755 - UTV Dropped

800 Charlotte Henry onsite
Unlocked gate

805 H&S info
SR-01

830 - Calibrate XRF
831 Mob to SR01, locating background sample locations
836 At SR01-US-01
Set up Trimble file
File RSaddleRockIRA_201904
At SR01-US-02
900 Nick Rohrbach (Geo) onsite
Site tour to SR02, SR08 & SR03

Scale: 1 square =

Saddle Rock IRA 4/8/19

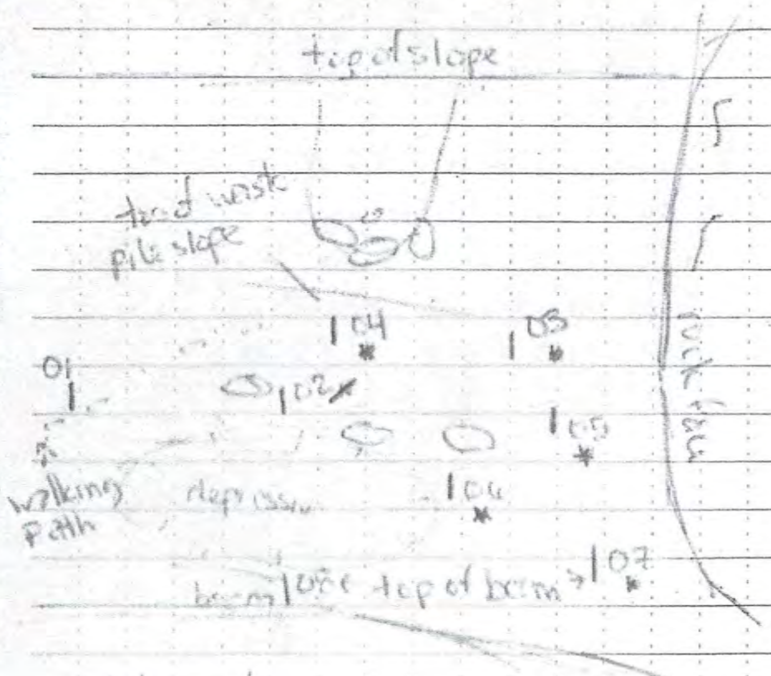
940 Nick off site
957 Mob to SR01-US-03
1010 Mob to SR01-US-04
1020 Mob to SR01-US-05
Took duplicate XRF reading of SR01-US-05-0-2
1st reading 25 ppm As
2nd reading 35 ppm As DUP
1024 Recalibrated XRF as dup was >20% difference, 2nd set of XRF readings w/in 20% after recomposite
1st reading 30 ppm
2nd reading DUP 28 ppm
Field observations; there appears to be a narrow seam of mineralized/higher As concentrations in line with outcrop
1039 Mob to downslope SR01
1047 Recalibrated XRF prior to collecting downslope samples
Downslope of SR01 is narrow so set 3 pts ~20' from toe of slope; after XRFing these will finalize other 2 locations
1051 Mob to SR01-DS-01

Scale: 1 square =

Rite in the Rain

1105 Mob to SR01-DS-02
1118 Mob to SR01-DS-03
1122 Duplicate of SR01-DS-03-0-2
see sample summary form
1129 Mob to SR01-DS-04 just
upslope to the left looking @ the
pile

SR01-DS Schematic - adit
as downslope as been reworked



not to scale
* high arsenic
09 base of berm

Scale: 1 square =________

1130 Doing surficial XRF at multiple
locations to delineate extent
1220 Completed SR01-DS

Mean upslope = 47.5 ppm (SR01)

Collected downslope samples for lab
1) SR01-DS-03-4/6 (11:28)
2) SR01-DS-07-4-6 (12:05)
Waiting to decide on upslope
1255 Delineated waste rock at SR01
1315 Lunch
1335 Mob to SR02
1343 At SR02, calibrating XRF
1345 Charlotte on-site @ SR02
1354 Mob to SR02-US-01
1411 Mob to SR02-US-02
1420 Mob to SR02-US-03
1436 Mob to SR02-US-04
1445 Mob to SR02-US-05
(1354–1445: SR02)
1505 Move to downslope area & flagging
Recalibrated XRF as a check,
1513 low battery, replaced, recalibrated

Mean Background 35.53 ppm (SR02)

1530 Mob to SR02-DS-01
1600 Mob to SR02-DS-02

Scale: 1 square =________

Saddle Rock 4/8/19

1605 Mob to SR02-DS-03
1615 Mob to SR02-DS-04
1540 Mob to SR05 DS-05

Collected duplicates today
1) SR01-US-05-0-2 DUP (10:20)
2) SR01-DS-03-0-2 DUP (11:22)
3) SR01-DS-09-4-6 DUP (1226)
4) SR02-US-03-0-2 DUP (1428)
5) SR02-US-04-4-6 DUP (1440)
6) SR02-DS-01-2-4 DUP (1555)
7) SR02-DS-04-2-4 DUP (1620)

Collected downslope samples @ SR02
1) SR02-DS-01-4-6 (1555)
2) SR02-DS-05-2-4 (1544)

Waiting to decide which upslope samples to submit
Heading down to demob for day

Performance Standards
1755 SR-2-4C-PS 49 #132
SR01-WR-K-PS 113 #134

1805 Tobias/Hanna offsite

LH

Scale: 1 square = ________

Saddle Rock 4/9/19

715 L.Hanna & R.Tobia (Geo) on site
H&S mtg, weather sunny, 60Fs
730 Surveyors North (Eric & Wade)
735 Morning mtg w/ North & Geo
744 Adding red flags to SR01 to delineate adit for North Surveyors
750 Set up on SR08
754 Calibration check on XRF
GPS Saddle Rock IRA_20190409 (filename)
800 Mob to SR08-US-01
819 Mob to SR08-US-02
832 Mob to SR08-US-03
842 Mob to SR08-US-04
As concentrations are highest seen yet but on fault. Substrate is gravelly. At top of fault outcrop very mineralized
855 Mob to SR08-US-05
Added SR08-US-06 between 04 & 05. Minimal soil on rock outcrop but found a spot directly above adit.
938 Completed upslope delineation
945 Mob to downslope SR08
948 Recheck XRF calibration
952 Mob to SR08-DS-01 @ top of slope

Scale: 1 square = ________

958: Mob to SR08-DS-02

1012 Mob to SR08-DS-03

1028 Mob to SR08-DS-04

1032 Mob to SR08-DS-05

Delineating waste pile taking GPS coordinates of DS locations

Collected downslope samples @SR08

1) SR08-DS-03-4-6 (10:18)

2) SR08-DS-04-2-4 (10:25)

Mean upslope avg excluding high As samples collected in the vein (SR08-US-04, SR08 US-06)

$\boxed{\text{mean = 33.88 ppm}}$

1115: Stopped to talk to surveyors @ SR02

1125 - Rebecca - Chelan/Douglas Land Trust visited at Truck. Debriefed Performance Standard

SR-2-4C-PS	As = 11 ppm	#60
SR-01-WR-1C-PS	105 ppm	#61
" " " "	105 ppm	#62
SR-2-4C-PS	9 ppm	#63

1211 Recalibrate XRF

1213 Mob to SR03-US-01

1225 Mob to SR03-US-02

1238 Mob to SR03-US-03

1245 Mob to SR03-US-04

1255 Mob to SR03-US-05

Completed upslope SR03

1315 Moved to delineate downslope

1330 Mob to SR03-DS-01

1340 Mob to SR03-DS-02

1345 Mob to SR03-DS-03

1345 Mob to SR03-DS-04

1354 Recalibrated XRF, battery changed

1404 Mob to SR03-DS-05

1415 Mob to SR03-DS-06

1430 Mob to SR03-DS-07 area

down below is moist; seeing higher than expected As [ ] in soil, not waste rock; soil is vegetated on a flat bench. Went below bench on the slope to collect additional locations for delineation.

$\boxed{\text{SR03 Mean As Background = 18.3 ppm}}$

$\boxed{\text{SR08 Mean Upslope = 33.875}}$ w/o -04 -06

W/ US-06 in~~[illegible]~~ → 70.37

All → 124.41

Collected downslope samples @ SR03

1) SR03-DS-01-2-4 (1330)
2) SR03-DS-03 4-6 (1354)
3) SR03-DS-05-2-4 (1410)
4) SR03-DS 09-4-6 (1505)

1630 Completed downslope SR03
SR03-08, -09, + 10 delineation
1650 Mob to SR06
1700 At SR06 scouting site
Establishing background locations
1802 Collected SR06-US-01 to SR06-US-06
1808 Heading back to demob

1930 Performance Standard
SR-2-4C-PS <9 #218
SR-01-WR-1C-PS ~~8~~ 90 #219
1645 Off site

LR

weather: Sunny
personnel Ryan Tobias, Laura Hanna (Geo)
615 On site
630 Calibrating XRF, passed calibrating
Loading up vehicle
H&S mtg
Performance Standard Check
SR-2-4C-PS <9 ppm #3
SR-01-WR-1C-PS 97 #4
645 Heading to SR06
652 At SR06
655 Continuing background sampling
Completed upslope SR06
Submitting upslope samples

1) SR06-US-02 4-6 (1739) 4/9/19
2) SR06-US-06-0-2 (1755)
3) SR06-US-07-0-2 (7:04) 4/10/19
4) SR06-US-08-4-6 (7:14)
5) SR06-US-12-2-4 (7:38)
6) SR06-US-16-0-2 (8:07)

Delineating/GPSing
840 Mob to downslope
Downslope "pile" is NOT Wasterock
1106 Completed downslope samples @SR06

Saddle Rock 4/10/19

1120 - Calibrate XRF

1130 - Collected Bioassay at SR-06 for AI, SR06-C02-D-Assay GPS locations (11:30

Collected downslope samples

1) SR06-DS-01-4-6 (847)
2) SR06-DS-03-4-6 (917)
3) SR06-DS-05-4-6 (940)
4) SR06-DS-07-4-6 (955)
5) SR06-DS-13-0-2 (1046)
6) SR06-DS-15-4-6 (11:04)

Decon/demob

1200 Heading to SR05

Locating background locations

1345 Completed background samples @SR05 as XRF battery died. Collected SR05-US-01 to SR05-US-06

1350 Demob to charge XRF as 2nd battery didn't hold charge

1415 Off site, heading to hotel to organize & select upslope sample locations - high, medium, & low from each SR to submit for analytical

Scale: 1 square = ________

Saddle Rock 4/10/19

1500 Collected upslope samples for analytical

SR01 - 4/8/2019

1) SR01-US-04-4-6 (10:14) low 4/8/19
2) SR01-US-01-2-4 (8:43) med
3) SR01-US-03-4-6 (10:04) high

SR02 - 4/8/2019

1) SR02-US-02-4-6 (1418) low 4/8/19
2) SR02-US-05-4-6 (1452) med
3) SR02-US-01-0-2 (1400) high

SR08 - 4/9/2019

1) SR08-US-02-0-2 (8:20) low 4/9/19
2) SR08-US-05-0-2 (8:59)

Mean slope: 59.2 ppm @SR05 omitting highest As (US-04)

SR03 - 4/9/19

1) SR03-US-01-4-6 (1223) 4/9/19
2) SR03-US-05-4-6 (1301)

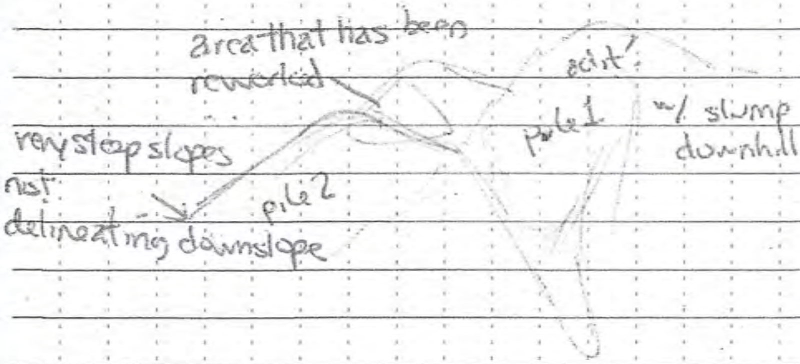
SR05 - 4/10/19

1) SR05-US-02-0-2 (1306)
2) SR05-US-05-2-4 (1330)
3) SR05-US-06-2-4 (1335)

Prepping samples for shipping & COCs

Scale: 1 square = ________ Rite in the Rain

1700 Mob back to site
1740 Heading up to SR05
1751 A+ SR05
Calibrating XRF
Gully @ toe of waste rock: looks like contaminates have washed down gully; not within scope of SAP to define currently. Marked toe of waste rock pile for delineation.
SR05 appears to be 2 different pile origins; waste rock pile associated w/ an adit unlocated and other appears to have been worked/reworked but unsure it's waste rock, it has oxidized & is mineralized.



Scale: 1 square = ______

1930 Done SR05-DS-01 to SR05-DS-06
1935 Heading down
Demob
Calibrated XRF
Performance Std Check
SR-2-4C-PS 9 ppm #250
SR-01-WR-1C-PS 103 ppm #249
2000 Offsite

Scale: 1 square = ______

Rite in the Rain

Saddle Rock 4/11/19

0540 Onsite, R Tobias & L. Hanna
0541 H&S
0542 Calibrating XRF
Checking Performance Stdr
SR-2-4C-PS
SR-01-WR-1C-PS

Performance Standard check
SR-01-WR-1C-PS 89 ppm #3
SR-2-4C-PS <10 ppm #4

603 Mob up to SR04
633 At SR04
720 Completed upslope SR04
807 Completed downslope
809 Mob to car park
~~Offsite dropping LH @ ent approx~~
Mean Upslope SR04 = 37 ppm
1000 - Tobias onsite
Re-flagged SR04 w/ inner and outer perimeters to represent WR and downslope "moved" material
1040 moved to SR05
Cal check on XRF

Scale: 1 square =

1100 - moved to SR05
collected Two additional Downslope Samples

1230 - collected TCLP sample for SR05, SR05-D05-TCLP

Moved to SR03
Flagged downslope WR pile to refine area

1310 - Moved to SR02
1330 - collected SR02-D09-Assay
1350 - unloaded at Trailhead, Decon equipment
1400 - Performance Standard
SR01-WR-1C-PS 96 ppm #247
SR-2-4C-PS <8 #248
1410 - Tobias offsite

Rite in the Rain

Scale: 1 square =

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

	Sample Number	Location	in Depth	Date/Time	Assessment (Background/Downslope)	XRF Shot # Sample Type (XRF/lab)	As ppm	
	SR01-US-01	SR01-US	0-2	4/8/19 8:38	Background	#7	33	total(hodyp)=743
	⊥	↓	2-4	8:45		#8 MED	42	
			4-6	8:49		#9	70	
	SR01-US-02	SR01-US	0-2	9:42		10	75	
	⊥		2-4	950		11	70	
			4-6	953		12	65	
	SR01-US-03		0-2	959		13	71	
	⊥		2-4	10:02		14	71	
			4-6	10:04		15 HIGH	73	
	SR01-US-04		0-2	10:10		16	19	
	⊥		2-4	10:12		17	21	
			4-6	10:14		18 LOW	16	
	SR01-US-05		0-2	10:20		#22	25	
	↓		2-4	10:24		27	32	
			4-6	10:26		28	30	
	~~SR01-US-05~~	DUP	0-2	10:20		#23	35	outside range recalibrated
	SR01-US-05	DUP-retake	0-2	10:20		25	28	
	SR01-US-05		0-2	10:20		26	30 - 6"	pine needles
						~~29~~	~~32~~	
	SR01-DS-01	SR01-DS	0-2	1055	Downslope	31	17	
	⊥		2-4	1058		32	23	
			4-6	1100		31	23	
	SR01-DS-02		0-2	1110		34	48	
	⊥		2-4	1112		35	37	
			4-6	1114		36	27	
	SR01-DS-03		0-2	11:22		37	129	6" pine needles
			2-4	11:25		39	134	
LAB	⊥	↓	4-6	11:28		40 LAB	199	LAB confirmed 208ppm after composite
		DUP	0-2	11:22		38	127	
	SR01-DS-04		0-2	11:31		41	92	
	⊥	⊥	2-4	11:33	↓	42	67	

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

XRF Shot #

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	Sample Type (XRF/lab)	As ppm
SR01-DS-04	SR01-DS	4-6	4/8/19 11:34	Downslope	~~#56~~ 43	56
SR01-DS-05		0-2	11:39		44	110
SR01-DS-06		0-2	11:44		45	58
		2-4	11:48		46	68
		4-6	11:50		47	142
SR01-DS-07		0-2	11:54		48	111
SR01-DS-08		0-2	1156		49	31
SR01-DS-09		0-2	1200		LH 50	26
~~10~~		~~0-2~~				
SR01-DS-07		2-4	1202		51	110
LAB		4-6	1205		52 LAB	118 LAB
SR01-DS-08		2-4	1215		53	26
		4-6	1217		54	35
SR01-DS-09		2-4	1224		55	35
		4-6	1226		LH ~~56~~ 57	29
	DUP	4-6	1226		56	37
SR02-US-01	SR02-US	0-2	4/8/19 1400	Background HIGH	67 HIGH	72
		2-4	1405		68	33
		4-6	1410		69	36
SR02-US-02		0-2	1414		70	24
		2-4	1416		71	26
		4-6	1418	LOW	72 LOW	18
SR02-US-03		0-2	1424		73	27
	DUP	0-2	1428		78	29
		2-4	1432		79	29
		4-6	1434		80	28
SR02-US-04		0-2	1436		81	39
		2-4	1439		82	44
		4-6	1440		83	47
	DUP	4-6	1440		84	42

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

	Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	Sample Type (XRF/lab) XRF Shot #	As PPM	
	SR02-US-05	SR02-US	0-2	4/8/19 1448	Upslope	85	29	
			2-4	1450		89	18	
			4-6	1452		90 MED	36	
	SR02-DS-01	SR02-DS	0-2	4/8/19 1550	Downslope	102	23	
			2-4	1555		108	37	
LAB			4-6	1558		110	44	LAB
	SR02-DS-02		0-2	1559		111	LA ~~16~~ 15	
			2-4	1600		112	11	
			4-6	16:01		113	12	
	SR02-DS-03		0-2	16:09		99	25	
			2-4	16:11		114	26	
			4-6	16:13		115	24	
	SR02-DS-04		0-2	1618		100	24	gravely
			2-4	16:20		117	24	
			4-6	16:22		120	25	
	SR02-DS-05		0-2	1542		101	17	
LAB			2-4	1544		106 LAB	38	LAB
			4-6	1546		107	18	
	SR02-DS-01	DUP	2-4	1555		109	39	
	SR02-DS-04	DUP	2-4	1620		118	26	
	SR08-US-01	SR08-US	0-2	4/9/19 804	Background	3	20	
			2-4	807		4	21	
			4-6	811		5	14	
		DUP	4-6	8:11		~~6~~ 7	~~20~~ 10	
	SR08-US-02	SR08-US	0-2	8:20		8 LOW	<7	
			2-4	8:24		9	28	
			4-6	8:26		10	7	
	SR08-US-03		0-2	8:32		LP ~~11~~ 13	8	
			2-4	8:35		14	16	
			4-6	8:37		15	14	

SR08-US
SR08-DS

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	Sample Type (XRF/lab) XRF Shot #	As ppm	
SR08-US-04	SR08-US	0-2	4/9/19 8:43	Background	17	306	rocky sample
	DUP	0-2 DUP	8:43		18	296	
	SR08-US	2-4	8:46		19	389	
		4-6	8:49		20	489	
SR08-US-05		0-2	8:59		24 HIGH	111	
		2-4	9:02		25	89	
		4-6	9:05		26	89	
upslope SR07		0-2	taken to see difference near SR08-US-05		22	144	
SR08-US-06		0-2	910		30	44	rocky sample
		2-4	918		31	433	
		4-6	922		32	172	
SR08-DS-01	SR08-DS	0-2	953	Downslope	34	<7	
		2-4	956		37	<7	
		4-6	957		38	<7	
SR08-DS-02		0-2	10:00		39	14	
	DUP	0-2 DUP	10:00		40	13	
		2-4	10:05		41	14	
		4-6	10:07		42	<7	
SR08-DS-03		0-2	10:15		44	35	surficial spillage
		2-4	10:20		45	25	
		4-6	10:18		46 LAB	38	LAB
SR08-DS-04		0-2	10:22		47	14	
		2-4	10:25		49 LAB	20	LAB
		4-6	10:28		~~50~~ 51	~~19~~ 12	
	DUP	2-4	10:25		~~51~~ 50	~~12~~ 19	
SR08-DS-05		0-2	10 36		52	17	
		2-4	10:39		53	10	
		4-6	10:42		54	20	
SR03-US-01	SR03-US	0-2	4/9/19 1220	Background	# 66	12	
		2-4	1223		67	13	
		4-6	1225		68 LOW	7	

SR03-US
SR03-DS

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

XRF Shot#

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	Sample Type (XRF/lab)	As (ppm)	Notes
SR03-US-02	SR03-US	0-2	4/9/19 1227	Background	*69	17	
		2-4	1230		70	9	
		4-6	1233		71	8	
	DUP	4-6	1233		72	9	
SR03-US-03		0-2	1240		73	<11	
		2-4	1242		74	26	
		4-6	1245		75	16	
SR03-US-04		0-2	1247		76	<9	
	DUP	~~DUP~~ 0-2	1247		77	9	
		2-4	1249	~~LOW~~	78	<6	
		4-6	1251		79	27	
SR03-US-05		0-2	1256		81	21	
		2-4	1259	~~HIGH~~	82	29	gravelly
		4-6	1301		~~82~~ 83 HIGH	101	color change from brown to tan
SR03-DS-01	SR03-DS	0-2	4/9/19 1327	Downslope	96	99	
		2-4	1330	LAB	97	132	
		4-6	1332		98	108	
SR03-DS-02		0-2	1338		104	43	
		2-4	1341		103	44	
		4-6	1344		106	40	
	DUP	0-2	1348		105	38	
SR03-DS-03		0-2	1349		108	45	
		2-4	1351		109	46	
		4-6	1354	LAB	110	52	
SR03-DS-04		0-2	1400		119	39	
		2-4	1403		120	31	
		4-6	1405		122	46	
SR03-DS-05		0-2	1408		124	75	clayey soil, dip >20%
	DUP	0-2	1408		125	45	
		2-4	1410	LAB	127	121	
		4-6	1412		126	49	

Jake Frontier, Trimble Support
208-595-271

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	XRF Shot# Sample Type (XRF/lab)	As (ppm)	
SR03-DS-06	SR03-DS	0-2	4/9/19 14:19	Downslope	#128	36	
		2-4	14:20		129	23	
		4-6	14:22		130	25	
SR03-DS-07		0-2	1433		#136	75	moist, sticky soil
		2-4	1435		137	59	
		4-6	1438		138	66	
SR03-DS-08		0-2	1445		140	76	
		2-4	1448		141	84	
		4-6	1451		143	101	
SR02-DS-09		0-2	1458		147	105	
		2-4	1502		148	77	
		4-6	1505	LAB	150	138	
SR03-DS-10		0-2	1531		155	21	
		2-4	1534		156	24	
		4-6	~~4/9/19~~ 4/ 1536		157	21	
SR06-US-01	SR06-US	0-2	~~SR06~~ ~~4/9/19~~ 1718	Upslope/Backg	196	44	
	DUP	0-2	4/9/19 1718		195	45	
		2-4	1720		197	120	
		4-6	1724		198	278	
SR06-US-02	SR06-US	0-2	1730		201	54	
		2-4	1735		202	45	
		4-6	1739		203 LAB	76	
	DUP	0-2	1730		~~199~~ 200	48	
SR06-US-03		0-2	1738		204	54	
		2-4	1739		205	41	
		4-6	1742		206	35	
SR06-US-04		0-2	1742		207	16	
		2-4	1744		208	10	
		4-6	1746		209	12	
SR06-US-05		0-2	1750		210	14	
		2-4	1752		211	<10	
		4-6	1754		212	<6	

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

XRF Shot #

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	Sample Type (XRF/lab)	As (ppm)
SR06-US-06	SR06-US	0-2	4/9/19 1755 ~~1755~~	Background	213 LAB	26
		2-4	~~1800~~ 1758		214	37
		4-6	1800		215	64
	DUP	4-6	1800		216	65
SR06-US-07	SR06-US	0-2	4/10/19 7:04	Background	#5 LAB	728
		2-4	7:06		6 ~~LAB~~	660
		4-6	7:08		7	411
SR06-US-08		0-2	7:09		9	59
		2-4	7:11		11	78
		4-6	7:14		12 LAB	88
	DUP	4-6	7:14		~~13~~ 15	89
SR06-US-09		0-2	7:17		~~15~~ 16	38
		2-4	7:20		17	33
		4-6	7:22		18	29
SR06-US-10		0-2	7:23		19	24
		2-4	7:24		20	37
		4-6	7:26		21	32
SR06-US-11		0-2	7:27		24	37
		2-4	7:29		26	37
	DUP	0-2 ~~2-4~~	7:27 ~~7:31~~		25	36
		4-6	7:31		27	41
SR06-US-12		0-2	7:36		28	31
		2-4	7:38		29 LAB	21
		4-6	7:40		32	23
	DUP	2-4 ~~4-6~~	7:38		30	25
SR06-US-13		0-2	7:42		33	26
		2-4	7:44		35	20
		4-6	7:47		36	29
SR06-US-14		0-2	7:48		38	46
		2-4	7:50		40	45
		4-6	7:52		41	81

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

XRF Shot #

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	Sample Type (XRF/lab)	As (ppm)
SR06-US-15	SR06-US	0-2	4/10/19 755	Background	43	60
		2-4	758		45	74
		4-6	800		47	64
	DUP	0-2	755		~~42~~ 46	~~76~~ 64
SR06-US-16	SR06-US	0-2	807		49 LAB	301
		2-4	809		50	296
		46	811		51	295
SR06-DS-01	SR06-DS	0-2	843	Downslope	64	293
	DUP	0-2			65	302
		2-4	845		66	348
		4-6	847		67 LAB	509
SR06-DS-02		0-2	900		68	212
		2-4	903		69	127
		4-6	907		70	172
SR06-DS-03		0-2	912		71	109
		2-4	914		72	107
		4-6	917		73 LAB	102
	DUP	4-6	917		75	97
SR06-DS-04		0-2	927		76	163
		2-4	929		77	179
		4-6	931		78	232
SR06-DS-05		0-2	935		79	235
		2-4	938		81	218
		4-6	940		82 LAB	234
	DUP	0-2	935		80	228
SR06-DS-06		0-2	943		84	284
		2-4	945		85	307
		4-6	947		86	313
SR06-DS-07		0-2	952		87	504
		2-4	953		88	675
		4-6	955		98 LAB	544

SR06-DS

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

XRF Shot #

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	Sample Type (XRF/lab)	As (ppm)	
SR06-DS-08	SR06-DS	0-2	4/10/19 10:07	Downslope	103	114	
		2-4	10:10		105	132	
		4-6	10:12		104	121	
SR06-DS-09		0-2	1017		106	104	
		2-4	1019		107	157	
		4-6	1022		108	162	
	DUP	4-6	1022		110	149	
SR06-DS-10		0-2	1026		112	152	
		2-4	1028		113	197	
		4-6	1030		114	199	
SR06-DS-11		0-2	1033		115	126	located on other side of road
		2-4	1036		~~116~~ 118	~~143~~ 157	
		4-6	1038		~~118~~	~~157~~ 177	
	DUP	0-2	1033		116	143	
SR06-DS-12		0-2	1042		122	181	
		2-4	1045		123	130	
		4-6	1047		124	179	
SR06-DS-13		0-2	1046		125 LAB	87	
		2-4	1048		126	74	
		4-6	1050		127	104	clayey
	DUP	4-6	1050		128	92	
SR06-DS-14		0-2	1054		129	139	
		2-4	1056		130	165	
		4-6	1058		131	203	
SR06-DS-15		0-2	1100		132	166	
		2-4	11:02		133	182	
	DUP	2-4	11:02		~~136~~ 137	164	
		4-6	11:04		138 LAB	266	
			ca				

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

XRF Shot #

Sample Number	Location	Depth	Date/Time		Assessment (Background/Downslope)	Sample Type (XRF/lab)	As (ppm)
SR05-US-01	SR05-US	0-2	4/10/19	1254	Background	143	56
		2-4		1256		144	40
		4-6		1258		145	44
SR05-US-02		0-2		1306		147	59
		2-4		1308		149	63
		4-6		1310		150	67
SR05-US-03		0-2		1312		152	28
	DUP	0-2		1312		153	31
		2-4		1314		156	23
		4-6		1316		157	23
SR05-US-04		0-2		1318		158	174
		2-4		1320		159	204
		4-6		1322		160	699
	DUP	4-6		1322		165	743
SR05-US-05		0-2		1328		167	136
		2-4		1330		~~153~~ 168	153
		4-6		1332		169	138
SR05-US-06		0-2		1333		170	20
		2-4		1335		171	18
		4-6		1337		172	15
SR05-DS-01	SR05-DS	0-2	4/10/19	1807	Downslope	180	49
		2-4		1809		181	29
		4-6		1811		182	29
SR05-DS-02	SR	0-2		1820		193	64
		2-4		1822	LAB	194	69
		4-6		1824		195	55
SR05-DS-03		0-2		1832	LAB	~~19~~ 201	~~67~~ 67
	DUP	0-2		1832		41 ~~203~~ 205	83 76
		2-4		1834		204	46
		4-6		1836		205	44

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

XRF Shot #

Sample Number	Location	Depth	Date/Time		Assessment (Background/Downslope)	Sample Type (XRF/lab)	As (ppm)
SR05-DS-04	SR05-DS	0-2	4/10/19	1900	Downslope	224	180
		2-4		1902		226	123
		4-6		1904		227	162
SR05-DS-05		0-2		1908		232	102
		2-4		1910		233	101
	DUP	2-4		1910		235 ~~234~~	110
		4-6		1914		236	98
SR05-DS-06		0-2		1920		241	50
		2-4		1922		242	47
		4-6		1924		243	49
SR04-US-01	SR04-US	0-2	4/11/19	640	Upslope	~~8~~ 7	15
	DUP	0-2		640		~~6~~ 8	~~18~~ 14
		2-4		642	LAB	~~8~~ 6	~~14~~ 8
		4-6		644		9	12
SR04-US-02		0-2		645		10	9
		2-4		647		11	13
		4-6		649		12	11
SR04-US-03		0-2		650		15	71
		2-4		652		16	99
		4-6		654	LAB	19	186
	DUP	4-6		654		18	224
SR04-US-04		0-2		656		20	15
		2-4		658		22	17
		4-6		659		23	17
SR04-US-05		0-2		700		24	25
		2-4		702		25	28
		4-6		703	LAB	26	29
	DUP	2-4		701		27	45
SR04-DS-01	SR04-DS	0-2		716	Downslope	51	43
		2-4		718		52	70
		4-6		719		54	94

Table 2

IRA Design Upslope/Downslope Sample Location List

Saddle Rock Natural Area, Wenatchee, WA

Sample Number	Location	Depth	Date/Time	Assessment (Background/Downslope)	XRF Shot # Sample Type (XRF/lab)	As (ppm)
SR04-DS-02	SR04-DS	0-2	4/11/19 726	Downslope	58	55
↓		2-4	730		59	75
		4-6	728 ~~730~~		61 LAB	105
SR04-DS-03		0-2	735		62 LAB	100
↓		2-4	737		64	25
		4-6	739		66	34
SR04-DS-03	DUP	2-4	739		65	29
SR04-DS-04		0-2	739 ~~741~~/41		70	85
↓		2-4	741 ~~743~~		71	72
		4-6	743		72	56
SR04-DS-05		0-2	745		73	33
		2-4	747		74	32
↓		4-6	749		~~75~~ 79	~~35~~ 31
	DUP	4-6	749		77	46
SR04-DS-06		0-2	752		80	52
↓		2-4	754		81	~~54~~ 53
		4-6	756		83	54
	DUP	4-6	756	↓	84	65
SR05-DS-07		0-2	1104	LAB	94	~~65~~ 64
		2-4	1107		~~96~~ 98	55
		4-6	1116		99	~~60~~ 58
SR05-DS-08		0-2	1120		100	52
		2-4	1122		101	40
		4-6	1124	↓	102	42
~~TCLP~~ SR05-DS - TCLP			1230		222	114

ATTACHMENT B
Raw XRF Output Files

Date	Time	Reading	Mode	Elapsed Tir	Elapsed Tir	Elapsed Tir	Elapsed Tir	P	P +/-	S	S +/-	Cl	Cl +/-	K	K +/-	Ca	Ca +/-	Ti	Ti +/-	V	V +/-
4/8/2019	7:48:11	#1	Cal Check	14.96			14.96														
4/8/2019	7:49:19	#2	Soil	9.94	9.88	9.94	29.76	ND		ND		ND		3197	115	7119	146	9262	125	46	9
4/8/2019	7:50:26	#3	Soil	9.94	9.88	9.94	29.76	ND		ND		ND		3532	117	ND		1059	31	31	5
4/8/2019	7:54:05	#4	Soil	9.93	9.87	9.92	29.73	ND		ND		ND		6727	175	ND		1793	44	49	6
4/8/2019	7:54:51	#5	Soil	9.93	9.86	9.92	29.72	ND		ND		ND		5750	148	ND		1552	37	52	5
4/8/2019	8:29:05	#6	Cal Check	14.92			14.92														
4/8/2019	8:39:43	#7	Soil	9.93	9.85	9.94	29.73	ND		ND		ND		5831	155	3456	103	1859	42	36	5
4/8/2019	8:46:45	#8	Soil	9.92	9.83	9.94	29.69	ND		ND		ND		6693	159	4037	105	1965	41	61	5
4/8/2019	8:49:08	#9	Soil	9.92	9.84	9.94	29.7	ND		ND		ND		7160	171	2728	93	2319	47	50	6
4/8/2019	9:43:08	#10	Soil	9.92	9.84	9.94	29.69	ND		855	247	ND		6862	156	3956	100	1949	40	48	5
4/8/2019	9:48:59	#11	Soil	9.93	9.86		19.79	ND		ND		ND		7795	264	2880	140	2239	67	52	8
4/8/2019	9:51:38	#12	Soil	9.95	9.89	9.95	29.8	ND		ND		ND		2889	106	989	59	1204	32	45	5
4/8/2019	9:59:53	#13	Soil	9.93	9.87	9.96	29.76	ND		ND		ND		6299	163	3348	100	2315	47	56	6
4/8/2019	10:02:51	#14	Soil	9.93	9.86	9.96	29.74	ND		ND		ND		7318	174	4799	118	1971	43	58	6
4/8/2019	10:04:19	#15	Soil	9.92	9.85	9.95	29.72	ND		ND		ND		7779	179	4035	109	2169	45	61	6
4/8/2019	10:10:42	#16	Soil	9.95	9.9	9.96	29.8	ND		ND		ND		5323	167	5264	138	1872	47	67	6
4/8/2019	10:12:47	#17	Soil	9.93	9.86	9.95	29.74	ND		ND		ND		5624	158	5560	133	2088	46	56	6
4/8/2019	10:14:01	#18	Soil	9.93	9.86	9.95	29.74	ND		ND		ND		5838	165	5832	139	5059	84	59	8
4/8/2019	10:17:28	#19	Soil																		
4/8/2019	10:19:08	#20	Soil																		
4/8/2019	10:22:20	#21	Soil	1.95			1.95											ND		ND	
4/8/2019	10:22:59	#22	Soil	9.94	9.88	9.94	29.76	ND		ND		ND		1297	68	1226	56	975	26	36	4
4/8/2019	10:23:55	#23	Soil	9.94	9.87	9.94	29.76	ND		ND		ND		4370	126	4394	107	1893	40	66	5
4/8/2019	10:25:31	#24	Cal Check	14.92			14.92														
4/8/2019	10:28:04	#25	Soil	9.94	9.87	9.95	29.75	ND		ND		ND		3930	119	3455	94	1489	35	48	5
4/8/2019	10:29:36	#26	Soil	9.94	9.86	9.94	29.75	ND		ND		ND		4114	124	3779	100	1597	37	51	5
4/8/2019	10:32:15	#27	Soil	9.95	9.89	9.96	29.8	ND		ND		ND		4774	149	8549	172	1579	40	49	5
4/8/2019	10:33:03	#28	Soil	9.94	9.85	9.95	29.73	ND		ND		ND		5665	149	5742	126	1707	39	58	5
4/8/2019	10:37:39	#29	Soil																		
4/8/2019	10:48:43	#30	Cal Check	14.92			14.92														
4/8/2019	10:57:20	#31	Soil	9.95	9.91	9.97	29.82	ND		ND		ND		3826	146	3959	120	1443	41	39	6
4/8/2019	10:59:26	#32	Soil	9.95	9.9	9.99	29.84	ND		ND		ND		5348	173	4231	127	1875	48	49	6
4/8/2019	11:00:45	#33	Soil	9.98	9.94	9.98	29.91	ND		ND		ND		4475	210	3894	154	1557	55	57	8
4/8/2019	11:09:32	#34	Soil	9.92	9.84	9.93	29.69	ND		ND		ND		5803	140	5252	113	1599	35	41	5
4/8/2019	11:12:29	#35	Soil	9.93	9.87	9.96	29.75	ND		ND		ND		6452	170	2862	96	1710	41	40	5
4/8/2019	11:13:23	#36	Soil	9.95	9.88	9.95	29.78	ND		ND		ND		5968	153	4237	109	1801	40	40	5
4/8/2019	11:23:31	#37	Soil	9.94	9.89	9.93	29.76	ND		ND		ND		5710	156	1245	76	1922	44	57	6
4/8/2019	11:24:22	#38	Soil	9.94	9.87	9.93	29.74	ND		ND		ND		7520	184	949	77	2136	47	58	6
4/8/2019	11:26:50	#39	Soil	9.94	9.88	9.93	29.75	ND		1267	391	ND		11305	268	ND		2701	63	61	8
4/8/2019	11:27:34	#40	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		10157	228	608	80	2449	53	65	7
4/8/2019	11:31:35	#41	Soil	9.93	9.87	9.94	29.75	ND		951	289	ND		9126	205	1799	86	1879	43	62	6
4/8/2019	11:33:10	#42	Soil	9.94	9.88	9.95	29.77	ND		ND		ND		5463	156	2064	87	1425	38	28	5
4/8/2019	11:33:58	#43	Soil	9.92	9.83	9.93	29.68	ND		ND		ND		5892	144	3265	93	1879	39	44	5
4/8/2019	11:41:38	#44	Soil	9.94	9.89	9.95	29.78	ND		975	297	ND		7738	191	2170	92	1847	44	53	6
4/8/2019	11:45:53	#45	Soil	9.94	9.87	9.95	29.76	ND		ND		ND		5696	159	5929	137	1612	40	50	6
4/8/2019	11:50:04	#46	Soil	9.93	9.87	9.95	29.75	ND		ND		ND		7658	191	4005	118	2331	51	56	6
4/8/2019	11:51:03	#47	Soil	9.93	9.85		19.79	ND		ND		ND		10320	322	2185	140	2559	76	66	10
4/8/2019	11:55:36	#48	Soil	9.94	9.89	9.94	29.77	ND		ND		ND		9541	224	3082	113	2587	56	70	7

4/8/2019	11:56:54	#49	Soil	9.93	9.85	9.94	29.72	ND	ND		ND	5446	145	4421	111	2147	44	58	6
4/8/2019	11:58:57	#50	Soil	9.92	9.86	9.94	29.72	ND	ND		ND	6585	155	4498	108	1797	39	37	5
4/8/2019	12:02:43	#51	Soil	9.94	9.88	9.94	29.75	ND	ND		ND	9598	220	3338	115	2203	50	61	7
4/8/2019	12:03:49	#52	Soil	9.95	9.89	9.95	29.78	ND	ND		ND	9318	226	2371	107	2506	56	66	7
4/8/2019	12:15:37	#53	Soil	9.93	9.85	9.95	29.73	ND	ND		ND	6865	164	4971	118	2148	44	53	6
4/8/2019	12:16:42	#54	Soil	9.93	9.85	9.94	29.73	ND	ND		ND	6638	169	4517	119	2328	49	55	6
4/8/2019	12:23:54	#55	Soil	9.95	9.87	9.95	29.77	ND	ND		ND	7758	190	6351	145	2293	49	64	6
4/8/2019	12:28:09	#56	Soil	9.93	9.86	9.94	29.73	ND	ND		ND	5307	141	4175	106	1855	40	52	5
4/8/2019	12:28:56	#57	Soil	9.93	9.86	9.94	29.74	ND	ND		ND	4942	134	4166	105	1859	40	53	5
4/8/2019	13:01:03	#58	Soil	9.93	9.87	9.94	29.74	ND	1817	368	ND	14236	280	1443	95	3082	61	74	7
4/8/2019	13:03:40	#59	Soil	9.93	9.87	9.93	29.74	ND	1052	313	ND	9683	213	5392	134	2562	52	65	7
4/8/2019	13:05:12	#60	Soil	9.95	9.88	9.95	29.77	ND	1523	358	ND	11069	241	4650	133	2813	58	72	7
4/8/2019	13:09:31	#61	Soil	9.96	9.91	9.96	29.83	ND	ND		ND	7653	215	ND		2056	52	54	7
4/8/2019	13:10:23	#62	Soil	9.94	9.88	9.94	29.76	ND	1867	319	ND	7245	172	ND		1292	34	31	5
4/8/2019	13:45:54	#63	Cal Check	14.88			14.88												
4/8/2019	13:57:34	#64	Soil																
4/8/2019	13:57:43	#65	Soil	0.34			0.34												
4/8/2019	13:59:58	#67	Soil	9.94	9.89	9.96	29.79	ND	ND		ND	9730	239	6318	159	1854	48	46	6
4/8/2019	14:04:34	#68	Soil	9.98	9.96	9.99	29.93	ND	ND		ND	5315	268	5728	217	1639	65	53	9
4/8/2019	14:09:09	#69	Soil	9.95	9.89	9.96	29.79	ND	ND		ND	7096	186	7122	157	1883	45	37	6
4/8/2019	14:14:19	#70	Soil	9.93	9.87	9.95	29.75	ND	ND		ND	7457	184	5631	133	1484	38	44	5
4/8/2019	14:16:09	#71	Soil	9.96	9.92	9.97	29.85	ND	ND		ND	7226	226	7076	186	1842	53	41	7
4/8/2019	14:18:31	#72	Soil	9.98	9.96	9.99	29.93	ND	ND		ND	4851	267	5076	208	1552	65	47	9
4/8/2019	14:24:53	#73	Soil	9.96	9.92	9.97	29.86	ND	ND		ND	3408	128	3286	102	1143	34	33	5
4/8/2019	14:27:48	#74	Soil	9.94	9.88	9.96	29.77	ND	ND		ND	5889	158	5960	134	1846	42	63	6
4/8/2019	14:28:41	#75	Soil	9.94	9.86	9.94	29.74	ND	ND		ND	5677	149	5361	122	1747	39	54	5
4/8/2019	14:28:57	#76	Soil	1.96			1.96									3525	764	ND	
4/8/2019	14:29:37	#77	Soil	9.94	9.86	9.95	29.76	ND	ND		ND	5199	145	5374	124	2039	44	48	6
4/8/2019	14:31:21	#78	Soil	9.93	9.9	9.96	29.79	ND	ND		ND	4725	150	4844	126	1591	41	49	6
4/8/2019	14:34:30	#79	Soil	9.93	9.84	9.94	29.71	ND	ND		ND	5956	155	5362	124	1864	41	58	6
4/8/2019	14:35:12	#80	Soil	9.93	9.87	9.94	29.74	ND	ND		ND	6000	156	5618	128	1945	43	55	6
4/8/2019	14:37:54	#81	Soil	9.93	9.86	9.95	29.75	ND	ND		ND	12334	244	8513	168	2354	49	58	6
4/8/2019	14:40:15	#82	Soil	9.93	9.85	9.96	29.74	ND	ND		ND	10479	226	6520	147	2065	46	58	6
4/8/2019	14:43:48	#83	Soil	9.94	9.85	9.94	29.74	ND	ND		ND	6938	165	4377	110	1782	39	61	5
4/8/2019	14:44:51	#84	Soil	9.94	9.86	9.95	29.75	ND	ND		ND	8692	195	5530	129	2054	44	66	6
4/8/2019	14:48:10	#85	Soil	9.93	9.87	9.95	29.76	ND	ND		ND	10109	217	8718	171	2365	49	57	6
4/8/2019	14:49:18	#86	Soil	9.95			9.95									2091	379	ND	
4/8/2019	14:49:33	#87	Analysis Results																
4/8/2019	14:49:41	#88	Soil	2.14			2.14									ND		ND	
4/8/2019	14:49:58	#89	Soil													2544	316	ND	
4/8/2019	14:53:18	#90	Soil	9.95	9.89	9.96	29.79	ND	ND		ND	6110	169	5180	130	1856	44	47	6
4/8/2019	14:59:03	#91	Soil																
4/8/2019	14:59:31	#92	Cal Check	14.88			14.88												
4/8/2019	15:09:18	#93	Analysis Results																
4/8/2019	15:10:02	#94	Soil	9.94	9.84	9.95	29.73	ND	ND		ND	4810	132	5024	114	1553	36	29	5
4/8/2019	15:11:51	#95	Analysis Results																
4/8/2019	15:14:27	#96	Cal Check	6.94			6.94												
4/8/2019	15:15:03	#97	Cal Check	6.91			6.91												
4/8/2019	15:15:28	#98	Cal Check	14.88			14.88												

4/8/2019	15:17:29	#99	Soil	9.94	9.88	9.95	29.78	ND		ND		ND		6915	183	7229	160	2762	57	60	7
4/8/2019	15:20:15	#100	Soil	9.94	9.88	9.96	29.79	ND		ND		ND		4956	156	5097	132	1814	45	42	6
4/8/2019	15:24:29	#101	Soil	9.94	9.88	9.96	29.78	ND		ND		ND		5648	165	5613	138	2012	47	45	6
4/8/2019	15:26:25	#102	Soil	9.94	9.86	9.94	29.74	ND		ND		ND		750	58	1040	54	796	25	33	4
4/8/2019	15:27:50	#103	Soil	9.91	9.89	9.97	29.76	ND		1351	327	ND		11280	251	1363	86	1569	42	51	6
4/8/2019	15:28:55	#104	Soil	9.93	9.84	9.94	29.71	ND		864	268	ND		7609	172	2692	91	1893	41	39	5
4/8/2019	15:32:54	#105	Soil	9.94	9.89	9.96	29.79	ND		ND		ND		6593	180	6282	148	2289	51	52	6
4/8/2019	15:42:41	#106	Soil	9.94	9.89	9.95	29.79	ND		ND		ND		7026	180	6610	149	2395	51	51	6
4/8/2019	15:43:31	#107	Soil	9.95	9.88	9.95	29.77	ND		ND		ND		7380	188	6397	148	2246	50	59	6
4/8/2019	15:52:37	#108	Soil	9.94	9.89	9.95	29.78	ND		ND		ND		4981	155	5053	132	2077	48	53	6
4/8/2019	15:53:30	#109	Soil	9.95	9.87	9.95	29.77	ND		ND		ND		4728	145	4993	126	1858	44	58	6
4/8/2019	15:54:34	#110	Soil	9.94	9.86	9.95	29.75	ND		ND		ND		7518	184	6349	145	2510	52	61	6
4/8/2019	16:01:31	#111	Soil	9.93	9.85	9.94	29.72	ND		ND		ND		3561	115	5086	116	1681	38	52	5
4/8/2019	16:02:17	#112	Soil	9.93	9.85	9.95	29.72	ND		ND		ND		5920	166	7605	162	2318	50	54	6
4/8/2019	16:03:01	#113	Soil	9.95	9.92	9.96	29.83	ND		ND		ND		5094	163	6315	152	1907	47	45	6
4/8/2019	16:08:57	#114	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		6904	178	7284	157	2683	54	63	7
4/8/2019	16:09:50	#115	Soil	9.93	9.86	9.94	29.74	ND		ND		ND		6781	173	7000	150	2417	50	61	6
4/8/2019	16:19:36	#116	Soil	9.94	9.89	9.95	29.77	ND		ND		ND		4864	139	4149	109	1695	39	46	5
4/8/2019	16:23:33	#117	Soil	9.93	9.85	9.94	29.73	ND		ND		ND		5001	136	4583	110	1807	39	43	5
4/8/2019	16:24:27	#118	Soil	9.94	9.87	9.95	29.75	ND		ND		ND		3758	120	4216	107	1904	41	48	5
4/8/2019	16:24:46	#119	Soil	0.37			0.37											ND		ND	
4/8/2019	16:25:37	#120	Soil	9.93	9.85	9.94	29.72	ND		ND		ND		4883	132	4455	106	1814	38	52	5
4/8/2019	16:31:30	#121	Soil	9.95	9.87	9.94	29.77	ND		ND		ND		1789	74	2766	75	595	20	27	3
4/8/2019	16:32:54	#122	Soil	9.95	9.88	9.94	29.77	ND		ND		ND		4622	142	2450	93	1806	43	50	6
4/8/2019	16:34:07	#123	Soil	9.94	9.85	9.93	29.71	ND		ND		ND		4666	117	4879	102	1314	30	37	4
4/8/2019	16:35:21	#124	Soil	9.94	9.87	9.93	29.74	ND		ND		ND		2579	96	833	58	1300	32	39	5
4/8/2019	16:36:23	#125	Soil	9.92	9.85	9.95	29.72	ND		ND		ND		5362	146	2787	90	650	24	22	4
4/8/2019	16:38:44	#126	Soil	9.95	9.9	9.96	29.82	ND		ND		ND		8538	232	3604	129	2381	58	69	7
4/8/2019	16:40:07	#127	Soil	9.94	9.88	9.97	29.79	ND		ND		ND		7726	187	1530	74	942	29	47	5
4/8/2019	16:42:37	#128	Soil	9.93	9.85	9.94	29.71	ND		ND		ND		6317	168	6394	145	2472	52	42	6
4/8/2019	16:43:43	#129	Soil	9.94	9.86	9.95	29.75	ND		ND		ND		8121	188	5530	130	2063	45	53	6
4/8/2019	16:44:46	#130	Soil	9.94	9.89	9.95	29.78	ND		ND		ND		7754	204	9118	191	2490	55	54	7
4/8/2019	17:53:56	#131	Cal Check	14.88			14.88														
4/8/2019	17:54:53	#132	Soil	9.95	9.9	9.95	29.8	ND		ND		ND		2138	110	6143	147	10758	158	ND	
4/8/2019	17:56:21	#133	Soil	9.93	9.86	9.94	29.73	ND		ND		ND		5387	149	1619	80	9915	133	32	9
4/8/2019	17:57:15	#134	Soil	9.94	9.86	9.93	29.73	ND		ND		285	93	6233	159	ND		1641	39	40	5
4/9/2019	7:54:53	#1	Cal Check	6.85			6.85														
4/9/2019	7:55:22	#2	Cal Check	15.01			15.01														
4/9/2019	8:02:01	#3	Soil	9.93	9.87	9.95	29.75	ND		ND		ND		5968	156	6521	139	1802	41	39	5
4/9/2019	8:06:12	#4	Soil	9.93	9.84	9.95	29.72	ND		ND		ND		8573	199	6905	150	2280	49	70	6
4/9/2019	8:12:13	#5	Soil	9.92	9.85	9.94	29.72	ND		ND		309	87	4188	125	4371	108	1757	39	52	5
4/9/2019	8:16:36	#6	Soil	9.94	9.87	9.95	29.76	ND		ND		ND		4145	130	4702	116	1717	40	57	6
4/9/2019	8:19:28	#7	Soil	9.93	9.85	9.93	29.72	ND		ND		ND		4375	124	5019	113	1843	39	60	5
4/9/2019	8:21:44	#8	Soil	9.94	9.87	9.94	29.74	ND		ND		ND		2934	104	7893	146	1786	39	59	5
4/9/2019	8:25:17	#9	Soil	9.92	9.9	9.97	29.78	ND		ND		ND		4053	161	13801	270	1831	50	52	7
4/9/2019	8:31:04	#10	Soil	9.95	9.85	9.96	29.76	ND		ND		ND		4844	160	21399	342	2045	49	49	6
4/9/2019	8:31:13	#11	Soil																		
4/9/2019	8:32:30	#12	Analysis Results																		
4/9/2019	8:33:36	#13	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		8043	200	7876	170	2674	56	63	7

4/9/2019	8:35:42	#14	Soil	9.94	9.87	9.95	29.76	ND		ND		ND		7188	189	7964	171	2460	54	73	7
4/9/2019	8:36:30	#15	Soil	9.98	9.95	9.99	29.91	ND		ND		ND		3506	239	6264	236	1792	72	62	10
4/9/2019	8:40:20	#16	Soil																		
4/9/2019	8:47:40	#17	Soil	9.93	9.86	9.94	29.73	ND		ND		ND		4725	129	1498	68	741	25	26	4
4/9/2019	8:48:36	#18	Soil	9.92	9.85	9.93	29.7	ND		ND		ND		5570	134	1529	66	801	24	25	4
4/9/2019	8:51:07	#19	Soil	9.93	9.86	9.94	29.73	ND		ND		ND		3615	116	620	58	697	25	21	4
4/9/2019	8:52:56	#20	Soil	9.94	9.86	9.93	29.73	ND		ND		ND		4221	123	552	57	772	26	25	4
4/9/2019	8:55:25	#21	Soil																		
4/9/2019	8:58:09	#22	Soil	9.94	9.88	9.94	29.75	ND		ND		ND		6017	143	1095	60	1208	30	43	4
4/9/2019	8:59:20	#23	Soil																		
4/9/2019	8:59:59	#24	Soil	9.95	9.89	9.96	29.79	ND		ND		ND		10564	236	6362	151	2024	47	47	6
4/9/2019	9:03:17	#25	Soil	9.97	9.93	9.98	29.88	ND		ND		ND		8528	278	4695	168	1977	61	43	8
4/9/2019	9:06:15	#26	Soil	9.94	9.91	9.97	29.82	ND		1748	427	ND		9459	266	5029	159	2194	59	56	8
4/9/2019	9:07:52	#27	Soil																		
4/9/2019	9:08:35	#28	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		1470	57	1210	43	302	12	16	2
4/9/2019	9:08:39	#29	Soil																		
4/9/2019	9:11:20	#30	Soil	9.94	9.87	9.95	29.76	ND		ND		245	58	1958	73	1378	51	398	15	20	3
4/9/2019	9:15:31	#31	Soil	9.97	9.92	9.96	29.85	ND		ND		ND		4053	155	839	77	986	36	32	6
4/9/2019	9:21:24	#32	Soil	9.97	9.94	9.97	29.88	ND		ND		ND		7071	224	2656	116	1211	42	39	6
4/9/2019	9:48:55	#33	Cal Check	14.87			14.87														
4/9/2019	9:51:12	#34	Soil	9.94	9.88	9.95	29.76	ND		ND		ND		6867	188	12137	226	2876	60	65	7
4/9/2019	9:54:52	#35	Soil																		
4/9/2019	9:55:08	#36	Soil	9.1			9.1											2784	339	ND	
4/9/2019	9:55:53	#37	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		5189	157	13727	236	3139	61	55	7
4/9/2019	9:56:38	#38	Soil	9.94	9.87	9.95	29.76	ND		ND		ND		5469	160	16464	267	2217	49	51	6
4/9/2019	10:04:27	#39	Soil	9.93	9.86	9.95	29.74	ND		ND		ND		4112	132	4577	117	1871	43	59	6
4/9/2019	10:05:10	#40	Soil	9.94	9.87	9.95	29.75	ND		ND		ND		4129	132	4726	119	1886	43	55	6
4/9/2019	10:06:33	#41	Soil	9.95	9.88	9.95	29.78	ND		ND		ND		6730	180	7470	163	2422	53	57	7
4/9/2019	10:07:59	#42	Soil	9.93	9.86	9.95	29.75	ND		ND		ND		5994	163	7845	161	2349	50	50	6
4/9/2019	10:13:26	#43	Soil	9.93	9.86	9.94	29.74	ND		ND		ND		8330	197	4990	129	2286	49	52	6
4/9/2019	10:15:07	#44	Soil	9.93	9.86	9.94	29.73	ND		ND		ND		7533	183	7138	152	2398	50	63	6
4/9/2019	10:17:00	#45	Soil	9.94	9.87	9.95	29.76	ND		ND		ND		6564	176	6595	150	2046	47	48	6
4/9/2019	10:18:21	#46	Soil	9.93	9.85	9.94	29.73	ND		ND		ND		7388	181	6257	141	2175	47	71	6
4/9/2019	10:22:57	#47	Soil	9.95	9.9	9.96	29.81	ND		ND		ND		6865	199	6594	163	2064	51	52	7
4/9/2019	10:23:07	#48	Soil																		
4/9/2019	10:28:53	#49	Soil	9.94	9.89	9.95	29.78	ND		ND		ND		4092	138	3913	113	1776	43	37	6
4/9/2019	10:29:46	#50	Soil	9.93	9.86	9.94	29.73	ND		ND		ND		3617	114	3999	101	1572	36	49	5
4/9/2019	10:31:32	#51	Soil	9.95	9.9	9.97	29.82	ND		ND		ND		5955	199	6378	172	2391	60	61	8
4/9/2019	10:37:34	#52	Soil	9.93	9.86	9.95	29.75	ND		ND		ND		6606	166	5578	129	2041	44	43	6
4/9/2019	10:40:54	#53	Soil	9.93	9.85	9.94	29.73	ND		ND		ND		7081	171	7624	152	2221	46	65	6
4/9/2019	10:41:50	#54	Soil	9.94	9.86	9.95	29.75	ND		ND		ND		8361	196	7229	154	2514	52	68	6
4/9/2019	10:47:06	#55	Soil	9.93	9.86	9.94	29.72	ND		ND		ND		1254	66	2047	67	988	26	31	4
4/9/2019	10:49:05	#56	Soil	9.94	9.89	9.96	29.79	ND		ND		ND		6111	185	10441	213	2126	52	45	7
4/9/2019	10:53:59	#57	Soil	9.94	9.96	9.98	29.88	ND		ND		666	206	10334	362	8071	263	2723	86	74	11
4/9/2019	10:55:43	#58	Soil	9.93	9.89	9.96	29.78	ND		ND		ND		7252	200	7022	166	2424	55	66	7
4/9/2019	10:57:05	#59	Soil	9.96	9.91	9.97	29.84	ND		1243	345	ND		10827	267	3560	124	1120	37	48	6
4/9/2019	11:29:26	#60	Soil	9.94	9.88	9.93	29.75	ND		ND		ND		3262	115	7064	144	9864	130	52	9
4/9/2019	11:30:40	#61	Soil	9.93	9.85	9.94	29.72	ND		ND		ND		6128	162	1501	82	10171	137	31	9
4/9/2019	11:31:52	#62	Soil	9.93	9.86	9.93	29.73	ND		1293	319	ND		8197	190	2170	92	11800	155	ND	

4/9/2019	11:32:41	#63	Soil	9.94	9.88	9.94	29.75	ND	ND		ND		3729	124	8260	160	9619	130	57	9
4/9/2019	12:13:40	#64	Cal Check	14.88			14.88													
4/9/2019	12:17:02	#65	Soil																	
4/9/2019	12:20:03	#66	Soil	9.93	9.86	9.95	29.74	ND	ND		ND		5447	144	9158	163	1887	41	43	5
4/9/2019	12:23:39	#67	Soil	9.91	9.82	9.93	29.66	ND	ND		ND		6321	147	6741	130	2136	41	56	5
4/9/2019	12:24:52	#68	Soil	9.92	9.84	9.93	29.69	ND	ND		ND		2700	94	2531	77	1357	32	54	5
4/9/2019	12:28:22	#69	Soil	9.94	9.88	9.96	29.78	ND	ND		ND		6058	178	10010	201	2603	57	57	7
4/9/2019	12:30:49	#70	Soil	9.92	9.85	9.94	29.71	ND	ND		ND		5924	147	16811	242	2144	43	64	6
4/9/2019	12:35:33	#71	Soil	9.93	9.85	9.94	29.73	ND	ND		ND		3606	117	8913	161	1829	40	47	5
4/9/2019	12:36:24	#72	Soil	9.94	9.86	9.94	29.74	ND	ND		ND		3867	122	10039	175	1825	40	49	5
4/9/2019	12:39:25	#73	Soil	9.98	9.95	9.99	29.92	ND	ND		ND		5126	249	11618	318	2103	72	72	10
4/9/2019	12:41:33	#74	Soil	9.93	9.85	9.95	29.73	ND	ND		ND		5828	158	9597	178	1999	44	58	6
4/9/2019	12:42:28	#75	Soil	9.95	9.88		19.82	ND	ND		ND		5785	214	11771	274	2153	62	60	8
4/9/2019	12:49:07	#76	Soil	9.93	9.86	9.95	29.75	ND	ND		ND		3170	114	7456	148	1465	36	44	5
4/9/2019	12:49:49	#77	Soil	9.93	9.86	9.94	29.73	ND	ND		ND		3532	116	6959	139	1633	38	52	5
4/9/2019	12:51:19	#78	Soil	9.93	9.85	9.93	29.71	ND	ND		ND		1339	67	4973	102	1100	28	45	4
4/9/2019	12:52:00	#79	Soil	9.94	9.88	9.94	29.76	ND	ND		ND		2053	85	3907	95	1231	31	45	4
4/9/2019	12:52:05	#80	Soil																	
4/9/2019	12:56:41	#81	Soil	9.93	9.9	9.96	29.8	ND	ND		360	119	5539	182	4801	141	2112	54	49	7
4/9/2019	12:58:39	#82	Soil	9.98	9.95	9.98	29.9	ND	ND		ND		8425	227	2431	101	1060	35	43	5
4/9/2019	12:59:26	#83	Soil	9.94	9.88	9.97	29.79	ND	ND		ND		11004	251	3292	114	1334	39	39	6
4/9/2019	13:10:00	#84	Soil	9.92	9.83	9.96	29.71	ND	ND		ND		6152	146	2585	78	956	26	29	4
4/9/2019	13:12:01	#85	Soil	9.94	9.88	9.96	29.78	ND	ND		ND		4593	138	3498	99	1206	33	33	5
4/9/2019	13:13:32	#86	Soil	9.93	9.86	9.95	29.74	ND	ND		ND		2674	95	2496	77	950	27	28	4
4/9/2019	13:14:42	#87	Soil	9.93	9.86	9.94	29.73	ND	ND		ND		2228	85	2472	75	942	26	16	4
4/9/2019	13:16:18	#88	Soil	9.94	9.89	9.94	29.77	ND	ND		ND		5747	158	5582	130	1198	33	33	5
4/9/2019	13:18:03	#89	Soil	9.92	9.82	9.94	29.68	ND	ND		ND		4706	129	6861	133	1308	32	34	4
4/9/2019	13:18:53	#90	Soil	9.92	9.85	9.95	29.72	ND	1134	266	ND		7378	165	3375	95	1729	38	49	5
4/9/2019	13:19:57	#91	Soil	9.95	9.88	9.96	29.79	ND	ND		ND		6462	172	7686	160	1438	38	41	5
4/9/2019	13:21:35	#92	Soil	9.94	9.88	9.97	29.79	ND	918	291	ND		9184	219	5958	144	1416	38	58	6
4/9/2019	13:22:36	#93	Soil	9.93	9.86	9.97	29.76	ND	754	241	ND		13064	251	1404	75	1285	33	45	5
4/9/2019	13:23:16	#94	Cal Check	14.89			14.89													
4/9/2019	13:25:24	#95	Soil	9.94	9.9	9.97	29.81	ND	ND		ND		6407	192	2573	105	1572	44	48	6
4/9/2019	13:26:47	#96	Soil	9.93	9.84	9.94	29.71	ND	ND		ND		9729	196	3472	100	2074	42	50	5
4/9/2019	13:30:03	#97	Soil	9.93	9.86	9.96	29.74	ND	ND		ND		7316	182	3236	103	1689	41	37	5
4/9/2019	13:31:29	#98	Soil	9.94	9.87	9.95	29.76	ND	963	299	ND		9083	208	4458	122	2408	51	60	6
4/9/2019	13:34:14	#99	Soil	9.93	9.85	9.93	29.71	ND	ND		ND		5326	136	2363	80	1488	34	44	5
4/9/2019	13:35:24	#100	Soil	9.95	9.9	9.96	29.81	ND	ND		ND		7630	193	3487	109	1703	42	35	5
4/9/2019	13:36:15	#101	Soil	9.94	9.86	9.96	29.76	ND	ND		ND		10892	227	3403	105	1714	40	61	6
4/9/2019	13:37:07	#102	Soil	9.93	9.86	9.97	29.76	ND	ND		ND		7204	192	4634	127	1783	44	50	6
4/9/2019	13:40:46	#103	Soil	9.96	9.91	9.97	29.84	ND	ND		ND		6748	191	4499	128	1607	43	44	6
4/9/2019	13:41:49	#104	Soil	9.93	9.86	9.95	29.74	ND	ND		ND		5313	139	3104	89	1469	34	48	5
4/9/2019	13:42:30	#105	Soil	9.94	9.88	9.96	29.79	ND	ND		ND		5440	159	3772	110	1647	41	49	6
4/9/2019	13:43:25	#106	Soil	9.93	9.89	9.98	29.8	ND	ND		ND		7745	234	3776	133	1825	52	35	7
4/9/2019	13:46:22	#107	Soil	9.94	9.9	9.98	29.82	ND	ND		ND		7892	217	5144	145	2121	53	55	7
4/9/2019	13:47:25	#108	Soil	9.94	9.88	9.96	29.78	ND	ND		ND		7814	188	5255	129	1989	45	51	6
4/9/2019	13:50:40	#109	Soil	9.93	9.87	9.97	29.76	ND	ND		ND		3867	146	3444	112	1533	42	36	6
4/9/2019	13:51:39	#110	Soil	9.98	9.97	9.99	29.94	ND	ND		ND		5704	270	4563	188	1666	64	59	9
4/9/2019	13:54:08	#111	Soil																	

4/9/2019	13:54:11	#112	Analysis Results																
4/9/2019	13:56:00	#113	Soil																
4/9/2019	13:56:12	#114	Analysis Results																
4/9/2019	13:56:21	#115	Analysis Results																
4/9/2019	13:56:32	#116	Analysis Results																
4/9/2019	13:56:40	#117	Analysis Results																
4/9/2019	13:59:10	#118	Cal Check	14.91			14.91												
4/9/2019	14:00:17	#119	Soil	9.94	9.88	9.95	29.77	ND	ND		ND	6192	163	6601	144	2107	46	50	6
4/9/2019	14:01:36	#120	Soil	9.94	9.88	9.96	29.78	ND	ND		ND	7245	200	6704	162	2208	52	62	7
4/9/2019	14:02:23	#121	Soil	9.96	9.93	9.97	29.86	ND	ND		ND	7160	215	6352	169	2155	56	59	7
4/9/2019	14:03:09	#122	Soil	9.94	9.89	9.96	29.78	ND	ND		ND	6695	186	7038	162	2187	51	55	6
4/9/2019	14:06:03	#123	Soil																
4/9/2019	14:11:05	#124	Soil	9.93	9.87	9.93	29.73	ND	ND		ND	1084	63	691	49	909	26	37	4
4/9/2019	14:11:58	#125	Soil	9.96	9.94		19.9	ND	ND		ND	2920	137	2503	105	1328	42	60	6
4/9/2019	14:12:47	#126	Soil	9.95	9.87	9.94	29.76	ND	ND		ND	3068	110	1986	78	1333	34	45	5
4/9/2019	14:13:45	#127	Soil	9.94	9.87	9.95	29.75	ND	1096	317	ND	9982	221	5577	138	2000	46	61	6
4/9/2019	14:19:44	#128	Soil	9.95	9.89	9.96	29.8	ND	ND		ND	5048	157	3890	115	1443	39	43	6
4/9/2019	14:21:47	#129	Soil	9.96	9.92	9.97	29.84	ND	ND		ND	5626	200	6200	175	2246	60	71	8
4/9/2019	14:23:29	#130	Soil	9.91	9.87	9.95	29.73	ND	ND		ND	5554	166	6141	149	2383	53	61	7
4/9/2019	14:28:26	#131	Soil	9.92	9.85	9.94	29.71	ND	ND		ND	12741	243	3353	105	2295	47	60	6
4/9/2019	14:29:52	#132	Soil	9.93	9.87	9.95	29.75	ND	ND		ND	11850	252	3794	120	2009	47	53	6
4/9/2019	14:30:20	#133	Soil																
4/9/2019	14:31:03	#134	Soil	9.93	9.86	9.95	29.73	ND	ND		ND	12661	254	5063	132	2265	49	66	6
4/9/2019	14:31:53	#135	Soil	9.92	9.81	9.95	29.68	ND	951	266	ND	9127	194	4101	108	1613	37	45	5
4/9/2019	14:34:06	#136	Soil	9.92	9.85	9.94	29.71	ND	ND		ND	14044	254	4658	120	2264	46	63	6
4/9/2019	14:36:46	#137	Soil	9.92	9.84	9.94	29.7	ND	ND		ND	8651	173	4761	106	1264	30	34	4
4/9/2019	14:38:08	#138	Soil	9.92	9.85	9.95	29.71	ND	1321	294	ND	9943	203	5232	123	1939	41	46	5
4/9/2019	14:42:14	#139	Soil	9.93	9.86	9.96	29.76	ND	ND		ND	6201	161	5052	121	1435	36	33	5
4/9/2019	14:43:22	#140	Soil	9.94	9.83	9.93	29.7	ND	ND		ND	2847	85	1755	59	782	21	22	3
4/9/2019	14:45:58	#141	Soil	9.9	9.82	9.94	29.67	ND	ND		ND	7312	162	2671	85	1425	33	42	5
4/9/2019	14:46:42	#142	Soil	9.95			9.95									1400	168	ND	
4/9/2019	14:47:24	#143	Soil	9.94	9.89	9.96	29.8	ND	ND		ND	9308	229	5059	139	1873	47	54	6
4/9/2019	14:51:26	#144	Soil	9.94	9.87	9.96	29.78	ND	953	298	ND	8252	204	4143	120	1649	42	43	6
4/9/2019	14:52:59	#145	Soil	9.92	9.84	9.95	29.71	ND	719	229	ND	6940	155	3084	87	1167	29	29	4
4/9/2019	14:56:11	#146	Soil	9.95	9.9	9.97	29.82	ND	ND		ND	7989	215	4796	137	1484	42	43	6
4/9/2019	14:59:10	#147	Soil	9.94	9.88	9.96	29.78	ND	936	294	ND	9005	209	3736	113	1746	42	38	6
4/9/2019	15:02:57	#148	Soil	9.92	9.85	9.95	29.72	ND	ND		ND	7548	175	4121	109	1630	38	45	5
4/9/2019	15:05:06	#149	Soil													1430	343	ND	
4/9/2019	15:05:51	#150	Soil	9.97	9.92	9.96	29.84	ND	1197	379	ND	11133	276	5837	164	2385	59	66	8
4/9/2019	15:08:31	#151	Soil	9.95	9.9	9.97	29.82	ND	ND		ND	8693	223	2758	107	1510	42	44	6
4/9/2019	15:29:22	#152	Soil	9.92	9.83	9.95	29.69	ND	ND		ND	6947	163	6158	129	1795	39	34	5
4/9/2019	15:30:13	#153	Soil	9.93	9.87	9.96	29.77	ND	ND		ND	6865	177	5669	133	1339	36	33	5
4/9/2019	15:31:08	#154	Soil	9.92	9.84	9.95	29.72	ND	ND		ND	6797	170	3354	101	1411	36	38	5
4/9/2019	15:32:46	#155	Soil	9.92	9.84	9.95	29.71	ND	ND		ND	5895	144	6594	129	1669	36	39	5
4/9/2019	15:35:03	#156	Soil	9.91	9.83	9.95	29.69	ND	ND		ND	6454	158	6238	131	1827	40	47	5
4/9/2019	15:35:52	#157	Soil	9.93	9.86	9.96	29.75	ND	ND		ND	7412	179	6530	142	1789	41	39	5
4/9/2019	15:50:35	#158	Soil	9.93	9.86	9.94	29.74	ND	ND		ND	5458	150	8271	160	2023	44	41	6
4/9/2019	15:51:57	#159	Soil	9.94	9.88	9.96	29.78	ND	ND		ND	8812	213	6172	147	1973	47	53	6
4/9/2019	15:52:46	#160	Soil	9.96	9.89	9.96	29.81	ND	1170	327	ND	5073	167	3728	118	1529	42	40	6

4/9/2019	15:54:12	#161	Soil	9.96	9.92	9.97	29.85	ND	ND	ND	9933	260	4710	147	2055	54	52	7
4/9/2019	15:55:09	#162	Soil	9.94	9.83	9.96	29.73	ND	ND	ND	7987	189	5482	131	1928	43	38	5
4/9/2019	15:55:49	#163	Soil	9.94			9.94								1099	269	ND	
4/9/2019	15:56:20	#164	Soil	9.94	3.03		12.97								1804	261	ND	
4/9/2019	15:57:03	#165	Soil	9.94			9.94								2291	314	695	181
4/9/2019	15:57:30	#166	Soil	9.47			9.47								2030	325	ND	
4/9/2019	15:57:57	#167	Soil	9.01			9.01								1374	322	ND	
4/9/2019	15:58:27	#168	Soil	7.39			7.39								1758	408	ND	
4/9/2019	15:58:48	#169	Soil	9.94			9.94								1269	265	ND	
4/9/2019	16:02:18	#170	Soil	9.94	1.96		11.9								2746	411	ND	
4/9/2019	16:05:18	#171	Soil	9.92	0.96		10.88								1188	362	ND	
4/9/2019	16:08:16	#172	Soil	9.94	3.03		12.97								1104	232	ND	
4/9/2019	16:09:19	#173	Soil	9.92			9.92								1610	251	ND	
4/9/2019	16:10:11	#174	Soil	8.41			8.41								1878	277	ND	
4/9/2019	16:11:33	#175	Soil	6.77			6.77								1953	327	ND	
4/9/2019	16:12:47	#176	Soil	6.28			6.28								1312	329	ND	
4/9/2019	16:13:24	#177	Soil	5.2			5.2								1010	327	ND	
4/9/2019	16:14:11	#178	Soil	4.66			4.66								1613	384	ND	
4/9/2019	16:16:32	#179	Soil	3.54			3.54								1387	408	ND	
4/9/2019	16:17:14	#180	Soil	5.23			5.23								1323	353	ND	
4/9/2019	16:18:06	#181	Soil	5.72			5.72								1307	298	ND	
4/9/2019	16:19:14	#182	Soil	7.34			7.34								1848	294	ND	
4/9/2019	16:19:38	#183	Soil	4.11			4.11								1820	388	ND	
4/9/2019	16:20:03	#184	Soil	5.22			5.22								1476	377	ND	
4/9/2019	16:20:51	#185	Soil	5.22			5.22								1939	369	ND	
4/9/2019	16:22:26	#186	Soil	4.62			4.62								2325	430	ND	
4/9/2019	16:23:37	#187	Soil	6.82			6.82								2303	365	ND	
4/9/2019	17:11:40	#188	Soil	6.85			6.85								3909	470	ND	
4/9/2019	17:12:10	#189	Soil	4.65			4.65								6382	582	ND	
4/9/2019	17:13:09	#190	Soil	8.44			8.44								9442	541	ND	
4/9/2019	17:13:37	#191	Soil	9.95			9.95								2012	313	ND	
4/9/2019	17:14:11	#192	Soil												2446	473	ND	
4/9/2019	17:14:47	#193	Soil	9.63			9.63								3124	354	ND	
4/9/2019	17:20:43	#194	Soil												1787	375	ND	
4/9/2019	17:21:22	#195	Soil	9.96	9.9	9.95	29.81	ND	ND	ND	5509	170	10143	203	2144	51	54	6
4/9/2019	17:22:18	#196	Soil	9.93	9.87	9.94	29.74	ND	ND	ND	3165	112	5550	125	1827	41	49	5
4/9/2019	17:23:44	#197	Soil	9.92	9.84	9.94	29.69	ND	ND	ND	6958	167	11968	199	2301	47	65	6
4/9/2019	17:25:30	#198	Soil	9.98			9.98								4320	738	ND	
4/9/2019	17:29:25	#199	Soil															
4/9/2019	17:32:08	#200	Soil	9.96	9.91	9.97	29.84	ND	ND	ND	4459	171	6235	168	2245	58	50	7
4/9/2019	17:32:51	#201	Soil	9.93	9.86	9.94	29.73	ND	ND	ND	2848	110	3763	105	1832	42	42	5
4/9/2019	17:34:39	#202	Soil	9.92	9.84	9.93	29.7	ND	ND	ND	2329	95	4022	103	1804	40	48	5
4/9/2019	17:35:24	#203	Soil	9.93	9.85	9.93	29.7	ND	ND	ND	1947	85	3583	95	1850	39	47	5
4/9/2019	17:40:34	#204	Soil	9.92	9.83	9.93	29.67	ND	ND	ND	2633	90	2134	71	1463	32	49	5
4/9/2019	17:41:42	#205	Soil	9.93	9.86	9.95	29.75	ND	ND	ND	4614	138	3800	106	1788	41	59	6
4/9/2019	17:42:36	#206	Soil	9.93	9.85	9.94	29.73	ND	ND	ND	3946	124	4300	109	1704	39	51	5
4/9/2019	17:46:05	#207	Soil	9.93	9.87	9.95	29.75	ND	ND	ND	3899	124	4374	109	1603	38	45	5
4/9/2019	17:46:50	#208	Soil	9.93	9.87	9.95	29.75	ND	ND	ND	4052	125	4357	109	1551	37	44	5
4/9/2019	17:47:35	#209	Soil	9.93	9.85	9.96	29.74	ND	ND	ND	3613	117	4783	112	1506	36	47	5

4/9/2019	17:51:21	#210	Soil	9.95	9.91	9.96	29.82	ND		ND		ND		2368	108	3492	104	1167	34	39	5
4/9/2019	17:52:10	#211	Soil	9.96	9.95	9.98	29.88	ND		ND		ND		1263	111	1794	89	810	34	49	6
4/9/2019	17:52:52	#212	Soil	9.94	9.87	9.95	29.75	ND		ND		ND		2589	98	3095	88	1113	30	45	5
4/9/2019	17:58:02	#213	Soil	9.93	9.87	9.93	29.73	ND		ND		ND		1855	84	5978	122	1231	31	41	5
4/9/2019	17:59:44	#214	Soil	9.92	9.83	9.92	29.68	ND		ND		ND		1158	62	3797	88	1147	28	28	4
4/9/2019	18:00:51	#215	Soil	9.95	9.88	9.95	29.77	ND		ND		ND		2317	98	10566	182	1287	34	55	5
4/9/2019	18:01:40	#216	Soil	9.91	9.86	9.95	29.72	ND		ND		ND		4441	138	17656	270	1914	43	53	6
4/9/2019	18:28:35	#217	Cal Check	14.89			14.89														
4/9/2019	18:30:26	#218	Soil	9.94	9.87	9.93	29.74	ND		ND		ND		3701	121	7645	150	10266	134	52	9
4/9/2019	18:31:22	#219	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		7354	179	1892	87	10840	145	52	10
4/10/2019	6:31:06	#1	Cal Check	6.96			6.96														
4/10/2019	6:31:32	#2	Cal Check	14.89			14.89														
4/10/2019	6:33:08	#3	Soil	9.93	9.87	9.94	29.74	ND		ND		ND		3602	119	5668	126	1679	39	58	5
4/10/2019	6:34:37	#4	Soil	9.94	9.87	9.95	29.75	ND		1006	283	ND		6380	162	ND		1599	39	46	5
4/10/2019	7:05:39	#5	Soil	9.92	9.84	9.95	29.71	ND		ND		ND		12868	234	5022	117	2037	41	64	5
4/10/2019	7:06:19	#6	Soil	9.94	9.86	9.94	29.75	ND		1527	327	ND		11505	229	15784	245	1023	30	46	5
4/10/2019	7:07:25	#7	Soil	9.94	9.86	9.96	29.76	ND		ND		ND		8447	195	28030	387	1711	40	67	5
4/10/2019	7:11:58	#9	Soil	9.93	9.85	9.94	29.71	ND		ND		ND		4539	134	4121	109	2351	48	48	6
4/10/2019	7:12:30	#10	Analysis Results																		
4/10/2019	7:13:08	#11	Soil	9.94	9.85	9.93	29.72	ND		ND		ND		4433	130	4709	115	2279	46	46	6
4/10/2019	7:15:05	#12	Soil	9.95	9.91	9.96	29.82	ND		ND		ND		4147	152	5040	138	1973	50	59	7
4/10/2019	7:15:21	#13	Soil															2765	405	ND	
4/10/2019	7:15:42	#14	Soil															1890	404	ND	
4/10/2019	7:16:20	#15	Soil	9.93	9.86	9.95	29.73	ND		ND		ND		5198	154	6268	144	2362	51	42	6
4/10/2019	7:20:23	#16	Soil	9.98	9.88	9.95	29.81	ND		ND		ND		2308	98	3137	93	12010	153	ND	
4/10/2019	7:21:15	#17	Soil	9.92	9.82	9.93	29.67	ND		ND		ND		3508	107	3454	91	2038	40	41	5
4/10/2019	7:21:57	#18	Soil	9.93	9.84	9.94	29.7	ND		ND		ND		3884	121	4711	113	2267	45	52	6
4/10/2019	7:24:56	#19	Soil	9.95			9.95											2921	216	ND	
4/10/2019	7:25:53	#20	Soil	9.92	9.83	9.93	29.69	ND		ND		ND		5016	137	4058	105	3006	54	67	6
4/10/2019	7:26:40	#21	Soil	9.95	9.86		19.81	ND		ND		ND		5796	194	4760	149	14114	223	ND	
4/10/2019	7:29:58	#22	Soil	0			0														
4/10/2019	7:32:58	#23	Soil																		
4/10/2019	7:33:46	#24	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		4639	135	4652	114	2232	46	54	6
4/10/2019	7:34:05	#25	Soil															3259	385	ND	
4/10/2019	7:34:51	#26	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		5631	153	5327	126	2374	49	67	6
4/10/2019	7:35:31	#27	Soil	9.94	9.86	9.95	29.74	ND		ND		ND		5074	143	4611	115	2124	45	49	6
4/10/2019	7:39:19	#28	Soil	9.94	9.88	9.94	29.77	ND		ND		ND		1315	72	1347	60	1402	33	42	5
4/10/2019	7:41:01	#29	Soil	9.94	9.87	9.94	29.74	ND		ND		ND		1273	68	1537	62	1306	31	41	4
4/10/2019	7:41:44	#30	Soil	9.95	9.89	9.97	29.82	ND		ND		ND		5961	195	5649	156	2084	54	44	7
4/10/2019	7:41:53	#31	Soil	1.45			1.45											ND		ND	
4/10/2019	7:42:41	#32	Soil	9.93	9.86	9.95	29.74	ND		ND		ND		4572	140	4550	117	2346	49	45	6
4/10/2019	7:45:45	#33	Soil	9.93	9.86	9.92	29.71	ND		ND		206	61	502	44	351	37	1019	25	35	4
4/10/2019	7:45:54	#34	Soil	1.42			1.42											ND		ND	
4/10/2019	7:46:30	#35	Soil	9.95	9.89	9.94	29.78	ND		ND		ND		946	62	779	49	1328	31	40	4
4/10/2019	7:47:32	#36	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		2298	91	2092	75	1965	40	47	5
4/10/2019	7:50:42	#37	Soil																		
4/10/2019	7:51:20	#38	Soil	9.94	9.86	9.93	29.74	ND		ND		ND		1852	86	1590	71	2076	43	56	6
4/10/2019	7:52:14	#39	Soil	9.93	9.46		19.39											2358	155	ND	
4/10/2019	7:52:50	#40	Soil	9.94	9.87	9.94	29.75	ND		ND		288	86	1174	73	1452	68	2015	42	51	5

4/10/2019	7:53:36	#41	Soil	9.95	9.87	9.95	29.77	ND	ND		ND		2981	112	2595	89	3272	59	60	6
4/10/2019	7:57:53	#42	Soil	9.93	9.84	9.94	29.71	ND	ND		ND		3269	109	4361	106	1783	39	46	5
4/10/2019	7:58:39	#43	Soil	9.99	9.87	9.93	29.79	ND	ND		ND		1467	72	1633	64	1164	29	42	4
4/10/2019	7:59:25	#44	Soil	9.95			9.95										2759	348	ND	
4/10/2019	8:00:09	#45	Soil	9.93	9.84	9.94	29.71	ND	ND		ND		2167	87	4418	102	1379	33	38	5
4/10/2019	8:00:52	#46	Soil	9.93	9.86	9.93	29.73	ND	ND		ND		1984	85	2964	85	1350	33	29	4
4/10/2019	8:01:34	#47	Soil	9.96	9.91	9.97	29.83	ND	ND		ND		1847	99	2798	96	1439	39	34	5
4/10/2019	8:04:48	#48	Soil	9.93	9.87	2.68	22.48	ND	3067	851	ND		7146	362	31004	852	1886	86	54	11
4/10/2019	8:09:04	#49	Soil	9.92	9.85	9.94	29.71	ND	ND		ND		3506	122	28390	384	1998	44	36	5
4/10/2019	8:09:57	#50	Soil	9.93	9.86	9.95	29.73	ND	ND		ND		3686	125	22235	319	2844	54	57	6
4/10/2019	8:10:47	#51	Soil	9.93	9.86	9.95	29.73	ND	ND		ND		1978	90	11707	192	1959	41	50	5
4/10/2019	8:14:25	#52	Cal Check	14.9			14.9													
4/10/2019	8:23:13	#53	Soil	7.35			7.35										3337	414	ND	
4/10/2019	8:23:41	#54	Soil	8.56			8.56										2376	312	ND	
4/10/2019	8:24:13	#55	Soil	9.94	5.21		15.15										3186	262	ND	
4/10/2019	8:24:39	#56	Soil	4.69			4.69										2523	528	ND	
4/10/2019	8:25:02	#57	Soil	6.29			6.29										3253	439	ND	
4/10/2019	8:25:38	#58	Soil	9.95	3.03		12.98										5551	456	ND	
4/10/2019	8:26:04	#59	Soil	9.49			9.49										6853	485	ND	
4/10/2019	8:26:37	#60	Soil	9.93			9.93										7214	459	ND	
4/10/2019	8:27:06	#61	Soil	9			9										4481	414	ND	
4/10/2019	8:27:28	#62	Soil	5.75			5.75										9649	705	ND	
4/10/2019	8:29:56	#63	Soil	9.93	5.71		15.64										3853	257	ND	
4/10/2019	8:48:15	#64	Soil	9.93	9.85	9.94	29.72	ND	ND		ND		4737	131	1201	65	2066	42	52	5
4/10/2019	8:49:38	#65	Soil	9.93	9.85	9.94	29.72	ND	ND		ND		2238	87	645	51	1359	32	47	5
4/10/2019	8:51:16	#66	Soil	9.93	9.86	9.94	29.73	ND	ND		ND		5214	141	1798	76	1451	35	50	5
4/10/2019	8:53:05	#67	Soil	9.96	9.92	9.96	29.84	ND	ND		ND		7334	213	1968	103	1968	52	67	7
4/10/2019	9:03:10	#68	Soil	9.92	9.83	9.95	29.7	ND	ND		ND		5934	158	1611	78	2056	45	56	6
4/10/2019	9:06:05	#69	Soil	9.94	9.88	9.97	29.79	ND	ND		ND		4138	145	1646	84	1810	45	67	6
4/10/2019	9:07:30	#70	Soil	9.94	9.88	9.96	29.78	ND	ND		ND		5023	162	2848	103	905	32	56	6
4/10/2019	9:15:41	#71	Soil	9.94	9.87	9.92	29.73	ND	2210	370	339	108	3637	127	2359	95	3062	59	60	7
4/10/2019	9:18:08	#72	Soil	9.93	9.86	9.91	29.7	ND	3958	479	ND		4697	151	2872	113	3444	67	58	8
4/10/2019	9:21:30	#73	Soil	9.94	9.87	9.92	29.73	ND	ND		ND		1504	84	1383	76	2911	55	54	6
4/10/2019	9:22:21	#74	Soil	9.94	9.88	9.93	29.74	ND	2312	387	ND		2389	110	2514	99	3505	66	69	7
4/10/2019	9:23:02	#75	Soil	9.94	9.86	9.92	29.73	ND	9648	676	ND		5114	162	4606	136	3960	75	50	8
4/10/2019	9:29:39	#76	Soil	9.92	9.85	9.94	29.72	ND	1281	290	ND		6328	157	2507	89	2540	49	62	6
4/10/2019	9:30:30	#77	Soil	9.96	9.9	9.97	29.82	ND	ND		ND		6259	184	2563	102	1799	46	51	6
4/10/2019	9:31:21	#78	Soil	9.94	9.87	9.95	29.75	ND	ND		ND		8131	187	3443	103	1968	43	50	6
4/10/2019	9:38:37	#79	Soil	9.93	9.86	9.95	29.75	ND	ND		ND		6654	164	3219	98	2035	43	65	6
4/10/2019	9:39:27	#80	Soil	9.94	9.85	9.94	29.73	ND	ND		ND		10695	220	4758	123	2337	48	74	6
4/10/2019	9:40:39	#81	Soil	9.93	9.84	9.94	29.71	ND	ND		ND		3241	109	1355	67	1424	35	61	5
4/10/2019	9:41:58	#82	Soil	9.93	9.84	9.94	29.7	ND	ND		ND		1896	80	917	54	1073	28	41	4
4/10/2019	9:45:13	#83	Soil														ND		ND	
4/10/2019	9:45:55	#84	Soil	9.93	9.83	9.94	29.71	ND	ND		ND		5508	146	2943	93	1350	34	58	5
4/10/2019	9:46:48	#85	Soil	9.93	9.85	9.94	29.72	ND	ND		ND		6161	153	3040	93	1787	39	65	5
4/10/2019	9:47:46	#86	Soil	9.96	9.87	9.95	29.79	ND	ND		ND		6192	168	2821	98	1816	43	50	6
4/10/2019	9:54:27	#87	Soil	9.97	9.93	9.99	29.88	ND	ND		ND		6954	244	2628	127	2019	61	60	8
4/10/2019	9:55:50	#88	Soil	9.92	9.84	9.92	29.67	ND	826	267	ND		10421	206	2978	96	2139	44	64	6
4/10/2019	9:56:11	#89	Soil														ND		ND	

4/10/2019	9:56:38	#90	Soil																		
4/10/2019	9:56:44	#91	Soil																		
4/10/2019	9:57:02	#92	Soil																		
4/10/2019	9:57:18	#93	Soil															ND		ND	
4/10/2019	9:57:27	#94	Soil																		
4/10/2019	9:57:50	#95	Soil																		
4/10/2019	9:58:02	#96	Soil															ND		ND	
4/10/2019	9:58:13	#97	Soil																		
4/10/2019	9:58:54	#98	Soil	9.98	9.96	9.94	29.88	ND		ND		ND		6206	231	2006	113	3197	81	68	9
4/10/2019	10:04:29	#99	Soil	5.75			5.75											2960	417	ND	
4/10/2019	10:04:55	#100	Soil	9.92			9.92											2328	285	ND	
4/10/2019	10:05:26	#101	Soil	5.75			5.75											2804	436	ND	
4/10/2019	10:05:52	#102	Soil	7.9			7.9											2834	342	ND	
4/10/2019	10:09:44	#103	Soil	9.91	9.83	9.93	29.67	ND		ND		ND		2386	86	2178	72	1314	31	46	4
4/10/2019	10:11:17	#104	Soil	9.93	9.85	9.94	29.71	ND		ND		ND		2294	88	2216	74	1287	31	49	5
4/10/2019	10:12:19	#105	Soil	9.92	9.83	9.94	29.69	ND		ND		ND		4788	135	4601	113	1911	41	56	6
4/10/2019	10:20:03	#106	Soil	9.98	9.95	9.98	29.9	ND		ND		ND		4084	170	7882	195	1003	38	42	6
4/10/2019	10:20:24	#107	Soil															ND		ND	
4/10/2019	10:21:25	#108	Soil	9.94	9.88	9.96	29.78	ND		ND		ND		7113	187	4435	123	2107	48	68	6
4/10/2019	10:21:46	#109	Soil															2416	468	ND	
4/10/2019	10:22:28	#110	Soil	9.97	9.92	9.97	29.86	ND		ND		ND		7839	230	5337	156	1855	52	52	7
4/10/2019	10:26:02	#111	Soil	9.93	9.85		19.78	ND		ND		ND		3234	141	6463	166	894	34	40	5
4/10/2019	10:28:38	#112	Soil	9.95	9.89	9.97	29.81	ND		ND		ND		4787	150	2753	96	1423	38	46	5
4/10/2019	10:29:26	#113	Soil	9.94	9.86	9.95	29.74	ND		ND		ND		5971	151	3550	99	1866	40	44	5
4/10/2019	10:30:14	#114	Soil	9.92	9.84	9.96	29.72	ND		ND		ND		6307	159	3432	100	1750	40	42	5
4/10/2019	10:36:15	#115	Soil	9.93	9.87	9.95	29.75	ND		ND		ND		3418	122	2427	89	1535	39	55	6
4/10/2019	10:37:03	#116	Soil	9.94	9.89	9.95	29.78	ND		ND		ND		8153	201	5039	132	1989	47	46	6
4/10/2019	10:37:32	#117	Soil	8.45			8.45											1403	388	ND	
4/10/2019	10:38:10	#118	Soil	9.96	9.92	9.98	29.86	ND		ND		ND		5524	208	3923	144	1796	55	53	7
4/10/2019	10:39:30	#119	Soil	9.97	9.89	9.97	29.83	ND		ND		ND		9633	236	6535	162	2348	55	65	7
4/10/2019	10:40:22	#120	Soil	9.97	9.94	9.98	29.89	ND		ND		ND		6990	242	4429	157	1792	56	63	8
4/10/2019	10:42:19	#121	Soil	9.99	9.97	9.87	29.84	65274	14267	ND		ND		ND		ND		ND		ND	
4/10/2019	10:44:17	#122	Soil	9.93	9.84	9.94	29.71	ND		ND		ND		5719	154	4346	115	1796	41	55	6
4/10/2019	10:45:17	#123	Soil	9.94	9.87	9.95	29.76	ND		ND		ND		4898	141	3898	107	1530	38	53	5
4/10/2019	10:46:14	#124	Soil	9.93	9.85	9.95	29.73	ND		ND		ND		6042	153	3909	104	1714	39	52	5
4/10/2019	10:50:14	#125	Soil	9.94	9.89	9.96	29.79	ND		ND		ND		5244	158	3434	108	1675	42	58	6
4/10/2019	10:51:02	#126	Soil	9.92	9.84	9.95	29.71	ND		ND		ND		2608	105	1826	76	1233	34	45	5
4/10/2019	10:52:19	#127	Soil	9.97	9.91	9.97	29.85	ND		ND		ND		4758	176	3702	127	1507	46	49	6
4/10/2019	10:53:02	#128	Soil	9.94	9.89	9.97	29.81	ND		ND		ND		6711	212	4835	149	1797	51	57	7
4/10/2019	10:57:44	#129	Soil	9.95	9.87	9.95	29.77	ND		ND		ND		6098	157	4122	108	2127	45	46	5
4/10/2019	10:58:41	#130	Soil	9.94	9.85	9.95	29.73	ND		ND		ND		6891	168	4252	111	2276	46	44	6
4/10/2019	10:59:33	#131	Soil	9.94	9.88	9.95	29.76	ND		ND		ND		4483	133	3131	95	1866	41	52	5
4/10/2019	11:03:48	#132	Soil	9.96	9.92	9.97	29.85	ND		ND		ND		7700	215	3001	113	1845	49	63	7
4/10/2019	11:04:54	#133	Soil	9.94	9.87	9.96	29.76	ND		ND		ND		8037	198	3021	103	1850	44	53	6
4/10/2019	11:05:03	#134	Soil	1.42			1.42											ND		ND	
4/10/2019	11:05:44	#135	Soil	9.94	9.89		19.83	ND		ND		ND		11554	277	4568	143	2119	54	70	7
4/10/2019	11:05:54	#136	Analysis Results																		
4/10/2019	11:06:33	#137	Soil	9.95	9.88	9.97	29.8	ND		ND		ND		9729	240	4405	132	2039	50	58	7
4/10/2019	11:07:21	#138	Soil	9.95	9.87	9.95	29.77	ND		ND		ND		7968	191	3477	107	1974	45	57	6

4/10/2019	11:20:39	#139	Cal Check	6.95			6.95												
4/10/2019	11:21:05	#140	Cal Check	14.88			14.88												
4/10/2019	11:25:01	#141	Soil	9.93	9.87	9.96	29.76	ND	ND		ND	10222	244	3075	115	2869	62	62	7
4/10/2019	12:58:59	#142	Analysis Results																
4/10/2019	13:03:51	#143	Soil	9.93	9.87	9.95	29.75	ND	ND		ND	5661	148	5424	122	1673	38	53	5
4/10/2019	13:04:39	#144	Soil	9.95	9.89	9.96	29.8	ND	ND		ND	6644	178	5110	131	1779	43	55	6
4/10/2019	13:05:23	#145	Soil	9.93	9.86	9.94	29.73	ND	856	263	ND	7178	166	4657	113	1784	39	67	5
4/10/2019	13:08:45	#146	Soil	1.97			1.97									ND		ND	
4/10/2019	13:09:24	#147	Soil	9.94	9.86	9.95	29.74	ND	ND		ND	6243	152	5803	124	1552	36	55	5
4/10/2019	13:09:33	#148	Analysis Results																
4/10/2019	13:10:14	#149	Soil	9.92	9.85	9.94	29.72	ND	ND		ND	7812	175	4755	114	1844	40	60	5
4/10/2019	13:11:03	#150	Soil	9.92	9.83	9.93	29.67	ND	ND		ND	7998	165	5876	119	1974	39	57	5
4/10/2019	13:11:43	#151	Soil	4.67			4.67									1512	396	ND	
4/10/2019	13:14:47	#152	Soil	9.96	9.94	9.99	29.89	ND	ND		ND	5061	218	4625	167	1708	57	44	8
4/10/2019	13:15:28	#153	Soil	9.94	9.88	9.96	29.78	ND	ND		ND	9075	220	7125	164	2080	49	58	6
4/10/2019	13:15:41	#154	Soil													ND		ND	
4/10/2019	13:15:47	#155	Soil																
4/10/2019	13:16:26	#156	Soil	9.95	9.9	9.95	29.81	ND	ND		ND	6394	174	5204	132	1915	45	66	6
4/10/2019	13:17:10	#157	Soil	9.93	9.86	9.94	29.74	ND	ND		ND	7152	178	4916	126	2105	46	60	6
4/10/2019	13:20:16	#158	Soil	9.96	9.93	9.97	29.86	ND	ND		ND	7054	225	4482	148	1889	54	53	7
4/10/2019	13:21:04	#159	Soil	9.93	9.86	9.94	29.73	ND	ND		ND	3008	101	2305	77	1183	30	48	5
4/10/2019	13:22:30	#160	Soil	9.96	9.91	9.97	29.84	ND	ND		ND	8598	232	3001	116	2101	53	74	7
4/10/2019	13:22:40	#161	Analysis Results																
4/10/2019	13:23:16	#162	Soil	9.96	9.9	9.97	29.83	ND	ND		ND	9632	233	7069	166	1712	45	61	6
4/10/2019	13:23:47	#163	Soil	9.95	9.87		19.83	ND	ND		ND	8654	362	3738	202	1771	76	64	11
4/10/2019	13:24:28	#164	Soil	9.94	9.87	9.96	29.76	ND	ND		ND	11657	252	5067	136	2225	50	82	7
4/10/2019	13:24:42	#165	Soil													ND		ND	
4/10/2019	16:06:49	#166	Cal Check	14.91			14.91												
4/10/2019	16:12:34	#167	Soil	9.92	9.84	9.94	29.71	ND	ND		ND	10855	223	6316	142	2432	49	59	6
4/10/2019	16:13:55	#168	Soil	9.94	9.86	9.95	29.75	ND	ND		ND	9986	225	7092	159	2226	50	64	6
4/10/2019	16:15:09	#169	Soil	9.92	9.85	9.94	29.72	ND	ND		ND	10638	228	7643	162	2418	51	71	7
4/10/2019	16:16:15	#170	Soil	9.92	9.85	9.95	29.73	ND	ND		ND	8781	211	8760	181	2346	52	80	7
4/10/2019	16:17:13	#171	Soil	9.92	9.84	9.94	29.7	ND	ND		ND	9747	213	7894	163	2596	53	72	7
4/10/2019	16:18:07	#172	Soil	9.92	9.85	9.91	29.69	ND	ND		ND	10533	225	8780	175	2506	52	69	7
4/10/2019	17:55:18	#173	Cal Check	14.91			14.91												
4/10/2019	18:02:33	#174	Soil	5.6			5.6									4240	613	ND	
4/10/2019	18:04:05	#175	Soil	8.45			8.45									2210	363	ND	
4/10/2019	18:05:13	#176	Soil	9.92			9.92									1557	244	ND	
4/10/2019	18:05:34	#177	Soil	7.49			7.49									1815	360	ND	
4/10/2019	18:05:56	#178	Soil	4.65			4.65									2144	398	ND	
4/10/2019	18:06:16	#179	Soil	9.94			9.94									ND		ND	
4/10/2019	18:10:07	#180	Soil	9.93	9.86	9.95	29.75	ND	ND		ND	6292	153	2582	84	1732	38	49	5
4/10/2019	18:10:53	#181	Soil	9.94	9.86	9.96	29.77	ND	ND		ND	5466	152	3561	102	1906	43	45	5
4/10/2019	18:11:47	#182	Soil	9.94	9.88	9.96	29.79	ND	ND		ND	5305	158	3272	103	1589	40	50	5
4/10/2019	18:13:30	#183	Soil	9.94	2.49		12.43									2537	354	ND	
4/10/2019	18:14:20	#184	Soil	8.43			8.43									1052	285	ND	
4/10/2019	18:14:53	#185	Soil	9.96			9.96									2658	380	ND	
4/10/2019	18:15:26	#186	Soil	8.5			8.5									1611	360	ND	
4/10/2019	18:15:58	#187	Soil	6.8			6.8									1543	336	ND	

4/10/2019	18:16:27	#188	Soil	7.37			7.37									ND		ND	
4/10/2019	18:16:56	#189	Soil	9.94	2.48		12.42									1685	306	ND	
4/10/2019	18:17:40	#190	Soil	6.85			6.85									2444	427	ND	
4/10/2019	18:19:26	#191	Soil	9.94			9.94									1327	263	ND	
4/10/2019	18:20:24	#192	Soil	9.95	9.47		19.42									1749	181	ND	
4/10/2019	18:22:49	#193	Soil	9.96	9.91	9.97	29.84	ND	ND		ND	4700	159	1387	79	1875	47	54	6
4/10/2019	18:23:36	#194	Soil	9.94	9.87	9.95	29.76	ND	ND		ND	4615	139	1776	77	2212	47	46	6
4/10/2019	18:24:29	#195	Soil	9.94	9.88	9.96	29.78	ND	ND		ND	2768	115	1060	64	1567	40	35	5
4/10/2019	18:27:12	#196	Soil	9.56			9.56									1215	385	ND	
4/10/2019	18:28:07	#197	Soil	9.95	1.41		11.36									4327	822	ND	
4/10/2019	18:31:24	#198	Soil	4.12			4.12									ND		ND	
4/10/2019	18:31:46	#199	Soil	5.72			5.72									ND		ND	
4/10/2019	18:32:15	#200	Soil	9.93	2.04		11.97									943	241	ND	
4/10/2019	18:36:00	#201	Soil	9.93	9.87	9.95	29.75	ND	ND		ND	6652	163	4094	108	1876	41	58	5
4/10/2019	18:36:09	#202	Soil	0.86			0.86									ND		ND	
4/10/2019	18:36:42	#203	Soil	9.93	9.84		19.76	ND	ND		ND	8128	225	5341	152	2002	52	60	7
4/10/2019	18:37:38	#204	Soil	9.93	9.86	9.94	29.73	ND	ND		ND	4303	126	3065	90	1556	36	49	5
4/10/2019	18:38:28	#205	Soil	9.93	9.84	9.94	29.72	ND	840	261	ND	7801	175	4699	114	1960	41	50	5
4/10/2019	18:39:25	#206	Soil	9.94	9.87	9.95	29.75	ND	ND		ND	5609	154	4386	114	1911	43	64	6
4/10/2019	18:40:43	#207	Soil	5.19			5.19									1333	323	ND	
4/10/2019	18:41:01	#208	Soil	3.61			3.61									1760	452	ND	
4/10/2019	18:41:56	#209	Soil	3.04			3.04									ND		ND	
4/10/2019	18:42:16	#210	Soil	8.12			8.12									1693	338	ND	
4/10/2019	18:43:39	#211	Soil	5.16			5.16									4384	650	ND	
4/10/2019	18:45:14	#212	Soil	6.28			6.28									ND		ND	
4/10/2019	18:45:46	#213	Soil	7.91			7.91									1515	297	ND	
4/10/2019	18:46:20	#214	Soil	5.31			5.31									2763	497	ND	
4/10/2019	18:47:17	#215	Soil	7.9			7.9									1602	311	ND	
4/10/2019	18:48:11	#216	Soil	5.2			5.2									2293	442	ND	
4/10/2019	18:50:31	#217	Soil	7.94			7.94									1738	363	ND	
4/10/2019	18:56:49	#218	Soil													984	293	ND	
4/10/2019	18:57:33	#219	Soil	9.96			9.96									1207	327	ND	
4/10/2019	18:58:17	#220	Soil	7.36			7.36									2076	347	ND	
4/10/2019	18:58:51	#221	Soil	9.96	6.28		16.24									1791	233	ND	
4/10/2019	19:01:23	#222	Soil																
4/10/2019	19:01:31	#223	Soil																
4/10/2019	19:02:12	#224	Soil	9.93	9.86	9.94	29.73	ND	1143	288	ND	11376	226	2585	94	1667	39	50	5
4/10/2019	19:02:20	#225	Soil																
4/10/2019	19:03:02	#226	Soil	9.97	9.93	9.97	29.87	ND	ND		ND	6423	191	1813	90	1173	37	42	6
4/10/2019	19:03:51	#227	Soil	9.91	9.84	9.93	29.68	ND	ND		ND	2175	80	335	42	760	23	32	4
4/10/2019	19:07:23	#228	Soil	7.91			7.91									1945	390	ND	
4/10/2019	19:08:00	#229	Soil	6.83			6.83									2872	465	ND	
4/10/2019	19:08:25	#230	Soil	8.47			8.47									1540	398	ND	
4/10/2019	19:08:55	#231	Soil	5.74			5.74									2005	385	ND	
4/10/2019	19:11:54	#232	Soil	9.89	9.86	9.94	29.7	ND	2356	373	ND	8656	203	2625	100	1817	44	48	6
4/10/2019	19:12:49	#233	Soil	9.93	9.86	9.95	29.74	ND	4018	443	ND	10966	232	5394	135	2831	56	47	6
4/10/2019	19:13:42	#234	Soil	9.93	9.86	9.95	29.74	ND	1003	277	ND	6308	161	2492	89	1678	39	43	5
4/10/2019	19:14:33	#235	Soil	9.93	9.83	9.93	29.7	ND	2591	357	ND	9257	196	3600	105	2091	44	63	6
4/10/2019	19:15:22	#236	Soil	9.93	9.86	9.95	29.74	ND	1618	319	ND	7462	181	3329	103	2058	45	54	6

4/10/2019	19:16:36	#237	Soil	9			9											2597	367	ND	
4/10/2019	19:17:27	#238	Soil	5.2			5.2											2813	414	ND	
4/10/2019	19:18:24	#239	Soil	7.89			7.89											2005	316	ND	
4/10/2019	19:19:01	#240	Soil	9.5			9.5											2298	307	ND	
4/10/2019	19:21:48	#241	Soil	9.93	9.88	9.96	29.77	ND		798	257	ND		5242	149	2675	89	1696	40	35	5
4/10/2019	19:22:34	#242	Soil	9.95	9.9	9.93	29.78	ND		ND		ND		4552	152	2695	97	1909	46	43	6
4/10/2019	19:23:22	#243	Soil	9.93	9.86	9.96	29.75	ND		ND		ND		3824	122	1710	71	1423	35	34	5
4/10/2019	19:24:08	#244	Soil																		
4/10/2019	19:24:39	#245	Soil	7.37			7.37											888	266	ND	
4/10/2019	19:25:05	#246	Soil	4.68			4.68											1169	358	ND	
4/10/2019	19:54:11	#247	Cal Check	15.01			15.01														
4/10/2019	19:54:59	#248	Soil	9.93	9.84	9.94	29.71	ND		ND		ND		6672	177	1872	92	11128	154	46	10
4/10/2019	19:55:36	#249	Soil	9.94	9.86	9.94	29.73	ND		ND		ND		6375	165	1999	87	10731	143	ND	
4/10/2019	19:56:50	#250	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		3670	122	7848	154	10478	138	37	9
4/11/2019	5:43:11	#1	Cal Check	6.86			6.86														
4/11/2019	5:43:35	#2	Cal Check	15.01			15.01														
4/11/2019	5:44:44	#3	Soil	9.94	9.87	9.94	29.75	ND		ND		ND		5663	153	1843	83	10120	135	42	9
4/11/2019	5:46:45	#4	Soil	9.95	9.9	9.95	29.8	ND		ND		ND		2768	120	6711	153	11371	162	33	10
4/11/2019	6:39:06	#5	Soil	9.95	1.44		11.39											1311	379	ND	
4/11/2019	6:43:15	#6	Soil	9.96	9.88	9.94	29.79	ND		ND		ND		2134	91	2847	86	1100	30	41	5
4/11/2019	6:44:01	#7	Soil	9.93	9.86	9.94	29.74	ND		ND		ND		6362	167	7382	154	2191	47	55	6
4/11/2019	6:44:53	#8	Soil	9.92	9.85	9.95	29.73	ND		ND		ND		5778	159	6817	147	1845	43	54	6
4/11/2019	6:45:39	#9	Soil	9.93	9.85	9.94	29.72	ND		ND		ND		5991	156	6821	143	1999	44	55	6
4/11/2019	6:48:15	#10	Soil	9.95	9.88	9.94	29.76	ND		ND		ND		2275	89	2953	84	1149	29	44	4
4/11/2019	6:49:18	#11	Soil	9.94	9.88	9.94	29.77	ND		ND		ND		6002	153	6557	137	1858	41	47	5
4/11/2019	6:49:59	#12	Soil	9.93	9.86	9.95	29.74	ND		ND		ND		5884	156	7117	148	2293	48	56	6
4/11/2019	6:50:21	#13	Analysis Results																		
4/11/2019	6:52:19	#15	Soil	9.94	9.87	9.95	29.76	ND		ND		ND		7663	187	5675	136	2161	47	45	6
4/11/2019	6:53:06	#16	Soil	9.93	9.85	9.94	29.73	ND		ND		ND		8104	190	5347	131	2295	48	71	6
4/11/2019	6:53:20	#17	Soil	0.33			0.33														
4/11/2019	6:54:16	#18	Soil	9.92	9.87	9.94	29.74	ND		ND		ND		15710	305	4926	140	2912	60	72	7
4/11/2019	6:55:01	#19	Soil	9.96	9.9	9.96	29.82	ND		ND		ND		9996	242	3260	118	8481	134	38	10
4/11/2019	6:58:20	#20	Soil	9.95	9.88	9.95	29.77	ND		ND		ND		6712	175	7051	152	2113	47	49	6
4/11/2019	6:58:30	#21	Soil	0.87			0.87											ND		ND	
4/11/2019	6:59:07	#22	Soil	9.93	9.85	9.95	29.72	ND		ND		ND		6018	157	6048	133	1870	42	41	5
4/11/2019	6:59:48	#23	Soil	9.95	9.88	9.95	29.78	ND		ND		ND		6757	176	6464	146	2057	46	53	6
4/11/2019	7:02:18	#24	Soil	9.94	9.88	9.95	29.77	ND		ND		ND		6666	175	5640	136	2166	48	50	6
4/11/2019	7:03:25	#25	Soil	9.93	9.86	9.95	29.74	ND		ND		ND		7140	180	6198	142	1920	44	61	6
4/11/2019	7:04:11	#26	Soil	9.94	9.86	9.95	29.75	ND		ND		ND		9297	204	7722	157	2227	47	50	6
4/11/2019	7:04:57	#27	Soil	9.93	9.88	9.95	29.76	ND		ND		ND		6191	168	6113	141	2047	46	60	6
4/11/2019	7:05:06	#28	Soil															ND		ND	
4/11/2019	7:08:28	#29	Soil	9.64			9.64											3310	334	ND	
4/11/2019	7:09:03	#30	Soil	7.36			7.36											1284	310	ND	
4/11/2019	7:09:29	#31	Soil	5.73			5.73											ND		ND	
4/11/2019	7:10:12	#32	Soil	6.82			6.82											1307	306	ND	
4/11/2019	7:10:35	#33	Soil	6.3			6.3											ND		ND	
4/11/2019	7:11:20	#34	Soil	6.3			6.3											2339	377	ND	
4/11/2019	7:11:49	#35	Soil	6.83			6.83											ND		ND	
4/11/2019	7:12:17	#36	Soil	9.94	4.63		14.57											1696	206	ND	

4/11/2019	7:12:32	#37	Soil												1803	358	ND	
4/11/2019	7:13:30	#38	Soil	9.95			9.95								2189	327	ND	
4/11/2019	7:13:50	#39	Soil	8.21			8.21								1906	294	ND	
4/11/2019	7:14:27	#40	Soil	9.92			9.92								1927	268	ND	
4/11/2019	7:14:49	#41	Soil	6.28			6.28								ND		ND	
4/11/2019	7:15:12	#42	Soil	7.38			7.38								1407	345	ND	
4/11/2019	7:15:29	#43	Soil	4.84			4.84								2528	490	ND	
4/11/2019	7:16:03	#44	Soil	4.67			4.67								ND		ND	
4/11/2019	7:16:51	#45	Soil	7.37			7.37								3014	410	ND	
4/11/2019	7:17:24	#46	Soil	7.92			7.92								1599	359	ND	
4/11/2019	7:18:10	#47	Soil	9.94			9.94								3233	354	ND	
4/11/2019	7:18:41	#48	Soil	3.59			3.59								2112	486	ND	
4/11/2019	7:19:08	#49	Soil	4.67			4.67								2845	576	ND	
4/11/2019	7:20:38	#50	Soil	4.13			4.13								1944	538	ND	
4/11/2019	7:22:07	#51	Soil	9.93	9.86	6.07	25.86	ND	ND	ND	4504	159	3417	116	1310	40	52	6
4/11/2019	7:22:52	#52	Soil	9.92	9.84	9.95	29.71	ND	ND	ND	8493	186	4301	111	1992	42	73	6
4/11/2019	7:22:59	#53	Analysis Results															
4/11/2019	7:23:38	#54	Soil	9.92	9.86	9.94	29.73	ND	ND	ND	8003	188	4182	116	2223	47	73	6
4/11/2019	7:27:01	#55	Soil	5.71			5.71								3382	437	ND	
4/11/2019	7:27:30	#56	Soil	7.95			7.95								1827	407	ND	
4/11/2019	7:27:58	#57	Soil	4.67			4.67								ND		ND	
4/11/2019	7:29:56	#58	Soil	9.92	9.85	9.95	29.71	ND	ND	ND	6183	152	5571	121	8485	112	40	8
4/11/2019	7:30:47	#59	Soil	9.91	9.84	9.94	29.68	ND	ND	ND	8989	194	2014	85	1951	42	70	6
4/11/2019	7:31:35	#61	Soil	9.94	9.85	9.94	29.73	ND	ND	ND	9050	192	2942	95	1966	42	70	6
4/11/2019	7:36:26	#62	Soil	9.93	9.85	9.94	29.73	ND	ND	ND	6343	159	4492	114	1812	41	39	5
4/11/2019	7:36:50	#63	Soil												1428	368	ND	
4/11/2019	7:37:31	#64	Soil	9.97	9.93	9.97	29.87	ND	ND	ND	9063	252	6728	179	2006	54	52	7
4/11/2019	7:38:15	#65	Soil	9.97	9.88	9.96	29.81	ND	ND	ND	7057	198	5937	152	1988	50	57	7
4/11/2019	7:38:57	#66	Soil	9.97	9.89	9.95	29.81	ND	ND	ND	6962	175	5652	133	1794	42	52	6
4/11/2019	7:39:25	#67	Soil												ND		ND	
4/11/2019	7:39:36	#68	Analysis Results															
4/11/2019	7:40:07	#69	Soil	9.02			9.02								2279	349	ND	
4/11/2019	7:41:48	#70	Soil	9.93	9.86	9.95	29.74	ND	ND	ND	9694	209	2041	87	2004	44	53	6
4/11/2019	7:43:17	#71	Soil	9.92	9.83	9.94	29.69	ND	ND	ND	2187	85	736	51	908	26	32	4
4/11/2019	7:44:05	#72	Soil	9.94	9.89	9.96	29.79	ND	ND	ND	9843	243	2285	104	2352	55	54	7
4/11/2019	7:47:40	#73	Soil	9.91	9.84	9.95	29.7	ND	ND	ND	3449	106	2766	80	1211	30	31	4
4/11/2019	7:48:26	#74	Soil	9.93	9.84	9.95	29.71	ND	ND	ND	7368	173	5244	123	1964	42	64	6
4/11/2019	7:49:12	#75	Soil	9.96	9.89	9.97	29.82	ND	ND	ND	5180	172	3877	122	1379	41	43	6
4/11/2019	7:49:51	#76	Soil	9.96	9.88		19.84	ND	ND	ND	7404	280	5446	201	2049	70	51	9
4/11/2019	7:50:30	#77	Soil	9.92	9.83	9.94	29.7	ND	ND	ND	7136	169	4777	117	1856	41	59	6
4/11/2019	7:50:39	#78	Soil												ND		ND	
4/11/2019	7:51:27	#79	Soil	9.92			9.92								1683	218	ND	
4/11/2019	7:57:05	#80	Soil	9.93	9.86	9.95	29.74	ND	ND	ND	5435	147	2373	85	1444	36	48	5
4/11/2019	7:58:00	#81	Soil	9.94	9.85	9.94	29.73	ND	ND	ND	7453	174	3749	105	2107	44	42	5
4/11/2019	7:58:06	#82	Soil												ND		ND	
4/11/2019	7:58:44	#83	Soil	9.95	9.89	9.96	29.8	ND	ND	ND	6162	175	2908	102	1558	41	49	6
4/11/2019	7:59:58	#84	Soil	9.97	9.89	9.95	29.81	ND	ND	ND	6454	170	3788	110	1796	42	49	6
4/11/2019	8:00:31	#85	Soil															
4/11/2019	8:03:20	#86	Soil	5.78			5.78								1849	396	ND	

4/11/2019	8:03:41	#87	Soil	5.75			5.75								1381	379	ND	
4/11/2019	10:39:56	#88	Cal Check	14.91			14.91											
4/11/2019	10:56:46	#89	Soil	9.94	0.33		10.27								5310	1371	ND	
4/11/2019	10:57:21	#90	Soil	9.95	0.93		10.88								2918	628	ND	
4/11/2019	10:57:31	#91	Soil	6.29			6.29								2382	409	ND	
4/11/2019	10:58:02	#92	Soil	9.96	3.57		13.52								3343	339	ND	
4/11/2019	10:58:27	#93	Soil	8.97			8.97								3214	334	ND	
4/11/2019	10:58:46	#94	Soil	6.42			6.42								3389	423	ND	
4/11/2019	10:59:26	#95	Soil	9.95	3.03		12.98								2881	377	ND	
4/11/2019	11:00:46	#96	Soil	9.92	0.87		10.8								2900	592	ND	
4/11/2019	11:04:37	#97	Soil	9.93	9.85	9.96	29.74	ND	ND	ND	4929	138	2601	86	2151	44	51	5
4/11/2019	11:07:34	#98	Soil	9.92	9.85	9.94	29.72	ND	ND	ND	1495	72	1472	60	7865	99	34	7
4/11/2019	11:10:24	#99	Soil	9.92	9.85	9.95	29.73	ND	ND	ND	2899	104	1954	74	1871	40	39	5
4/11/2019	11:19:53	#100	Soil	9.92	9.84	9.95	29.7	ND	ND	ND	4033	120	2557	82	2026	41	46	5
4/11/2019	11:23:30	#101	Soil	9.93	9.84	9.95	29.72	ND	ND	ND	2011	84	1564	63	7398	97	30	7
4/11/2019	11:26:06	#102	Soil	9.93	9.85	9.95	29.74	ND	ND	ND	3488	114	1914	73	1651	37	51	5
4/11/2019	11:34:12	#103	Soil	8.42			8.42								1959	339	610	199
4/11/2019	11:34:34	#104	Soil	2.99			2.99								2443	804	ND	
4/11/2019	11:44:40	#105	Soil	6.83			6.83								2221	394	ND	
4/11/2019	11:45:09	#106	Soil	6.84			6.84								2659	368	ND	
4/11/2019	11:45:40	#107	Soil	6.85			6.85								1871	444	ND	
4/11/2019	11:46:01	#108	Soil	5.73			5.73								2878	415	ND	
4/11/2019	11:46:31	#109	Soil	5.74			5.74								2380	647	ND	
4/11/2019	11:49:40	#110	Soil	6.8			6.8								3370	400	ND	
4/11/2019	11:50:00	#111	Soil	9.93	5.77		15.7								3081	235	337	112
4/11/2019	11:50:27	#112	Soil	7.35			7.35								3319	395	ND	
4/11/2019	11:50:46	#113	Soil	7.53			7.53								2916	458	ND	
4/11/2019	11:51:25	#114	Soil	7.37			7.37								3316	451	ND	
4/11/2019	11:51:53	#115	Soil	6.84			6.84								3340	406	ND	
4/11/2019	11:52:17	#116	Soil	9.94			9.94								3449	335	ND	
4/11/2019	11:52:41	#117	Soil	4.64			4.64								4664	811	ND	
4/11/2019	11:54:05	#118	Soil	9.95	0.87		10.82								ND		ND	
4/11/2019	11:54:21	#119	Soil	4.13			4.13								ND		ND	
4/11/2019	11:54:35	#120	Soil	9.25			9.25								2746	389	ND	
4/11/2019	11:55:00	#121	Soil	6.81			6.81								1924	374	ND	
4/11/2019	11:55:16	#122	Soil	4.24			4.24								1724	464	ND	
4/11/2019	11:55:32	#123	Soil	4.86			4.86								ND		ND	
4/11/2019	11:55:50	#124	Soil	4.81			4.81								2290	533	ND	
4/11/2019	11:56:00	#125	Soil	6.3			6.3								2862	464	ND	
4/11/2019	11:56:20	#126	Soil	2.51			2.51								2205	614	ND	
4/11/2019	11:56:29	#127	Soil	2.5			2.5								1956	643	ND	
4/11/2019	11:56:36	#128	Soil	3.29			3.29								ND		ND	
4/11/2019	11:56:46	#129	Soil	3.05			3.05								ND		ND	
4/11/2019	11:56:56	#130	Soil	4.13			4.13								3117	780	ND	
4/11/2019	11:57:13	#131	Soil	3.09			3.09								3941	654	ND	
4/11/2019	11:57:23	#132	Soil	3.03			3.03								ND		ND	
4/11/2019	11:57:32	#133	Soil	4.19			4.19								ND		ND	
4/11/2019	11:57:39	#134	Soil	3.59			3.59								2709	600	ND	
4/11/2019	11:57:47	#135	Soil	4.18			4.18								ND		ND	

4/11/2019	11:57:59	#136	Soil	3.04	3.04	ND		ND
4/11/2019	11:58:11	#137	Soil	3.04	3.04	ND		ND
4/11/2019	11:58:18	#138	Soil	3.01	3.01	ND		ND
4/11/2019	11:58:24	#139	Soil	2.5	2.5	1860	583	ND
4/11/2019	11:58:40	#140	Soil	3.64	3.64	2329	494	ND
4/11/2019	11:59:03	#141	Soil	3.05	3.05	4361	881	ND
4/11/2019	11:59:13	#142	Soil	3.03	3.03	ND		ND
4/11/2019	11:59:28	#143	Soil	4.13	4.13	1896	488	ND
4/11/2019	11:59:47	#144	Soil	4.86	4.86	2868	499	ND
4/11/2019	11:59:58	#145	Soil	3.58	3.58	ND		ND
4/11/2019	12:00:14	#146	Soil	3.06	3.06	1893	505	ND
4/11/2019	12:00:22	#147	Soil	3.81	3.81	ND		ND
4/11/2019	12:00:34	#148	Soil	2.5	2.5	ND		ND
4/11/2019	12:00:43	#149	Soil	2.51	2.51	ND		ND
4/11/2019	12:00:56	#150	Soil	2.51	2.51	ND		ND
4/11/2019	12:01:26	#151	Soil	4.12	4.12	ND		ND
4/11/2019	12:01:45	#152	Soil	3.07	3.07	ND		ND
4/11/2019	12:02:06	#153	Soil	3.04	3.04	3463	611	ND
4/11/2019	12:02:14	#154	Soil	3.59	3.59	1761	571	ND
4/11/2019	12:02:30	#155	Soil	4.68	4.68	3560	592	ND
4/11/2019	12:02:50	#156	Soil	3.6	3.6	1806	482	ND
4/11/2019	12:03:03	#157	Soil	2.53	2.53	2615	720	ND
4/11/2019	12:03:13	#158	Soil	5.43	5.43	ND		ND
4/11/2019	12:03:28	#159	Soil	4.66	4.66	2702	489	ND
4/11/2019	12:03:37	#160	Soil	4.13	4.13	4021	699	ND
4/11/2019	12:03:46	#161	Soil	5.4	5.4	3067	528	ND
4/11/2019	12:03:55	#162	Soil	4.76	4.76	5284	690	ND
4/11/2019	12:04:25	#163	Soil	5.72	5.72	1487	415	ND
4/11/2019	12:04:32	#164	Soil	3.05	3.05	1998	527	ND
4/11/2019	12:04:44	#165	Soil	4.22	4.22	ND		ND
4/11/2019	12:05:01	#166	Soil	3.58	3.58	3133	553	ND
4/11/2019	12:05:13	#167	Soil	2.48	2.48	5134	991	ND
4/11/2019	12:05:21	#168	Soil	3.77	3.77	1991	556	ND
4/11/2019	12:05:38	#169	Soil	4.13	4.13	4202	638	ND
4/11/2019	12:05:49	#170	Soil	4.11	4.11	2978	521	ND
4/11/2019	12:06:08	#171	Soil	2.47	2.47	ND		ND
4/11/2019	12:06:14	#172	Soil	2.04	2.04	2318	709	ND
4/11/2019	12:06:21	#173	Soil	3.04	3.04	6178	994	ND
4/11/2019	12:06:39	#174	Soil	3.66	3.66	2173	493	ND
4/11/2019	12:07:06	#175	Soil			3101	396	ND
4/11/2019	12:07:15	#176	Soil	4.1	4.1	4534	616	ND
4/11/2019	12:07:38	#177	Soil	4.21	4.21	2833	520	ND
4/11/2019	12:08:35	#178	Soil	4.62	4.62	2906	505	ND
4/11/2019	12:08:47	#179	Soil	7.92	7.92	2721	368	ND
4/11/2019	12:09:02	#180	Soil	2.48	2.48	2739	693	ND
4/11/2019	12:09:17	#181	Soil	3.59	3.59	ND		ND
4/11/2019	12:11:05	#182	Soil	4.13	4.13	4786	647	ND
4/11/2019	12:11:11	#183	Soil	2.51	2.51	5735	1130	ND
4/11/2019	12:11:46	#184	Soil	4.66	4.66	3517	517	ND

4/11/2019	12:12:12	#185	Soil	2.5			2.5											2419	730	ND	
4/11/2019	12:12:22	#186	Soil	3.06			3.06											5975	966	ND	
4/11/2019	12:12:46	#187	Soil	3.58			3.58											6539	792	ND	
4/11/2019	12:13:08	#188	Soil	2.49			2.49											2708	848	ND	
4/11/2019	12:13:20	#189	Soil	2.47			2.47											4443	838	ND	
4/11/2019	12:13:30	#190	Soil	1.96			1.96											ND		ND	
4/11/2019	12:13:39	#191	Soil	4.74			4.74											4456	608	ND	
4/11/2019	12:14:17	#192	Soil	4.67			4.67											2717	458	ND	
4/11/2019	12:14:45	#193	Soil	3.03			3.03											2701	571	ND	
4/11/2019	12:15:02	#194	Soil	4.4			4.4											4495	720	ND	
4/11/2019	12:15:27	#195	Soil	5.22			5.22											4235	670	ND	
4/11/2019	12:15:39	#196	Soil	2.04			2.04											5277	1022	ND	
4/11/2019	12:15:46	#197	Soil	3.25			3.25											5946	947	ND	
4/11/2019	12:16:05	#198	Soil	3.07			3.07											6455	965	ND	
4/11/2019	12:17:06	#199	Soil	4.67			4.67											2730	443	ND	
4/11/2019	12:17:14	#200	Soil	3.58			3.58											1758	515	ND	
4/11/2019	12:17:21	#201	Soil															4125	690	ND	
4/11/2019	12:17:28	#202	Soil	3.8			3.8											4464	793	ND	
4/11/2019	12:17:39	#203	Soil	3.19			3.19											4970	865	ND	
4/11/2019	12:17:52	#204	Soil	4.66			4.66											ND		ND	
4/11/2019	12:19:25	#205	Soil	4.63			4.63											3336	710	ND	
4/11/2019	12:20:52	#206	Soil															9786	716	ND	
4/11/2019	12:21:10	#207	Soil	7.56			7.56											3902	411	ND	
4/11/2019	12:21:33	#208	Soil	3.69			3.69											4238	603	ND	
4/11/2019	12:21:40	#209	Soil	2.55			2.55											4002	721	ND	
4/11/2019	12:21:50	#210	Soil	4.27			4.27											3778	534	ND	
4/11/2019	12:21:59	#211	Soil	3.56			3.56											ND		ND	
4/11/2019	12:22:08	#212	Soil	5.26			5.26											1688	367	ND	
4/11/2019	12:23:19	#213	Soil	5.75			5.75											2864	410	ND	
4/11/2019	12:23:30	#214	Soil	6.28			6.28											3386	409	ND	
4/11/2019	12:23:40	#215	Soil	4.12			4.12											5499	650	ND	
4/11/2019	12:23:48	#216	Soil	3.03			3.03											1792	479	ND	
4/11/2019	12:23:57	#217	Soil	4.83			4.83											1242	350	ND	
4/11/2019	12:24:23	#218	Soil	4.11			4.11											2547	482	ND	
4/11/2019	12:24:34	#219	Soil	3.01			3.01											5857	951	ND	
4/11/2019	12:24:44	#220	Soil	5.33			5.33											1319	386	ND	
4/11/2019	12:25:15	#221	Soil	4.14			4.14											9711	761	ND	
4/11/2019	12:25:53	#222	Soil	9.94	9.87	9.94	29.75	ND		1473	370	ND		12117	269	ND		3482	70	122	9
4/11/2019	13:14:35	#223	Soil	9.94	4.64		14.58											1736	233	ND	
4/11/2019	13:14:55	#224	Soil	4.1			4.1											1875	447	ND	
4/11/2019	13:15:11	#225	Soil	3.55			3.55											1451	414	ND	
4/11/2019	13:15:26	#226	Soil	5.45			5.45											2337	501	ND	
4/11/2019	13:15:39	#227	Soil	3.59			3.59											ND		ND	
4/11/2019	13:15:57	#228	Soil	6.52			6.52											3135	460	ND	
4/11/2019	13:16:12	#229	Soil	4.13			4.13											2032	598	ND	
4/11/2019	13:16:29	#230	Soil	4.14			4.14											1323	398	ND	
4/11/2019	13:16:47	#231	Soil	2.5			2.5											ND		ND	
4/11/2019	13:17:08	#232	Soil	3.57			3.57											2555	563	ND	
4/11/2019	13:17:29	#233	Soil	7.48			7.48											ND		ND	

4/11/2019	13:17:41	#234	Soil	5.19			5.19											3354	530	ND	
4/11/2019	13:21:36	#235	Soil	9.93	9.87	6.23	26.03	ND		ND		ND		9459	277	ND		2509	69	63	9
4/11/2019	13:21:44	#236	Soil	3.58			3.58											2549	641	ND	
4/11/2019	13:21:52	#237	Soil	4.95			4.95											2218	486	ND	
4/11/2019	13:22:05	#238	Soil	4.12			4.12											ND		ND	
4/11/2019	13:22:13	#239	Soil	4.85			4.85											2061	480	ND	
4/11/2019	13:22:20	#240	Soil	3.05			3.05											ND		ND	
4/11/2019	13:22:40	#241	Soil	9.23			9.23											2065	345	ND	
4/11/2019	13:55:08	#242	Cal Check	15.01			15.01														
4/11/2019	13:57:45	#243	Soil	9.94	9.87	9.93	29.74	ND		ND		ND		3598	120	7592	150	10010	132	63	9
4/11/2019	13:58:23	#244	Soil	9.94	9.87	9.93	29.74	ND		ND		ND		3315	114	7566	148	9782	128	73	9
4/11/2019	13:59:03	#245	Soil	9.94	9.87	9.93	29.75	ND		ND		ND		4056	127	8088	155	9658	128	51	9
4/11/2019	13:59:39	#246	Soil	9.93	9.87	9.93	29.74	ND		ND		ND		3315	115	7689	150	10415	135	57	9
4/11/2019	14:00:31	#247	Soil	9.94	9.87	9.94	29.75	ND		1234	321	ND		6891	176	2251	94	11370	153	42	10
4/11/2019	14:01:58	#248	Soil	9.94	9.88	9.93	29.76	ND		ND		ND		3427	119	7584	151	9757	131	42	9

Cr	Cr +/-	Mn	Mn +/-	Fe	Fe +/-	Co	Co +/-	Ni	Ni +/-	Cu	Cu +/-	Zn	Zn +/-	As	As +/-	Se	Se +/-	Rb	Rb +/-	Sr	Sr +/-
90	8	456	13	19416	216	ND		ND		22	5	48	5	ND		ND		43	2	385	12
33	6	302	10	19500	212	ND		ND		ND		14	3	73	4	ND		123	3	169	7
46	8	471	14	34589	346	ND		ND		28	6	29	4	233	7	ND		104	3	209	8
38	6	388	11	23916	245	ND		ND		15	5	20	4	107	4	ND		121	3	181	7
22	6	287	10	16531	178	ND		ND		ND		39	4	33	3	ND		38.8	2	214	7
ND		419	11	16582	172	ND		ND		ND		47	4	42	3	ND		49	2	283	9
28	6	384	11	16278	174	ND		ND		15	5	43	4	70	4	ND		49	2	262	8
23	5	619	13	14744	159	ND		27	8	18	5	41	4	75	4	ND		65	2	286	9
ND		640	21	19348	207	ND		ND		17	5	33	4	70	4	ND		70	3	270	9
73	6	598	14	13599	169	ND		ND		ND		31	4	65	4	ND		53	2	219	9
29	6	623	14	13464	163	ND		ND		ND		53	5	71	4	ND		81	3	264	9
24	6	611	14	15374	170	ND		27	8	15	5	40	4	71	4	ND		53	2	322	10
33	6	645	14	15592	176	ND		ND		17	5	36	4	73	4	ND		67	2	308	10
38	7	391	13	16290	203	ND		ND		ND		56	5	19	3	ND		35	2	405	14
23	6	389	12	17141	194	ND		ND		ND		49	5	21	3	ND		38	2	468	13
ND		335	12	16359	190	ND		ND		ND		46	5	16	3	ND		34	2	472	14
ND		357	117	11072	746	ND		ND		341	75	145	43	ND		ND		29	7	320	25
58	6	287	9	10714	131	ND		ND		ND		41	4	25	3	ND		31.8	1.9	316	10
32	6	352	11	17137	190	ND		ND		ND		57	5	35	3	ND		44	2	402	12
33	6	323	10	14418	165	ND		ND		ND		54	5	28	3	ND		38	2	406	12
36	6	334	10	15498	175	ND		ND		18	5	55	5	30	3	ND		41	2	451	13
29	6	1246	23	14264	182	ND		ND		ND		51	5	32	3	ND		30	2	394	13
26	6	484	12	15736	174	ND		ND		ND		43	4	30	3	ND		36.7	2	467	13
53	7	335	12	12009	174	ND		ND		ND		39	5	17	3	ND		35	2	232	9
45	7	369	13	14560	195	ND		ND		ND		42	5	23	3	ND		37	2	235	9
56	10	377	17	15405	261	ND		ND		ND		47	7	23	4	ND		32	3	265	14
25	5	462	11	14092	146	ND		22	7	ND		43	4	48	3	ND		55	2	222	7
29	6	329	11	11892	149	ND		ND		22	5	24	4	37	3	ND		44	2	255	9
22	6	319	10	15272	183	ND		ND		ND		38	4	27	3	ND		38	2	275	10
50	7	542	14	24127	260	ND		ND		44	6	46	5	129	5	ND		106	3	249	9
33	7	443	13	25158	266	ND		28	9	28	6	41	5	127	5	ND		103	3	250	9
ND		511	16	38548	408	ND		ND		31	6	40	5	144	6	ND		105	3	260	10
ND		400	13	31881	329	ND		ND		42	6	31	4	199	6	ND		118	3	320	11
36	7	385	12	15646	176	ND		ND		20	5	18	3	92	4	ND		96	3	183	7
40	7	815	17	16181	184	ND		ND		19	5	36	4	67	4	ND		62	2	142	6
25	6	405	11	19181	186	ND		ND		15	4	54	4	56	3	ND		59	2	230	7
46	7	341	12	18065	205	ND		ND		21	5	35	4	110	5	ND		86	3	172	7
34	7	422	12	17487	195	ND		ND		ND		54	5	58	4	ND		65	2	209	8
ND		468	13	19286	205	ND		ND		28	5	52	5	68	4	ND		81	3	250	9
49	11	416	18	28028	277	ND		ND		39	6	47	5	142	5	ND		114	3	202	7
30	8	415	13	26926	295	ND		ND		34	6	70	6	111	5	ND		100	3	262	10

24	6	550	13	16124	173	ND	ND		21	5	50	4	31	3	ND	46	2	294	9
35	6	372	11	17246	182	ND	ND		16	5	67	5	26	3	ND	40.7	2	232	8
23	7	665	16	26326	274	ND	43	9	47	6	69	5	110	5	ND	101	3	185	7
ND		451	14	29774	317	ND	ND		32	6	72	6	118	5	ND	101	3	184	7
37	6	376	11	16828	181	ND	ND		ND		60	5	26	3	ND	37.9	2	319	10
33	7	328	11	19845	207	ND	ND		15	5	56	5	35	3	ND	47	2	281	9
41	7	386	12	19531	213	ND	ND		15	5	83	6	35	4	ND	46	2	332	12
41	6	394	11	15435	171	ND	ND		19	5	64	5	36	3	ND	37.9	2	328	10
47	6	393	11	16001	171	ND	25	8	ND		71	5	29	3	ND	39.3	1.9	337	10
ND		493	14	29156	303	ND	ND		25	6	33	4	208	6	ND	108	3	236	8
30	7	416	13	23252	247	ND	29	9	37	6	62	5	68	4	ND	79	3	282	9
ND		526	15	25878	276	ND	ND		28	6	65	5	119	5	ND	98	3	251	9
65	8	528	16	19385	247	ND	ND		22	6	23	4	68	4	ND	91	3	193	9
38	6	171	9	20110	216	ND	ND		27	5	14	3	100	4	ND	93	3	149	6
29	7	302	12	16191	201	ND	ND		ND		31	4	72	4	ND	66	3	229	9
63	12	361	20	14118	280	ND	ND		ND		54	8	33	6	ND	49	4	209	13
32	7	345	12	17183	203	ND	ND		ND		52	5	36	4	ND	50	2	220	9
29	6	353	11	12222	151	ND	ND		ND		29	4	24	4	ND	58	2	183	7
38	8	383	15	16078	225	ND	ND		25	7	48	6	26	4	ND	53	3	222	11
57	12	369	20	12946	266	ND	ND		ND		31	7	18	5	ND	35	3	185	12
56	7	329	12	10817	167	ND	ND		ND		38	5	15	4	ND	55	3	172	8
48	7	439	12	15801	182	ND	ND		ND		47	5	37	3	ND	87	3	221	8
74	7	439	12	14758	167	ND	33	8	17	5	42	4	27	3	ND	67	2	239	8
ND		ND		10755	692		ND		ND		393	57	ND		ND	35	7	175	16
52	6	416	12	15180	173	ND	30	8	ND		53	5	25	3	ND	71	3	262	9
72	7	389	12	13525	176	ND	ND		ND		37	5	29	3	ND	67	3	234	8
48	6	381	11	15728	179	ND	ND		18	5	44	4	29	3	ND	70	3	258	9
57	7	387	12	16453	182	ND	28	8	ND		37	4	28	3	ND	83	3	265	9
34	6	429	12	15288	175	ND	26	8	ND		44	4	39	4	ND	98	3	248	9
38	7	339	11	14465	167	ND	ND		18	5	43	4	44	3	ND	87	3	227	8
50	6	334	11	15298	172	ND	ND		ND		40	4	47	3	ND	96	3	238	9
43	6	348	11	14757	171	ND	ND		ND		37	4	42	3	ND	100	3	255	9
48	7	503	13	17888	202	ND	ND		20	5	46	5	29	3	ND	82	3	225	8
ND		303	66	17389	463	ND	ND		ND		61	12	ND		ND	70	6	226	8
ND		456	137	15173	1054		ND		ND		ND		ND		ND	58	10	179	18
ND		303	48	14356	397		ND		ND		49	15	18	5	ND	89	5	173	7
65	7	409	13	15861	194	ND	ND		17	5	41	5	36	4	ND	79	3	240	9
30	6	315	10	13269	145	ND	ND		ND		52	4	27	3	ND	38.4	1.8	243	8

37	7	641	16	21612	242	ND	30	9	ND		83	6	25	3	ND	56	2	334	11
21	6	1400	25	13460	170	ND	ND		ND		52	5	24	3	ND	44	2	198	8
42	7	364	12	17365	205	ND	ND		ND		44	5	17	3	ND	40	2	273	10
50	6	284	9	11003	130	ND	ND		ND		34	4	23	3	ND	30.7	1.8	207	7
22	7	144	9	14362	182	ND	ND		ND		27	4	116	5	ND	101	3	154	7
28	6	247	10	19281	194	ND	ND		42	5	49	4	103	4	ND	60	2	197	7
44	7	356	12	15984	195	ND	ND		ND		40	5	31	3	ND	43	2	324	11
38	7	413	13	25601	285	ND	ND		31	6	64	6	38	3	ND	50	2	337	11
22	7	422	13	17207	201	ND	ND		20	5	47	5	18	3	ND	42	2	294	10
44	7	395	13	22282	252	ND	ND		ND		45	5	37	3	ND	40	2	294	10
40	7	387	12	22011	235	ND	ND		19	5	48	5	39	3	ND	46	2	318	11
41	7	367	12	22310	235	ND	ND		17	5	47	5	44	3	ND	45	2	312	11
40	6	394	11	18063	192	ND	ND		18	5	62	5	15	3	ND	42	2	377	11
29	7	473	14	19657	215	ND	45	9	19	5	93	6	11	3	ND	51	2	375	11
46	7	410	13	17451	214	ND	ND		ND		78	6	12	3	ND	42	2	306	11
49	7	806	17	22478	243	ND	ND		17	5	74	5	26	3	ND	44	2	296	10
39	7	637	15	19831	212	ND	ND		26	5	72	5	24	3	ND	47	2	321	10
33	6	1279	22	15449	176	ND	ND		ND		55	5	29	3	ND	51	2	255	9
28	6	1087	19	15106	167	ND	ND		16	5	61	5	24	3	ND	49	2	260	8
50	6	1033	19	15470	172	ND	28	8	18	5	61	5	26	3	ND	50	2	273	9
ND		ND		12307	1755		ND		ND		ND		ND		ND	ND		238	43
48	6	961	17	15361	167	ND	30	8	16	5	59	5	25	3	ND	56	2	274	9
46	5	462	11	8245	106	ND	ND		13	4	48	4	42	3	ND	33.2	1.8	156	6
31	7	335	11	25077	261	ND	ND		29	5	69	5	31	3	ND	38	2	204	8
26	5	1037	17	11976	127	ND	ND		18	4	79	5	32	3	ND	35.8	1.7	134	5
50	6	665	14	17447	184	ND	ND		22	5	40	4	51	3	ND	46	2	138	6
30	6	457	12	10475	133	ND	ND		ND		35	4	30	4	ND	87	3	105	5
45	8	344	14	21899	267	ND	ND		36	7	33	5	92	5	ND	65	3	190	9
33	6	208	9	6264	98	ND	ND		27	5	18	4	17	3	ND	53	2	174	7
36	7	391	12	24989	250	ND	26	8	33	5	60	5	83	4	ND	51	2	287	9
25	6	271	10	16245	180	ND	ND		29	5	67	5	53	4	ND	61	2	230	8
45	8	483	14	20239	233	ND	ND		24	6	61	5	31	3	ND	61	3	320	11
78	8	407	13	14255	188	ND	ND		18	6	37	5	ND		ND	38	2	368	13
41	7	318	11	20205	214	ND	ND		19	5	18	3	79	4	ND	102	3	175	7
41	7	410	12	26450	265	ND	ND		26	5	23	4	113	5	ND	116	3	191	7
25	6	420	12	15341	171	ND	ND		ND		42	4	20	3	ND	42	2	355	11
44	7	437	13	17051	189	ND	28	8	ND		43	4	21	3	ND	86	3	305	10
52	6	378	11	16275	177	ND	ND		ND		51	4	14	2	ND	52	2	337	10
42	6	371	11	17475	194	ND	41	9	ND		47	4	20	3	ND	42	2	376	12
45	6	404	11	15566	170	ND	ND		ND		42	4	10	2	ND	37.9	2	364	11
41	6	311	10	16668	181	ND	ND		ND		36	4	ND		ND	26.9	1.8	351	11
25	8	269	12	18365	229	ND	ND		ND		39	5	ND		ND	29	2	447	15
ND		266	11	18993	204	ND	ND		ND		46	4	7	2	ND	28	1.9	529	17
31	7	341	12	23409	254	ND	ND		ND		40	4	18	3	ND	44	2	332	11

ND			348	12	19710	220	ND	ND			ND			50	5	16	3	ND		34	2	382	12
	45	12	319	20	12933	248	ND	ND			ND			28	6	14	4	ND		27	3	351	16
	45	6	270	9	13621	151	ND	ND			ND			24	3	306	7	4.1	1.3	75	2	138	6
	36	5	202	8	14084	148	ND	ND				14	4	33	4	296	7	5.7	1.3	67	2	113	4
	38	6	220	9	18317	195	ND	ND			ND			18	3	389	8	8.2	1.5	67	2	123	5
	46	6	229	9	22279	226	ND	ND				26	5	19	3	489	9	4.6	1.4	100	3	118	5
	54	6	152	8	11426	140	ND	ND			ND			18	3	144	5	ND		117	3	59	3
	29	7	342	12	17800	208	ND	ND			ND			34	4	111	5	ND		94	3	199	8
	48	10	306	15	16399	245	ND	ND			ND			31	5	89	5	ND		77	3	211	11
	48	9	317	14	15710	216	ND	ND			ND			35	5	89	5	ND		71	3	239	9
	47	4	174	6	3136	53	ND	ND			ND			25	3	33	3	ND		31.9	1.6	55	3
	55	5	224	7	3849	63	ND	ND			ND			39	4	44	3	ND		55	2	64	3
	52	8	284	12	20296	266	ND	ND			ND			31	5	433	11	ND		59	3	75	5
	37	8	284	13	13302	197	ND	ND				21	6	33	5	172	7	5.9	1.7	91	4	154	8
ND			323	12	25732	274	ND	ND			ND			65	5	ND		ND		47	2	495	15
ND			342	53	23361	628		ND			ND			59	16	ND		ND		37	4	608	18
	34	7	361	12	22162	243	ND	ND			ND			50	5	ND		ND		34	2	539	16
	23	7	344	12	23224	249	ND	ND			ND			47	5	ND		ND		37	2	576	16
	39	7	314	11	17590	189	ND	ND			ND			44	4	14	2	ND		42	2	357	11
	31	6	302	11	17321	190	ND	ND			ND			45	4	13	3	ND		38	2	329	10
ND			330	12	23941	260	ND	ND			ND			51	5	14	3	ND		44	2	371	13
	21	7	324	11	18687	205	ND	ND			ND			48	5	ND		ND		40	2	384	12
	33	7	264	11	20487	223	ND	ND				16	5	33	4	106	4	ND		63	2	275	9
	28	7	335	11	19904	208	ND	ND			ND			48	4	35	3	ND		46	2	376	11
	21	7	279	11	20798	227	ND	ND			ND			50	5	25	3	ND		37	2	375	12
ND			285	11	20246	213	ND		27	8	ND			45	4	38	3	ND		48	2	355	11
	29	7	302	12	15700	201	ND	ND			ND			41	5	14	3	ND		35	2	345	12
	47	7	305	11	16600	196	ND	ND			ND			51	5	20	3	ND		37	2	333	11
	38	6	289	10	15834	171	ND	ND			ND			50	4	19	3	ND		40.2	2	326	10
ND			326	14	17268	223	ND	ND			ND			45	5	12	3	ND		36	2	379	14
ND			317	11	17934	191	ND	ND			ND			76	5	17	3	ND		37.5	1.9	280	9
	22	6	297	10	19258	201	ND	ND			ND			63	5	10	3	ND		41	2	408	12
ND			313	11	19344	202	ND	ND				17	5	48	4	20	3	ND		47	2	440	13
	54	5	284	9	13310	145	ND	ND			ND			46	4	42	3	ND		38.5	1.9	242	8
	24	7	272	12	21044	246	ND	ND				21	6	38	5	62	4	ND		39	2	271	10
	53	12	350	19	26270	429	ND	ND			ND			36	7	189	9	ND		52	4	202	12
	34	7	284	12	15828	194	ND	ND				17	5	33	4	83	4	ND		73	3	250	9
	36	7	210	11	9307	147	ND	ND			ND			19	4	121	5	ND		83	3	146	7
	56	7	489	13	20766	226	ND	ND			ND			62	5	11	3	ND		50	2	385	12
	63	8	392	12	24173	246	ND	ND				16	5	22	4	105	4	ND		100	3	193	7
	41	7	356	12	23744	244	ND	ND				30	5	19	4	105	4	ND		118	3	145	6

47	7	462	13	20968	230	ND		ND		23	5	53	5	9	3	ND		47	2	419	13
27	6	227	9	15022	161	ND		ND		ND		48	4	12	2	ND		33.8	1.8	256	8
33	6	279	9	17241	169	ND		22	7	17	4	47	4	13	2	ND		42	1.9	325	9
33	5	251	9	13684	146	ND		ND		ND		47	4	7	2	ND		37.2	1.8	256	8
ND		310	12	19101	216	ND		ND		ND		52	5	17	3	ND		36	2	363	12
32	6	252	9	17680	184	ND		25	8	14	5	49	4	9	2	ND		42	2	353	11
36	6	293	10	17602	188	ND		ND		ND		39	4	8	2	ND		31.9	1.9	367	11
28	6	262	10	16549	179	ND		ND		ND		48	4	9	2	ND		36.1	1.9	390	12
ND		300	18	20194	339	ND		ND		ND		43	7	ND		ND		31	3	383	19
26	6	283	10	16601	184	ND		30	8	ND		47	4	26	3	ND		50	2	448	13
ND		285	14	19781	227	ND		ND		ND		51	5	16	3	ND		40	2	374	12
35	6	310	10	13638	159	ND		ND		ND		34	4	ND		ND		29.9	1.9	388	11
31	6	319	10	15608	171	ND		33	8	ND		36	4	9	2	ND		42	2	402	12
55	6	317	9	14914	157	ND		ND		ND		46	4	ND		ND		31.6	1.8	377	11
51	6	297	9	14799	165	ND		ND		ND		39	4	ND		ND		35.5	1.9	339	11
45	8	394	14	17588	222	ND		ND		ND		39	5	21	3	ND		36	2	312	12
40	7	154	10	13841	234	ND		ND		ND		36	6	29	4	ND		50	3	237	12
ND		174	10	12714	161	ND		ND		ND		21	4	101	5	ND		65	3	144	6
24	5	151	7	5574	81	ND		ND		ND		11	3	36	3	ND		44.8	2	219	7
32	6	228	9	9214	123	ND		ND		ND		28	4	28	3	ND		57	2	195	8
40	5	304	9	11323	134	ND		ND		ND		41	4	26	3	ND		39.6	2	235	8
45	5	283	9	11329	126	ND		ND		ND		37	4	25	3	ND		33.9	1.8	179	6
31	6	262	10	11926	146	ND		ND		ND		40	4	32	3	ND		44	2	166	7
30	5	395	11	11047	127	ND		ND		ND		21	3	157	5	ND		44.5	1.9	183	6
28	6	184	8	12741	139	ND		ND		ND		24	3	132	4	ND		53	2	190	6
41	6	294	11	11413	145	ND		ND		ND		24	4	38	3	ND		52	2	185	7
46	7	173	9	8112	122	ND		ND		ND		24	4	37	3	ND		62	3	256	9
31	5	106	7	5948	91	ND		ND		ND		18	3	66	4	ND		136	3	98	5
33	7	232	11	12142	165	ND		ND		ND		21	4	80	4	ND		56	3	208	8
29	6	311	10	17352	177	ND		ND		ND		38	4	99	4	ND		72	2	247	8
31	6	220	10	15896	174	ND		ND		ND		24	4	132	5	ND		59	2	314	10
31	7	238	10	17996	205	ND		ND		ND		35	4	108	5	ND		69	3	320	11
41	6	308	10	13230	143	ND		ND		ND		37	4	83	4	ND		60	2	181	7
34	6	317	11	12554	170	ND		ND		ND		24	4	70	4	ND		73	3	185	7
23	6	321	11	10769	137	ND		ND		ND		29	4	58	3	ND		157	4	246	9
ND		287	11	11232	141	ND		27	8	ND		35	4	29	3	ND		73	3	219	8
63	7	260	11	14493	197	ND		ND		ND		31	5	44	4	ND		71	3	223	10
52	6	278	9	11288	135	ND		ND		ND		32	4	43	3	ND		77	3	232	8
55	7	338	12	12655	159	ND		ND		ND		25	4	38	3	ND		70	3	220	8
ND		260	13	11099	178	ND		ND		ND		31	5	40	4	ND		91	4	153	7
30	7	314	13	16657	211	ND		ND		ND		33	5	65	4	ND		69	3	215	8
21	6	300	11	14165	167	ND		ND		ND		25	4	45	3	ND		63	2	187	7
20	7	234	11	12345	160	ND		28	9	21	5	24	4	46	4	ND		54	2	208	8
80	12	320	18	11887	244	ND		ND		ND		ND		52	6	ND		51	4	175	11

44	7	460	13	16891	192	ND	ND		ND		42	4	39	3	ND	47	2	278	9
44	8	394	13	16258	197	ND	ND		ND		31	4	31	3	ND	57	3	243	8
48	8	351	14	18691	265	ND	ND		ND		32	5	83	5	ND	67	3	220	10
44	7	369	13	20362	234	ND	ND		18	5	48	5	46	4	ND	56	2	278	10
68	6	305	9	14913	157	ND	ND		ND		24	3	75	4	ND	49	2	177	6
67	8	340	14	11347	189	ND	ND		23	7	31	5	45	4	ND	29	2	237	9
48	6	308	10	18255	197	ND	ND		23	5	41	4	49	3	ND	58	2	222	8
33	7	292	11	23791	253	ND	ND		19	5	40	4	121	5	ND	75	3	229	8
26	7	276	11	15055	186	ND	ND		ND		32	4	36	3	ND	38	2	184	7
68	9	510	17	20950	287	ND	ND		ND		43	6	23	4	ND	37	3	416	16
ND		500	14	22054	241	ND	37	9	26	6	47	5	25	3	ND	41	2	296	10
ND		332	11	15909	173	ND	ND		14	5	39	4	110	4	ND	81	3	168	6
ND		291	11	20537	224	ND	ND		16	5	42	4	131	5	ND	77	3	182	7
ND		398	12	20654	215	ND	ND		ND		37	4	94	4	ND	80	3	216	7
28	6	274	10	12461	142	ND	30	8	ND		24	4	47	3	ND	66	2	141	5
26	6	410	12	19028	196	ND	ND		ND		44	4	75	4	ND	87	3	234	8
22	5	229	8	12221	133	ND	24	7	ND		36	4	59	3	ND	68	2	146	5
31	6	295	10	15543	169	ND	36	8	ND		27	4	66	3	ND	70	2	194	7
33	6	240	10	10263	128	ND	ND		ND		19	3	197	6	ND	59	2	164	6
32	4	357	9	9985	108	ND	ND		ND		31	3	76	3	ND	65	2	140	6
28	5	230	9	10658	121	ND	37	8	15	4	18	3	84	4	ND	94	3	119	5
ND		179	28	13868	196	ND	ND		ND		26	4	91	5	ND	59	3	177	8
54	8	301	12	16763	204	ND	ND		ND		34	4	101	5	ND	63	3	183	7
36	7	228	10	12630	156	ND	ND		ND		26	4	82	4	ND	61	2	142	6
19	5	247	9	11191	123	ND	ND		17	4	29	3	64	3	ND	59	2	142	5
32	7	312	12	13154	176	ND	ND		ND		37	5	48	4	ND	45	2	193	9
47	7	218	10	15145	181	ND	ND		ND		27	4	105	5	ND	63	3	205	8
36	6	331	11	13320	149	ND	ND		16	5	33	4	77	4	ND	63	2	190	7
ND		ND		15823	527		ND		ND		ND		108	10	ND	73	6	158	8
55	9	524	16	22483	294	ND	ND		ND		37	5	138	6	ND	65	3	183	9
46	7	231	11	13665	181	ND	ND		ND		28	4	103	5	ND	62	3	121	6
22	6	346	10	13996	152	ND	32	8	18	5	34	4	14	2	ND	58	2	201	7
34	6	267	10	10483	133	ND	ND		ND		26	4	44	3	ND	57	2	184	7
21	6	210	9	12110	144	ND	35	8	15	5	20	4	83	4	ND	66	2	145	6
31	5	411	11	13069	142	ND	ND		13	4	53	4	21	2	ND	52	2	207	7
33	6	405	11	13614	150	ND	40	8	15	5	44	4	24	3	ND	56	2	256	8
26	6	367	11	13750	157	ND	ND		19	5	34	4	21	3	ND	51	2	226	8
ND		341	11	17325	192	ND	ND		ND		44	4	24	3	ND	31.5	2	399	12
40	7	302	11	15011	183	ND	ND		ND		32	4	105	5	ND	56	2	323	11
37	7	262	11	13674	181	ND	ND		ND		33	5	39	4	ND	44	2	271	10

27	8	380	14	19462	267	ND	ND		ND		35	5	102	6	ND	84	3	212	10
43	6	284	10	16398	187	ND	ND		ND		28	4	66	4	ND	68	3	240	9
ND		204	44	10622	312		ND		ND		ND		36	6	ND	63	4	307	11
ND		156	39	7174	186	ND	ND		ND		ND		62	7	ND	71	5	122	5
ND		257	47	13981	396		ND		114	26	50	16	57	7	ND	84	5	231	9
ND		363	56	15511	458		ND		ND		ND		78	8	ND	68	5	253	10
ND		158	48	12352	408		118	31	213	34	93	20	32	6	ND	40	4	239	10
ND		ND		13588	532		ND		ND		ND		26	7	ND	43	5	294	14
ND		207	42	8955	265		ND		ND		ND		55	6	ND	68	4	167	7
ND		348	69	19597	505	ND	ND		ND		ND		69	9	ND	67	6	232	9
ND		255	70	7545	301	ND	ND		ND		ND		42	9	ND	40	6	122	5
ND		ND		5242	157	ND	ND		ND		ND		42	6	ND	64	4	78	4
ND		168	37	11469	292		ND		ND		ND		82	7	ND	74	4	167	6
ND		211	41	13748	362		ND		ND		ND		76	7	ND	56	4	229	8
ND		238	50	12755	398		ND		ND		ND		46	7	ND	68	5	165	7
ND		279	55	12406	423		ND		ND		ND		97	10	ND	64	5	180	9
ND		180	53	7674	300		ND		ND		ND		36	7	ND	70	6	83	6
ND		193	60	17297	625		ND		ND		ND		155	13	ND	68	6	216	11
ND		ND		14095	578		ND		ND		ND		137	13	ND	66	6	180	11
ND		178	54	9785	374		ND		ND		ND		79	9	ND	54	5	182	9
ND		189	46	11021	350		ND		ND		ND		107	9	ND	62	5	189	8
ND		222	44	13687	384		ND		ND		53	15	42	6	ND	31	3	324	11
ND		ND		16920	607		ND		ND		ND		234	16	ND	39	5	326	14
ND		309	66	19156	680		ND		ND		ND		114	12	ND	42	5	379	16
ND		ND		14782	507		ND		ND		ND		418	21	ND	25	4	301	13
ND		230	64	19720	723		ND		ND		125	24	101	11	ND	49	5	335	15
ND		265	55	20627	639		ND		ND		95	19	32	6	ND	39	4	340	13
ND		ND		25156	841		ND		157	35	ND		112	11	ND	24	4	128	7
ND		ND		13769	519		ND		173	37	83	22	163	13	ND	26	4	42	4
ND		150	44	18869	527		ND		ND		ND		48	6	ND	25	3	165	7
ND		386	55	15437	442		ND		186	29	ND		29	6	ND	28	3	201	8
ND		ND		19909	789		ND		ND		ND		644	35	ND	99	8	105	8
ND		250	49	25218	679		ND		ND		55	16	102	9	ND	25	3	228	9
ND		234	58	17981	620		ND		ND		ND		67	9	ND	34	4	194	10
27	7	366	13	17902	219	ND	ND		ND		46	5	45	4	ND	35	2	200	8
31	6	353	11	16835	182	ND	ND		ND		31	4	44	3	ND	36.1	1.9	185	7
20	6	372	11	17592	181	ND	27	8	ND		41	4	120	4	ND	43.5	2	180	6
ND		ND		13383	585	ND	ND		ND		ND		278	25	ND	42	8	153	10
41	8	410	15	21250	266	ND	ND		ND		49	5	48	4	ND	27	2	223	10
40	7	379	12	16606	181	ND	ND		ND		42	4	54	3	ND	25	1.7	240	8
29	6	428	12	18006	185	ND	ND		16	5	44	4	45	3	ND	26.7	1.7	239	8
41	6	300	10	22166	216	ND	ND		ND		47	4	76	4	ND	29.5	1.7	221	7
58	6	311	9	14561	152	ND	36	8	ND		34	4	54	3	ND	35.3	1.8	229	7
51	7	389	12	16112	180	ND	ND		16	5	36	4	41	3	ND	37	2	263	9
48	6	327	11	16757	181	ND	ND		21	5	39	4	35	3	ND	36.7	1.9	275	9
49	6	388	11	13437	156	ND	ND		ND		40	4	16	3	ND	24.7	1.7	273	9
47	6	418	12	16528	178	ND	ND		ND		57	5	10	2	ND	27.7	1.8	259	8
50	6	393	11	15909	171	ND	ND		ND		48	4	12	2	ND	30.4	1.8	258	8

53	7	427	13	11653	154	ND		ND		ND		31	4	14	3	ND		26.5	1.9	199	8
119	9	367	15	7371	149	ND		ND		ND		16	5	ND		ND		14	2	235	9
50	6	368	11	11154	133	ND		ND		ND		32	4	ND		ND		22.8	1.7	228	8
52	6	281	9	13413	152	ND		ND		ND		36	4	26	3	ND		25.6	1.7	185	7
40	5	330	9	13416	138	ND		ND		ND		43	4	37	3	ND		28.1	1.6	188	6
46	6	462	12	17069	191	ND		ND		ND		39	4	64	4	ND		34	2	197	7
19	6	393	12	17850	192	ND		ND		ND		47	4	65	3	ND		36.6	2	257	8
57	7	485	13	19701	217	ND		ND		18	5	54	5	ND		ND		45	2	408	12
50	7	323	11	22362	238	ND		ND		24	5	18	4	90	4	ND		115	3	173	7
70	7	493	13	20294	222	ND		ND		ND		57	5	ND		ND		38	2	385	12
53	7	367	12	23534	242	ND		ND		21	5	25	4	97	4	ND		107	3	193	7
31	5	96	7	9368	115	ND		ND		ND		12	3	728	11	ND		96	3	131	5
31	6	88	8	16639	181	ND		ND		ND		9	3	660	11	ND		96	3	239	8
31	6	95	7	5842	90	ND		ND		ND		ND		411	8	ND		87	3	136	5
23	6	438	12	20056	199	ND		ND		14	4	47	4	59	3	ND		29.4	1.8	252	8
29	6	357	11	22468	218	ND		25	8	ND		48	4	78	4	ND		31.5	1.8	223	8
38	8	321	12	18760	232	ND		ND		ND		41	5	88	5	ND		24.8	2	194	8
ND		273	59	21575	703			ND		ND		ND		107	10	ND		34	4	202	10
ND		258	63	20649	735			ND		ND		ND		105	11	ND		25	4	206	10
ND		281	11	20814	214	ND		ND		ND		50	4	89	4	ND		30.8	1.8	227	8
37	6	269	10	13208	148	ND		ND		ND		24	3	38	3	ND		15.7	1.4	121	7
27	5	378	10	15821	158	ND		ND		ND		37	4	33	3	ND		28.2	1.6	196	6
34	6	512	13	17934	184	ND		ND		15	5	39	4	29	3	ND		26.2	1.7	230	8
ND		336	35	16945	234	ND		ND		ND		44	5	24	4	ND		32	2	220	9
32	6	537	13	18705	192	ND		25	8	ND		48	4	37	3	ND		29.6	1.8	276	9
42	8	344	14	18359	194	ND		ND		ND		41	4	32	3	ND		35.7	1.9	273	10
39	6	394	12	17700	191	ND		ND		ND		47	4	37	3	ND		37	2	283	9
ND		505	64	20105	600			ND		ND		ND		36	7	ND		37	4	306	12
36	7	389	12	18545	201	ND		ND		ND		55	5	37	3	ND		46	2	309	10
43	6	340	11	16076	181	ND		ND		ND		54	5	41	3	ND		41	2	273	9
84	6	333	10	12446	149	ND		ND		ND		25	4	31	3	ND		29.5	1.8	222	8
64	6	308	9	12176	140	ND		ND		ND		34	4	21	3	ND		27.6	1.7	204	7
ND		273	12	15470	196	ND		ND		ND		31	4	25	3	ND		29	2	262	10
ND		ND		16508	1147			ND		ND		ND		ND		ND		28	8	296	26
36	6	318	11	16139	181	ND		ND		ND		48	4	23	3	ND		36.5	2	265	9
65	5	284	8	11233	125	ND		ND		ND		28	3	26	3	ND		25.3	1.6	180	6
ND		ND		10791	1125			ND		ND		289	83	ND		ND		ND		163	24
81	6	279	9	12044	144	ND		ND		ND		33	4	20	3	ND		22	1.7	161	6
48	6	297	10	16332	176	ND		ND		ND		36	4	29	3	ND		28.5	1.8	231	8
53	6	336	11	18892	198	ND		ND		ND		29	4	46	3	ND		19.4	1.6	189	7
ND		104	20	16583	178	ND		ND		ND		20	3	55	3	ND		24.2	1.7	172	6
61	7	234	9	15170	170	ND		ND		ND		24	4	45	3	ND		20.7	1.6	164	6

51	7	171	9	16721	184	ND	ND		ND		17	3	81	4	ND	24.5	1.7	127	5
24	6	400	11	18554	190	ND	24	8	ND		44	4	76	4	ND	33.6	1.8	222	8
57	6	363	10	14678	159	ND	ND		ND		44	4	60	3	ND	32	1.8	154	8
ND		578	70	22892	476	ND	ND		ND		58	10	100	9	ND	40	4	204	8
37	6	403	11	15554	162	ND	ND		ND		43	4	74	4	ND	29	1.7	255	8
43	6	371	11	15644	170	ND	ND		ND		39	4	64	3	ND	29.7	1.8	230	8
72	7	322	12	17567	218	ND	ND		ND		34	5	64	4	ND	26	2	213	9
ND		50	14	12530	153	ND	ND		ND		13	3	164	5	ND	43	2	405	12
34	6	122	8	19603	210	ND	ND		ND		21	4	301	7	ND	24.5	2	657	18
24	6	90	8	17013	186	ND	ND		ND		13	3	296	7	ND	22.9	1.9	853	22
44	6	120	8	11582	141	ND	26	8	ND		14	3	295	7	ND	26.4	1.9	696	18
ND		281	57	18930	610		ND		ND		ND		315	18	ND	41	4	233	10
ND		328	50	16483	449		ND		ND		ND		197	11	ND	39	3	234	9
ND		264	38	18364	292	ND	ND		ND		40	6	195	8	ND	42	3	243	9
ND		ND		18769	830		ND		ND		ND		345	25	ND	43	6	195	12
ND		485	72	19979	681		ND		ND		89	21	84	10	ND	43	5	244	11
ND		298	57	26211	537	ND	ND		ND		38	8	69	7	ND	33	4	254	10
ND		233	51	27682	767		ND		ND		70	17	112	9	ND	32	3	208	8
ND		176	44	24876	646		ND		101	26	ND		86	8	ND	34	3	196	8
ND		ND		18456	542		ND		133	29	ND		83	8	ND	20	3	125	6
ND		ND		28820	990		ND		ND		ND		141	13	ND	25	4	136	8
ND		315	37	28712	373	ND	ND		ND		39	6	339	10	ND	50	3	199	7
40	6	238	9	14671	160	ND	ND		14	4	29	4	293	7	ND	51	2	135	5
50	6	253	9	14519	157	ND	ND		ND		36	4	302	7	ND	47	2	142	5
32	6	216	9	17287	186	ND	ND		ND		41	4	348	7	ND	55	2	162	6
34	8	289	13	21247	269	ND	ND		ND		45	5	509	11	ND	49	3	158	8
27	6	236	10	15921	171	ND	25	8	ND		40	4	212	6	ND	44	2	232	8
24	7	235	11	13215	169	ND	ND		ND		25	4	127	5	ND	35	2	248	9
48	7	556	15	11488	150	ND	ND		ND		22	4	172	6	ND	41	2	94	5
ND		142	9	31830	313	ND	ND		ND		19	3	109	5	ND	23.9	1.8	121	5
ND		112	10	43584	408	ND	ND		ND		20	4	107	4	ND	19	1.6	102	5
ND		132	9	32018	309	ND	ND		ND		12	3	102	4	ND	19.8	1.6	70	4
ND		88	9	32541	328	ND	ND		ND		21	4	86	4	ND	20.3	1.7	81	4
ND		31	9	39835	383	ND	27	9	ND		15	4	97	4	ND	26.7	1.8	102	5
28	6	172	9	17425	183	ND	ND		ND		25	4	163	5	ND	33.4	1.8	142	5
47	7	260	11	15031	191	ND	ND		ND		29	4	179	6	ND	39	2	166	7
22	6	228	10	16730	183	ND	ND		ND		40	4	232	6	ND	43	2	222	8
25	6	312	10	17430	186	ND	ND		ND		40	4	235	6	ND	43	2	218	8
ND		262	10	18709	198	ND	ND		ND		45	4	228	6	ND	50	2	221	8
43	6	235	9	14030	151	ND	ND		ND		38	4	218	6	ND	45.6	2	208	7
56	6	290	9	13391	145	ND	ND		ND		30	4	234	6	ND	42.9	1.9	208	7
ND		ND		ND			ND		ND		ND		ND		ND	ND		ND	
36	6	252	10	16689	174	ND	ND		ND		52	4	284	6	ND	45.4	2	236	8
32	6	325	10	17153	180	ND	ND		ND		57	5	307	7	ND	51	2	213	7
41	7	316	11	15842	185	ND	ND		ND		51	5	313	7	ND	47	2	197	9
57	10	253	14	15932	241	ND	ND		ND		41	6	504	12	ND	58	3	147	8
34	6	257	10	17134	177	ND	25	8	ND		35	4	675	10	ND	78	2	158	6
ND		ND		15030	1109		ND		ND		ND		464	49	ND	34	9	118	14

ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		ND		ND				ND		ND		ND		ND		ND		ND		ND	
94	10	304	15	18566	304	ND		ND		ND		42	6	544	15	ND		67	4	133	8
ND		290	61	21231	701			ND		ND		ND		237	16	ND		55	5	270	12
ND		281	44	22232	530			ND		ND		44	14	172	10	ND		47	3	273	9
ND		424	72	23613	815			ND		ND		ND		194	15	ND		44	5	251	12
ND		294	51	13659	401			79	26	ND		61	17	79	9	ND		29	3	315	11
44	6	242	9	15478	155	ND		22	7	ND		36	4	114	4	ND		34.1	1.7	240	7
42	6	252	9	15382	163	ND		25	8	ND		35	4	121	4	ND		33.9	1.8	214	7
18	6	277	10	16849	173	ND		25	8	ND		42	4	132	4	ND		41.2	1.9	271	8
58	8	235	12	11148	186	ND		ND		ND		48	6	104	6	ND		27	2	153	8
ND		ND		15111	876			ND		284	70	ND		157	22	ND		43	7	153	13
31	7	249	11	17389	198	ND		ND		16	5	40	4	162	5	ND		42	2	203	8
ND		ND		16341	662			ND		ND		ND		140	14	ND		46	5	182	11
35	8	317	13	15728	220	ND		ND		ND		42	5	149	6	ND		39	3	182	9
25	7	230	11	10077	126	ND		ND		15	5	37	4	170	5	ND		43	2	202	7
55	7	256	10	12499	158	ND		ND		ND		36	4	152	5	ND		47	2	156	7
25	6	299	10	15202	166	ND		ND		ND		41	4	197	6	ND		45	2	194	7
18	6	298	10	13987	154	ND		26	8	ND		41	4	199	5	ND		54	2	187	6
48	7	336	11	15564	176	ND		ND		ND		34	4	126	5	ND		36	2	245	8
35	7	296	11	19927	224	ND		ND		ND		46	5	143	5	ND		41	2	276	9
ND		258	65	17358	646			ND		ND		ND		148	13	ND		35	4	189	10
39	9	317	15	16686	238	ND		ND		ND		41	5	157	7	ND		42	3	196	9
ND		290	12	20088	236	ND		ND		ND		51	5	147	6	ND		39	2	294	13
59	10	334	15	16933	258	ND		ND		ND		37	6	177	7	ND		44	3	169	9
180438	6788	85905	3248	1431853	59071	ND		7623	443	10310	507	ND		ND		ND		ND		ND	
ND		256	10	17929	187	ND		ND		ND		48	4	181	5	ND		31.2	1.8	383	11
39	6	279	10	17133	189	ND		ND		ND		35	4	130	5	ND		34.2	2	353	11
35	6	235	9	15224	166	ND		24	8	ND		37	4	179	5	ND		48	2	218	7
55	7	444	13	16707	197	ND		ND		ND		63	5	87	4	ND		33	2	183	7
27	6	354	11	11493	138	ND		30	8	ND		45	4	74	4	ND		37	1.9	219	7
49	8	388	14	16066	213	ND		ND		ND		50	5	104	5	ND		33	2	168	8
ND		321	14	16226	208	ND		ND		ND		51	5	92	5	ND		40	2	194	8
46	6	302	10	16242	183	ND		ND		16	5	38	4	139	5	ND		48	2	253	9
38	6	282	10	15115	166	ND		ND		ND		38	4	165	5	ND		43	2	239	8
69	7	281	10	17613	197	ND		ND		ND		36	4	203	6	ND		43	2	212	8
39	7	269	12	13781	199	ND		ND		ND		38	5	166	7	ND		45	3	154	8
39	7	274	11	15236	173	ND		ND		ND		35	4	182	5	ND		50	2	193	7
ND		ND		13159	1542			ND		ND		ND		206	48	ND		ND		165	28
ND		313	13	17632	206	ND		ND		ND		46	5	221	6	ND		58	2	199	8
ND		285	12	13846	174	ND		ND		ND		37	4	164	6	ND		50	2	183	7
40	7	298	11	19631	210	ND		ND		ND		50	5	266	7	ND		50	2	198	7

ND		323	12	22250	237	ND	ND		ND		43	4	425	9	ND	53	2	244	9
33	6	333	10	15717	175	ND	ND		ND		34	4	56	3	ND	44	2	246	8
40	7	301	11	16280	194	ND	ND		ND		40	4	40	3	ND	36	2	263	9
43	6	332	10	15703	173	ND	ND		ND		37	4	44	3	ND	32.1	1.9	222	8
ND		ND		15092	1281		ND		ND		ND		110	25	ND	46	11	204	24
37	6	346	10	13671	149	ND	ND		ND		34	4	59	3	ND	38.1	1.8	222	8
30	6	331	10	16872	176	ND	ND		ND		39	4	63	3	ND	48	2	270	8
36	6	340	10	15762	156	ND	ND		ND		38	4	67	3	ND	39.3	1.8	279	8
ND		186	60	14046	547		ND		ND		ND		462	26	ND	83	7	144	9
72	10	359	17	18183	285	ND	ND		ND		42	6	28	4	ND	33	3	367	14
ND		335	12	21521	241	ND	ND		ND		44	5	31	3	ND	39	2	419	13
ND		ND		ND			ND		ND		ND		ND		ND	ND		ND	
33	7	311	11	19660	226	ND	ND		ND		42	5	28	3	ND	41	2	348	12
51	7	272	11	22482	233	ND	ND		ND		37	4	23	3	ND	33.6	2	435	13
48	9	353	15	17085	239	ND	ND		ND		43	5	174	7	ND	48	3	246	11
45	6	301	10	14932	160	ND	ND		ND		39	4	204	5	ND	46.2	2	183	7
40	8	274	12	18111	235	ND	ND		ND		45	5	699	13	ND	70	3	147	7
22	7	256	11	17580	225	ND	ND		ND		45	5	582	12	ND	62	3	138	7
58	13	303	20	20091	223	ND	ND		ND		44	5	1012	15	ND	71	3	174	7
ND		240	11	18348	207	ND	ND		ND		55	5	568	10	ND	73	3	177	7
ND		ND		20703	1797		ND		ND		ND		743	83	ND	78	16	190	24
20	6	393	12	20305	207	ND	46	9	ND		50	4	136	5	ND	56	2	317	10
ND		381	12	21059	223	ND	ND		ND		50	5	153	5	ND	53	2	374	12
ND		493	14	18840	203	ND	ND		ND		57	5	138	5	ND	56	2	361	11
ND		344	12	18297	203	ND	ND		19	5	44	4	20	3	ND	38	2	497	14
ND		328	11	18047	194	ND	56	9	ND		49	4	18	3	ND	33.6	1.9	485	14
23	7	342	12	18679	201	ND	ND		ND		37	4	15	3	ND	36	2	503	14
ND		ND		40439	1619		ND		ND		ND		753	41	ND	72	7	68	6
ND		777	79	13932	460		ND		193	33	ND		333	18	ND	38	4	80	5
ND		205	37	9844	253		ND		ND		40	13	26	5	ND	36	3	125	5
ND		278	58	8218	311		ND		ND		ND		25	7	ND	48	5	96	6
ND		257	61	12383	464		ND		ND		ND		35	7	ND	54	5	131	8
ND		187	39	14515	369		ND		89	23	ND		168	10	ND	104	5	55	3
29	5	325	10	10413	129	ND	ND		ND		18	3	49	3	ND	42.8	2	119	5
37	6	311	11	10555	133	ND	ND		ND		17	3	29	3	ND	36.7	1.9	118	5
48	7	237	10	9753	133	ND	ND		ND		24	4	29	3	ND	35	2	115	6
ND		303	58	11439	307	ND	ND		ND		ND		35	7	ND	43	4	129	6
ND		167	45	10190	323		ND		ND		ND		64	7	ND	24	3	72	4
ND		328	58	12176	411		ND		ND		ND		48	8	ND	42	4	125	7
ND		665	80	8608	331		ND		107	33	ND		27	8	ND	28	4	80	6
ND		387	62	8946	323		91	30	163	32	ND		54	7	ND	38	4	83	5

ND		ND		5399	209			ND		152	30	ND		53	7	ND		69	5	33	3
ND		ND		6908	217	ND		ND		ND		ND		56	8	ND		105	6	26	2
ND		ND		13784	523			ND		120	36	ND		139	13	ND		94	7	54	5
ND		ND		8455	249			ND		ND		ND		124	9	ND		71	4	57	4
ND		355	35	11209	173	ND		ND		ND		25	5	99	5	ND		44	3	94	5
55	7	374	13	11319	170	ND		ND		ND		17	4	64	4	ND		45	3	118	7
50	6	656	15	13127	155	ND		ND		ND		16	3	69	4	ND		49	2	114	5
57	7	271	11	10621	144	ND		ND		ND		16	4	55	4	ND		45	2	99	5
ND		525	80	13490	529			ND		ND		ND		185	16	ND		43	5	112	7
ND		867	157	147252	4091	ND		ND		ND		ND		796	41	ND		90	9	66	5
ND		254	67	9917	436			143	40	151	40	141	27	82	11	ND		33	5	190	11
ND		235	50	10994	357			ND		163	30	65	18	416	19	ND		57	4	91	5
ND		295	51	10527	260	ND		ND		ND		27	7	68	7	ND		36	4	190	6
28	6	493	13	14110	159	ND		ND		ND		38	4	67	4	ND		38.5	1.9	252	8
ND		ND		14224	1532			ND		ND		ND		ND		ND		ND		268	37
ND		557	16	15111	156	ND		25	7	ND		41	4	83	4	ND		43.9	1.9	269	8
38	6	490	12	12858	146	ND		ND		ND		39	4	46	3	ND		32.2	1.8	261	8
22	6	483	12	14801	159	ND		ND		ND		38	4	76	4	ND		39.5	1.9	264	8
33	6	415	12	12942	152	ND		ND		ND		39	4	44	3	ND		38	2	282	9
ND		286	56	11009	379			ND		ND		ND		35	6	ND		28	4	216	10
ND		418	83	15621	664			ND		ND		ND		151	16	ND		52	6	233	13
ND		ND		20145	1461			ND		ND		170	55	487	52	ND		35	9	117	15
ND		415	62	13310	439			ND		ND		ND		64	8	ND		33	4	221	10
ND		315	90	68341	2685			ND		ND		ND		866	46	ND		69	7	219	13
ND		ND		13110	461			ND		100	32	ND		165	13	ND		71	6	110	7
ND		405	56	12579	377			ND		ND		61	16	111	9	ND		49	4	264	10
ND		296	74	15908	665			ND		ND		ND		117	13	ND		61	6	221	13
ND		294	52	13992	426			97	28	94	28	65	17	90	9	ND		54	4	197	8
ND		ND		17661	679			ND		126	38	ND		151	15	ND		112	8	105	7
ND		ND		22011	711			ND		ND		ND		217	14	ND		79	6	57	4
ND		ND		18478	544			ND		ND		ND		246	14	ND		83	5	78	5
ND		161	50	14397	477			ND		ND		ND		171	13	ND		85	6	77	5
ND		163	48	17093	530			ND		ND		66	18	302	16	ND		89	6	97	6
ND		131	34	17735	301	ND		ND		ND		ND		116	7	ND		47	3	95	6
41	6	213	9	18047	188	ND		ND		14	5	20	3	180	5	ND		93	3	104	5
77	8	232	11	13258	198	ND		ND		22	6	ND		123	6	ND		57	3	114	7
60	5	181	7	11800	129	ND		ND		ND		16	3	162	5	ND		72	2	72	3
ND		250	61	12759	474			ND		126	35	65	21	42	8	ND		42	5	184	10
ND		205	62	16514	635			ND		ND		ND		112	12	ND		65	6	143	9
ND		ND		25271	891			ND		ND		ND		194	15	ND		72	6	147	8
ND		191	55	13152	479			ND		122	34	62	20	85	10	ND		54	5	116	7
39	7	160	9	18964	204	ND		ND		ND		14	3	102	4	ND		68	2	159	6
ND		164	9	18125	201	ND		ND		ND		21	4	101	4	ND		67	3	179	7
41	6	198	9	15683	177	ND		ND		ND		17	3	83	4	ND		61	2	163	6
23	6	176	9	20754	207	ND		29	8	ND		22	3	110	4	ND		72	2	190	7
31	6	264	10	17924	197	ND		ND		ND		24	4	98	4	ND		62	2	152	6

ND		226	51	14719	468		ND		ND		ND		53	7	ND	56	5	159	8
ND		257	59	15274	534		ND		ND		ND		42	9	ND	58	5	285	13
ND		188	46	12971	388		ND		ND		ND		83	8	ND	62	4	168	7
ND		199	44	11254	325		ND		ND		ND		50	7	ND	65	4	176	7
44	6	224	9	9905	132	ND	ND		ND		16	3	50	4	ND	45	2	143	6
63	7	259	11	10177	147	ND	ND		ND		18	4	47	4	ND	44	2	150	6
54	6	229	9	9763	124	ND	ND		ND		17	3	49	3	ND	47	2	138	6
ND		233	46	8763	276		ND		132	27	89	17	47	7	ND	47	4	92	5
ND		220	60	8726	356		ND		214	38	80	22	55	10	ND	52	5	65	5
55	8	387	13	25123	267	ND	ND		22	5	21	4	113	5	ND	116	3	185	7
56	7	306	11	20810	218	ND	ND		25	5	18	3	103	4	ND	102	3	180	7
77	7	486	13	20853	226	ND	ND		15	5	69	5	9	3	ND	47	2	398	12
39	7	328	11	21745	231	ND	ND		27	5	20	4	89	4	ND	136	3	164	7
77	8	450	14	16443	209	ND	ND		ND		58	5	ND		ND	40	2	349	12
ND		306	75	12890	432	ND	ND		ND		35	11	ND		ND	41	6	251	9
60	6	365	11	15848	178	ND	ND		ND		47	4	8	3	ND	42	2	285	10
38	7	484	13	19915	216	ND	29	9	19	5	53	5	15	3	ND	48	2	342	11
21	6	508	13	18754	201	ND	39	9	ND		63	5	14	3	ND	46	2	355	11
39	7	474	13	20514	210	ND	31	8	ND		52	4	12	3	ND	48	2	366	11
56	6	375	10	17029	184	ND	ND		ND		60	5	9	3	ND	43	2	290	10
42	6	360	11	20985	219	ND	ND		ND		59	5	13	3	ND	44	2	339	11
34	7	428	12	19919	208	ND	25	8	ND		59	5	11	3	ND	44	2	339	10
40	7	319	11	20225	223	ND	ND		18	5	46	5	71	4	ND	66	3	426	14
35	7	419	12	20403	215	ND	ND		ND		41	4	99	4	ND	66	2	421	12
24	7	417	13	24036	254	ND	ND		19	5	52	5	224	6	ND	89	3	241	9
45	8	335	13	18684	225	ND	ND		ND		34	4	186	6	ND	71	3	223	9
38	7	421	13	18930	211	ND	ND		16	5	61	5	15	3	ND	48	2	386	12
ND		ND		19543	1679		ND		ND		ND		ND		ND	70	14	372	39
37	6	403	12	16701	181	ND	38	8	16	5	59	5	17	3	ND	54	2	362	11
31	7	395	12	19842	219	ND	ND		ND		50	5	17	3	ND	49	2	363	12
46	7	361	12	17442	199	ND	ND		ND		41	4	25	3	ND	52	2	288	10
41	7	372	12	17905	192	ND	ND		18	5	50	4	28	3	ND	49	2	385	12
43	7	356	11	19592	206	ND	ND		ND		53	5	29	3	ND	59	2	360	11
35	7	417	13	20313	220	ND	ND		ND		52	5	45	3	ND	49	2	364	11
ND		ND		1850	191		ND		290	69	196	44	ND		ND	ND		90	10
ND		328	48	18506	483		ND		ND		ND		85	8	ND	64	4	448	13
ND		ND		17957	542		ND		ND		55	17	97	9	ND	55	5	479	16
ND		167	49	13102	434		ND		ND		ND		65	8	ND	48	4	339	13
ND		193	47	12897	407		ND		ND		ND		43	7	ND	72	5	308	12
ND		191	59	12464	502		ND		123	38	89	24	78	10	ND	62	6	272	14
ND		ND		15481	516		ND		132	32	ND		87	9	ND	67	5	200	9
ND		281	63	12458	475		ND		112	35	82	22	30	7	ND	41	5	285	13
ND		144	31	15191	245	ND	ND		ND		29	5	77	5	ND	61	3	358	11

ND		152	50	13397	461			ND		ND		ND		44	8	ND		56	5	309	13
ND		229	48	13058	394			ND		124	28	55	17	75	8	ND		58	4	326	12
ND		204	44	18801	497			ND		85	24	55	15	96	8	ND		63	4	336	11
ND		156	38	13917	351			ND		93	23	46	14	69	6	ND		47	3	445	13
ND		ND		5081	201			ND		113	29	57	18	22	6	ND		27	3	221	10
ND		ND		12382	436			ND		ND		ND		47	8	ND		39	4	386	15
ND		ND		16151	680			ND		ND		ND		68	11	ND		52	6	395	19
ND		215	61	10901	451			ND		ND		ND		23	7	ND		30	4	239	12
ND		243	57	20078	652			ND		ND		73	20	79	9	ND		52	5	566	20
ND		ND		9907	370			ND		137	34	ND		66	8	ND		36	4	278	12
ND		273	49	18458	514			ND		82	26	52	16	71	7	ND		62	4	451	14
ND		278	76	22915	948			ND		ND		ND		117	14	ND		59	7	407	20
ND		258	82	18347	859			ND		ND		ND		188	19	ND		61	8	321	19
ND		290	87	13170	668			ND		ND		ND		93	15	ND		41	6	309	19
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41	6	279	10	14577	162	ND		ND		ND		40	4	70	4	ND		52	2	603	16
27	7	298	11	20439	219	ND		ND		ND		48	5	94	4	ND		49	2	507	14
ND		298	61	26886	868			ND		ND		ND		308	18	ND		51	5	331	14
ND		380	72	15930	600			ND		ND		ND		68	9	ND		57	6	407	18
ND		ND		12162	516			ND		ND		ND		ND		ND		31	5	258	14
37	6	284	10	12593	142	ND		ND		ND		42	4	55	3	ND		50	2	340	10
28	6	345	11	17067	182	ND		30	8	ND		65	5	75	4	ND		78	3	373	11
39	6	306	10	18587	192	ND		ND		ND		59	5	105	4	ND		66	2	350	11
22	6	248	10	20666	214	ND		ND		ND		39	4	160	5	ND		59	2	289	9
ND		306	64	15310	554			ND		ND		ND		23	7	ND		46	5	336	15
37	8	289	13	16483	231	ND		ND		ND		44	5	28	4	ND		45	3	337	14
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46	7	317	11	18927	217	ND		ND		ND		45	5	34	3	ND		50	2	330	14
280915	51068	103364	19120	430234	77353			2234	659	3227	793	ND		ND		ND		ND		ND	
ND		260	53	16846	515			ND		ND		ND		52	7	ND		63	5	323	12
28	6	201	9	16837	190	ND		ND		ND		24	4	85	4	ND		60	2	313	10
44	5	199	8	13532	148	ND		ND		ND		24	3	72	4	ND		57	2	362	11
49	8	236	11	16018	199	ND		ND		ND		22	4	56	4	ND		70	3	430	14
40	5	266	9	10544	121	ND		ND		ND		36	4	33	3	ND		50	2	322	9
27	6	341	11	15385	167	ND		30	8	17	5	47	4	32	3	ND		51	2	350	10
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31	6	328	11	16264	173	ND		27	8	ND		39	4	40	3	ND		59	2	359	11
ND		ND		1047	190			ND		ND		ND		ND		ND		ND		ND	
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45	6	306	10	13478	158	ND		ND		ND		36	4	52	3	ND		55	2	384	12
32	6	278	10	17126	181	ND		ND		ND		41	4	53	3	ND		60	2	363	11
ND		ND		1621	121			ND		ND		ND		ND		ND		ND		69	6
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37	6	284	11	18742	220	ND		ND		ND		40	5	65	4	ND		62	3	365	14
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ND		ND		11319	448			ND		ND		ND		31	8	ND		46	5	290	14
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ND		ND		12063	537	ND		ND		ND		ND		96	15	ND		58	9	120	6
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ND		545	72	20136	652			ND		ND		ND		115	11	ND		56	5	154	8
ND		332	60	12560	333	ND		ND		ND		ND		64	8	ND		31	4	144	7
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31	6	439	12	12369	146	ND		ND		ND		16	3	64	4	ND		45	2	158	6
41	5	270	9	10592	124	ND		ND		14	4	19	3	55	3	ND		37	1.8	123	5
23	5	384	11	12091	143	ND		ND		ND		25	4	58	3	ND		43	2	138	5
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55	6	262	9	11953	142	ND		ND		ND		24	4	42	3	ND		45	2	142	6
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ND		ND		23581	776			ND		ND		ND		480	24	ND		101	7	90	6
ND		ND		19283	588			ND		ND		ND		506	22	ND		99	6	70	5
ND		ND		27251	1024			ND		125	40	78	24	816	40	ND		70	6	58	5
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ND		ND		25112	891			ND		ND		75	22	622	31	ND		74	6	54	5
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ND		ND		15278	812			ND		ND		ND		347	29	ND		53	7	40	6
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ND		ND		31451	1802			ND		ND		ND		1199	82	ND		55	9	66	9
ND		ND		27045	1242			ND		ND		ND		596	39	ND		91	9	78	8
ND		ND		15459	767			ND		ND		ND		435	32	ND		76	8	54	6
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ND		ND		19942	979			ND		187	52	ND		492	35	ND		49	7	59	7
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ND	ND		7906	450	ND		ND		ND		151	18	ND	29	5	34	5
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ND	ND		13804	647	ND		229	48	169	32	374	27	ND	63	7	53	6
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ND	ND		16402	777	ND		225	50	104	30	525	35	ND	76	8	40	5
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ND	ND		11860	538	ND		171	43	119	28	465	29	ND	63	7	31	4
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ND	ND		23809	1451	ND		535	87	184	46	414	40	ND	40	8	29	6
ND	ND		14856	763	ND		191	51	ND		373	30	ND	60	7	45	6
ND	ND		11348	472	115	37	240	42	166	28	344	22	ND	57	6	57	5
ND	ND		23026	1076	177	51	281	54	147	33	491	34	ND	40	6	42	5
ND	ND		14648	717	ND		144	47	ND		454	33	ND	74	8	62	7
ND	ND		21359	1087	ND		249	58	168	37	530	39	ND	42	7	52	7
ND	ND		41448	1683	ND		193	47	ND		1167	58	ND	72	7	72	7
ND	ND		21469	922	ND		169	44	ND		754	42	ND	81	8	64	6
ND	ND		19019	1139	ND		258	68	147	41	693	54	ND	63	9	51	8
ND	ND		36372	1417	157	44	325	51	177	31	3249	132	ND	31	5	43	5
ND	ND		27538	1053	ND		ND		ND		957	46	ND	70	7	80	6
ND	ND		30371	1461	ND		ND		ND		827	52	ND	77	9	78	8
ND	ND		28772	1140	ND		159	43	ND		976	48	ND	79	7	82	7
ND	ND		36403	1541	ND		139	46	ND		1068	56	ND	89	8	88	8
ND	ND		28485	1040	170	40	274	44	154	27	1045	47	ND	48	5	56	5
ND	755	117	12711	639	162	49	258	53	134	32	623	40	ND	56	7	45	6
ND	ND		152701	7411	ND		311	70	216	43	1829	104	ND	32	6	29	5
ND	ND		24837	1048	ND		180	45	85	27	850	46	ND	62	7	73	7
ND	ND		28602	1807	ND		ND		ND		749	63	ND	105	13	89	11
ND	311	90	49844	2126	ND		ND		ND		1471	74	ND	71	7	78	7
ND	ND		38067	1603	ND		ND		ND		1213	62	ND	90	8	72	7
ND	ND		26167	1048	ND		ND		ND		933	47	ND	73	7	88	7
ND	ND		41523	2258	ND		207	63	ND		1045	71	ND	60	9	47	7
ND	ND		26540	1541	ND		ND		ND		629	51	ND	43	8	48	7
ND	395	129	58389	3193	ND		ND		ND		1288	86	ND	100	12	59	8
ND	ND		21406	905	ND		158	43	ND		549	33	ND	76	7	66	6
ND	ND		29654	877	ND		ND		ND		970	36	ND	74	5	80	5
ND	ND		28727	1179	ND		ND		ND		874	46	ND	91	8	79	7
ND	ND		31746	1248	ND		ND		ND		1174	56	ND	85	8	79	7
ND	ND		23713	937	ND		165	42	ND		669	36	ND	103	8	67	6
ND	ND		28542	817	ND		129	30	75	18	1012	36	ND	77	5	71	5
ND	ND		20480	1155	ND		329	68	132	38	645	49	ND	78	10	46	7
ND	ND		79768	3835	ND		292	65	ND		2973	156	ND	57	8	51	7
ND	ND		30576	1282	ND		ND		ND		1024	53	ND	88	8	91	8
ND	ND		81971	5029	ND		ND		ND		1605	117	ND	116	15	101	12
ND	ND		26529	1002	ND		133	39	ND		768	38	ND	77	7	76	6

ND		ND		27369	1601			ND		ND		ND		938	69	ND		88	11	85	10
ND		363	118	35870	2035			ND		ND		ND		1079	75	ND		82	11	108	12
ND		ND		41325	1824			ND		ND		ND		1183	64	ND		100	9	126	10
ND		ND		59529	3529			ND		223	73	174	47	1312	95	ND		53	9	85	11
ND		ND		34416	1894			ND		ND		ND		892	63	ND		70	10	103	11
ND		ND		33658	2184			ND		ND		ND		789	68	ND		69	11	77	11
ND		ND		39854	1560			ND		ND		ND		1138	55	ND		79	7	98	8
ND		ND		25881	935			114	36	ND		ND		810	38	ND		86	7	83	6
ND		ND		27965	1247			ND		ND		90	29	860	49	ND		83	8	92	8
ND		ND		64675	2819			ND		ND		ND		1162	63	ND		57	7	64	7
ND		ND		75038	3038			ND		158	48	ND		1022	54	ND		66	7	60	6
ND		ND		34289	2165			ND		ND		ND		1040	82	ND		78	12	91	12
ND		ND		100481	4959			ND		ND		ND		3694	196	ND		92	10	98	10
ND		ND		76861	3897			ND		ND		112	37	1533	93	ND		93	11	54	7
ND		ND		25462	890			ND		128	35	ND		725	34	ND		76	6	84	6
ND		ND		34405	1476			ND		ND		ND		1019	55	ND		72	8	67	7
ND		ND		26469	1268			ND		ND		ND		1004	59	ND		72	8	103	9
ND		ND		45105	2270			ND		188	59	ND		941	61	ND		50	7	60	7
ND		ND		31266	1727			ND		ND		ND		772	57	ND		77	10	96	10
ND		276	75	21345	874			139	42	124	41	141	28	836	43	ND		73	7	68	6
ND		ND		93073	4101			ND		ND		144	34	2322	115	ND		70	8	71	7
ND		ND		25522	895			ND		129	36	ND		888	39	ND		82	6	76	6
ND		ND		28799	828			ND		120	29	ND		898	33	ND		104	6	95	5
ND		ND		28336	1166			ND		ND		ND		862	46	ND		102	9	91	7
ND		ND		28745	1438			ND		ND		ND		750	50	ND		97	10	95	9
ND		ND		28578	1079			ND		ND		ND		825	40	ND		102	8	93	7
ND		ND		19036	737			ND		129	37	92	24	592	31	ND		67	6	66	6
ND		ND		20079	673			ND		268	38	97	21	761	33	ND		64	5	86	6
ND		ND		25497	815			ND		ND		ND		776	32	ND		85	6	112	7
ND		ND		26526	802			ND		119	30	55	18	829	32	ND		82	6	93	6
ND		ND		30874	1237			ND		ND		ND		838	44	ND		85	8	99	8
ND		ND		18749	820			ND		164	44	83	26	711	40	ND		89	8	78	7
ND		ND		17681	610			ND		198	36	68	21	627	29	ND		61	5	75	5
ND		ND		24978	970			ND		140	40	ND		802	40	ND		92	8	77	6
ND		ND		75718	3907			ND		ND		ND		3756	206	ND		88	11	110	11
ND		214	62	15580	597			ND		166	38	128	25	405	25	ND		57	6	72	6
ND		ND		25321	948			ND		ND		ND		976	45	ND		88	7	80	6
38	8	145	10	28647	300	ND		29	9	ND		11	4	1144	16	ND		89	3	87	5
ND		ND		24425	382	ND		ND		34	8	22	6	303	11	ND		81	4	133	6
ND		ND		22347	877			ND		264	45	ND		194	17	ND		75	7	193	11
ND		ND		8754	396			ND		134	39	ND		254	22	ND		116	9	58	6
ND		345	80	19501	828			ND		ND		90	27	114	15	ND		82	8	222	13
ND		ND		7852	401			ND		188	45	89	28	65	11	ND		56	6	90	8
ND		ND		28098	968			ND		ND		ND		387	23	ND		98	7	158	9
ND		405	103	26019	1303			ND		190	56	115	34	149	20	ND		65	8	219	16
ND		ND		12021	498			ND		155	39	ND		175	18	ND		77	7	127	8
ND		747	115	2971	216			ND		255	52	153	33	ND		ND		20	4	57	7
ND		ND		14814	725			ND		ND		ND		142	17	ND		84	9	171	12
ND		656	78	14200	495			ND		152	34	70	20	160	14	ND		70	6	108	7

ND		275	75	36706	1380		ND		ND		ND		128	14	ND	76	7	137	9
ND		228	14	32600	325	ND	ND		66	7	40	4	122	5	ND	76	3	161	6
ND		321	101	23361	1213		ND		176	56	103	34	93	16	ND	67	9	147	12
ND		ND		26388	1057		ND		ND		ND		117	14	ND	59	6	175	11
ND		ND		13972	663		ND		166	46	ND		129	16	ND	57	7	130	10
ND		215	72	21966	904		ND		166	44	ND		245	22	ND	85	8	183	11
ND		ND		14587	882		ND		ND		ND		115	20	ND	61	9	113	12
ND		172	49	17736	543		ND		175	32	ND		200	13	ND	74	5	180	8
58	7	499	13	20995	225	ND	28	9	ND		59	5	12	3	ND	45	2	437	13
103	8	457	12	20342	220	ND	ND		ND		62	5	ND		ND	51	2	413	12
50	7	481	13	21168	230	ND	34	9	16	5	64	5	12	3	ND	49	2	448	14
102	8	464	12	20065	216	ND	32	9	ND		60	5	ND		ND	46	2	397	12
94	8	383	12	23298	246	ND	ND		20	5	27	4	96	4	ND	123	3	156	6
63	7	428	12	19088	214	ND	27	9	ND		52	5	ND		ND	43	2	404	13

Y	Y +/-	Zr	Zr +/-	Nb	Nb +/-	Mo	Mo +/-	Ag	Ag +/-	Cd	Cd +/-	Sn	Sn +/-	Sb	Sb +/-	W	W +/-	Hg	Hg +/-	Pb	Pb +/-
18	2	191	8	13	2	ND		ND		ND		ND		ND		ND		ND		20	3
ND		117	6	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		185	8	13	2	ND		ND		ND		ND		ND		ND		ND		11	3
ND		139	6	8	2	ND		ND		ND		ND		ND		ND		ND		10	3
12	2	126	6	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		204	7	8	2	ND		ND		ND		ND		ND		ND		ND		9	3
9.3	2	183	7	11	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		197	7	8.6	2	ND		ND		ND		ND		ND		ND		ND		28	3
ND		192	8	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
7	2	136	7	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		156	7	11	2	ND		ND		ND		ND		ND		ND		ND		26	4
8	2	197	8	ND		ND		ND		ND		ND		ND		ND		ND		11	3
8	2	197	8	9	2	ND		ND		ND		ND		ND		ND		ND		12	3
11	2	197	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7	2	247	9	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	215	9	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		143	17	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		125	6	ND		ND		ND		ND		ND		ND		ND		ND		16	3
9	2	132	7	8	2	ND		ND		ND		ND		ND		ND		ND		19	3
8	2	141	7	7	2	ND		ND		ND		ND		ND		ND		ND		16	3
6.4	1.9	153	7	8	2	ND		ND		ND		ND		ND		ND		ND		14	3
ND		150	8	ND		ND		ND		ND		ND		ND		ND		ND		15	3
ND		108	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		114	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	139	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		113	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10.8	1.9	128	5	7.1	1.8	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	135	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7	2	124	7	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
12	3	170	7	9	2	ND		ND		ND		ND		ND		ND		ND		14	3
9	3	173	8	14	3	ND		ND		ND		ND		ND		ND		ND		13	3
10	3	179	8	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
13	3	171	8	11	3	ND		ND		ND		ND		ND		ND		ND		11	3
10	2	146	6	6	2	ND		ND		ND		ND		ND		ND		ND		12	3
15	2	76	5	ND		ND		ND		ND		ND		ND		ND		ND		12	3
10	2	176	7	ND		ND		ND		ND		ND		ND		ND		ND		12	3
14	3	90	5	ND		ND		ND		ND		ND		ND		ND		ND		12	3
12	2	104	6	7	2	ND		ND		ND		ND		ND		ND		ND		11	3
18	3	161	7	12	3	ND		ND		ND		ND		ND		ND		ND		14	3
15	3	117	6	10	2	ND		ND		ND		ND		ND		ND		ND		13	3
19	3	184	8	9	3	ND		ND		ND		ND		ND		ND		ND		18	4

8.4	2	174	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
7.6	1.9	156	7	6.1	2	ND		ND		ND		ND		ND		ND		ND		16	3
25	3	82	5	9	2	ND		ND		ND		ND		ND		ND		ND		17	3
18	3	111	6	16	3	ND		ND		ND		ND		ND		ND		ND		14	3
8	2	158	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	2	199	8	ND		ND		ND		ND		ND		ND		ND		ND		10	3
10	2	209	9	9	2	ND		ND		ND		ND		ND		ND		ND		29	4
15	2	189	7	8	2	ND		ND		ND		ND		ND		ND		ND		31	4
10	2	187	8	10	2	ND		ND		ND		ND		ND		ND		ND		34	3
10	3	152	7	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	175	7	8	2	ND		ND		ND		ND		ND		ND		ND		15	3
12	3	194	8	13	3	ND		ND		ND		ND		ND		ND		ND		19	3
ND		117	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		115	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		91	6	ND		ND		39	10	ND		ND		ND		ND		ND		10	3
ND		97	9	ND		ND		ND		ND		ND		ND		ND		ND		40	7
ND		107	7	ND		ND		ND		ND		ND		ND		ND		ND		16	3
ND		76	5	ND		ND		ND		ND		ND		ND		ND		ND		55	4
14	3	114	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		69	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		105	7	ND		ND		ND		ND		ND		ND		ND		ND		39	5
10	2	152	7	ND		ND		ND		ND		ND		ND		ND		ND		9	3
6	2	124	6	ND		ND		ND		ND		ND		ND		ND		ND		17	3
ND		127	14	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	2	143	7	ND		ND		ND		ND		ND		ND		ND		ND		32	4
13	2	137	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7	2	151	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
15	2	174	7	11	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		171	7	8	2	ND		ND		ND		ND		ND		ND		ND		24	3
9	2	177	7	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
10	3	150	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		171	7	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	142	7	7	2	ND		34	9	ND		ND		ND		ND		ND		21	3
8	2	156	7	12	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		112	15	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		120	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	145	7	ND		ND		ND		ND		ND		ND		ND		ND		17	3
8.8	1.9	135	6	7	2	ND		ND		ND		ND		ND		ND		ND		20	3

21	3	275	11	11	3	ND	ND	ND	ND	ND	ND	ND	ND	
10	2	124	7	ND		ND	ND	ND	ND	ND	ND	ND	23	4
6	2	153	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
8.6	1.9	107	5	5.8	1.9	ND	ND	ND	ND	ND	ND	ND	ND	
ND		193	8	8	2	ND	ND	ND	ND	ND	ND	ND	13	3
13	2	146	6	ND		ND	ND	ND	ND	ND	ND	ND	28	3
14	2	191	8	10	2	ND	ND	ND	ND	ND	ND	ND	ND	
10	2	191	8	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
11	2	171	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
11	2	157	7	9	2	ND	ND	ND	ND	ND	ND	ND	ND	
9	2	174	8	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
11	2	170	8	8	2	ND	ND	ND	ND	ND	ND	ND	ND	
13	2	179	7	8	2	ND	ND	ND	ND	ND	ND	ND	17	3
20	3	238	9	11	2	ND	ND	ND	ND	ND	ND	ND	ND	
10	2	176	8	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
25	3	240	9	8	2	ND	ND	ND	ND	ND	ND	ND	ND	
21	3	209	8	9	2	ND	ND	ND	ND	ND	ND	ND	ND	
12	2	152	7	ND		ND	ND	ND	ND	ND	ND	ND	9	3
13	2	204	8	12	2	ND	ND	ND	ND	ND	ND	ND	9	3
17	2	203	8	7	2	ND	ND	ND	ND	ND	ND	ND	14	3
ND		169	38	ND		ND	ND	ND	ND	ND	ND	ND	ND	
14	2	181	7	7	2	ND	ND	ND	ND	ND	ND	ND	11	3
6.8	1.8	91	5	ND		ND	ND	ND	ND	ND	ND	ND	9	3
7	2	131	7	9	2	ND	ND	ND	ND	ND	ND	ND	10	3
7	1.7	106	5	ND		ND	ND	ND	ND	ND	ND	ND	ND	
9	2	111	5	6	2	ND	ND	ND	ND	ND	ND	ND	ND	
ND		71	4	5.9	1.9	ND	ND	ND	ND	ND	ND	ND	48	4
ND		162	9	ND		ND	ND	ND	ND	ND	ND	ND	15	4
ND		92	6	ND		ND	ND	ND	ND	ND	ND	ND	22	3
7.9	2	203	8	ND		ND	ND	ND	ND	ND	ND	ND	14	3
9	2	121	6	7	2	ND	ND	ND	ND	ND	ND	ND	24	3
12	3	193	9	10	2	ND	ND	ND	ND	ND	ND	ND	ND	
12	2	187	9	12	3	ND	ND	ND	ND	ND	ND	ND	18	4
10	2	115	6	10	2	ND	ND	ND	ND	ND	ND	ND	9	3
ND		131	6	10	2	ND	ND	ND	ND	ND	ND	ND	40	4
8	2	163	7	8	2	ND	ND	ND	ND	ND	ND	ND	12	3
12	2	183	7	ND		ND	ND	ND	ND	ND	ND	ND	14	3
9	2	165	7	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
11	2	188	8	9	2	ND	ND	ND	ND	ND	ND	ND	ND	
10	2	201	8	6	2	ND	ND	ND	ND	ND	ND	ND	ND	
8.5	2	187	8	7	2	ND	ND	ND	ND	ND	ND	ND	13	3
ND		165	9	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		144	8	8	2	ND	ND	ND	ND	ND	ND	ND	ND	
10	2	170	8	10	2	ND	ND	ND	ND	ND	ND	ND	ND	

8	2	163	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		128	10	13	4	ND		ND		ND		ND		ND		ND		ND		ND	
7	2	72	4	ND		ND		ND		ND		ND		ND		ND		ND		20	3
6.8	1.8	59	4	ND		ND		ND		ND		ND		ND		ND		ND		37	3
ND		51	4	ND		ND		35	9	ND		ND		ND		ND		ND		ND	
ND		59	4	ND		ND		33	9	ND		ND		ND		ND		ND		12	3
ND		136	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	3	170	8	ND		ND		ND		ND		ND		ND		ND		ND		17	3
ND		164	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	3	148	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		31	3	ND		ND		ND		ND		ND		ND		ND		ND		14	2
ND		51	3	ND		ND		ND		ND		ND		ND		ND		ND		23	3
ND		47	5	ND		ND		44	11	ND		ND		74	23	ND		ND		20	4
ND		76	6	ND		ND		34	11	ND		ND		ND		ND		ND		39	5
10	2	237	10	14	3	ND		ND		ND		ND		ND		ND		ND		10	3
15	3	383	14	11	3	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	274	11	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
13	2	315	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	2	159	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7.1	1.9	153	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		180	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	192	8	7	2	ND		ND		ND		ND		ND		ND		ND		10	3
ND		170	7	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
15	2	167	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	153	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	2	186	8	ND		ND		ND		ND		ND		ND		ND		ND		10	3
7	2	184	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	164	8	8	2	ND		ND		ND		ND		ND		ND		ND		9	3
6.4	1.9	164	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		181	10	11	3	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	184	8	ND		ND		ND		ND		ND		ND		ND		ND		9	3
6.6	2	163	7	9	2	ND		ND		ND		ND		ND		ND		ND		19	3
10	2	231	9	9	2	ND		ND		ND		ND		ND		ND		ND		19	3
9	1.9	125	6	6.3	1.9	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	116	7	9	2	ND		ND		ND		ND		ND		ND		ND		10	3
ND		104	9	ND		ND		61	16	ND		ND		ND		ND		ND		ND	
8	2	159	7	ND		ND		ND		ND		ND		ND		ND		ND		11	3
ND		68	6	ND		ND		ND		ND		ND		72	24	ND		ND		ND	
13	2	201	8	14	2	ND		ND		ND		ND		ND		ND		ND		18	3
ND		144	7	11	2	ND		ND		ND		ND		ND		ND		ND		ND	
12	3	183	7	ND		ND		ND		ND		ND		ND		ND		ND		12	3

13	2	231	9	15	3	ND	ND	ND	ND	ND	ND	ND	16	3
ND		120	6	ND		ND	ND	ND	ND	ND	ND	ND	11	3
6.8	1.8	153	6	8.7	2	ND	ND	ND	ND	ND	ND	ND	15	3
9.6	1.8	150	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
8	2	157	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
9	2	187	8	9	2	ND	ND	ND	ND	ND	ND	ND	ND	
8.2	1.9	183	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		167	7	ND		ND	ND	ND	ND	ND	ND	ND	10	3
ND		173	12	ND		ND	ND	ND	ND	ND	ND	ND	ND	
8	2	209	8	ND		ND	ND	ND	ND	ND	ND	ND	11	3
ND		178	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7.6	1.9	143	7	ND		ND	ND	ND	ND	ND	ND	ND	9	3
ND		137	7	9	2	ND	ND	ND	ND	ND	ND	ND	ND	
6.6	1.7	122	6	5.9	1.9	ND	ND	ND	ND	ND	ND	ND	10	3
ND		158	7	ND		ND	ND	ND	ND	ND	ND	ND	13	3
11	2	144	8	9	3	ND	ND	ND	ND	ND	ND	ND	ND	
ND		112	9	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		78	5	ND		ND	ND	ND	ND	ND	ND	ND	ND	
5.5	1.8	139	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
8	2	118	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7.5	1.9	134	6	6.2	2	ND	ND	ND	ND	ND	ND	ND	ND	
6.5	1.7	103	5	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		116	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
6.9	1.7	105	5	6.6	1.8	ND	ND	ND	ND	ND	ND	ND	ND	
7.4	1.9	95	5	ND		ND	ND	ND	ND	ND	ND	ND	9	3
10	2	143	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
9	2	149	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		126	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7	2	115	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
11	2	164	7	ND		ND	ND	ND	ND	ND	ND	ND	20	3
13	2	147	7	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
8	2	169	8	8	2	ND	ND	ND	ND	ND	ND	ND	10	3
7	2	120	6	ND		ND	ND	ND	ND	ND	ND	ND	22	3
10	2	126	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
9	3	135	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7	2	152	7	ND		ND	ND	ND	ND	ND	ND	ND	14	3
13	3	161	9	ND		ND	ND	ND	ND	ND	ND	ND	13	4
ND		153	7	9	2	ND	ND	ND	ND	ND	ND	ND	12	3
10	2	138	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		100	6	8	2	ND	ND	ND	ND	ND	ND	ND	14	4
11	3	159	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7	2	147	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
14	2	158	7	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
13	4	144	11	ND		ND	ND	ND	ND	ND	ND	ND	ND	

13	2	158	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	178	8	9	2	ND		ND		ND		ND		ND		ND		ND		12	3
13	3	175	10	12	3	ND		ND		ND		ND		ND		ND		ND		ND	
10	2	186	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9.8	1.9	105	5	5.9	1.9	ND		ND		ND		ND		ND		ND		ND		ND	
10	2	127	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	121	6	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
7	2	137	7	9	2	ND		ND		ND		ND		ND		ND		ND		12	3
7	2	103	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
18	3	165	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	2	209	9	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		171	7	15	2	ND		ND		ND		ND		ND		ND		ND		10	3
ND		173	7	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	149	6	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
11	2	110	5	6.1	1.9	ND		ND		ND		ND		ND		ND		ND		ND	
ND		175	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		117	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	2	144	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6	2	102	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6.7	2	79	5	ND		ND		ND		ND		ND		62	17	ND		ND		12	2
17	2	127	5	ND		ND		ND		ND		ND		59	18	ND		ND		ND	
10	3	123	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	125	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	2	105	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8.4	1.9	118	5	ND		ND		ND		ND		ND		ND		ND		ND		13	3
ND		112	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	127	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	130	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	3	135	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	3	114	7	ND		ND		37	11	ND		ND		ND		ND		ND		ND	
ND		93	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	2	125	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	2	104	6	6	2	ND		ND		ND		ND		ND		ND		ND		18	3
11	2	92	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	2	117	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
10	2	154	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	139	6	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	154	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	184	8	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	140	8	7	2	ND		ND		ND		ND		ND		ND		ND		ND	

ND		122	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	2	155	7	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		127	7	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		150	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	3	161	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	3	138	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	109	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		122	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		106	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	2	165	8	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
7.6	1.8	99	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	2	90	5	ND		ND		32	10	ND		ND		ND		ND		ND		ND	
10	2	115	5	7.7	2	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	158	7	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
11	3	131	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	3	97	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	115	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	3	130	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	4	113	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	3	118	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	3	122	7	9	3	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	169	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
18	3	154	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		171	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	139	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		196	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	181	9	11	3	ND		ND		ND		ND		ND		ND		ND		ND	
24	3	215	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
18	3	232	12	14	3	ND		ND		ND		ND		ND		ND		ND		ND	
5.9	2	146	7	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
7	2	170	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		143	10	16	4	ND		ND		ND		ND		ND		ND		ND		ND	
10	2	238	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	155	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	171	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	2	159	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	173	7	ND		ND		ND		ND		ND		ND		ND		ND		9	3
ND		123	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
18	3	167	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	2	154	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14.3	2	167	7	ND		ND		ND		ND		ND		ND		ND		ND		9	3
9.6	1.9	189	7	6.3	2	ND		ND		ND		ND		ND		ND		ND		ND	
9.9	1.8	148	6	7	1.9	ND		ND		ND		ND		ND		ND		ND		ND	
12	2	210	8	7	2	ND		ND		ND		ND		ND		ND		ND		15	3
9.6	2	174	7	9	2	ND		ND		ND		ND		ND		ND		ND		11	3
11	2	126	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11.7	2	148	7	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
10.8	1.9	154	7	ND		ND		ND		ND		ND		ND		ND		ND		11	3

10	2	94	6	ND		ND	ND	ND	ND	ND	ND	ND	21	3
11	2	118	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
12	2	114	6	ND		ND	ND	ND	ND	ND	ND	ND	11	3
7.9	1.8	180	7	5.9	2	ND	ND	ND	ND	ND	ND	ND	ND	
9.2	1.7	161	6	5.9	1.8	ND	ND	ND	ND	ND	ND	ND	ND	
ND		136	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
9	2	164	7	6	2	ND	ND	ND	ND	ND	ND	ND	ND	
13	2	211	9	9	2	ND	ND	ND	ND	ND	ND	ND	20	3
ND		137	6	ND		ND	ND	ND	ND	ND	ND	ND	11	3
13	2	211	9	11	2	ND	ND	ND	ND	ND	ND	ND	23	3
ND		134	6	9	2	ND	ND	ND	ND	ND	ND	ND	20	3
16	2	148	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		82	5	ND		ND	ND	ND	ND	ND	ND	ND	9	3
ND		89	5	ND		ND	ND	ND	ND	ND	ND	ND	ND	
15	2	177	7	ND		ND	ND	ND	ND	ND	ND	ND	10	3
10	2	172	7	ND		ND	ND	ND	ND	ND	ND	ND	13	3
14	2	157	7	ND		ND	ND	ND	ND	ND	ND	ND	10	3
17	3	158	9	ND		ND	ND	ND	ND	ND	ND	ND	ND	
15	3	139	9	ND		ND	ND	ND	ND	ND	ND	ND	ND	
16	2	175	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7	2	107	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
11	1.9	129	6	6	1.9	ND	ND	ND	ND	ND	ND	ND	41	3
19	2	192	7	ND		ND	ND	ND	ND	ND	ND	ND	9	3
8	2	180	8	11	3	ND	ND	ND	ND	ND	ND	ND	13	4
9.7	1.9	189	7	ND		ND	ND	ND	ND	ND	ND	ND	9	3
17	3	199	9	ND		ND	ND	ND	ND	ND	ND	ND	ND	
16	2	185	8	8	2	ND	ND	ND	ND	ND	ND	ND	9	3
13	3	172	9	9	3	ND	ND	ND	ND	ND	ND	ND	ND	
16	2	180	8	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
12	2	187	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
10	2	177	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7.5	1.8	170	7	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
9	2	181	8	9	2	ND	ND	ND	ND	ND	ND	ND	ND	
ND		224	23	ND		ND	ND	ND	ND	ND	ND	ND	ND	
11	2	215	8	8	2	ND	ND	ND	ND	ND	ND	ND	11	3
7.6	1.7	140	6	ND		ND	ND	ND	ND	ND	ND	ND	11	3
ND		162	26	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		126	6	8	2	ND	ND	ND	ND	ND	ND	ND	ND	
7.4	1.9	148	7	10	2	ND	ND	ND	ND	ND	ND	ND	ND	
8.2	1.8	127	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
13.3	1.9	146	6	8.2	2	ND	ND	ND	ND	ND	ND	ND	ND	
10.6	2	140	6	6	2	ND	ND	ND	ND	ND	ND	ND	ND	

12.4	2	163	7	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
17	2	161	7	10	2	ND		ND		ND		ND		ND		ND		ND		9	3
10	2	95	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
17	2	154	7	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
18	2	182	7	7	2	ND		ND		ND		ND		ND		ND		ND		9	3
14	2	153	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	123	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		145	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		144	7	ND		ND		ND		ND		ND		181	20	ND		ND		ND	
9.5	2	152	8	17	2	ND		ND		ND		ND		63	18	ND		ND		ND	
6.3	1.9	195	8	9	2	ND		ND		ND		ND		81	18	ND		ND		ND	
10	3	342	14	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
10	2	241	9	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
12	2	244	10	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		245	15	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	3	248	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	2	237	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
15	3	267	11	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
19	3	252	9	13	3	ND		ND		ND		ND		ND		ND		ND		ND	
15	2	207	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
15	3	254	13	12	3	ND		ND		ND		ND		ND		ND		ND		ND	
16	2	255	9	12	2	ND		ND		ND		ND		ND		ND		ND		16	4
8.5	2	159	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		240	8	8.3	2	ND		ND		ND		ND		ND		ND		ND		10	3
6	2	139	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		126	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		241	8	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		70	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6.3	2	62	4	ND		ND		ND		ND		ND		ND		ND		ND		13	3
26	3	238	9	12	2	ND		ND		ND		ND		ND		ND		16	4	ND	
18	2	191	7	10	2	ND		ND		ND		ND		90	19	ND		ND		ND	
23	2	271	9	13	2	ND		ND		ND		ND		ND		ND		14	4	ND	
23	3	247	9	13	3	ND		ND		ND		ND		ND		ND		ND		ND	
33	3	319	11	12	3	ND		ND		ND		ND		ND		ND		23	5	ND	
12	2	187	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	182	9	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
7	2	256	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	149	7	10	2	ND		ND		ND		ND		ND		ND		ND		12	3
10	2	172	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		169	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
8.9	1.9	148	6	6.2	1.9	ND		ND		ND		ND		ND		ND		ND		8	3
ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	148	7	ND		ND		ND		ND		ND		ND		ND		ND		13	3
6.8	1.9	172	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		128	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	3	124	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	2	167	7	ND		ND		ND		ND		ND		ND		ND		ND		12	3
ND		88	14	ND		ND		ND		ND		ND		ND		ND		ND		ND	

ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		150	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	3	174	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	192	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	3	257	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	332	12	8	2	ND		ND		ND		ND		ND		ND		ND		33	7
6.9	1.7	171	6	ND		ND		ND		ND		ND		ND		ND		ND		9	2
10	1.9	169	7	ND		ND		ND		ND		ND		ND		ND		ND		13	3
8.3	1.9	181	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		100	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		123	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	196	8	10	2	ND		ND		ND		ND		ND		ND		ND		10	3
ND		167	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	3	184	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8.6	2	241	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		127	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		198	8	ND		ND		ND		ND		ND		62	18	ND		ND		16	3
ND		143	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
6.6	1.9	148	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	180	8	6	2	ND		ND		ND		ND		ND		ND		ND		ND	
13	3	112	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	3	132	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	3	161	10	11	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		161	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		ND		ND		422	67	ND		ND		ND		ND		ND		ND		ND	
8.8	1.9	130	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		141	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6.6	1.9	190	7	6.1	2	ND		ND		ND		ND		ND		ND		ND		ND	
9	2	167	7	ND		ND		ND		ND		ND		ND		ND		ND		13	3
13	2	164	7	ND		ND		ND		ND		ND		ND		ND		ND		11	3
11	3	134	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6	2	159	7	ND		ND		ND		ND		ND		ND		ND		ND		12	3
ND		193	8	11	2	ND		ND		ND		ND		ND		ND		ND		11	3
9	2	260	9	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	198	8	9	2	ND		ND		ND		ND		ND		ND		ND		12	3
ND		132	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
5.8	1.9	141	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		147	29	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		152	7	13	2	ND		ND		ND		ND		ND		ND		ND		13	3
11	2	160	8	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		114	6	9	2	ND		ND		ND		ND		ND		ND		ND		ND	

6	2	218	9	8	2	ND	ND	ND	ND	ND	ND	ND	ND	
5.8	1.8	143	6	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
8	2	143	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7.1	1.9	131	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		121	20	ND		ND	ND	ND	ND	ND	ND	ND	ND	
6.7	1.8	117	6	ND		ND	ND	ND	ND	ND	ND	ND	11	3
9.4	2	177	7	7.3	2	ND	ND	ND	ND	ND	ND	ND	ND	
7.3	1.8	166	6	8.9	2	ND	ND	ND	ND	ND	ND	ND	ND	
ND		127	9	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		159	9	ND		ND	ND	ND	ND	ND	ND	ND	14	5
ND		163	8	7	2	ND	ND	ND	ND	ND	ND	ND	14	3
ND		ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	
7	2	153	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
8	2	151	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		121	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
6.4	1.9	124	6	6.6	2	ND	ND	ND	ND	ND	ND	ND	ND	
ND		153	8	9	3	ND	ND	ND	ND	ND	ND	ND	ND	
ND		155	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
7	2	148	7	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		155	7	8	2	ND	ND	ND	ND	ND	ND	ND	ND	
ND		137	22	ND		ND	ND	ND	ND	ND	ND	ND	ND	
13	2	189	8	8	2	ND	ND	ND	ND	ND	ND	ND	12	3
10	2	165	8	ND		ND	ND	ND	ND	ND	ND	ND	9	3
13	2	189	8	ND		ND	ND	ND	ND	ND	ND	ND	10	3
10	2	151	7	ND		ND	ND	ND	ND	ND	ND	ND	10	3
15	2	167	7	8	2	ND	ND	ND	ND	ND	ND	ND	ND	
8	2	189	8	7	2	ND	ND	ND	ND	ND	ND	ND	ND	
15	4	116	9	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		55	5	ND		ND	ND	ND	ND	ND	ND	ND	ND	
13.5	2	72	4	ND		ND	ND	ND	ND	ND	ND	ND	27	5
10	3	73	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
12	3	106	8	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		54	4	ND		ND	ND	ND	ND	ND	ND	ND	27	5
ND		75	5	ND		ND	ND	ND	ND	ND	ND	ND	19	3
6.6	1.9	89	5	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		79	5	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		107	6	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		35	4	ND		ND	ND	ND	ND	ND	ND	ND	ND	
8	3	139	8	9	3	ND	ND	ND	ND	ND	ND	ND	ND	
8	3	66	6	ND		ND	ND	ND	ND	ND	ND	ND	39	8
ND		90	6	9	3	ND	ND	ND	ND	ND	ND	ND	ND	

ND		59	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		76	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		78	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	85	5	ND		ND		ND		ND		ND		ND		ND		ND		15	5
ND		104	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		111	7	ND		ND		ND		ND		ND		ND		ND		ND		11	3
ND		117	6	ND		ND		ND		ND		ND		ND		ND		ND		9	3
7.3	1.9	91	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	3	91	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	3	82	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		115	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		70	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8.2	1.7	112	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		136	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		133	26	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7.7	1.9	157	7	5.8	1.9	ND		ND		ND		ND		ND		ND		ND		11	3
ND		162	7	ND		ND		ND		ND		ND		ND		ND		ND		8	3
9.9	2	165	7	7	2	ND		ND		ND		ND		ND		ND		ND		13	3
8.2	2	164	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		150	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	4	134	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		80	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		157	9	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		158	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		112	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		88	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
15	4	214	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		109	7	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		208	12	ND		ND		ND		ND		ND		ND		ND		ND		27	9
ND		61	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		77	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		96	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		145	8	9	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		88	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		123	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		103	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		83	4	ND		ND		ND		ND		ND		ND		ND		ND		8	2
ND		108	8	11	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		109	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		126	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		71	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	112	6	7	2	ND		ND		ND		ND		ND		ND		ND		9	3
12	2	144	6	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	114	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		133	6	ND		ND		ND		ND		ND		ND		ND		ND		9	3
7	2	134	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	

13	3	117	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		208	11	9	3	ND		ND		ND		ND		ND		ND		ND		26	8
9	2	120	7	ND		ND		35	10	ND		ND		ND		ND		ND		ND	
10	2	137	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
8	2	114	6	ND		ND		ND		ND		ND		ND		ND		ND		11	3
ND		87	5	9	2	ND		ND		ND		ND		ND		ND		ND		ND	
7.5	2	122	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	109	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	64	6	ND		ND		ND		ND		ND		ND		ND		ND		26	8
ND		146	7	10	2	ND		ND		ND		ND		ND		ND		ND		13	3
ND		158	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	2	214	9	ND		ND		ND		ND		ND		ND		ND		ND		22	3
10	3	166	7	11	2	ND		ND		ND		ND		ND		ND		ND		ND	
13	2	173	8	8	2	ND		ND		ND		ND		ND		ND		ND		23	4
ND		152	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	2	163	8	ND		ND		ND		ND		ND		ND		ND		ND		13	3
12	2	214	8	8	2	ND		ND		ND		ND		ND		ND		ND		13	3
13	2	202	8	10	2	ND		ND		ND		ND		ND		ND		ND		11	3
12	2	187	8	9	2	ND		ND		ND		ND		ND		ND		ND		11	3
10	2	145	7	ND		ND		ND		ND		ND		ND		ND		ND		16	3
11	2	171	7	ND		ND		ND		ND		ND		ND		ND		ND		10	3
8	2	187	8	ND		ND		ND		ND		ND		ND		ND		ND		10	3
10	3	194	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		188	8	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
13	3	191	8	11	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		159	8	8	3	ND		ND		ND		ND		ND		ND		ND		11	3
9	2	192	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		228	30	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	199	8	10	2	ND		ND		ND		ND		ND		ND		ND		9	3
9	2	156	8	10	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		145	7	9	2	ND		ND		ND		ND		ND		ND		ND		11	3
11	2	177	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	184	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	2	222	9	ND		ND		ND		ND		ND		ND		ND		ND		13	3
ND		29	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7	2	195	8	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		195	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		208	10	9	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		122	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		103	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		162	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	3	136	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		148	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	

ND		117	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		150	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	181	8	ND		ND		ND		ND		ND		ND		ND		ND		22	6
ND		130	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		56	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		102	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		167	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		68	7	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
11	3	198	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		131	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	176	8	11	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		170	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		200	15	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		135	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		103	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	2	132	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7	2	136	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	171	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		119	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		104	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6.6	1.9	132	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	2	193	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		189	8	ND		ND		ND		ND		ND		ND		ND		ND		9	3
7	2	168	7	ND		ND		ND		ND		ND		ND		ND		ND		11	3
ND		162	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		147	9	11	3	ND		ND		ND		ND		ND		ND		ND		ND	
10	3	158	10	ND		ND		ND		ND		ND		ND		ND		ND		12	4
ND		180	10	ND		ND		ND		ND		ND		ND		ND		ND		10	3
ND		ND		ND		118	36	ND		ND		ND		ND		ND		ND		ND	
ND		139	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		134	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		125	6	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		185	9	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		155	6	8.1	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		186	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	162	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		165	9	8	3	ND		ND		ND		ND		ND		ND		ND		ND	
10	2	206	8	ND		ND		ND		ND		ND		ND		ND		ND		10	3
ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
9	2	142	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7	2	157	7	ND		ND		ND		ND		ND		ND		ND		ND		9	3
ND		165	7	9	2	ND		ND		ND		ND		ND		ND		ND		16	3
ND		25	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		165	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	3	188	10	9	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		140	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	

ND		89	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	3	205	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		118	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	3	109	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		127	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		150	7	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		128	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		120	7	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
7.4	1.9	118	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
6.2	1.9	140	6	ND		ND		ND		ND		ND		ND		ND		ND		9	3
ND		105	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6.3	2	163	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
6.3	1.9	113	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
7.2	1.9	121	6	8	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		136	6	6.5	2	ND		ND		ND		ND		ND		ND		ND		9	3
9	3	84	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		99	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		130	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	3	96	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
19	4	78	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
10	3	93	6	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		63	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
26	3	88	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
16	3	100	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
17	3	116	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		77	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		68	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	104	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
11	2	117	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		133	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
8	2	97	5	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		61	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		81	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		78	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		75	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		77	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		60	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		104	8	10	3	ND		ND		ND		ND		ND		ND		ND		ND	
ND		116	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		98	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		116	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		82	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		66	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		104	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		93	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		72	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	4	61	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		106	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	

68	7	17	5	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		71	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		92	9	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		105	11	ND		ND		ND		ND		ND		ND		ND		ND		ND
25	5	92	8	13	4	ND		ND		ND		ND		ND		ND		ND		ND
25	7	91	12	ND		ND		ND		ND		ND		151	47	ND		ND		ND
ND		74	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
15	4	87	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
19	4	125	9	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		84	9	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		78	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		64	7	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		65	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		39	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		81	9	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		79	7	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		78	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
15	5	137	11	ND		ND		ND		ND		ND		ND		ND		ND		ND
14	4	107	11	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		78	8	ND		ND		ND		ND		ND		104	32	ND		ND		ND
ND		75	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
18	6	87	11	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		36	5	ND		ND		ND		ND		ND		ND		ND		ND		ND
20	4	105	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
16	5	105	10	ND		ND		ND		ND		ND		ND		ND		ND		ND
17	4	101	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
22	5	129	10	ND		ND		ND		ND		ND		ND		ND		ND		ND
9	3	65	6	ND		ND		ND		ND		ND		ND		ND		ND		ND
15	4	73	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		65	9	ND		ND		ND		ND		ND		ND		ND		ND		ND
14	4	92	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		119	14	ND		ND		ND		ND		ND		ND		ND		ND		ND
15	4	74	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
27	5	82	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		77	7	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		76	10	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		83	11	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		125	13	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		100	9	ND		ND		ND		ND		ND		ND		ND		ND		ND
18	3	102	6	ND		ND		ND		ND		ND		ND		ND		ND		ND
18	4	89	8	ND		ND		ND		ND		ND		99	30	ND		ND		ND
15	4	82	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		108	8	ND		ND		ND		ND		ND		ND		ND		ND		ND
11	3	87	6	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		89	11	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		82	10	ND		ND		ND		ND		ND		ND		ND		ND		ND
21	5	118	10	ND		ND		ND		ND		ND		ND		ND		ND		ND
ND		125	16	ND		ND		ND		ND		ND		ND		ND		ND		ND
14	4	94	8	ND		ND		ND		ND		ND		ND		ND		ND		ND

ND		127	14	ND		ND		ND		ND		ND		ND		ND		ND		ND	
26	7	145	15	ND		ND		ND		ND		121	40	ND		ND		ND		ND	
31	6	139	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
24	7	96	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
18	6	93	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		133	16	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		132	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	4	93	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
16	5	110	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		73	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		85	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
27	7	124	15	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		130	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		122	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	95	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		79	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
17	5	109	11	ND		ND		ND		ND		ND		ND		ND		ND		ND	
30	6	73	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
22	6	98	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
15	4	85	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		82	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	3	91	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
21	3	133	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
23	5	94	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
21	6	119	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
20	4	128	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
15	4	82	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		94	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
12	3	100	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
19	3	107	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
25	5	110	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		84	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
13	3	84	6	ND		ND		ND		ND		ND		ND		ND		ND		ND	
16	4	113	9	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		112	12	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		78	7	ND		ND		ND		ND		ND		ND		ND		ND		59	10
19	4	94	8	ND		ND		ND		ND		ND		ND		ND		ND		ND	
14	3	121	6	7	2	ND		ND		ND		ND		ND		ND		ND		ND	
ND		140	7	ND		ND		ND		ND		ND		ND		ND		ND		18	5
ND		136	10	ND		ND		ND		ND		ND		ND		ND		ND		ND	
22	5	312	16	ND		ND		ND		ND		ND		ND		ND		ND		86	13
ND		139	11	ND		ND		ND		ND		ND		ND		ND		ND		46	11
ND		46	7	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		198	11	ND		ND		ND		ND		ND		ND		ND		ND		40	9
ND		197	16	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		158	10	ND		ND		ND		ND		ND		ND		ND		ND		76	12
ND		36	6	ND		ND		ND		ND		ND		ND		ND		ND		53	13
19	5	176	13	ND		ND		ND		ND		ND		ND		ND		ND		ND	
ND		87	7	ND		ND		ND		ND		ND		246	27	ND		ND		57	9

17	4	148	10	ND		ND	ND	ND	ND	ND	ND	ND	ND	
11	2	148	7	11	2	ND	ND	ND	ND	ND	ND	ND	21	3
ND		150	14	ND		ND	ND	ND	ND	ND	ND	ND	ND	
20	4	149	11	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		122	11	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		184	12	ND		ND	ND	ND	ND	ND	ND	ND	96	15
55	8	127	14	ND		ND	ND	ND	ND	ND	ND	ND	ND	
ND		252	11	13	3	ND	ND	ND	ND	ND	ND	ND	33	7
13	2	206	9	11	2	ND	ND	ND	ND	ND	ND	ND	19	3
14	2	215	9	12	2	ND	ND	ND	ND	ND	ND	ND	19	3
17	3	214	9	9	2	ND	ND	ND	ND	ND	ND	ND	18	3
13	2	202	8	9	2	ND	ND	ND	ND	ND	ND	ND	18	3
ND		271	10	12	2	ND	ND	ND	ND	ND	ND	ND	13	3
12	2	187	8	ND		ND	ND	ND	ND	ND	ND	ND	20	3

Bi	Bi +/-	Th	Th +/-	U	U +/-	Pass/Fail	Pass/Fail G	Pass/Fail N	Pass/Fail C	Best Match	Best Match	2nd Match	2nd Match	Live Time 1	Live Time 2	Live Time 3	Live Time T	Instrument	Model	Tube Anod	Unit
								0	0		0		0	13.1			13.1	543189	Delta Profe	Rh	%
ND		ND		ND		PASS					0		0	9.41	9	8.8	27.21	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.41	8.95	8.9	27.25	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.37	8.9	8.58	26.85	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.37	8.91	8.7	26.97	543189	Delta Profe	Rh	PPM
								0	0		0		0	13.09			13.09	543189	Delta Profe	Rh	%
ND		ND		ND		PASS					0		0	9.35	8.87	8.9	27.12	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.29	8.74	8.87	26.91	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.31	8.79	8.91	27	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.28	8.77	8.88	26.93	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.36	8.88		18.24	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.52	9.08	9.07	27.67	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.36	8.97	9.12	27.45	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.34	8.87	9.04	27.25	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.29	8.84	8.96	27.09	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.44	9.1	9.15	27.69	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.32	8.89	9.01	27.22	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.36	8.93	8.99	27.28	543189	Delta Profe	Rh	PPM
						PASS					0		0					543189	Delta Profe	Rh	PPM
						PASS					0		0					543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	1.86			1.86	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.41	8.98	8.91	27.31	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.41	8.97	8.86	27.24	543189	Delta Profe	Rh	PPM
								0	0		0		0	13.07			13.07	543189	Delta Profe	Rh	%
ND		ND		ND		PASS					0		0	9.38	8.95	8.94	27.27	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.37	8.92	8.89	27.19	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.43	9.09	9.16	27.68	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.36	8.85	8.96	27.17	543189	Delta Profe	Rh	PPM
						PASS					0		0					543189	Delta Profe	Rh	PPM
								0	0		0		0	13.08			13.08	543189	Delta Profe	Rh	%
ND		ND		ND		PASS					0		0	9.49	9.17	9.28	27.94	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.49	9.13	9.24	27.86	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.6	9.4	9.48	28.48	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.27	8.74	8.82	26.83	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.34	8.94	9.16	27.44	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.47	9	8.95	27.42	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.4	8.99	8.82	27.22	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.39	8.95	8.77	27.11	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.41	8.99	8.73	27.13	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.38	8.91	8.75	27.04	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.37	8.95	8.9	27.22	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.42	9.01	9.03	27.45	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.26	8.69	8.78	26.73	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.41	9.04	8.99	27.44	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.4	8.96	9	27.35	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.37	8.87	8.91	27.15	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.36	8.84		18.2	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.44	9.04	8.84	27.32	543189	Delta Profe	Rh	PPM

ND			ND	PASS			0	0	9.31	8.81	8.93	27.05	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.36	8.91	8.86	27.13	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.4	8.97	8.8	27.16	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.45	9.03	8.86	27.34	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.36	8.84	8.91	27.12	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.31	8.84	8.84	26.98	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.47	8.93	9.02	27.42	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.34	8.88	8.89	27.11	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.35	8.86	8.85	27.06	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.39	8.92	8.75	27.05	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.37	8.93	8.8	27.09	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.41	8.97	8.77	27.15	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.52	9.18	9.15	27.85	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.4	8.96	8.82	27.18	543189	Delta Profe	Rh	PPM
					0	0	0	0	13.02			13.02	543189	Delta Profe	Rh	%
				PASS			0	0					543189	Delta Profe	Rh	PPM
				PASS			0	0	0.33			0.33	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.41	9.07	9.19	27.67	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.65	9.5	9.57	28.73	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.46	9.03	9.12	27.6	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.35	8.95	9.14	27.44	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.56	9.22	9.32	28.1	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.63	9.49	9.6	28.71	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.54	9.23	9.21	27.98	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.41	8.97	9	27.38	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.36	8.89	8.93	27.18	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	1.85			1.85	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.36	8.92	8.98	27.26	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.36	9.12	9.14	27.61	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.37	8.92	8.95	27.24	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.33	8.88	8.92	27.13	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.36	8.93	8.96	27.25	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.33	8.86	9.08	27.28	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.4	8.87	8.93	27.2	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.36	8.93	8.99	27.28	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.37	8.96	8.95	27.28	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0	9.43			9.43	543189	Delta Profe	Rh	PPM
				PASS			0	0					543189	Delta Profe	Rh	%
ND			ND	PASS			0	0	2.03			2.03	543189	Delta Profe	Rh	PPM
ND			ND	PASS			0	0					543189	Delta Profe	Rh	PPM
ND	66	22	ND	PASS			0	0	9.43	9.06	9.07	27.56	543189	Delta Profe	Rh	PPM
				PASS			0	0					543189	Delta Profe	Rh	PPM
					0	0	0	0	13.16			13.16	543189	Delta Profe	Rh	%
				PASS			0	0					543189	Delta Profe	Rh	%
ND			ND	PASS			0	0	9.37	8.85	8.95	27.17	543189	Delta Profe	Rh	PPM
				PASS			0	0					543189	Delta Profe	Rh	%
					0	0	0	0	6.36			6.36	543189	Delta Profe	Rh	%
					0	0	0	0	6.23			6.23	543189	Delta Profe	Rh	%
					0	0	0	0	13.01			13.01	543189	Delta Profe	Rh	%

ND	ND			ND	PASS			0	0	9.41	8.98	8.98	27.37	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.43	9.04	9.17	27.64	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.41	9.05	9.11	27.56	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.34	8.9	8.99	27.24	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.4	9.06	9.2	27.66	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.33	8.78	8.78	26.89	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.41	9.04	9.12	27.56	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.42	9.06	8.93	27.41	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.42	9	8.99	27.42	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.38	9.06	9	27.44	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.41	8.94	8.96	27.32	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.39	8.9	8.8	27.1	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.34	8.84	8.86	27.04	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.29	8.82	8.92	27.03	543189	Delta Profe	Rh	PPM
ND		84	24	ND	PASS			0	0	9.45	9.11	9.17	27.73	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.38	8.94	8.86	27.19	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.34	8.89	8.96	27.18	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.37	8.94	8.98	27.3	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.36	8.86	8.92	27.13	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.36	8.9	8.95	27.2	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	0.35			0.35	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.33	8.83	8.88	27.04	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.46	8.99	8.96	27.41	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.44	8.99	8.89	27.32	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.33	8.8	8.77	26.89	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.38	8.92	8.79	27.09	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.28	8.87	9.07	27.21	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.5	9.14	9.13	27.77	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.41	9.01	9.31	27.72	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.31	8.78	8.77	26.86	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.37	8.91	8.95	27.24	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.4	9.01	9.04	27.45	543189	Delta Profe	Rh	PPM
						0	0	0	0	12.99			12.99	543189	Delta Profe	Rh	%
ND	ND			ND	PASS			0	0	9.46	9.14	9.08	27.68	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.36	8.89	8.8	27.05	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.39	8.9	8.65	26.95	543189	Delta Profe	Rh	PPM
						0	0	0	0	6.24			6.24	543189	Delta Profe	Rh	%
						0	0	0	0	13.08			13.08	543189	Delta Profe	Rh	%
ND	ND			ND	PASS			0	0	9.38	8.88	8.98	27.24	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.32	8.82	8.96	27.1	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.32	8.85	8.91	27.09	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.41	8.93	9.01	27.35	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.38	8.82	8.84	27.03	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.4	8.92	8.79	27.11	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.44	9.12	9.24	27.8	543189	Delta Profe	Rh	PPM
ND	ND			ND	PASS			0	0	9.46	8.84	9.06	27.36	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	%
ND	ND			ND	PASS			0	0	9.38	8.96	8.81	27.16	543189	Delta Profe	Rh	PPM

ND		ND		ND	PASS			0	0	9.41	8.97	8.92	27.3	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.58	9.43	9.58	28.59	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.37	8.91	8.91	27.18	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.3	8.81	8.83	26.94	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.35	8.89	8.82	27.06	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.4	8.9	8.72	27.02	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.4	9.01	8.95	27.35	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.42	9.03	9.1	27.55	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.57	9.31	9.43	28.3	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.44	9.18	9.31	27.93	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.42	8.94	8.95	27.31	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.39	8.97	9.07	27.44	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.52	9.24	9.11	27.88	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.55	9.3	9.39	28.24	543189	Delta Profe	Rh	PPM
						0	0	0	0	12.95			12.95	543189	Delta Profe	Rh	%
ND		ND		ND	PASS			0	0	9.4	8.95	8.92	27.26	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	8.56			8.56	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.4	8.93	8.86	27.18	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.36	8.92	8.92	27.21	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.33	8.88	8.98	27.19	543189	Delta Profe	Rh	PPM
31	9	ND		ND	PASS			0	0	9.35	8.92	8.92	27.19	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.47	8.98	8.95	27.4	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.33	8.89	8.91	27.13	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.33	8.91	8.89	27.14	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.32	8.84	8.86	27.02	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.41	8.95	8.99	27.36	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.31	8.81	8.88	27	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.45	9.11	9.19	27.75	543189	Delta Profe	Rh	PPM
					PASS			0	0					543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.41	9.04	9.04	27.49	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.35	8.87	8.89	27.12	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.5	9.14	9.24	27.88	543189	Delta Profe	Rh	PPM
ND		75	21	ND	PASS			0	0	9.36	8.88	8.95	27.19	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.33	8.82	8.89	27.04	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.38	8.85	8.95	27.18	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.35	8.85	8.85	27.05	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.43	9.02	9.1	27.56	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.58	9.44	9.43	28.45	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.36	9.02	9.18	27.57	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.49	9.2	9.37	28.06	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.38	8.95	8.74	27.07	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.37	8.88	8.67	26.92	543189	Delta Profe	Rh	PPM
ND		ND		ND	PASS			0	0	9.36	8.89	8.69	26.95	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS			0	0	9.41	8.98	8.77	27.16	543189	Delta Profe	Rh	PPM
				0	0	0	0	13.01			13.01	543189	Delta Profe	Rh	%
			PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.83	8.95	27.1	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.27	8.62	8.76	26.65	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3	8.76	8.83	26.88	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	8.99	9.11	27.5	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.29	8.78	8.86	26.93	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.83	8.88	27.05	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.88	8.87	27.13	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.63	9.45	9.5	28.59	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.84	8.98	27.14	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	9.01		18.42	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.92	9.05	27.31	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.85	8.91	27.09	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.82	8.73	26.9	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.94	8.9	27.22	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.47	9.14	9.16	27.77	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.62	9.37	9.43	28.43	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.99	9.25	27.61	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.25	8.78	9.22	27.25	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	9.01	9.22	27.64	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.92	8.97	27.25	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.85	8.93	27.13	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.4	8.99	9.13	27.52	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.27	8.75	8.95	26.97	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3	8.8	8.89	26.99	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.41	8.98	9.19	27.59	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	9.05	9.31	27.77	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.9	9.33	27.55	543189	Delta Profe	Rh	PPM
				0	0	0	0	13.01			13.01	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.4	9.09	9.22	27.71	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3	8.77	8.82	26.9	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.83	9.07	27.26	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.4	8.95	8.97	27.33	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.77	8.84	26.96	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.43	9.1	9.18	27.71	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.89	9.14	27.37	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.9	9.27	27.52	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.54	9.21	9.26	28.01	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.87	9.07	27.29	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	9	9.2	27.6	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	9.12	9.42	27.9	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	9.11	9.25	27.79	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.92	9.08	27.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.96	9.3	27.59	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.63	9.48	9.58	28.69	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	PPM

						PASS					0		0					543189	Delta Profe	Rh	%
						PASS					0		0					543189	Delta Profe	Rh	PPM
						PASS					0		0					543189	Delta Profe	Rh	%
						PASS					0		0					543189	Delta Profe	Rh	%
						PASS					0		0					543189	Delta Profe	Rh	%
						PASS					0		0					543189	Delta Profe	Rh	%
								0	0		0		0	13.09			13.09	543189	Delta Profe	Rh	%
ND		ND		ND		PASS					0		0	9.38	8.97	8.93	27.29	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.39	9.02	9.13	27.54	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.53	9.27	9.23	28.03	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.39	9.01	9.06	27.45	543189	Delta Profe	Rh	PPM
						PASS					0		0					543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.35	8.87	8.75	26.97	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.46	9.39		18.84	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.38	8.93	8.92	27.22	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.39	8.94	8.91	27.24	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.43	9.11	9.1	27.64	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.5	9.23	9.24	27.97	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.34	8.94	8.96	27.24	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.26	8.82	8.9	26.99	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.34	8.91	9.02	27.27	543189	Delta Profe	Rh	PPM
						PASS					0		0					543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.32	8.85	8.89	27.06	543189	Delta Profe	Rh	PPM
30	8	ND		ND		PASS					0		0	9.27	8.75	9.02	27.05	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.3	8.8	8.79	26.88	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.29	8.76	8.9	26.96	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.28	8.8	8.9	26.98	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.36	8.91	9.13	27.41	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.37	8.7	8.73	26.79	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.2	8.68	8.93	26.81	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.47			9.47	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.4	9.07	9.15	27.61	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.41	8.98	9.19	27.58	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.26	8.76	8.99	27	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.5	9.15	9.28	27.93	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.42	9	9.08	27.5	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.28	8.79	8.98	27.05	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0					543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.54	9.25	9.13	27.91	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.46	9.14	9.24	27.85	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.29	8.74	8.97	27.01	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.36	8.96	9.2	27.51	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.26	8.79	9.11	27.15	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.32	8.77	8.96	27.04	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.24	8.74	8.94	26.93	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.34	8.88	9.08	27.29	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.37	8.91	8.92	27.19	543189	Delta Profe	Rh	PPM
ND			71	23	ND	PASS					0		0	9.42	9.01	9.17	27.59	543189	Delta Profe	Rh	PPM
ND		ND		ND		PASS					0		0	9.46	9.1	9.26	27.82	543189	Delta Profe	Rh	PPM

ND		ND	ND	PASS	0	0	9.5	9.25	9.25	28	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.4	8.9	9.08	27.38	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.4			9.4	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.38	2.74		12.11	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.4			9.4	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	8.95			8.95	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	8.59			8.59	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	7.08			7.08	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.41			9.41	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.42	1.79		11.21	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.31	0.85		10.16	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.41	2.76		12.16	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.28			9.28	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	7.88			7.88	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	6.33			6.33	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	5.91			5.91	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	4.87			4.87	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	4.37			4.37	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	3.31			3.31	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	4.92			4.92	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	5.35			5.35	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	6.87			6.87	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	3.83			3.83	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	4.92			4.92	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	4.9			4.9	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	4.35			4.35	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	6.41			6.41	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	6.5			6.5	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	4.41			4.41	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	7.97			7.97	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.42			9.42	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.11			9.11	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.48	9.12	9.09	27.69	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.33	8.89	8.92	27.13	543189	Delta Profe	Rh	PPM
27	8	ND	ND	PASS	0	0	9.27	8.74	8.79	26.8	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.66			9.66	543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.52	9.2	9.22	27.94	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.33	8.89	8.91	27.13	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.31	8.8	8.78	26.89	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.3	8.79	8.7	26.8	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.27	8.71	8.72	26.7	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.38	8.93	8.99	27.3	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.33	8.85	8.92	27.1	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.36	8.93	8.99	27.28	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.36	8.92	8.94	27.23	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.33	8.83	8.94	27.1	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS			0	0	9.46	9.14	9.18	27.77	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.48	9.45	9.42	28.35	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	8.95	8.99	27.32	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.95	8.91	27.23	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.73	8.74	26.78	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.45	9.01	8.94	27.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.86	8.98	27.17	543189	Delta Profe	Rh	PPM
				0	0	0	0	13			13	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.38	8.95	8.76	27.09	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.93	8.79	27.09	543189	Delta Profe	Rh	PPM
				0	0	0	0	6.36			6.36	543189	Delta Profe	Rh	%
				0	0	0	0	13.35			13.35	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.37	8.93	8.78	27.08	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.91	8.76	27.06	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3	8.8	9.05	27.15	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.41	8.91	8.92	27.24	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.94	9.23	27.54	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.79	8.82	26.97	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.37	8.78	8.71	26.86	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	9.18	9.14	27.74	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.86	8.92	27.12	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.63	8.96	8.96	27.54	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.25	8.68	8.78	26.71	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.75	8.86	26.94	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.44			9.44	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3	8.76	8.78	26.84	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.46	8.88		18.34	543189	Delta Profe	Rh	PPM
			PASS			0	0	0			0	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.89	8.92	27.17	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	8.9	8.93	27.22	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.9	8.96	27.23	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	9.01	8.98	27.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.4	8.94	8.92	27.27	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.45	9.08	9.36	27.88	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	1.37			1.37	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.91	9.01	27.29	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.89	8.79	27.04	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	1.36			1.36	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.46	9.05	8.95	27.46	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.41	8.93	8.89	27.23	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.91	8.77	27.06	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.52		17.86	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	8.96	8.89	27.24	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS			0	0	9.4	8.96	8.98	27.34	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.79	8.81	26.95	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.65	8.91	8.85	27.4	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.43			9.43	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.79	8.82	26.94	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.89	8.88	27.13	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.51	9.19	9.1	27.8	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.94	2.46	20.79	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.8	8.85	26.95	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.84	8.92	27.08	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3	8.86	9.05	27.21	543189	Delta Profe	Rh	PPM
				0	0	0	0	13.02			13.02	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	6.97			6.97	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.07			8.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	4.75		14.15	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.47			4.47	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.95			5.95	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.43	2.77		12.21	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.99			8.99	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38			9.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.54			8.54	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.45			5.45	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	5.12		14.5	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.84	8.89	27.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.82	8.88	27.04	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.88	8.92	27.14	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.49	9.19	9.11	27.79	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.27	8.74	8.99	27	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	9.03	9.15	27.57	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	9.01	9.19	27.55	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	8.92	8.61	26.91	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.81	8.33	26.47	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	8.91	8.55	26.85	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.4	8.94	8.66	27	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.84	8.52	26.71	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.87	8.84	27.03	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.49	9.13	9.17	27.8	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.9	9.01	27.27	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.89	8.9	27.17	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.83	8.89	27.08	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.75	8.89	26.96	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.29	8.77	8.87	26.93	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.79	8.88	27.04	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.8	8.86	26.97	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.47	8.96	9.05	27.48	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.57	9.32	9.42	28.31	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.29	8.73	8.7	26.72	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM

				PASS	0	0					543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.65	9.48	9.35	28.48	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	5.42			5.42	543189	Delta Profe	Rh	PPM
28	8	ND	ND	PASS	0	0	9.28			9.28	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	5.44			5.44	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	7.41			7.41	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.28	8.72	8.68	26.68	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.3	8.81	8.85	26.97	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.3	8.72	8.85	26.87	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.62	9.43	9.39	28.43	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.41	8.99	9.08	27.48	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.55	9.26	9.28	28.09	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.33	8.86		18.19	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.48	9.09	9.18	27.75	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.35	8.87	8.94	27.16	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.29	8.75	8.96	27.01	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.38	8.94	8.98	27.3	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.41	9.02	9.06	27.49	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	8.1			8.1	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.53	9.28	9.34	28.15	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.56	9.09	9.11	27.76	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.6	9.36	9.39	28.34	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.73	9.36	7.55	26.65	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.35	8.78	8.85	26.98	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.39	8.92	8.99	27.29	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.34	8.84	8.91	27.09	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.44	9.07	9.06	27.57	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.26	8.81	9.04	27.12	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.54	9.21	9.28	28.03	543189	Delta Profe	Rh	PPM
36	10	ND	ND	PASS	0	0	9.41	9.09	9.3	27.8	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.41	8.94	8.99	27.35	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.34	8.83	8.99	27.15	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.4	8.98	8.97	27.35	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.54	9.26	9.27	28.06	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.37	8.94	9.1	27.4	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	1.36			1.36	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.43	9.04		18.47	543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	%
ND		ND	ND	PASS	0	0	9.43	9.04	9.24	27.7	543189	Delta Profe	Rh	PPM
ND		ND	ND	PASS	0	0	9.42	8.92	9.04	27.38	543189	Delta Profe	Rh	PPM

				0	0	0	0	6.27			6.27	543189	Delta Profe	Rh	%
				0	0	0	0	13.01			13.01	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.36	8.89	9.09	27.34	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.34	8.92	8.98	27.25	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.43	9.06	9.09	27.57	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.88	8.87	27.09	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	1.86			1.86	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.85	8.94	27.16	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.31	8.83	8.9	27.05	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.27	8.66	8.72	26.66	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.39			4.39	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.53	9.38	9.46	28.37	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.4	9	9.08	27.48	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.45	9.07	9.06	27.59	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.85	8.87	27.06	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.53	9.24	9.3	28.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.84	8.85	27.02	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.49	9.19	9.22	27.9	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.52	9.14	9.18	27.84	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	8.95		18.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.93	9.1	27.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM
				0	0	0	0	13.03			13.03	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.29	8.75	8.88	26.92	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.88	8.96	27.22	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.83	8.91	27.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.84	8.99	27.15	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.27	8.74	8.85	26.86	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.82	8.83	26.96	543189	Delta Profe	Rh	PPM
				0	0	0	0	13.06			13.06	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	5.33			5.33	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.02			8.02	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3			9.3	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	7.1			7.1	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.38			4.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37			9.37	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.4	8.94	9.07	27.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.95	9.18	27.51	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.44	9.06	9.24	27.73	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	2.29		11.71	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	7.96			7.96	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.52			9.52	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.12			8.12	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.42			6.42	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS	0	0	7			7	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.42	2.27		11.68	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	6.54			6.54	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.43			9.43	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.49	8.81		18.3	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.54	9.24	9.28	28.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.4	8.97	9.09	27.45	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.38	9.05	9.24	27.67	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.19			9.19	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.44	1.27		10.71	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.92			3.92	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.39			5.39	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.32	1.83		11.14	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.37	8.91	9	27.28	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	0.82			0.82	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.33	8.74		18.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.33	8.88	8.98	27.19	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.34	8.81	8.95	27.09	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.34	8.94	9.07	27.36	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.88			4.88	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.4			3.4	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.93			2.93	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	7.74			7.74	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.88			4.88	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.96			5.96	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	7.46			7.46	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.06			5.06	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	7.48			7.48	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.94			4.94	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	7.57			7.57	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.54			9.54	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	6.94			6.94	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.55	5.83		15.38	543189	Delta Profe	Rh	PPM
			PASS	0	0					543189	Delta Profe	Rh	PPM
			PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.36	8.86	8.89	27.11	543189	Delta Profe	Rh	PPM
			PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.56	9.33	9.23	28.12	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.27	8.75	8.77	26.79	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	7.56			7.56	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	6.53			6.53	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	8.11			8.11	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.44			5.44	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.31	8.89	8.92	27.12	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.34	8.9	8.98	27.21	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.35	8.9	8.99	27.25	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.33	8.76	8.77	26.86	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.36	8.9	9	27.27	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS			0	0	8.57			8.57	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.86			4.86	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	7.45			7.45	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.98			8.98	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	9.02	9.21	27.62	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.48	9.17	9.27	27.92	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.91	9.16	27.42	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.96			6.96	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.41			4.41	543189	Delta Profe	Rh	PPM
				0	0	0	0	13.14			13.14	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.38	8.93	8.76	27.08	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.88	8.78	27.01	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.39	8.95	8.74	27.07	543189	Delta Profe	Rh	PPM
				0	0	0	0	6.3			6.3	543189	Delta Profe	Rh	%
				0	0	0	0	13.07			13.07	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.39	8.94	8.8	27.13	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.47	9.15	9.01	27.63	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.49	1.32		10.81	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.49	9.01	8.95	27.46	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.91	8.88	27.16	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.86	8.94	27.11	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.84	8.85	27.03	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.47	9	8.85	27.32	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.43	8.98	8.9	27.31	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.85	8.83	27.02	543189	Delta Profe	Rh	PPM
			PASS			0	0					543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.4	8.96	8.99	27.35	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	8.83	8.84	27.01	543189	Delta Profe	Rh	PPM
			PASS			0	0	0.33			0.33	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.87	8.88	27.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.49	9.09	9.12	27.7	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	8.97	9	27.39	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	0.82			0.82	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.83	8.93	27.07	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.45	9.01	9.01	27.47	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.43	8.99	9.04	27.47	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.87	9	27.23	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.91	8.94	27.23	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.35	8.93	8.97	27.24	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.06			9.06	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.96			6.96	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.4			5.4	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.43			6.43	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.03			6.03	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.93			5.93	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.53			6.53	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	4.18		13.55	543189	Delta Profe	Rh	PPM

ND	ND		ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.48			9.48	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	7.69			7.69	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.31			9.31	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	5.98			5.98	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	7.05			7.05	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	4.61			4.61	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	4.45			4.45	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	6.98			6.98	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	7.58			7.58	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.42			9.42	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	3.36			3.36	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	4.45			4.45	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	3.95			3.95	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.36	8.85	5.48	23.69	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.29	8.79	8.97	27.04	543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	%
ND	ND		ND	PASS	0	0	9.33	8.88	8.92	27.13	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	5.38			5.38	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	7.63			7.63	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	4.46			4.46	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.3	8.82	8.95	27.08	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.27	8.74	8.86	26.87	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.39	8.83	8.85	27.07	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.35	8.85	8.89	27.09	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.57	9.28	9.32	28.17	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.61	9.17	9.17	27.94	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.56	9.06	9.01	27.63	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0					543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	%
ND	ND		ND	PASS	0	0	8.59			8.59	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.36	8.93	8.96	27.25	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.29	8.76	8.88	26.93	543189	Delta Profe	Rh	PPM
ND	74	24	ND	PASS	0	0	9.4	9.06	9.18	27.64	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.27	8.78	8.98	27.03	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.31	8.79	8.95	27.04	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.44	9.06	9.36	27.87	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.51	9.02		18.53	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.29	8.77	8.89	26.95	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.32			9.32	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.38	8.91	9.03	27.32	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.36	8.84	8.94	27.14	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.49	9.1	9.16	27.75	543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	9.56	9.07	9.05	27.68	543189	Delta Profe	Rh	PPM
				PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND		ND	PASS	0	0	5.49			5.49	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS			0	0	5.48			5.48	543189	Delta Profe	Rh	PPM
				0	0	0	0	12.97			12.97	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.39	0.3		9.69	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.46	0.86		10.31	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.98			5.98	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.46	3.27		12.73	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.43			8.43	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.04			6.04	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.49	2.81		12.31	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.34	0.79		10.12	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.88	9.09	27.33	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.83	8.96	27.11	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.31	8.87	9.07	27.24	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.3	8.77	9.03	27.11	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.84	8.99	27.19	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.32	8.89	9.04	27.25	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	7.99			7.99	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	2.87			2.87	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.47			6.47	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.46			6.46	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.54			6.54	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.37			5.37	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.54			5.54	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.39			6.39	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.29	5.16		14.45	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.92			6.92	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	7.21			7.21	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	7			7	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.48			6.48	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38			9.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.41			4.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.42	0.8		10.21	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	3.99			3.99	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.82			8.82	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	6.45			6.45	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.02			4.02	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.68			4.68	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.6			4.6	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	5.97			5.97	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	2.38			2.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	2.38			2.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	3.11			3.11	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	2.9			2.9	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	3.97			3.97	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	2.9			2.9	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	2.88			2.88	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	3.97			3.97	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	3.42			3.42	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.01			4.01	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS	0	0	2.89	2.89	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.88	2.88	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.86	2.86	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.37	2.37	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.43	3.43	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.92	2.92	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.87	2.87	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.94	3.94	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	4.61	4.61	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.4	3.4	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.89	2.89	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.64	3.64	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.38	2.38	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.41	2.41	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.38	2.38	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.9	3.9	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.92	2.92	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.88	2.88	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.43	3.43	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	4.45	4.45	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.42	3.42	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.42	2.42	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	5.17	5.17	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	4.42	4.42	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.96	3.96	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	5.14	5.14	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	4.52	4.52	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	5.45	5.45	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.9	2.9	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	4.03	4.03	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.38	3.38	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.37	2.37	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.58	3.58	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.92	3.92	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.9	3.9	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.36	2.36	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	1.95	1.95	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.89	2.89	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.48	3.48	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0			543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.89	3.89	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.97	3.97	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	4.37	4.37	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	7.49	7.49	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.35	2.35	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.41	3.41	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	3.91	3.91	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	2.38	2.38	543189 Delta Profe Rh	PPM
ND	ND	ND	PASS	0	0	4.41	4.41	543189 Delta Profe Rh	PPM

ND	ND	ND	PASS	0	0	2.38			2.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.92			2.92	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.38			3.38	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.37			2.37	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.34			2.34	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	1.87			1.87	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.49			4.49	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.41			4.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.86			2.86	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.19			4.19	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.96			4.96	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	1.93			1.93	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.06			3.06	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.92			2.92	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.4			4.4	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.39			3.39	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.63			3.63	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.05			3.05	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.43			4.43	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.41			4.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0					543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	7.12			7.12	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.47			3.47	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.41			2.41	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.03			4.03	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.36			3.36	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.95			4.95	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.44			5.44	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.91			5.91	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.89			3.89	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.85			2.85	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	4.56			4.56	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.88			3.88	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.84			2.84	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.06			5.06	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.89			3.89	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.37	8.92	8.84	27.12	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	9.42	4.22		13.64	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.87			3.87	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.34			3.34	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	5.2			5.2	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.42			3.42	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	6.19			6.19	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.95			3.95	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.91			3.91	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	2.4			2.4	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	3.39			3.39	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS	0	0	7.12			7.12	543189	Delta Profe	Rh	PPM

ND	ND	ND	PASS			0	0	4.93			4.93	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.33	8.88	5.44	23.65	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	3.42			3.42	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.71			4.71	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	3.93			3.93	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	4.59			4.59	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	2.91			2.91	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	8.77			8.77	543189	Delta Profe	Rh	PPM
				0	0	0	0	13.08			13.08	543189	Delta Profe	Rh	%
ND	ND	ND	PASS			0	0	9.37	8.94	8.73	27.03	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.36	8.93	8.72	27.01	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.94	8.72	27.05	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.37	8.91	8.71	26.99	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.38	8.92	8.76	27.05	543189	Delta Profe	Rh	PPM
ND	ND	ND	PASS			0	0	9.41	8.98	8.79	27.17	543189	Delta Profe	Rh	PPM

LBP Result	LPB Concen	LPB Error	3rd Match	Ambient Pr	PD Concen	PD Error	Surface Pb	Surface Pb	Surface Pb	Surface Pb	Method Na	User Facto	LOD Sigma	Au Karat	Count Rate	Resolution	Peak 1	Peak 2	Cal Check S	Collimated
				982									3		36475	144	320	870	Passed	Unknown
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				980									3		35922	145	320	870	Passed	Unknown
				980							Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
				979							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
				980							Soil	Factory-De	3							No
											Soil	Factory-De	3							No
											Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
				981									3		36525	144	320	870	Passed	Unknown
				981							Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
				981							Soil	Factory-De	3							No
											Soil	Factory-De	3							No
				981									3		36244	144	320	870	Passed	Unknown
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				982							Soil	Factory-De	3							No
				983							Soil	Factory-De	3							No

983	Soil	Factory-De	3						No
983	Soil	Factory-De	3						No
983	Soil	Factory-De	3						No
983	Soil	Factory-De	3						No
982	Soil	Factory-De	3						No
982	Soil	Factory-De	3						No
982	Soil	Factory-De	3						No
982	Soil	Factory-De	3						No
982	Soil	Factory-De	3						No
981	Soil	Factory-De	3						No
981	Soil	Factory-De	3						No
981	Soil	Factory-De	3						No
981	Soil	Factory-De	3						No
981	Soil	Factory-De	3						No
980			3	36724	144	320	870	Passed	Unknown
	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
			3						No
974	Soil	Factory-De	3						No
	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
	Soil	Factory-De	3						No
974			3	33897	144	320	870	Passed	Unknown
			3						No
975	Soil	Factory-De	3						No
			3						No
975			3	22195	144	320	870	Failed	Unknown
975			3	27665	146	320	870	Failed	Unknown
975			3	36916	144	320	870	Passed	Unknown

975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
975	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
974	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
979			3	37459	144	320	870	Passed	Unknown
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968			3	36065	145	320	870	Passed	Unknown
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983			3	37312	143	320	870	Passed	Unknown
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987			3	23624	144	320	870	Failed	Unknown
987			3	29235	144	320	870	Passed	Unknown
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960			3	36981	144	320	870	Passed	Unknown
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998			3	37086	144	320	870	Passed	Unknown
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950			3	36604	143	320	870	Passed	Unknown
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984			3	36659	144	320	870	Passed	Unknown
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960	Soil	Factory-De	3	No
	Soil	Factory-De	3	No
960	Soil	Factory-De	3	No

960	Soil	Factory-De	3						No
947			3	38411	144	320	870	Passed	Unknown
949	Soil	Factory-De	3						No
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950	Soil	Factory-De	3						No
950	Soil	Factory-De	3						No
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972	Soil	Factory-De	3	No

972	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
973	Soil	Factory-De	3						No
979			3	37781	144	320	870	Passed	Unknown
979	Soil	Factory-De	3						No
979	Soil	Factory-De	3						No
979	Soil	Factory-De	3						No
979	Soil	Factory-De	3						No
979	Soil	Factory-De	3						No
979	Soil	Factory-De	3						No

ATTACHMENT C
Site Photographs

Photograph 1. Portal area at SR-01

Photograph 2. View of adit at SR01

Site Photographs	
Saddle Rock Natural Area Wenatchee, Washington	
GeoEngineers	**Photographs 1-2**

Photograph 3. Flat bench atop waste rock pile at SR01 (looking northeast)

Photograph 4. Looking downslope (southeast) toward waste rock pile at SR01

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 3-4

Photograph 5. View northwest from downslope sample location SR01-DS-07 . Total arsenic was identified with the XRF as high as 118 ppm at this location.

Photograph 6. Upslope sample location SR01-US-03. Total arsenic ranged from 71-73 ppm at this location with the XRF.

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers | **Photographs 5-6**

Photograph 7. View northeast toward sealed adit at SR02

Photograph 8. Upslope sample location SR02-US-02 (view south). Total arsenic was between 18-26 ppm at this location.

Site Photographs	
Saddle Rock Natural Area Wenatchee, Washington	
GeoEngineers	Photographs 7-8

Photograph 9. Looking south toward waste rock pile at SR02

Photograph 10. Downslope sample location SR02-DS-03 (view northwest). Total arsenic ranged from 24-26 ppm at this location.

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 9-10

Photograph 11. Looking south toward waste rock pile at SR03

Photograph 12. Upslope sample location SR03-US-05 (view west). Total arsenic ranged from 21-101 ppm at this location.

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 11-12

Photograph 13. Downslope sample location SR03-DS-06 (looking southeast). Total arsenic was between 23-26 ppm at this location.

Photograph 14. Base of the waste rock pile (northern edge) at SR03-DS-08. Total arsenic was identified as high as 101 ppm with the XRF at this location.

Site Photographs	
Saddle Rock Natural Area Wenatchee, Washington	
GeoEngineers	**Photographs 13-14**

Photograph 15. Downslope berm vegetated with bunchgrass and western serviceberry below waste rock pile at SR03 (looking south). Total arsenic was identified with the XRF up to 138 ppm in the berm.

Photograph 16. Downslope berm vegetated with bunchgrass below waste rock pile at SR03 (looking west)

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

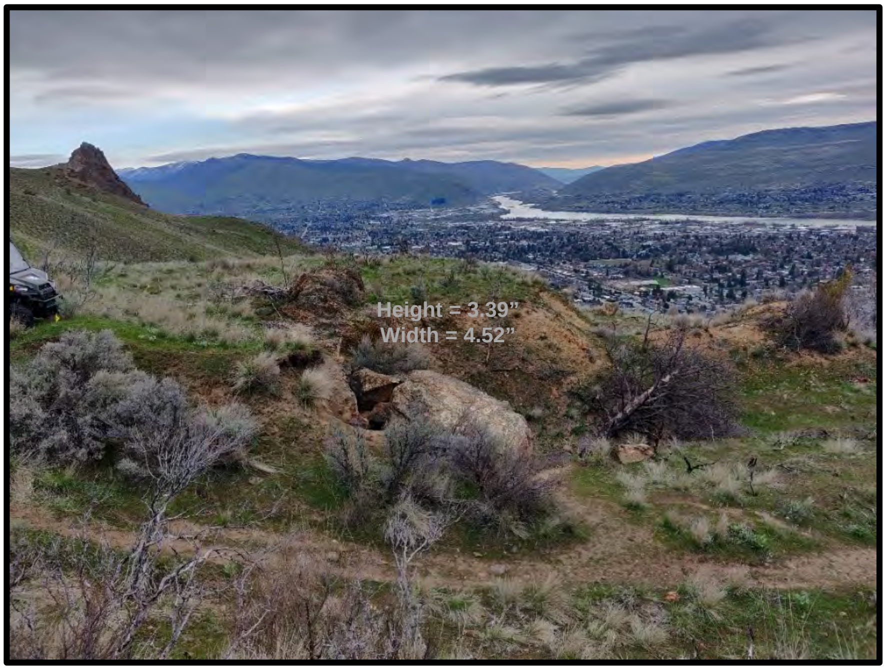
GeoEngineers

Photographs 15-16

Photograph 17. Shallow adit/exploratory hole at SR04

Photograph 18. View inside adit at SR04. The depth did not likely exceed 6 feet

Site Photographs	
Saddle Rock Natural Area Wenatchee, Washington	
GeoEngineers	Photographs 17-18



Photograph 19. View south of adit and waste rock pile at SR04

Photograph 20. Waste rock at SR04

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 19-20

Photograph 21. Downslope sample location SR04-DS-01 (view south) Total arsenic was identified with the XRF up to 94 ppm at this location

Photograph 22. View downslope (looking north) from waste rock pile at SR04

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 21-22

Photograph 23. Downslope berm at SR04 vegetated with bunchgrass (view north). Total arsenic was measured with the XRF as high as 160 ppm in the berm.

Photograph 24. Waste rock pile at SR05 (view northeast)

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 23-24

Photograph 25. Downslope toe of the waste rock pile at SR05 (view south)

Photograph 26. Looking downslope (north) from the waste rock pile at SR05

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 25-26

Photograph 27. Downslope sample location SR05-DS-02. Total arsenic ranged from 55-69 ppm with the XRF

Photograph 28. Upslope sample location SR05-US-04. Total arsenic measured between 174 - 699 ppm. Data were omitted from statistical analysis due to apparent mineralization.

Site Photographs	
Saddle Rock Natural Area Wenatchee, Washington	
GeoEngineers	Photographs 27-28

Photograph 29. Waste rock delineation at SR05. The waste pile limits were determined from observations and XRF confirmation. Eroded mineralized material to the left was not considered waste rock.

Photograph 30. Looking east toward eroded, mineralized outcrop (not included in the waste rock delineation) near SR05

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 29-30

Photograph 31. Road cut at SR06 (view northeast)

Photograph 32. View north toward upslope sample location SR06-US-07. Note the eroded surficial material. XRF readings in the location were as high as 728 ppm for total arsenic.

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 31-32

Photograph 33. Looking north toward upslope sample location SR06-US-16. Note the eroded surficial material. XRF readings identified total arsenic as high as 301 ppm.

Photograph 34. View north toward upslope sample location SR06-US-12. This location was situated to the southeast of the apparent mineralized area and contained total arsenic ranging from 21-31 ppm.

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 33-34

Photograph 35. View northeast toward downslope sample location SR06-DS-07. Note the eroded surficial material. XRF readings identified total arsenic as high as 675 ppm.

Photograph 36. Downslope sample location SR06-DS-15 was situated well outside any apparent anthropogenic impacts. This location contained total arsenic as high as 266 ppm.

Site Photographs	
Saddle Rock Natural Area Wenatchee, Washington	
GeoEngineers	**Photographs 35-36**

Photograph 37. Shallow adit/exploration at SR07

Photograph 38. View inside shallow adit at SR07

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 37-38

Photograph 39. View southwest at the portal area at SR07. The adit is situated on a mineralized outcrop. Total arsenic was identified with the XRF as high as 489 ppm just upslope from this location.

Photograph 40. Adit at SR08

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers	**Photographs 39-40**

Photograph 41. View east (downslope) toward waste rock at SR08

Photograph 42. Upslope sample location SR08-US-01 (view south). Total arsenic ranged from 14-21 ppm at this location.

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 41-42

Photograph 43. Downslope delineation of waste rock pile at SR08 (view southeast)

Photograph 44. Downslope sample locations below the toe of the waste rock pile at SR08 (view west)

Site Photographs

Saddle Rock Natural Area
Wenatchee, Washington

GeoEngineers

Photographs 43-44

ATTACHMENT D
Laboratory Reports

OnSite
Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 24, 2019

Nick Rohrbach
GeoEngineers, Inc.
1101 Fawcett Avenue South, Suite 200
Tacoma, WA 98402

Re: Analytical Data for Project 004296-008-00
Laboratory Reference No. 1904-158

Dear Nick:

Enclosed are the analytical results and associated quality control data for samples submitted on April 13, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

Case Narrative

Samples were collected on April 8, 9, and 10, 2019 and received by the laboratory on April 13, 2019. They were maintained at the laboratory at a temperature of $2^{o}C$ to $6^{o}C$.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Total Metals EPA 6010D/6020B/7471B Analysis

Due to the high concentration of Iron and Manganese in the QC sample, the amount spiked was insufficient for meaningful MS/MSD recovery data. The Spike Blank recovery for Iron was 103 %. The Spike Blank recovery for Manganese was 112 %.

The Matrix Spike/ Matrix Spike Duplicate recoveries for Mercury are outside control limits due to matrix inhomogeneity. The samples were re-extracted and re-analyzed with similar results. The Spike Blank recovery was 104%.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SR06-US-02-4-6	04-158-01	Soil	4-9-19	4-13-19	
SR06-US-06-0-2	04-158-02	Soil	4-9-19	4-13-19	
SR06-US-07-0-2	04-158-03	Soil	4-10-19	4-13-19	
SR06-US-08-4-6	04-158-04	Soil	4-10-19	4-13-19	
SR06-US-12-2-4	04-158-05	Soil	4-10-19	4-13-19	
SR06-US-16-0-2	04-158-06	Soil	4-10-19	4-13-19	
SR06-DS-01-4-6	04-158-07	Soil	4-10-19	4-13-19	
SR06-DS-03-4-6	04-158-08	Soil	4-10-19	4-13-19	
SR06-DS-05-4-6	04-158-09	Soil	4-10-19	4-13-19	
SR06-DS-07-4-6	04-158-10	Soil	4-10-19	4-13-19	
SR06-DS-13-0-2	04-158-11	Soil	4-10-19	4-13-19	
SR06-DS-15-4-6	04-158-12	Soil	4-10-19	4-13-19	
SR01-US-04-4-6	04-158-13	Soil	4-8-19	4-13-19	
SR01-US-01-2-4	04-158-14	Soil	4-8-19	4-13-19	
SR01-US-03-4-6	04-158-15	Soil	4-8-19	4-13-19	
SR02-US-01-0-2	04-158-16	Soil	4-8-19	4-13-19	
SR02-US-02-4-6	04-158-17	Soil	4-8-19	4-13-19	
SR02-US-05-4-6	04-158-18	Soil	4-8-19	4-13-19	
SR08-US-02-0-2	04-158-19	Soil	4-9-19	4-13-19	
SR08-US-05-0-2	04-158-20	Soil	4-9-19	4-13-19	
SR03-US-01-4-6	04-158-21	Soil	4-9-19	4-13-19	
SR03-US-05-4-6	04-158-22	Soil	4-9-19	4-13-19	
SR05-US-02-0-2	04-158-23	Soil	4-10-19	4-13-19	
SR05-US-05-2-4	04-158-24	Soil	4-10-19	4-13-19	
SR05-US-06-2-4	04-158-25	Soil	4-10-19	4-13-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR06-US-02-4-6**					
Laboratory ID:	04-158-01					
Arsenic	**65**	0.62	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR06-US-06-0-2**					
Laboratory ID:	04-158-02					
Arsenic	**31**	1.6	EPA 6020B	4-19-19	4-23-19	
Barium	**220**	3.1	EPA 6020B	4-19-19	4-23-19	
Iron	**24000**	250	EPA 6010D	4-19-19	4-22-19	
Lead	**9.9**	1.6	EPA 6020B	4-19-19	4-23-19	
Manganese	**500**	13	EPA 6010D	4-19-19	4-22-19	
Mercury	**1.0**	0.063	EPA 7471B	4-19-19	4-22-19	
Selenium	**0.20**	0.16	EPA 6020B	4-19-19	4-23-19	
Silver	**ND**	0.79	EPA 6020B	4-19-19	4-24-19	
Client ID:	**SR06-US-07-0-2**					
Laboratory ID:	04-158-03					
Arsenic	**660**	5.7	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR06-US-08-4-6**					
Laboratory ID:	04-158-04					
Arsenic	**90**	0.63	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR06-US-12-2-4**					
Laboratory ID:	04-158-05					
Arsenic	**43**	1.5	EPA 6020B	4-19-19	4-23-19	
Barium	**130**	1.5	EPA 6020B	4-19-19	4-23-19	
Iron	**21000**	240	EPA 6010D	4-19-19	4-22-19	
Lead	**13**	1.5	EPA 6020B	4-19-19	4-23-19	
Manganese	**640**	12	EPA 6010D	4-19-19	4-22-19	
Mercury	**2.0**	0.15	EPA 7471B	4-19-19	4-22-19	
Selenium	**0.16**	0.15	EPA 6020B	4-19-19	4-23-19	
Silver	**ND**	0.73	EPA 6020B	4-19-19	4-24-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR06-US-16-0-2**					
Laboratory ID:	04-158-06					
Arsenic	**220**	1.5	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR06-DS-01-4-6**					
Laboratory ID:	04-158-07					
Arsenic	**570**	6.1	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR06-DS-03-4-6**					
Laboratory ID:	04-158-08					
Arsenic	**100**	0.61	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR06-DS-05-4-6**					
Laboratory ID:	04-158-09					
Arsenic	**330**	3.0	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR06-DS-07-4-6**					
Laboratory ID:	04-158-10					
Arsenic	**740**	6.0	EPA 6020B	4-19-19	4-23-19	
Barium	**170**	1.5	EPA 6020B	4-19-19	4-23-19	
Iron	**22000**	240	EPA 6010D	4-19-19	4-22-19	
Lead	**8.4**	1.5	EPA 6020B	4-19-19	4-23-19	
Manganese	**260**	12	EPA 6010D	4-19-19	4-22-19	
Mercury	**0.80**	0.030	EPA 7471B	4-19-19	4-22-19	
Selenium	**0.36**	0.15	EPA 6020B	4-19-19	4-23-19	
Silver	**ND**	0.76	EPA 6020B	4-19-19	4-24-19	
Client ID:	**SR06-DS-13-0-2**					
Laboratory ID:	04-158-11					
Arsenic	**110**	0.62	EPA 6020B	4-22-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR06-DS-15-4-6**					
Laboratory ID:	04-158-12					
Arsenic	**250**	1.5	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR01-US-04-4-6**					
Laboratory ID:	04-158-13					
Arsenic	**19**	1.5	EPA 6020B	4-19-19	4-23-19	
Barium	**150**	1.5	EPA 6020B	4-19-19	4-23-19	
Iron	**20000**	230	EPA 6010D	4-19-19	4-22-19	
Lead	**7.1**	1.5	EPA 6020B	4-19-19	4-23-19	
Manganese	**460**	12	EPA 6010D	4-19-19	4-22-19	
Mercury	**0.032**	0.029	EPA 7471B	4-23-19	4-23-19	
Selenium	**0.18**	0.15	EPA 6020B	4-19-19	4-23-19	
Silver	**ND**	0.73	EPA 6020B	4-19-19	4-24-19	
Client ID:	**SR01-US-01-2-4**					
Laboratory ID:	04-158-14					
Arsenic	**65**	0.66	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR01-US-03-4-6**					
Laboratory ID:	04-158-15					
Arsenic	**110**	0.58	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR02-US-01-0-2**					
Laboratory ID:	04-158-16					
Arsenic	**100**	0.55	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR02-US-02-4-6**					
Laboratory ID:	04-158-17					
Arsenic	**28**	0.28	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR02-US-05-4-6**					
Laboratory ID:	04-158-18					
Arsenic	**24**	0.27	EPA 6020B	4-22-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR08-US-02-0-2**					
Laboratory ID:	04-158-19					
Arsenic	**2.8**	0.30	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR08-US-05-0-2**					
Laboratory ID:	04-158-20					
Arsenic	**170**	0.61	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR03-US-01-4-6**					
Laboratory ID:	04-158-21					
Arsenic	**6.8**	0.30	EPA 6020B	4-22-19	4-22-19	
Client ID:	**SR03-US-05-4-6**					
Laboratory ID:	04-158-22					
Arsenic	**87**	0.57	EPA 6020B	4-22-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR05-US-02-0-2**					
Laboratory ID:	04-158-23					
Arsenic	**100**	1.6	EPA 6020B	4-19-19	4-23-19	
Barium	**210**	1.6	EPA 6020B	4-19-19	4-23-19	
Iron	**21000**	63	EPA 6010D	4-19-19	4-22-19	
Lead	**14**	1.6	EPA 6020B	4-19-19	4-23-19	
Manganese	**420**	13	EPA 6010D	4-19-19	4-22-19	
Mercury	**0.13**	0.032	EPA 7471B	4-23-19	4-23-19	
Selenium	**0.25**	0.16	EPA 6020B	4-19-19	4-23-19	
Silver	**ND**	0.79	EPA 6020B	4-19-19	4-24-19	

Client ID:	**SR05-US-05-2-4**					
Laboratory ID:	04-158-24					
Arsenic	**150**	1.5	EPA 6020B	4-22-19	4-22-19	

Client ID:	**SR05-US-06-2-4**					
Laboratory ID:	04-158-25					
Arsenic	**18**	0.30	EPA 6020B	4-22-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0419SH1					
Iron	**ND**	10	EPA 6010D	4-19-19	4-22-19	
Manganese	**ND**	0.50	EPA 6010D	4-19-19	4-22-19	
Laboratory ID:	MB0419SH1					
Silver	**ND**	0.63	EPA 6020B	4-19-19	4-24-19	
Laboratory ID:	MB0419SM2					
Arsenic	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Barium	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Lead	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Selenium	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Laboratory ID:	MB0423S2					
Mercury	**ND**	0.025	EPA 7471B	4-23-19	4-23-19	
Laboratory ID:	MB0422SM1					
Arsenic	**ND**	0.25	EPA 6020B	4-22-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
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Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-158-02										
	ORIG	DUP									
Iron	**18900**	**19100**	NA	NA		NA		NA	1	20	
Manganese	**395**	**395**	NA	NA		NA		NA	0	20	
Laboratory ID:	04-158-02										
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	04-158-02										
Arsenic	**24.3**	**24.4**	NA	NA		NA		NA	0	20	
Barium	**177**	**160**	NA	NA		NA		NA	10	20	
Lead	**7.90**	**7.23**	NA	NA		NA		NA	9	20	
Selenium	**0.160**	**0.145**	NA	NA		NA		NA	10	20	
Laboratory ID:	04-158-02										
Mercury	**0.826**	**0.858**	NA	NA		NA		NA	4	20	
Laboratory ID:	04-158-18										
Arsenic	**21.6**	**19.4**	NA	NA		NA		NA	11	20	
MATRIX SPIKES											
Laboratory ID:	04-158-02										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**20800**	**20600**	1000	1000	18900	**190**	**170**	75-125	1	20	A
Manganese	**441**	**437**	25.0	25.0	395	**184**	**168**	75-125	1	20	A
Laboratory ID:	04-158-02										
Silver	**19.9**	**19.9**	25.0	25.0	ND	**80**	**80**	75-125	0	20	
Laboratory ID:	04-158-02										
Arsenic	**117**	**116**	100	100	24.3	**93**	**92**	75-125	1	20	
Barium	**275**	**267**	100	100	177	**98**	**91**	75-125	3	20	
Lead	**236**	**237**	250	250	7.90	**91**	**92**	75-125	1	20	
Selenium	**95.0**	**95.3**	100	100	0.160	**95**	**95**	75-125	0	20	
Laboratory ID:	04-158-02										
Mercury	**1.42**	**1.48**	0.500	0.500	0.826	**118**	**130**	80-120	4	20	V
Laboratory ID:	04-158-18										
Arsenic	**109**	**113**	100	100	21.6	**87**	**92**	75-125	4	20	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Aluminum	ICV042219P	1.00	0.908	9.2	+/- 10%
Arsenic	ICV042319X	0.0500	0.0485	3.0	+/- 10%
Barium	ICV042319X	0.0500	0.0487	2.6	+/- 10%
Iron	ICV042219P	1.00	0.953	4.7	+/- 10%
Lead	ICV042319X	0.050	0.0501	-0.20	+/- 10%
Manganese	ICV042219P	1.00	0.962	3.8	+/- 10%
Mercury	ICV042319Y	0.00500	0.00497	0.60	+/- 10%
Selenium	ICV042319X	0.0500	0.0514	-2.8	+/- 10%
Silver	ICV042419X	0.0500	0.0523	-4.6	+/- 10%
Aluminum	LLV042219P	0.100	0.110	-10	+/- 20%
Arsenic	LLV042319X	0.000500	0.000436	13	+/- 20%
Barium	LLV042319X	0.000500	0.000506	-1.2	+/- 20%
Iron	LLV042219P	0.0500	0.0466	6.8	+/- 20%
Lead	LLV042319X	0.000500	0.000479	4.2	+/- 20%
Manganese	LLV042219P	0.0100	0.0115	-15	+/- 20%
Selenium	LLV042319X	0.000500	0.000431	14	+/- 20%
Silver	ICV042419X	0.000500	0.000524	-4.8	+/- 20%
Aluminum	CCV1042219P	10.0	10.2	-2.0	+/- 10%
Arsenic	CCV1042319X	0.0400	0.0387	3.3	+/- 10%
Barium	CCV1042319X	0.0400	0.0400	0	+/- 10%
Iron	CCV1042219P	5.00	5.50	-10	+/- 10%
Lead	CCV1042319X	0.0400	0.0397	0.75	+/- 10%
Manganese	CCV1042219P	1.00	1.03	-3.0	+/- 10%
Mercury	CCV1042319Y	0.00500	0.00491	1.8	+/- 20%
Selenium	CCV1042319P	0.0400	0.0422	-5.5	+/- 10%
Silver	CCV1042419P	0.0400	0.0408	-2.0	+/- 10%
Aluminum	CCV2042219P	10.0	10.1	-1.0	+/- 10%
Arsenic	CCV2042319X	0.0400	0.0391	2.3	+/- 10%
Barium	CCV2042319X	0.0400	0.0400	0	+/- 10%
Iron	CCV2042219P	5.00	5.14	-2.8	+/- 10%
Lead	CCV2042319X	0.0400	0.0396	1.0	+/- 10%
Manganese	CCV2042219P	1.00	1.00	0	+/- 10%
Mercury	CCV2042319Y	0.00500	0.00520	-4.0	+/- 20%
Selenium	CCV2042319P	0.0400	0.0392	2.0	+/- 10%
Silver	CCV2042419P	0.0400	0.0408	-2.0	+/- 10%

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Samples Submitted: April 13, 2019
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Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Aluminum	CCV3042219P	10.0	9.90	1.0	+/- 10%
Arsenic	CCV3042319X	0.0400	0.0394	1.5	+/- 10%
Barium	CCV3042319X	0.0400	0.0404	-1.0	+/- 10%
Iron	CCV3042219P	5.00	5.16	-3.2	+/- 10%
Lead	CCV3042319X	0.0400	0.0398	0.50	+/- 10%
Manganese	CCV3042219P	1.00	0.992	0.80	+/- 10%
Mercury	CCV3042319Y	0.00500	0.00518	-3.6	+/- 20%
Selenium	CCV3042319P	0.0400	0.0407	-1.8	+/- 10%
Silver	CCV3042419P	0.0400	0.0433	-8.2	+/- 10%
Aluminum	CCV4042219P	10.0	10.1	-1.0	+/- 10%
Arsenic	CCV4042319X	0.0400	0.0399	0.25	+/- 10%
Barium	CCV4042319X	0.0400	0.0399	0.25	+/- 10%
Iron	CCV4042219P	5.00	5.12	-2.4	+/- 10%
Lead	CCV4042319X	0.0400	0.0395	1.3	+/- 10%
Manganese	CCV4042219P	1.00	1.01	-1.0	+/- 10%
Aluminum	CCV5042219P	10.0	10.1	-1.0	+/- 10%
Iron	CCV5042219P	5.00	5.13	-2.6	+/- 10%
Manganese	CCV5042219P	1.00	1.02	-2.0	+/- 10%
Iron	CCV6042219P	5.00	5.28	-5.6	+/- 10%

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

TOTAL METALS
EPA 6020B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Arsenic	ICV042219X	0.0500	0.0494	1.2	+/- 10%
Arsenic	LLV042219X	0.000500	0.000521	-4.2	+/- 20%
Arsenic	CCV1042219X	0.0400	0.0410	-2.5	+/- 10%
Arsenic	CCV2042219X	0.0400	0.0405	-1.3	+/- 10%
Arsenic	CCV3042219X	0.0400	0.0412	-3.0	+/- 10%
Arsenic	CCV4042219X	0.0400	0.0406	-1.5	+/- 10%
Arsenic	CCV5042219X	0.0400	0.0416	-4.0	+/- 10%
Arsenic	CCV6042219X	0.0400	0.0407	-1.8	+/- 10%
Arsenic	CCV7042219X	0.0400	0.0415	-3.8	+/- 10%
Arsenic	CCV8042219X	0.0400	0.0410	-2.5	+/- 10%
Arsenic	CCV9042219X	0.0400	0.0411	-2.7	+/- 10%
Arsenic	CCV10042219X	0.0400	0.0415	-3.8	+/- 10%
Arsenic	CCV11042219X	0.0400	0.0421	-5.2	+/- 10%
Arsenic	CCV12042219X	0.0400	0.0411	-2.7	+/- 10%
Arsenic	CCV13042219X	0.0400	0.0402	-0.5	+/- 10%

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-158
Project: 004296-008-00

% MOISTURE

Date Analyzed: 4-19-19

Client ID	Lab ID	% Moisture
SR06-US-02-4-6	04-158-01	20
SR06-US-06-0-2	04-158-02	21
SR06-US-07-0-2	04-158-03	12
SR06-US-08-4-6	04-158-04	20
SR06-US-12-2-4	04-158-05	15
SR06-US-16-0-2	04-158-06	14
SR06-DS-01-4-6	04-158-07	18
SR06-DS-03-4-6	04-158-08	17
SR06-DS-05-4-6	04-158-09	18
SR06-DS-07-4-6	04-158-10	17
SR06-DS-13-0-2	04-158-11	19
SR06-DS-15-4-6	04-158-12	17
SR01-US-04-4-6	04-158-13	14
SR01-US-01-2-4	04-158-14	24
SR01-US-03-4-6	04-158-15	13
SR02-US-01-0-2	04-158-16	9
SR02-US-02-4-6	04-158-17	10
SR02-US-05-4-6	04-158-18	8
SR08-US-02-0-2	04-158-19	17
SR08-US-05-0-2	04-158-20	18
SR03-US-01-4-6	04-158-21	17
SR03-US-05-4-6	04-158-22	12
SR05-US-02-0-2	04-158-23	21
SR05-US-05-2-4	04-158-24	16
SR05-US-06-2-4	04-158-25	17

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical ____________.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 04-158

Company: GeoEngineers
Project Number: 004296-008-00
Project Name: Saddle Rock IRA
Project Manager: Nick Rohrbach
Sampled by: Ryan Tobias / Laura Hanna

Turnaround Request (in working days)
(Check One)
- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ ______ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	Total As, Ba, Fe, Pb, Mn, Hg	Total Se, Ag				% Moisture
1	~~SR01-US-01~~ SR06-US-02-4-6	4/9/19	1739	SS	1																X						X
2	~~SR01-US-02~~ SR06-US-06-0-2		1755	SS																	X	X	X				
3	~~SR01-DS-01~~ SR06-US-07-0-2	4/10/19	7:04	SS																	X						
4	~~SR01-DS-02~~ SR06-US-08-4-6		7:14	SS																	X						
5	~~SR01-DS-03~~ SR06-US-12-~~0-2~~ 2-4 LN		7:38	SS																	X	X	X				
6	~~SR01-DS-04~~ SR06-US-16-0-2		8:07	SS																	X						
7	SR06-DS-01-4-6		8:47	SS																	X						
8	SR06-DS-03-4-6		9:17	SS																	X						
9	SR06-DS-05-4-6		9:40	SS																	X						
10	SR06-DS-07-4-6		9:55	SS																	X	X	X				

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers	4/11/19	1700
Received	[signature]	OnSite E	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ______

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Chain of Custody

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Laboratory Number: 04-158

Company: GeoEngineers
Project Number: 004296-008-00
Project Name: Saddle Rock IRA
Project Manager: Nick Rohrbach
Sampled by: R.Tobias/L.Hanna

Turnaround Request (in working days)
(Check One)
- [ ] Same Day
- [ ] 1 Day
- [ ] 2 Days
- [ ] 3 Days
- [x] Standard (7 Days) (TPH analysis 5 Days)
- [ ] ________ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	Total As, Ba, Fe, Pb, Mn, Hg, +	Total Se, Ag				% Moisture
11	~~SR03-US-01~~ SR06-DS-13-0-2	4/10/19	10:46	SS	1																X						X
12	~~SR03-US-02~~ SR06-DS-15-4-6		11:04	SS																	X			MW			
13	~~SR03-DS-01~~ SR01-US-04-4-6	4/8/19	10:14	SS																	X	X	X	~~X~~			
14	~~SR03-DS-02~~ SR01-US-01-2-4		8:45	SS																	X						
15	~~SR03-DS-03~~ SR01-US-03-4-6		10:04	SS																	X						
16	~~SR03-DS-04~~ SR02-US-01-0-2	4/8/19	1400	SS																	X						
17	SR02-US-02-4-6		1418																		X						
18	SR02-US-05-4-6		1452																		X						
19	SR08-US-02-0-2	4/9/19	8:20																		X						
20	SR08-US-05-0-2		8:59																		X						

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers	4/11/19	1700
Received	[signature]	OnSite EV	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ________

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Chain of Custody

Laboratory Number: 04-158

Company:	GeoEngineers
Project Number:	004296-008-00
Project Name:	Saddle Rock IRA
Project Manager:	Nick Rohrbach
Sampled by:	

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ■ Standard (7 Days) (TPH analysis 5 Days)
- ☐ ______ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	Total As, Ba, Fe, Pb, Mn, Hg,	Total Se, Ag				% Moisture
21	~~SR04-US-01~~ SR03-US-01-4-6	4/9/19	1225	SS	1																X						X
22	~~SR04-US-02~~ SR03-US-05-4-6	↓	1301	SS	↓																X						↓
	~~SR04-DS-01 SR06-C02-D-Assay~~	~~4/10/19~~	~~11:30~~	~~SS~~																	~~X~~						
23	~~SR04-DS-02~~ SR05-US-02-0-2	4/10/19	1306	SS	1																X	X	X				X
24	~~SR04-DS-03~~ SR05-US-05-2-4	↓	1330	SS	↓																X						↓
25	~~SR04-DS-04~~ SR05-US-06-2-4		1335	SS																	X						

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers	4/11/19	1700
Received	[signature]	OnSite	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ■ Electronic Data Deliverables (EDDs) ☐ ______

Sample/Cooler Receipt and Acceptance Checklist

Client: GET

Client Project Name/Number: 004296-008-00

OnSite Project Number: 04-158

Initiated by: BG/MV

Date Initiated: 4/13 & 15/19

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1 2 3 4
1.2 Were the custody seals intact?	Yes	No	N/A	1 2 3 4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1 2 3 4
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature: 3°C	
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	N/A		
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No	1 2 3 4
2.2 Was the COC legible and written in permanent ink?	Yes	No	1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No	1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No	1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	Yes	No	1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No	1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4
3.4 Have the samples been correctly preserved?	Yes	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4
3.8 Was method 5035A used?	Yes	No	N/A	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 24, 2019

Nick Rohrbach
GeoEngineers, Inc.
1101 Fawcett Avenue South, Suite 200
Tacoma, WA 98402

Re: Analytical Data for Project 004296-008-00
Laboratory Reference No. 1904-160

Dear Nick:

Enclosed are the analytical results and associated quality control data for samples submitted on April 13, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

Case Narrative

Samples were collected on April 8, 9, 10, and 11, 2019 and received by the laboratory on April 13, 2019. They were maintained at the laboratory at a temperature of $2^{o}C$ to $6^{o}C$.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Total Metals EPA 6010D/6020B/7471B Analysis

Due to the high concentration of Aluminum, Iron, and Manganese in the QC sample, the amount spiked was insufficient for meaningful MS/MSD recovery data. The Spike Blank recovery for Aluminum was 103 %. The Spike Blank recovery for Iron was 103 %. The Spike Blank recovery for Manganese was 112 %.

The Matrix Spike/ Matrix Spike Duplicate recoveries for Mercury are outside control limits due to matrix inhomogeneity. The samples were re-extracted and re-analyzed with similar results. The Spike Blank recovery was 104%.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SR03-DS-01-2-4	04-160-01	Soil	4-9-19	4-13-19	
SR08-DS-03-4-6	04-160-02	Soil	4-9-19	4-13-19	
SR01-DS-07-4-6	04-160-03	Soil	4-8-19	4-13-19	
SR01-DS-03-4-6	04-160-04	Soil	4-8-19	4-13-19	
SR08-DS-04-2-4	04-160-05	Soil	4-9-19	4-13-19	
SR03-DS-05-2-4	04-160-06	Soil	4-9-19	4-13-19	
SR02-DS-05-2-4	04-160-07	Soil	4-8-19	4-13-19	
SR02-DS-01-4-6	04-160-08	Soil	4-8-19	4-13-19	
SR03-DS-03-4-6	04-160-09	Soil	4-9-19	4-13-19	
SR03-DS-09-4-6	04-160-10	Soil	4-9-19	4-13-19	
SR05-DS-02-2-4	04-160-11	Soil	4-10-19	4-13-19	
SR05-DS-03-0-2	04-160-12	Soil	4-10-19	4-13-19	
SR05-DS-07-0-2	04-160-13	Soil	4-11-19	4-13-19	
SR04-US-03-4-6	04-160-14	Soil	4-11-19	4-13-19	
SR04-US-01-2-4	04-160-15	Soil	4-11-19	4-13-19	
SR04-US-05-4-6	04-160-16	Soil	4-11-19	4-13-19	
SR04-DS-02-4-6	04-160-17	Soil	4-11-19	4-13-19	
SR04-DS-03-0-2	04-160-18	Soil	4-11-19	4-13-19	
SR05-D05-TCLP	04-160-19	Soil	4-11-19	4-13-19	
SR02-D09-Assay	04-160-20	Soil	4-11-19	4-13-19	
SR06-C02-Assay	04-160-21	Soil	4-10-19	4-13-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR03-DS-01-2-4**					
Laboratory ID:	04-160-01					
Arsenic	**110**	0.60	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR08-DS-03-4-6**					
Laboratory ID:	04-160-02					
Arsenic	**44**	0.30	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR01-DS-07-4-6**					
Laboratory ID:	04-160-03					
Arsenic	**87**	1.8	EPA 6020B	4-19-19	4-23-19	
Barium	**170**	1.8	EPA 6020B	4-19-19	4-23-19	
Iron	**34000**	280	EPA 6010D	4-19-19	4-22-19	
Lead	**19**	1.8	EPA 6020B	4-19-19	4-23-19	
Manganese	**570**	14	EPA 6010D	4-19-19	4-22-19	
Mercury	**0.40**	0.035	EPA 7471B	4-23-19	4-23-19	
Selenium	**0.68**	0.18	EPA 6020B	4-19-19	4-23-19	
Silver	**3.0**	0.88	EPA 6020B	4-19-19	4-24-19	
Client ID:	**SR01-DS-03-4-6**					
Laboratory ID:	04-160-04					
Arsenic	**170**	1.3	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR08-DS-04-2-4**					
Laboratory ID:	04-160-05					
Arsenic	**16**	0.30	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR03-DS-05-2-4**					
Laboratory ID:	04-160-06					
Arsenic	**190**	1.5	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR02-DS-05-2-4**					
Laboratory ID:	04-160-07					
Arsenic	**40**	0.30	EPA 6020B	4-19-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR02-DS-01-4-6**					
Laboratory ID:	04-160-08					
Arsenic	**47**	0.30	EPA 6020B	4-19-19	4-22-19	

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR03-DS-03-4-6**					
Laboratory ID:	04-160-09					
Arsenic	**49**	0.58	EPA 6020B	4-19-19	4-22-19	

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR03-DS-09-4-6**					
Laboratory ID:	04-160-10					
Arsenic	**140**	1.5	EPA 6020B	4-19-19	4-23-19	
Barium	**86**	1.5	EPA 6020B	4-19-19	4-23-19	
Iron	**27000**	240	EPA 6010D	4-19-19	4-22-19	
Lead	**6.9**	1.5	EPA 6020B	4-19-19	4-23-19	
Manganese	**180**	12	EPA 6010D	4-19-19	4-22-19	
Mercury	**0.40**	0.030	EPA 7471B	4-23-19	4-23-19	
Selenium	**1.1**	0.15	EPA 6020B	4-19-19	4-23-19	
Silver	**6.6**	0.75	EPA 6020B	4-19-19	4-24-19	

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR05-DS-02-2-4**					
Laboratory ID:	04-160-11					
Arsenic	**89**	0.56	EPA 6020B	4-19-19	4-22-19	

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR05-DS-03-0-2**					
Laboratory ID:	04-160-12					
Arsenic	**95**	0.64	EPA 6020B	4-19-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR05-DS-07-0-2**					
Laboratory ID:	04-160-13					
Arsenic	**78**	1.4	EPA 6020B	4-19-19	4-23-19	
Barium	**81**	1.4	EPA 6020B	4-19-19	4-23-19	
Iron	**14000**	220	EPA 6010D	4-19-19	4-22-19	
Lead	**7.1**	1.4	EPA 6020B	4-19-19	4-23-19	
Manganese	**500**	11	EPA 6010D	4-19-19	4-22-19	
Mercury	**ND**	0.028	EPA 7471B	4-23-19	4-23-19	
Selenium	**0.38**	0.14	EPA 6020B	4-19-19	4-23-19	
Silver	**3.8**	0.69	EPA 6020B	4-19-19	4-24-19	
Client ID:	**SR04-US-03-4-6**					
Laboratory ID:	04-160-14					
Arsenic	**110**	0.59	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR04-US-01-2-4**					
Laboratory ID:	04-160-15					
Arsenic	**17**	0.30	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR04-US-05-4-6**					
Laboratory ID:	04-160-16					
Arsenic	**34**	0.30	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR04-DS-02-4-6**					
Laboratory ID:	04-160-17					
Arsenic	**200**	1.5	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR04-DS-03-0-2**					
Laboratory ID:	04-160-18					
Arsenic	**41**	0.30	EPA 6020B	4-19-19	4-22-19	
Client ID:	**SR05-D05-TCLP**					
Laboratory ID:	04-160-19					
Arsenic	**990**	5.9	EPA 6020B	4-19-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR02-D09-Assay**					
Laboratory ID:	04-160-20					
Iron	**35000**	610	EPA 6010D	4-19-19	4-22-19	

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR06-C02-Assay**					
Laboratory ID:	04-160-21					
Aluminum	**14000**	110	EPA 6010D	4-19-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0419SH1					
Aluminum	**ND**	5.0	EPA 6010D	4-19-19	4-22-19	
Iron	**ND**	10	EPA 6010D	4-19-19	4-22-19	
Manganese	**ND**	0.50	EPA 6010D	4-19-19	4-22-19	
Laboratory ID:	MB0419SH1					
Silver	**ND**	0.63	EPA 6020B	4-19-19	4-24-19	
Laboratory ID:	MB0419SM2					
Arsenic	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Barium	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Lead	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Selenium	**ND**	0.13	EPA 6020B	4-19-19	4-23-19	
Laboratory ID:	MB0423S2					
Mercury	**ND**	0.025	EPA 7471B	4-23-19	4-23-19	
Laboratory ID:	MB0419SM3					
Arsenic	**ND**	0.25	EPA 6020B	4-19-19	4-22-19	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
DUPLICATE QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-158-02										
	ORIG	DUP									
Aluminum	**16200**	**16200**	NA	NA		NA		NA	0	20	
Iron	**18900**	**19100**	NA	NA		NA		NA	1	20	
Manganese	**395**	**395**	NA	NA		NA		NA	0	20	
Laboratory ID:	04-158-02										
Silver	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	04-158-02										
Arsenic	**24.3**	**24.4**	NA	NA		NA		NA	0	20	
Barium	**177**	**160**	NA	NA		NA		NA	10	20	
Lead	**7.90**	**7.23**	NA	NA		NA		NA	9	20	
Selenium	**0.160**	**0.145**	NA	NA		NA		NA	10	20	
Laboratory ID:	04-158-02										
Mercury	**0.826**	**0.858**	NA	NA		NA		NA	4	20	
Laboratory ID:	04-160-05										
Arsenic	**13.8**	**16.5**	NA	NA		NA		NA	18	20	
MATRIX SPIKES											
Laboratory ID:	04-158-02										
	MS	MSD	MS	MSD		MS	MSD				
Aluminum	**19200**	**20700**	1000	1000	16200	**300**	**450**	75-125	8	20	A
Iron	**20800**	**20600**	1000	1000	18900	**190**	**170**	75-125	1	20	A
Manganese	**441**	**437**	25.0	25.0	395	**184**	**168**	75-125	1	20	A
Laboratory ID:	04-158-02										
Silver	**19.9**	**19.9**	25.0	25.0	ND	**80**	**80**	75-125	0	20	
Laboratory ID:	04-158-02										
Arsenic	**117**	**116**	100	100	24.3	**93**	**92**	75-125	1	20	
Barium	**275**	**267**	100	100	177	**98**	**91**	75-125	3	20	
Lead	**236**	**237**	250	250	7.90	**91**	**92**	75-125	1	20	
Selenium	**95.0**	**95.3**	100	100	0.160	**95**	**95**	75-125	0	20	
Laboratory ID:	04-158-02										
Mercury	**1.42**	**1.48**	0.500	0.500	0.826	**118**	**130**	80-120	4	20	V
Laboratory ID:	04-160-05										
Arsenic	**104**	**106**	100	100	13.8	**90**	**92**	75-125	2	20	

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Aluminum	ICV042219P	1.00	0.908	9.2	+/- 10%
Arsenic	ICV042319X	0.0500	0.0485	3.0	+/- 10%
Barium	ICV042319X	0.0500	0.0487	2.6	+/- 10%
Iron	ICV042219P	1.00	0.953	4.7	+/- 10%
Lead	ICV042319X	0.050	0.0501	-0.20	+/- 10%
Manganese	ICV042219P	1.00	0.962	3.8	+/- 10%
Mercury	ICV042319Y	0.00500	0.00497	0.60	+/- 10%
Selenium	ICV042319X	0.0500	0.0514	-2.8	+/- 10%
Silver	ICV042419X	0.0500	0.0523	-4.6	+/- 10%
Aluminum	LLV042219P	0.100	0.110	-10	+/- 20%
Arsenic	LLV042319X	0.000500	0.000436	13	+/- 20%
Barium	LLV042319X	0.000500	0.000506	-1.2	+/- 20%
Iron	LLV042219P	0.0500	0.0466	6.8	+/- 20%
Lead	LLV042319X	0.000500	0.000479	4.2	+/- 20%
Manganese	LLV042219P	0.0100	0.0115	-15	+/- 20%
Selenium	LLV042319X	0.000500	0.000431	14	+/- 20%
Silver	LLV042419X	0.000500	0.000524	-4.8	+/- 20%
Aluminum	CCV1042219P	10.0	10.2	-2.0	+/- 10%
Arsenic	CCV1042319X	0.0400	0.0387	3.3	+/- 10%
Barium	CCV1042319X	0.0400	0.0400	0	+/- 10%
Iron	CCV1042219P	5.00	5.50	-10	+/- 10%
Lead	CCV1042319X	0.0400	0.0397	0.75	+/- 10%
Manganese	CCV1042219P	1.00	1.03	-3.0	+/- 10%
Mercury	CCV1042319Y	0.00500	0.00491	1.8	+/- 20%
Selenium	CCV1042319P	0.0400	0.0422	-5.5	+/- 10%
Silver	CCV1042419P	0.0400	0.0408	-2.0	+/- 10%
Aluminum	CCV2042219P	10.0	10.1	-1.0	+/- 10%
Arsenic	CCV2042319X	0.0400	0.0391	2.3	+/- 10%
Barium	CCV2042319X	0.0400	0.0400	0	+/- 10%
Iron	CCV2042219P	5.00	5.14	-2.8	+/- 10%
Lead	CCV2042319X	0.0400	0.0396	1.0	+/- 10%
Manganese	CCV2042219P	1.00	1.00	0	+/- 10%
Mercury	CCV2042319Y	0.00500	0.00520	-4.0	+/- 20%
Selenium	CCV2042319P	0.0400	0.0392	2.0	+/- 10%
Silver	CCV2042419P	0.0400	0.0408	-2.0	+/- 10%

Date of Report: April 24, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160
Project: 004296-008-00

TOTAL METALS
EPA 6010D/6020B/7471B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Aluminum	CCV3042219P	10.0	9.90	1.0	+/- 10%
Arsenic	CCV3042319X	0.0400	0.0394	1.5	+/- 10%
Barium	CCV3042319X	0.0400	0.0404	-1.0	+/- 10%
Iron	CCV3042219P	5.00	5.16	-3.2	+/- 10%
Lead	CCV3042319X	0.0400	0.0398	0.50	+/- 10%
Manganese	CCV3042219P	1.00	0.992	0.80	+/- 10%
Mercury	CCV3042319Y	0.00500	0.00518	-3.6	+/- 20%
Selenium	CCV3042319P	0.0400	0.0407	-1.8	+/- 10%
Silver	CCV3042419P	0.0400	0.0433	-8.2	+/- 10%
Aluminum	CCV4042219P	10.0	10.1	-1.0	+/- 10%
Arsenic	CCV4042319X	0.0400	0.0399	0.25	+/- 10%
Barium	CCV4042319X	0.0400	0.0399	0.25	+/- 10%
Iron	CCV4042219P	5.00	5.12	-2.4	+/- 10%
Lead	CCV4042319X	0.0400	0.0395	1.3	+/- 10%
Manganese	CCV4042219P	1.00	1.01	-1.0	+/- 10%
Aluminum	CCV5042219P	10.0	10.1	-1.0	+/- 10%
Iron	CCV5042219P	5.00	5.13	-2.6	+/- 10%
Manganese	CCV5042219P	1.00	1.02	-2.0	+/- 10%
Iron	CCV6042219P	5.00	5.28	-5.6	+/- 10%
Iron	CCV7042219P	5.00	5.22	-4.4	+/- 10%

Date of Report: April 24, 2019
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Project: 004296-008-00

% MOISTURE

Date Analyzed: 4-19-19

Client ID	Lab ID	% Moisture
SR03-DS-01-2-4	04-160-01	16
SR08-DS-03-4-6	04-160-02	18
SR01-DS-07-4-6	04-160-03	29
SR01-DS-03-4-6	04-160-04	7
SR08-DS-04-2-4	04-160-05	16
SR03-DS-05-2-4	04-160-06	16
SR02-DS-05-2-4	04-160-07	17
SR02-DS-01-4-6	04-160-08	16
SR03-DS-03-4-6	04-160-09	13
SR03-DS-09-4-6	04-160-10	16
SR05-DS-02-2-4	04-160-11	10
SR05-DS-03-0-2	04-160-12	22
SR05-DS-07-0-2	04-160-13	10
SR04-US-03-4-6	04-160-14	15
SR04-US-01-2-4	04-160-15	17
SR04-US-05-4-6	04-160-16	15
SR04-DS-02-4-6	04-160-17	16
SR04-DS-03-0-2	04-160-18	16
SR05-D05-TCLP	04-160-19	16
SR02-D09-Assay	04-160-20	18
SR06-C02-Assay	04-160-21	11

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical ____________.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Laboratory Number: 04-160

Company: GeoEngineers
Project Number: 004296-008-00
Project Name: Saddle Rock IRA
Project Manager: Nick Rohrbach
Sampled by: Tobias / Hanna

Turnaround Request (in working days)
(Check One)
- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ ________ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	⊞ Total As, Ba, Fe, Pb, Mn, Hg,	Total Se, Ag				% Moisture
1	~~SR05-US-01~~ SR03-DS-01-2-4	4/9/19	1330	SS	1																X						X
2	~~SR05-US-02~~ SR08-DS-03-4-6	4/9/19	1018	SS																	X						
3	~~SR05-DS-01~~ SR01-DS-07-4-6	4/8/19	1205	SS																	X	X	X				
4	~~SR05-DS-02~~ SR01-DS-03-4-6	4/8/19	1128	SS																	X						
5	~~SR05-DS-03~~ SR08-DS-04-2-4	4/9/19	1025	SS																	X						
6	~~SR05-DS-04~~ SR03-DS-05-2-4	4/9/19	1410	SS																	X						
7	SR02-DS-05-2-4	4/8/19	1544																		X						
8	SR02-DS-01-4-6	4/8/19	1558																		X						
9	SR03-DS-03-4-6	4/9/19	1354																		X						
10	SR03-DS-09-4-6	4/9/19	1505																		X	X	X				

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers	4/11/19	1700
Received	[signature]	OnSite Env	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ________

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Chain of Custody

Page 2 of 3

Laboratory Number: 04-160

Company:	GeoEngineers
Project Number:	004296-008-00
Project Name:	Saddle Rock IRA
Project Manager:	Nick Rohrbach
Sampled by:	

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ ________ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	Total As, Ba, Fe, Pb, Mn, Hg,	Total Se, Ag				% Moisture
11	~~SR06-DS-01~~ SR05-DS-02-2-4	4/10/19	1822	SS	1																X						X
12	~~SR06-DS-02~~ SR05-DS-03-0-2	4/10/19	1832	SS																	X						
13	~~SR06-DS-03~~ SR05-DS-07-0-2	4/11/19	1104	SS																	X	X	X				
14	~~SR06-DS-04~~ SR04-US-03-4-6	4/11/19	654	SS																	X						
15	~~SR06-DS-05~~ SR04-US-01-2-4	4/11/19	642	SS																	X						
16	~~SR06-DS-06~~ SR04-US-05-4-6	4/11/19	703	SS																	X						
17	SR04-DS-02-4-6	4/11/19	728	SS																	X						
18	SR04-DS-03-0-2	4/11/19	735	SS																	X						

	Signature	Company	Date	Time
Relinquished	[illegible]	GeoEngineers	4/11/19	1700
Received	[illegible]	OnSite Env	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ________

Chain of Custody

Page 3 of 3

OnSite Environmental Inc.
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Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers

Project Number: 004296-008-00

Project Name: Saddle Rock IRA

Project Manager: Nick Rohrbach

Sampled by: Tobias / Hanna

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ ________ (other)

Laboratory Number: 04-160

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	TCLP/SPLP As	Bioassay Fe (Method 80-12)	Total Fe	Bioassay Al (Method 80-12)	Total Al	% Moisture
19	SR05-D05-TCLP	4/1/19	1330	WR	1																X	X					X
20	SR02-D09-Assay	4/1/19	1230	WR																			X	X			
21	SR06-C02-D-Assay	4/10/19	1130	WR																					X	X	

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers	4/1/19	1700
Received	[signature]	OnSite Env	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				

Comments/Special Instructions

Run for totals, hold for TCLP/SPLP and Bioassay pending Totals results.

Reviewed/Date

Reviewed/Date

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ________

Sample/Cooler Receipt and Acceptance Checklist

Client: GET

Client Project Name/Number: 004296-008-00

OnSite Project Number: 04-160

Initiated by: BG/MV

Date Initiated: 4/13/19

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1 2 3 4
1.2 Were the custody seals intact?	Yes	No	N/A	1 2 3 4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1 2 3 4
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature: 4°C	
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	N/A		
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No	1 2 3 4
2.2 Was the COC legible and written in permanent ink?	Yes	No	1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No	1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No	1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	Yes	No	1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No	1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4
3.4 Have the samples been correctly preserved?	Yes	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4
3.8 Was method 5035A used?	Yes	No	N/A	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 7, 2019

Nick Rohrbach
GeoEngineers, Inc.
1101 Fawcett Avenue South, Suite 200
Tacoma, WA 98402

Re: Analytical Data for Project 004296-008-00
Laboratory Reference No. 1904-160B

Dear Nick:

Enclosed are the analytical results and associated quality control data for samples submitted on April 13, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

Case Narrative

Samples were collected on April 8, 9, 10, and 11, 2019 and received by the laboratory on April 13, 2019. They were maintained at the laboratory at a temperature of 2^oC to 6^oC.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SR05-D05-TCLP	04-160-19	Soil	4-11-19	4-13-19	
SR02-D09-Assay	04-160-20	Soil	4-11-19	4-13-19	

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

TCLP ARSENIC
EPA 1311/6020B

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR05-D05-TCLP**					
Laboratory ID:	04-160-19					
Arsenic	**ND**	0.025	EPA 6020B	5-3-19	5-6-19	

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

SPLP ARSENIC
EPA 1312/6020B

Matrix: SPLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SR05-D05-TCLP**					
Laboratory ID:	04-160-19					
Arsenic	**0.11**	0.025	EPA 6020B	5-6-19	5-6-19	

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

TCLP ARSENIC
EPA 1311/6020B
QUALITY CONTROL

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0503TM1					
Arsenic	**ND**	0.025	EPA 6020B	5-3-19	5-6-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-160-19										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	04-160-19										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**3.71**	**3.85**	4.00	4.00	ND	**93**	**96**	75-125	4	20	

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

TCLP ARSENIC
EPA 1311/6020B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Arsenic	ICV050619X	0.0500	0.0505	-1.0	+/- 10%
Arsenic	LLV050619X	0.000500	0.000509	-1.8	+/- 20%
Arsenic	CCV1050619X	0.0400	0.0411	-2.7	+/- 10%
Arsenic	CCV2050619X	0.0400	0.0420	-5.0	+/- 10%
Arsenic	CCV3050619X	0.0400	0.0420	-5.0	+/- 10%

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

SPLP ARSENIC
EPA 1312/6020B
QUALITY CONTROL

Matrix: SPLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0506SPM1					
Arsenic	**ND**	0.025	EPA 6020B	5-6-19	5-6-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-160-19										
	ORIG	DUP									
Arsenic	**0.111**	**0.134**	NA	NA		NA		NA	19	20	
MATRIX SPIKES											
Laboratory ID:	04-160-19										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**4.15**	**4.04**	4.00	4.00	0.111	**101**	**98**	75-125	3	20	

Date of Report: May 7, 2019
Samples Submitted: April 13, 2019
Laboratory Reference: 1904-160B
Project: 004296-008-00

SPLP ARSENIC
EPA 1312/6020B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Arsenic	ICV050619X	0.0500	0.0505	-1.0	+/- 10%
Arsenic	LLV050619X	0.000500	0.000509	-1.8	+/- 20%
Arsenic	CCV1050619X	0.0400	0.0411	-2.7	+/- 10%
Arsenic	CCV2050619X	0.0400	0.0420	-5.0	+/- 10%

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical ____________.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Rainier
ENVIRONMENTAL

Dangerous Waste Characterization

Sample ID: SR02-D09-Assay

Report date: May 7, 2019

Submitted to:

OnSite Environmental
14648 NE 95th Street
Redmond, WA 98052

Rainier Environmental
5013 Pacific Hwy East
Suite 20
Tacoma, WA 98424

1.0 INTRODUCTION

A dangerous waste characterization using the test organism *Oncorhynchus mykiss* (rainbow trout) was conducted on one sample submitted by OnSite Environmental to Rainier Environmental. Testing was conducted following the Washington State Department of Ecology Publication 80-12.

2.0 METHODS

The sample SR02-D09-Assay, was received in the laboratory on April 26, 2019. Upon arrival at the laboratory the sample was inspected and contents verified against information provided on the chain-of-custody form. The sample was stored at 4°C in the dark until use. The test procedure is outlined in Table 1.

Table 1. Summary of Dangerous Waste Characterization Test Conditions

Parameter	Standard Fish Toxicity Test
Test number	1905-002
Sample ID	SR02-D09-Assay
Test initiation date; time	5/2/2019; 0945h
Test termination date; time	5/6/2019; 1025h
Endpoint	Mortality at 96-hours
Test chamber	7.5 L Plastic tank
Test temperature	12 ± 1°C
Dilution water	Moderately hard synthetic water
Test solution volume	6 L
Test concentrations (mg/L)	100, 10, 0
Number of organisms/ chamber	10
Number of replicates	3
Test organism	*Oncorhynchus mykiss* (rainbow trout)
Feeding	No feeding during test
Photoperiod	16 hours light/ 8 hours dark
Extraction	Rotary agitation (30 +/- 2 rpm) for 18 hours
Reference Toxicant	Copper sulfate
Deviations	None

The test organisms used in the test are outlined in Table 2. The sample was tested using fish received on March 13, 2019.

Table 2. Test organisms (*Oncorhynchus mykiss*)

Test organism age	65 days post swim-up (hatch date 2/4/2019)
Mean weight	0.39 g
Mean length	40mm
Ratio of longest to shortest	1.2
Loading	0.67 g/L
Test organism source	Trout Lodge; Sumner, WA

3.0 RESULTS

A summary of results for the dangerous waste characterization conducted on sample SR02-D09-Assay is contained in Table 3. There was no mortality during the test. Based on these results, the sample does not designate as either a dangerous or extremely hazardous waste. Copies of the laboratory bench sheets, statistical summaries of reference toxicant tests, and chain-of-custody form are provided in Appendices A through C.

Table 3. Summary of Results

Sample ID	Concentration (mg/L)	Survival (# fish, N=30)	Percent Mortality	Dangerous Waste Designation
Control	0	30	0	NA
SR02-D09-Assay	10 100	30 30	0 0	None

4.0 QUALITY ASSURANCE

The most recently completed reference toxicant test was initiated April 19, 2019. The LC_{50} of 83.1 µg/L copper fell within the acceptable range of mean ± two standard deviations of historical test results indicating that the test organisms were of an appropriate degree of sensitivity. The coefficient of variation (CV) for the last 21 tests was 20.6 percent, which is considered excellent by the Biomonitoring Science Advisory Board.

5.0 REFERENCES

WDOE. 2008. Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria. Washington State Department of Ecology. Water Quality Program. Publication number: WQ-R-95-80, Revised December 2008.

WDOE. 2009. Biological Testing Methods 80-12 for the Designation of Dangerous Waste. Washington State Department of Ecology. Hazardous Waste and Toxics Reduction Program. Publication number: 80-12, Revised June 2009.

Appendix A
Oncorhynchus mykiss Dangerous Waste Toxicity Test
Raw Bench Sheets

Dangerous Waste Toxicity Test

Client: ONSITE ENVIRONMENTAL
Sample ID: SR02-D09-ASSAY
Test #: 1905-002
Log In #: T19-072

Start Date & Time: 5/2/19 0945
End Date & Time: 5/6/19 1025
Test Organism: *Oncorhynchus mykiss*
Test Protocol: **Washington State Department of Ecology Publ. 80-12**

Rep	Conc.	Cont #	Number of Live Organisms					Dissolved Oxygen (mg/L)					pH (units)					Conductivity (umhos/cm)					Temperature (°C)					Percent Survival
			0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	
1	CON	6	10	10	10	10	10	9.1	8.7	8.4	8.0	7.5	7.62	7.57	7.41	7.25	7.18	282				295	12.0	12.3	12.1	11.8	12.3	
2		10	10	10	10	10	10	8.8	8.5	8.3	7.8	7.2	7.67	7.53	7.40	7.25	7.15	282				297						
3		2	10	10	10	10	10	8.7	8.4	8.1	8.0	7.8	7.71	7.54	7.37	7.22	7.20	283				298						
1	10PPM	16	10	10	10	10	10	8.9	8.5	8.0	7.6	7.4	7.75	7.52	7.34	7.15	7.11	282				297	12.0	12.5	12.1	11.8	12.1	
2		13	10	10	10	10	10	8.7	8.3	7.8	7.5	7.2	7.72	7.51	7.35	7.18	7.12	285				301						
3		24	10	10	10	10	10	8.7	8.5	8.1	7.9	7.5	7.72	7.51	7.31	7.19	7.14	281				292						
1	100PPM	18	10	10	10	10	10	8.9	8.6	8.2	8.0	7.8	7.72	7.50	7.27	7.21	7.18	281				295	12.1	12.4	12.1	11.9	12.2	
2		11	10	10	10	10	10	9.0	8.7	8.2	7.8	7.7	7.71	7.53	7.31	7.17	7.15	284				294						
3		27	10	10	10	10	10	8.9	8.4	8.0	7.8	7.4	7.72	7.54	7.30	7.99	7.14	283				297						
1																												
2																												
3																												
1																												
2																												
3																												
1																												
2																												
3																												
1																												
2																												
3																												
Technician Initials			Ct	Ct	Ct	Ct	Ct	Ct	Ct	Ct	Ct	Ct																

Sample	Alk. (init.)	Hard. (init.)	Alk. (fin.)	Hard. (fin.)	Chlorine
	(mg/L as CaCO3)				(mg/L Cl2)
Control	64	92	64	96	<0.03
100PPM	64	92	64	92	

Animal Source: Trout Lodge
Date Received: 3/13/19
Test Volume: 6.0L
Date of Hatch: 2/4/19
Date of Swim up: 2/25/19

Weights (g): .41 .37 .38 .37 .40 .40 .36 .4 .42 .41 μ = .39
Lengths(mm): 40 38 39 38 41 41 37 40 43 40 μ = 40
Length max/min: 43/37 1.2
Loading: 0.67 g/L

Rainier Environmental
Washington Laboratory
5013 Pacific HWY E Suite 20
Tacoma, WA 98424

Dilution Water Source: MHSW 031
QA Check Ct

Appendix B

Reference Toxicant Test

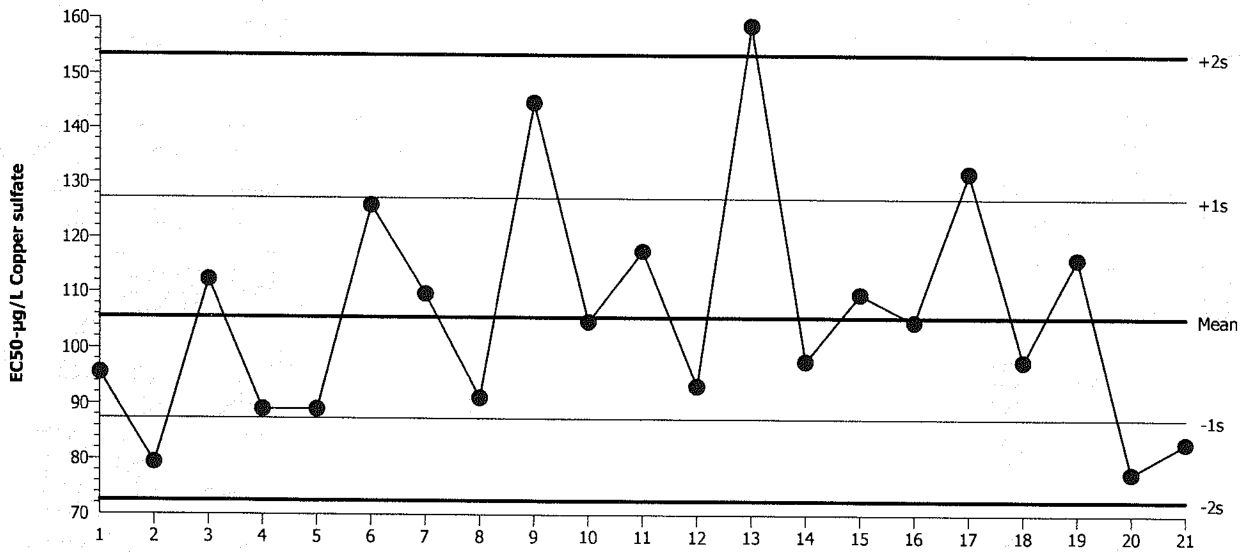
Control Chart and Statistical Summary

CETIS QC Plot

Fish 96-h Acute Survival Test — **Rainier Environmental Laboratory**

Test Type:	Survival (96h)	**Organism:**	Oncorhynchus mykiss (Rainbow Tro	**Material:**	Copper sulfate
Protocol:	Not Applicable	**Endpoint:**	96h Survival Rate	**Source:**	Reference Toxicant-REF

Fish 96-h Acute Survival Test



Mean:	105.5	**Count:**	20	**-1s Warning Limit:**	87.5	**-2s Action Limit:**	72.54
Sigma:	NA	**CV:**	20.60%	**+1s Warning Limit:**	127.3	**+2s Action Limit:**	153.5

Quality Control Data

Point	Year	Month	Day	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2017	Jul	5	95.48	-10.05	-0.5338			15-6974-4640	17-7171-1787
2		Aug	9	79.37	-26.16	-1.52	(-)		14-0940-5366	14-5578-7811
3		Sep	6	112.2	6.716	0.3292			20-3302-1945	19-8536-6321
4		Oct	10	89.09	-16.44	-0.9037			16-6680-8798	20-0898-2992
5		Nov	14	89.09	-16.44	-0.9037			03-8806-4974	08-0487-5780
6		Dec	17	126	20.46	0.9457			21-2907-2796	14-7957-6406
7	2018	Jan	16	109.7	4.152	0.2059			07-7088-1157	16-4889-5798
8		Feb	15	91.17	-14.36	-0.7804			06-6357-5370	00-6522-6981
9		Mar	17	144.7	39.2	1.685	(+)		00-4331-1834	10-4388-1035
10		Apr	21	104.7	-0.8011	-0.04066			00-5606-6972	09-2556-2363
11		May	23	117.6	12.02	0.5758			20-2785-4749	16-3316-3415
12		Jun	20	93.3	-12.23	-0.6571			05-6858-8909	21-3433-5668
13		Jul	25	158.7	53.21	2.179	(+)	(+)	03-7661-5860	05-4916-3169
14		Aug	30	97.72	-7.814	-0.4105			01-6631-0399	00-2872-0274
15		Oct	5	109.7	4.152	0.2059			09-8718-1650	14-5303-2875
16		Nov	6	104.7	-0.8011	-0.04066			20-5282-8357	01-3690-0719
17		Dec	5	132	26.42	1.192	(+)		01-4499-1094	07-5652-1457
18	2019	Jan	7	97.72	-7.814	-0.4105			03-9395-5944	09-6087-0434
19		Feb	9	116.1	10.61	0.5113			13-6349-4914	05-5573-8325
20		Mar	12	77.56	-27.97	-1.643	(-)		03-9582-1391	08-0363-8342
21		Apr	19	83.12	-22.41	-1.274	(-)		16-0727-4914	09-8538-6220

Analyst: VT QA: VT

CETIS Summary Report

Report Date:	25 Apr-19 12:28 (p 1 of 1)		
Test Code:	RA041919OM | 16-0727-4914		

Fish 96-h Acute Survival Test — **Rainier Environmental Laboratory**

Batch ID:	17-1999-0854	**Test Type:**	Survival (96h)	**Analyst:**	Eric Tollefson
Start Date:	19 Apr-19 15:30	**Protocol:**	Not Applicable	**Diluent:**	Mod-Hard Synthetic Water
Ending Date:	23 Apr-19 15:15	**Species:**	Oncorhynchus mykiss	**Brine:**	
Duration:	96h	**Source:**	Trout Lodge Fish Farm	**Age:**	52d

Sample ID:	09-3050-7889	**Code:**	RA041919OM	**Client:**	Internal Lab
Sample Date:	19 Apr-19	**Material:**	Copper sulfate	**Project:**	
Receive Date:	19 Apr-19	**Source:**	Reference Toxicant		
Sample Age:	16h	**Station:**	In House		

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
10-8271-5589	96h Survival Rate	50	100	70.71	16.1%		Dunnett Multiple Comparison Test

Point Estimate Summary

Analysis ID	Endpoint	Level	µg/L	95% LCL	95% UCL	TU	Method
09-8538-6220	96h Survival Rate	LC50	83.12	70.5	98		Spearman-Kärber

96h Survival Rate Summary

C-µg/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	3	1	1	1	1	1	0	0	0.0%	0.0%
25		3	1	1	1	1	1	0	0	0.0%	0.0%
50		3	0.8333	0.7902	0.8765	0.7	0.9	0.06667	0.1155	13.86%	16.67%
100		3	0.3333	0.2763	0.3904	0.2	0.5	0.08819	0.1528	45.83%	66.67%
200		3	0.06667	0.02355	0.1098	0	0.2	0.06667	0.1155	173.2%	93.33%
400		3	0	0	0	0	0	0	0		100.0%

96h Survival Rate Detail

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	1	1	1
25		1	1	1
50		0.9	0.7	0.9
100		0.5	0.2	0.3
200		0	0.2	0
400		0	0	0

96h Survival Rate Binomials

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	10/10	10/10	10/10
25		10/10	10/10	10/10
50		9/10	7/10	9/10
100		5/10	2/10	3/10
200		0/10	2/10	0/10
400		0/10	0/10	0/10

Appendix C
Chain-of-Custody Form

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 · (425) 883-3881

Laboratory Reference #: 04-160

Laboratory: Rainier Environmental

Attention: Eric Tollefson

Address: 5013 Pacific Highway E, Suite 20, Fife, WA 98424

Phone Number: (253) 922-8898

Turnaround Request

1 Day 2 Day 3 Day

Standard

Other:

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: 004296-008-00

Project Name:

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analyses
1	SR02-D09-Assay	4/11/19	1230	Solid	1	Fish Bioassay (Dangerous Waste 80-12 Test)

Signature	Company	Date	Time	Comments/Special Instructions
Relinquished by: [signature]	OSE	4/25/19	1600	Login # T19-092
Received by:	UPS			
Relinquished by:	UPS			
Received by: Eric Tollefson	RAINIER	4/26/19	1300	
Relinquished by:				
Received by:				

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Laboratory Number: 04-160

Company: GeoEngineers
Project Number: 004296-008-00
Project Name: Saddle Rock IRA
Project Manager: Nick Rohrbach
Sampled by: Tobias / Hanna

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ ________ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	+ Total As, Ba, Fe, Pb, Mn, Hg,	Total Se, Ag				% Moisture
1	~~SR05-US-01~~ SR03-DS-01-2-4	4/9/19	1330	SS	1																X						X
2	~~SR05-US-02~~ SR08-DS-03-4-6	4/9/19	1018	SS																	X						
3	~~SR05-DS-01~~ SR01-DS-07-4-6	4/8/19	1205	SS																	X	X	X				
4	~~SR05-DS-02~~ SR01-DS-03-4-6	4/8/19	1128	SS																	X						
5	~~SR05-DS-03~~ SR08-DS-04-2-4	4/9/19	1025	SS																	X						
6	~~SR05-DS-04~~ SR03-DS-05-2-4	4/9/19	1410	SS																	X						
7	SR02-DS-05-2-4	4/8/19	1544																		X						
8	SR02-DS-01-4-6	4/8/19	1558																		X						
9	SR03-DS-03-4-6	4/9/19	1354																		X						
10	SR03-DS-09-4-6	4/9/19	1505																		X	X	X				

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers	4/11/19	1700
Received	[signature]	OnSite Env	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

+ Added 4/25/19. DB (STA)

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ________

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: GeoEngineers
Project Number: 004296-008-00
Project Name: Saddle Rock IRA
Project Manager: Nick Rohrbach
Sampled by:

Turnaround Request (in working days)
(Check One)
- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ ______ (other)

Laboratory Number: 04-160

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	Total As, Ba, Fe, Pb, Mn, Hg,	Total Se, Ag				% Moisture
11	~~SR06-DS-01~~ SR05-DS-02-2-4	4/10/19	1822	SS	1																X						X
12	~~SR06-DS-02~~ SR05-DS-03-0-2	4/10/19	1832	SS																	X						
13	~~SR06-DS-03~~ SR05-DS-07-0-2	4/11/19	1104	SS																	X	X	X				
14	~~SR06-DS-04~~ SR04-US-03-4-6	4/11/19	654	SS																	X						
15	~~SR06-DS-05~~ SR04-US-01-2-4	4/11/19	642	SS																	X						
16	~~SR06-DS-06~~ SR04-US-05-4-6	4/11/19	703	SS																	X						
17	SR04-DS-02-4-6	4/11/19	728	SS																	X						
18	SR04-DS-03-~~2~~0-2	4/11/19	735	SS																	X						

	Signature	Company	Date	Time
Relinquished		GeoEngineers	4/11/19	1700
Received		OnSite Env	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ________

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: GeoEngineers
Project Number: 004296-008-00
Project Name: Saddle Rock IRA
Project Manager: Nick Rohrbach
Sampled by: Tobias / Hanna

Turnaround Request (in working days)
(Check One)
- [ ] Same Day
- [ ] 1 Day
- [ ] 2 Days
- [ ] 3 Days
- [x] Standard (7 Days) (TPH analysis 5 Days)
- [ ] ______ (other)

Laboratory Number: 04-160

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664	Total As	TCLP/SPLP As	Bioassay Fe (Method 80-12)	Total Fe	Bioassay Al (Method 80-12)	Total Al	% Moisture
19	SR05-D05-TCLP	4/11/19	1330	WR	1																X	●					X
20	SR02-D09-Assay	4/11/19	1230	WR	↓																		●	X			↓
21	SR06-C02-D-Assay	4/10/19	1130	WR	↓																				●	X	↓

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers	4/11/19	1700
Received	[signature]	OnSite Env	4/13/19	1130
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Run for totals, hold for TCLP/SPLP and Bioassay pending Totals results.

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☒ Electronic Data Deliverables (EDDs) ☐ ______

Sample/Cooler Receipt and Acceptance Checklist

Client: GET

Client Project Name/Number: 004296-008-00

OnSite Project Number: 04-160

Initiated by: BG/MV

Date Initiated: 4/13/19

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1 2 3 4
1.2 Were the custody seals intact?	Yes	No	N/A	1 2 3 4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1 2 3 4
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature: 4°C	
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	N/A		
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No	1 2 3 4
2.2 Was the COC legible and written in permanent ink?	Yes	No	1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No	1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No	1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	Yes	No	1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No	1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4
3.4 Have the samples been correctly preserved?	Yes	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4
3.8 Was method 5035A used?	Yes	No	N/A	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

ATTACHMENT E
ProUCL Stats Results and Graphical Chart Presentations
(Chart 1 through 6)

Attachment E-1
All Pile Background Assessment

6	SR03-US-04-2-4
7	SR03-US-01-4-6
7	SR03-US-04-4-6
7	SR08-US-02-0-2
7	SR08-US-02-4-6
8	SR03-US-02-4-6
8	SR04-US-01-2-4
8	SR08-US-02-2-4
9	SR03-US-02-2-4
9	SR03-US-04-0-2
9	SR04-US-02-0-2
11	SR03-US-03-0-2
11	SR04-US-02-4-6
12	SR03-US-01-0-2
12	SR04-US-01-4-6
13	SR03-US-01-2-4
13	SR04-US-02-2-4
14	SR08-US-01-4-6
14	SR08-US-03-4-6
15	SR04-US-01-0-2
15	SR04-US-04-0-2
15	SR05-US-06-4-6
16	SR01-US-04-4-6
16	SR03-US-03-4-6
16	SR08-US-03-2-4
17	SR03-US-02-0-2
17	SR04-US-04-2-4
17	SR04-US-04-4-6
18	SR02-US-02-4-6
18	SR02-US-05-2-4
18	SR05-US-06-2-4
18	SR08-US-03-0-2
19	SR01-US-04-0-2
20	SR05-US-06-0-2
20	SR08-US-01-0-2
21	SR01-US-04-2-4
21	SR03-US-05-0-2
21	SR08-US-01-2-4
23	SR05-US-03-4-6
24	SR02-US-02-0-2
25	SR01-US-05-0-2
25	SR04-US-05-0-2
26	SR02-US-02-2-4
26	SR03-US-03-2-4
27	SR02-US-03-0-2
28	SR02-US-03-4-6
28	SR04-US-05-2-4
28	SR05-US-03-0-2
28	SR05-US-03-2-4
29	SR02-US-03-2-4
29	SR02-US-05-0-2
29	SR03-US-05-2-4
29	SR04-US-05-4-6
30	SR01-US-05-4-6
32	SR01-US-05-2-4
33	SR01-US-01-0-2
33	SR02-US-01-2-4
36	SR02-US-01-4-6

Saddle Rock - Background All

MTCA*Stat* 3.0

Number of samples		Uncensored values	
Uncensored	91	Mean	45.42
Censored	0	.ognormal mean	43.84
TOTAL	91	Std. devn.	56.16
		Median	28
		Min.	6
		Max.	433

Lognormal distribution? r-squared is: 0.98

Normal distribution? r-squared is: 0.59

Recommendations:

Use lognormal distribution.

Distribution selection	Enter percentile	Value corresponding to that percentile is:
1	90	94.99
1 = Lognormal	50th	29.39
2 = Normal	4 X 50th	117.55
3 = Nonparametric method		

Coefficient of Variation = 1.15

36	SR02-US-05-4-6
39	SR02-US-04-0-2
40	SR05-US-01-2-4
42	SR01-US-01-2-4
44	SR02-US-04-2-4
44	SR05-US-01-4-6
44	SR08-US-06-2-4
47	SR02-US-04-4-6
56	SR05-US-01-0-2
59	SR05-US-02-0-2
63	SR05-US-02-2-4
65	SR01-US-02-4-6
67	SR05-US-02-4-6
70	SR01-US-01-4-6
70	SR01-US-02-2-4
71	SR01-US-03-0-2
71	SR01-US-03-2-4
71	SR04-US-03-0-2
72	SR02-US-01-0-2
73	SR01-US-03-4-6
75	SR01-US-02-0-2
89	SR08-US-05-2-4
89	SR08-US-05-4-6
99	SR04-US-03-2-4
101	SR03-US-05-4-6
111	SR08-US-05-0-2
136	SR05-US-05-0-2
138	SR05-US-05-4-6
144	SR08-US-06-0-2
144	SR08-US-07-0-2
153	SR05-US-05-2-4
186	SR04-US-03-4-6
433	SR08-US-06-4-6

UCL Statistics for Uncensored Full Data Sets			
User Selected Options			
Date/Time of Computation	ProUCL 5.16/8/2019 7:49:57 AM		
From File	WorkSheet.xls		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
Upslope All			
General Statistics			
Total Number of Observations	91	Number of Distinct Observations	51
		Number of Missing Observations	0
Minimum	6	Mean	45.42
Maximum	433	Median	28
SD	56.16	Std. Error of Mean	5.887
Coefficient of Variation	1.237	Skewness	4.185
Normal GOF Test			
Shapiro Wilk Test Statistic	0.627	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk P Value	0	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.241	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.0931	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	55.2	95% Adjusted-CLT UCL (Chen-1995)	57.86
		95% Modified-t UCL (Johnson-1978)	55.63
Gamma GOF Test			
A-D Test Statistic	2.175	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.776	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.149	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.0959	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.29	k star (bias corrected MLE)	1.255
Theta hat (MLE)	35.22	Theta star (bias corrected MLE)	36.2
nu hat (MLE)	234.7	nu star (bias corrected)	228.3
MLE Mean (bias corrected)	45.42	MLE Sd (bias corrected)	40.55
		Approximate Chi Square Value (0.05)	194.3
Adjusted Level of Significance	0.0474	Adjusted Chi Square Value	193.8
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	53.36	95% Adjusted Gamma UCL (use when n<50)	53.5
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.966	**Shapiro Wilk Lognormal GOF Test**	

5% Shapiro Wilk P Value	0.0945	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0883	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.0931	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.792	Mean of logged Data	3.381
Maximum of Logged Data	6.071	SD of logged Data	0.894
Assuming Lognormal Distribution			
95% H-UCL	53.68	90% Chebyshev (MVUE) UCL	57.82
95% Chebyshev (MVUE) UCL	64.27	97.5% Chebyshev (MVUE) UCL	73.22
99% Chebyshev (MVUE) UCL	90.81		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	55.1	95% Jackknife UCL	55.2
95% Standard Bootstrap UCL	55.19	95% Bootstrap-t UCL	59.65
95% Hall's Bootstrap UCL	65.71	95% Percentile Bootstrap UCL	55.9
95% BCA Bootstrap UCL	58.4		
90% Chebyshev(Mean, Sd) UCL	63.08	95% Chebyshev(Mean, Sd) UCL	71.08
97.5% Chebyshev(Mean, Sd) UCL	82.18	99% Chebyshev(Mean, Sd) UCL	104
Suggested UCL to Use			
95% H-UCL	53.68		
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
Recommendations are based upon data size, data distribution, and skewness.			
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).			
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.			
ProUCL computes and outputs H-statistic based UCLs for historical reasons only.			
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.			
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.			
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.			

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.16/12/2019 10:34:36 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	0.95

As Upslope

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	91	0	91	85	6	6.59%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	6	6	11	8	7.5	1.789
Statistics (Non-Detects Only)	85	7	433	48.06	28	57.2
Statistics (All: NDs treated as DL value)	91	6	433	45.42	28	56.16
Statistics (All: NDs treated as DL/2 value)	91	3	433	45.15	28	56.35
Statistics (Normal ROS Imputed Data)	91	-70.42	433	41.41	28	60.8
Statistics (Gamma ROS Imputed Data)	91	0.01	433	44.89	28	56.55
Statistics (Lognormal ROS Imputed Data)	91	3.522	433	45.22	28	56.3

	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	1.398	1.356	34.39	3.474	0.849	0.244
Statistics (NDs = DL)	1.29	1.255	35.22	3.381	0.894	0.265
Statistics (NDs = DL/2)	1.191	1.159	37.91	3.335	0.976	0.293
Statistics (Gamma ROS Estimates)	0.7	0.684	64.11	2.941	2.177	0.74
Statistics (Lognormal ROS Estimates)	--	--	--	3.349	0.947	0.283

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.768	0.767	0.773	0.839

	Apr. Test	P Value	Conclusion with Alpha(0.05)
Shapiro-Wilk (Detects Only)	0.629	0	Data Not Normal
Shapiro-Wilk (NDs = DL)	0.627	0	Data Not Normal
Shapiro-Wilk (NDs = DL/2)	0.636	0	Data Not Normal
Shapiro-Wilk (Normal ROS Estimates)	0.751	0	Data Not Normal
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Lilliefors (Detects Only)	0.236	0.0962	Data Not Normal
Lilliefors (NDs = DL)	0.241	0.0931	Data Not Normal
Lilliefors (NDs = DL/2)	0.227	0.0931	Data Not Normal
Lilliefors (Normal ROS Estimates)	0.22	0.0931	Data Not Normal

Gamma GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.919	0.922	0.928	0.949

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Detects Only)	2.242	0.773	
Kolmogorov-Smirnov (Detects Only)	0.154	0.099	Data Not Gamma Distributed
Anderson-Darling (NDs = DL)	2.175	0.776	
Kolmogorov-Smirnov (NDs = DL)	0.149	0.0959	Data Not Gamma Distributed
Anderson-Darling (NDs = DL/2)	1.513	0.778	
Kolmogorov-Smirnov (NDs = DL/2)	0.135	0.0961	Data Not Gamma Distributed
Anderson-Darling (Gamma ROS Estimates)	3.557	0.799	
Kolmogorov-Smirnov (Gamma ROS Est.)	0.173	0.0978	Data Not Gamma Distributed

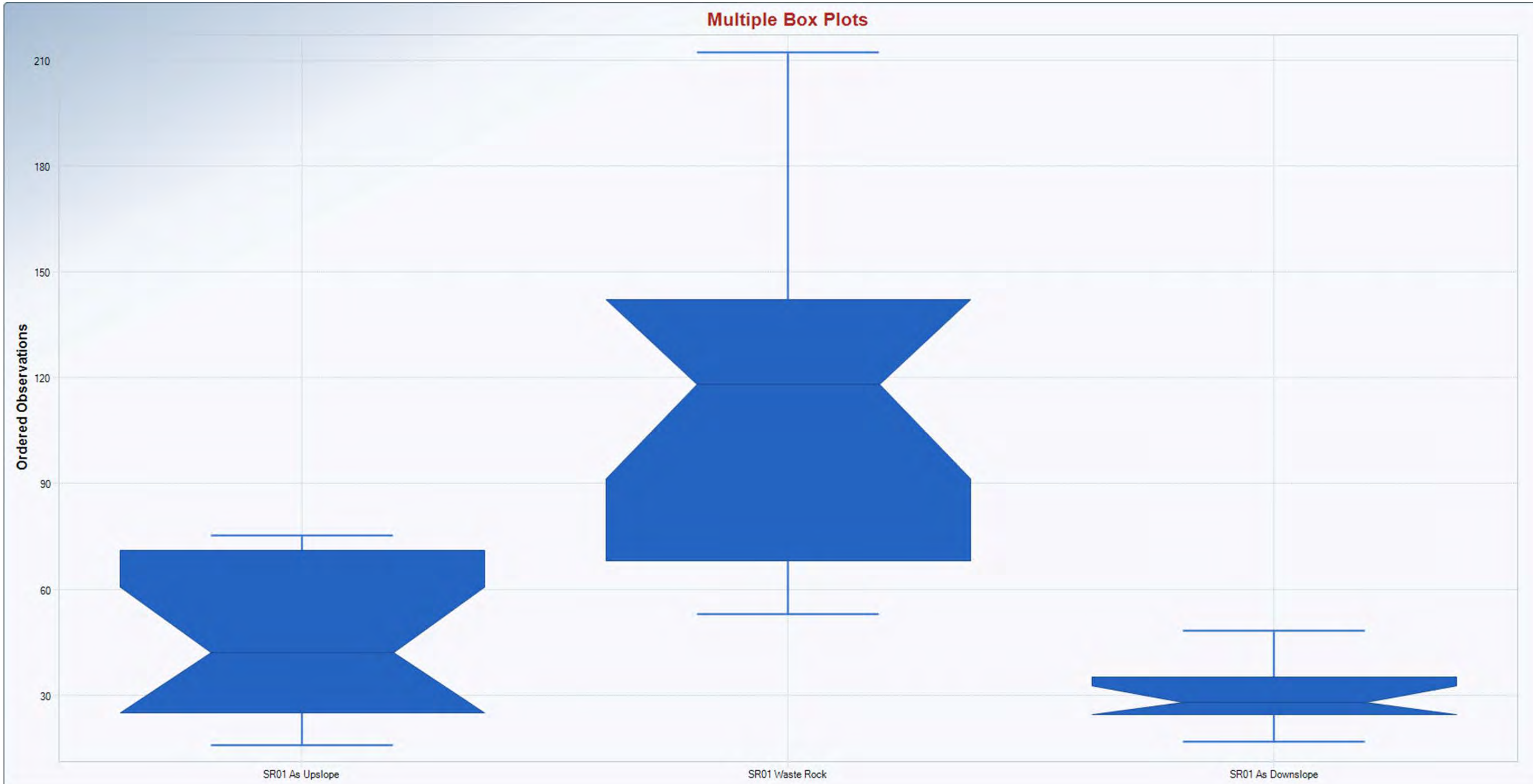
Lognormal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.987	0.989	0.995	0.995

	Apr. Test	P Value	Conclusion with Alpha(0.05)
Shapiro-Wilk (Detects Only)	0.966	0.0989	Data Appear Lognormal
Shapiro-Wilk (NDs = DL)	0.966	0.0945	Data Appear Lognormal
Shapiro-Wilk (NDs = DL/2)	0.983	0.682	Data Appear Lognormal
Shapiro-Wilk (Lognormal ROS Estimates)	0.983	0.716	Data Appear Lognormal
	Test value	**Crit. (0.05)**	**Conclusion with Alpha(0.05)**
Lilliefors (Detects Only)	0.103	0.0962	Data Not Lognormal
Lilliefors (NDs = DL)	0.0883	0.0931	Data Appear Lognormal
Lilliefors (NDs = DL/2)	0.0692	0.0931	Data Appear Lognormal
Lilliefors (Lognormal ROS Estimates)	0.0749	0.0931	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Attachment E-2
Box and Whisker Charts



Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

Box and Whisker Chart

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

GeoEngineers

SR01

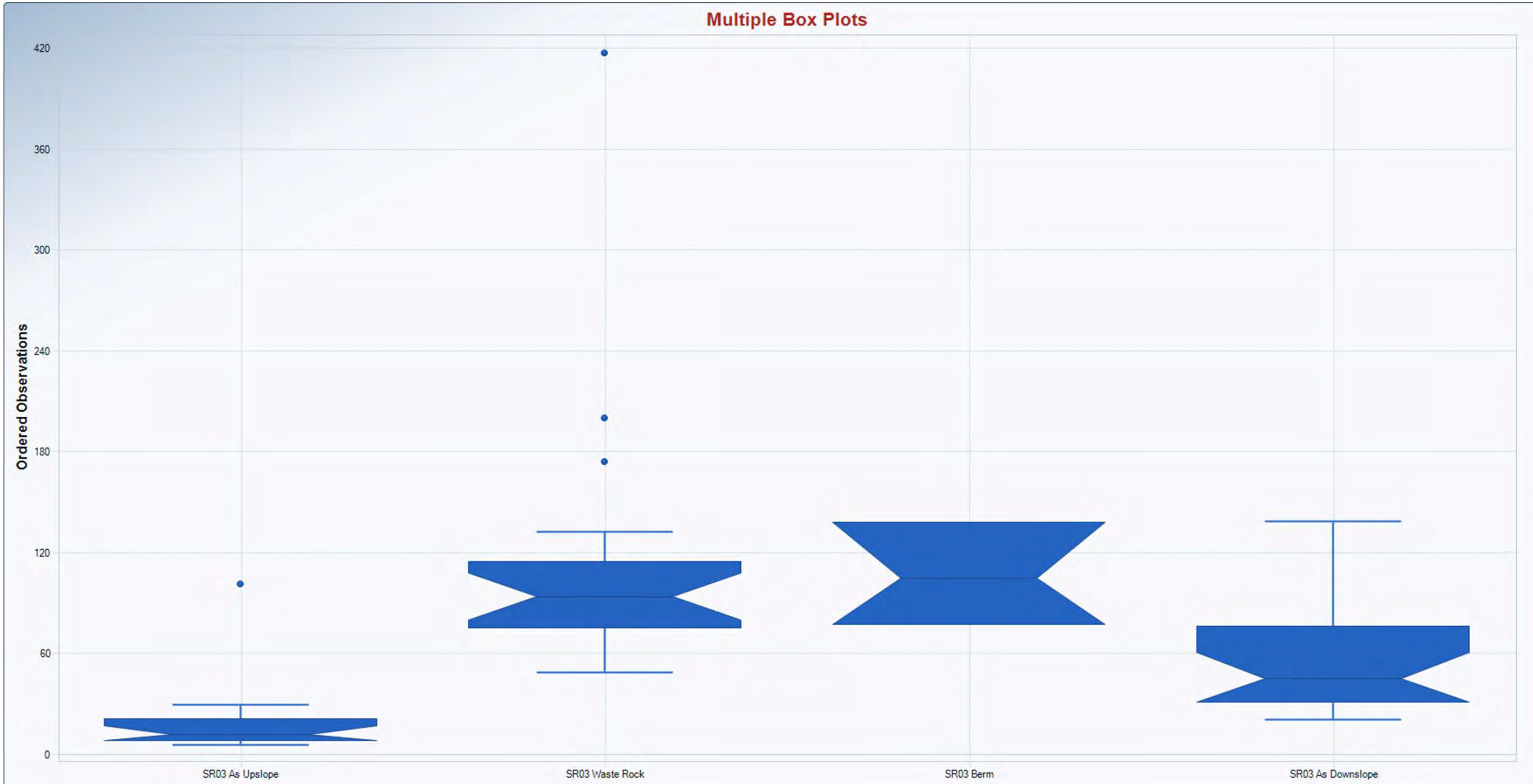
4296-008-00 Date Exported: 06/26/2019

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

Box and Whisker Chart	
Saddle Rock Interim Remedial Action Project Wenatchee, Washington	
GeoEngineers	SR02

4296-008-00 Date Exported: 06/26/2019



4296-008-00 Date Exported: 06/26/2019

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

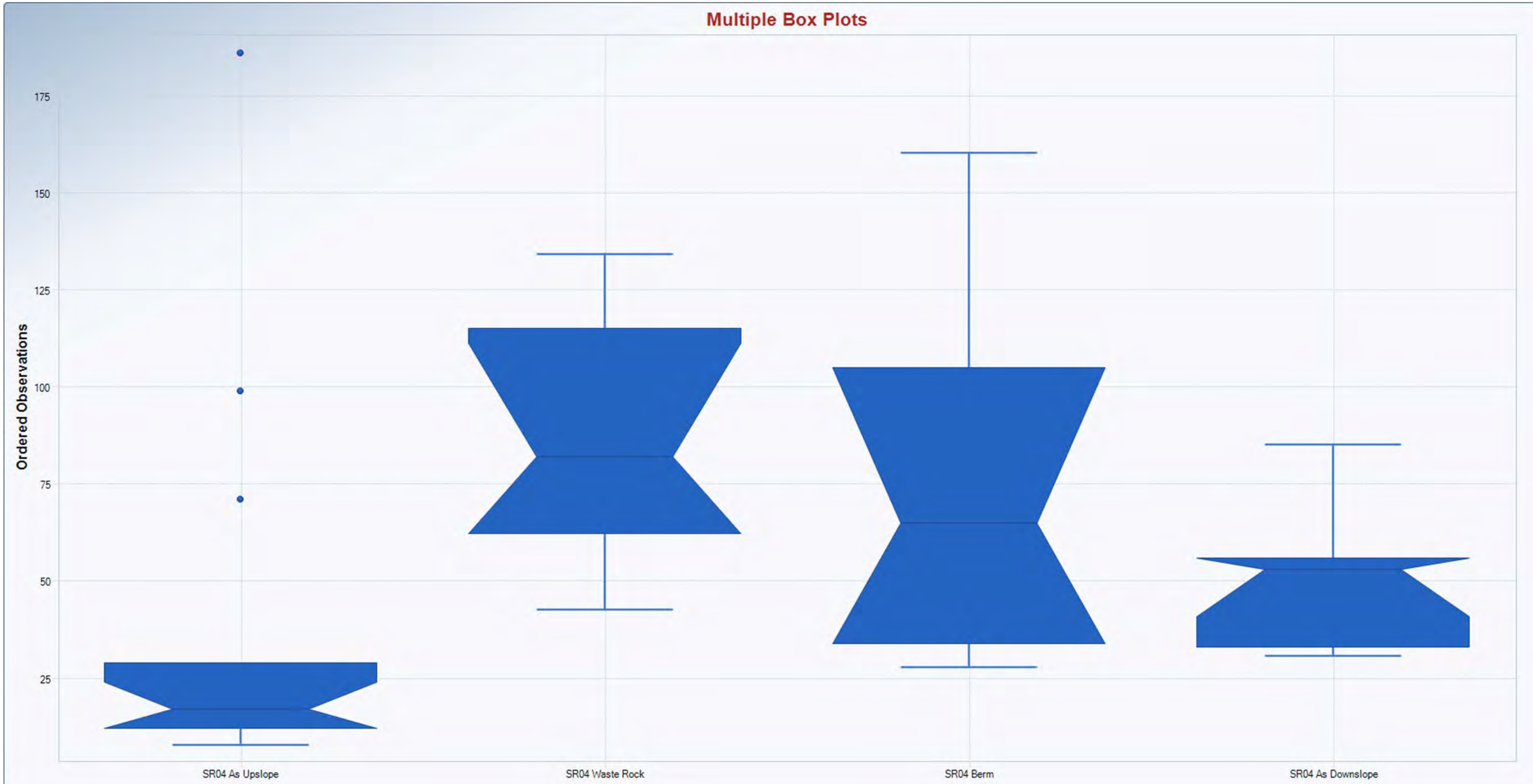
Data Source: ProUCL 5.16/12/2019 2:52:52 PM

Box and Whisker Chart

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

GeoEngineers

SR03



Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

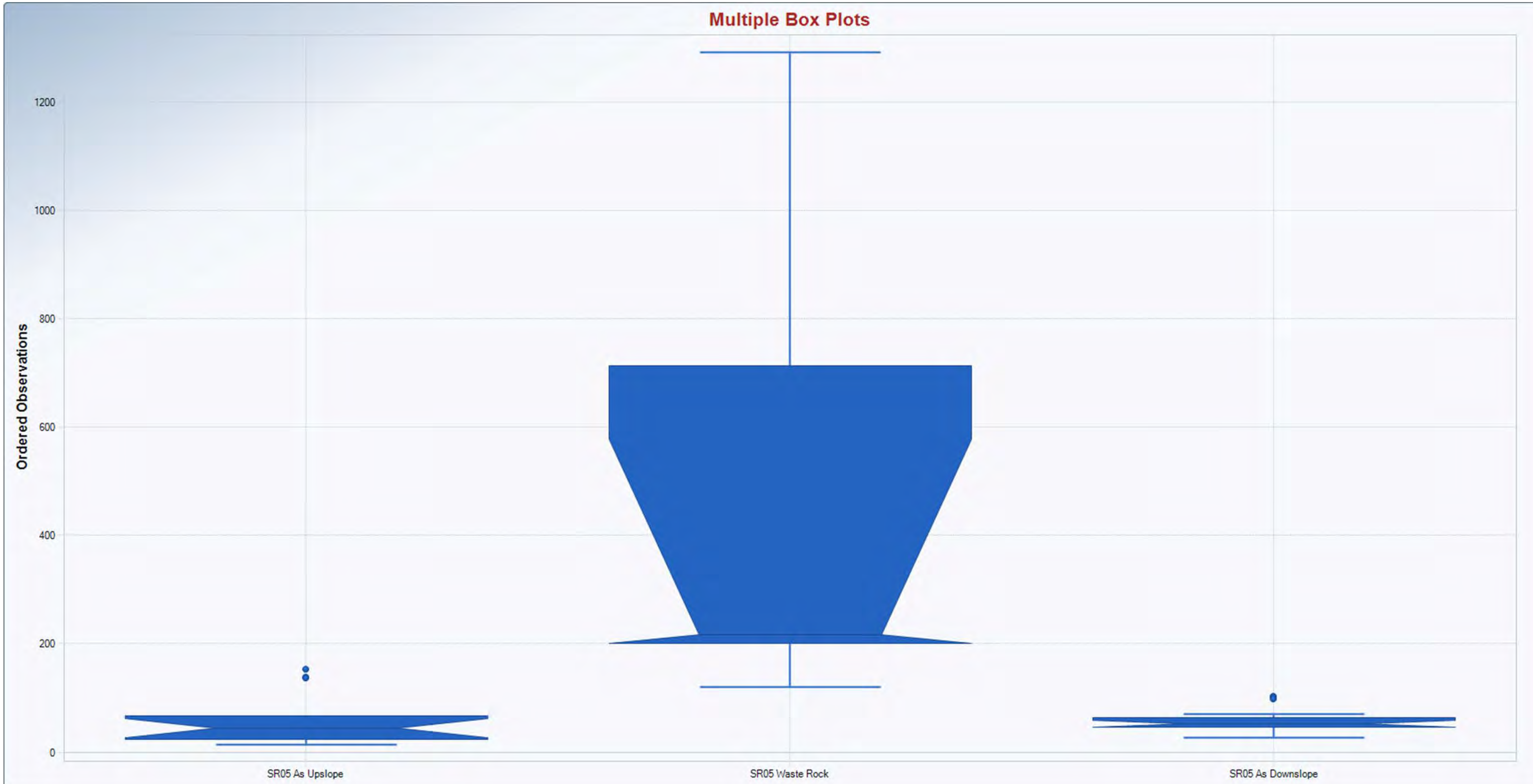
Box and Whisker Chart

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

GEOENGINEERS

SR04

4296-008-00 Date Exported: 06/26/2019

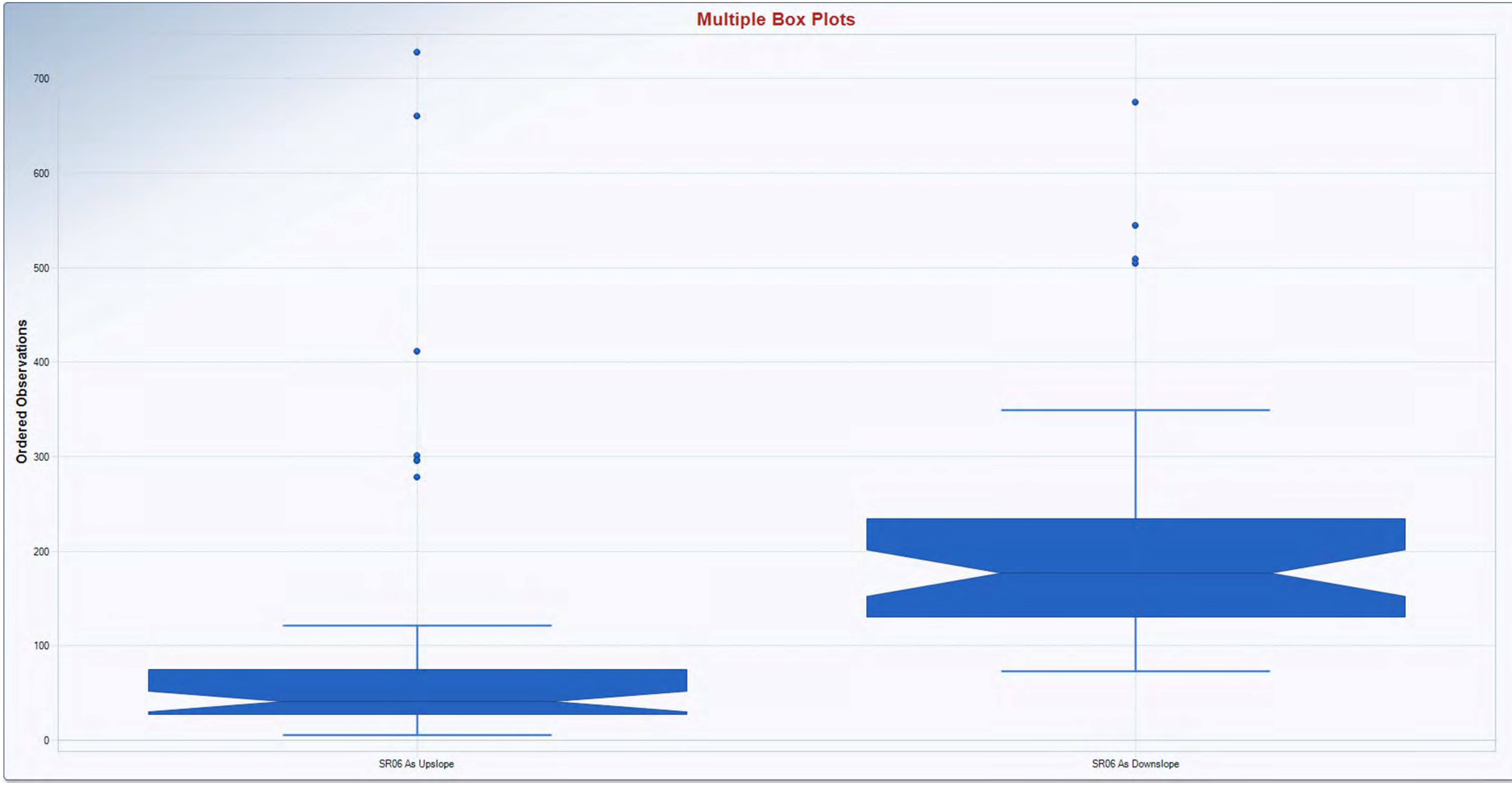


Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

4296-008-00 Date Exported: 06/26/2019

Box and Whisker Chart	
Saddle Rock Interim Remedial Action Project Wenatchee, Washington	
GEOENGINEERS	SR05



Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

Box and Whisker Chart	
Saddle Rock Interim Remedial Action Project Wenatchee, Washington	
GeoEngineers	SR06

4296-008-00 Date Exported: 06/26/2019

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

Box and Whisker Chart

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

GEOENGINEERS

SR08

4296-008-00 Date Exported: 06/26/2019

Attachment E-3
Individual Pile Background Assessment

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.16/8/2019 7:07:07 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

SR01 As Upslope

General Statistics			
Total Number of Observations	15	Number of Distinct Observations	13
		Number of Missing Observations	0
Minimum	16	Mean	47.53
Maximum	75	Median	42
SD	23.34	Std. Error of Mean	6.028
Coefficient of Variation	0.491	Skewness	-0.0388
Normal GOF Test			
Shapiro Wilk Test Statistic	0.828	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.881	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.239	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.22	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	58.15	95% Adjusted-CLT UCL (Chen-1995)	57.38
		95% Modified-t UCL (Johnson-1978)	58.14
Gamma GOF Test			
A-D Test Statistic	1.007	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.741	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.259	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.223	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	3.844	k star (bias corrected MLE)	3.119
Theta hat (MLE)	12.37	Theta star (bias corrected MLE)	15.24
nu hat (MLE)	115.3	nu star (bias corrected)	93.58
MLE Mean (bias corrected)	47.53	MLE Sd (bias corrected)	26.91
		Approximate Chi Square Value (0.05)	72.27
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	69.97
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	61.55	95% Adjusted Gamma UCL (use when n<50)	63.57

Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.856	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.881	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.253	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.22	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	2.773	Mean of logged Data	3.726
Maximum of Logged Data	4.317	SD of logged Data	0.564
Assuming Lognormal Distribution			
95% H-UCL	67.2	90% Chebyshev (MVUE) UCL	69.89
95% Chebyshev (MVUE) UCL	79.77	97.5% Chebyshev (MVUE) UCL	93.48
99% Chebyshev (MVUE) UCL	120.4		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	57.45	95% Jackknife UCL	58.15
95% Standard Bootstrap UCL	57.1	95% Bootstrap-t UCL	58.14
95% Hall's Bootstrap UCL	56.64	95% Percentile Bootstrap UCL	56.93
95% BCA Bootstrap UCL	57.4		
90% Chebyshev(Mean, Sd) UCL	65.62	95% Chebyshev(Mean, Sd) UCL	73.81
97.5% Chebyshev(Mean, Sd) UCL	85.18	99% Chebyshev(Mean, Sd) UCL	107.5
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	73.81		
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
Recommendations are based upon data size, data distribution, and skewness.			
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).			
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.			
Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be			
reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.			

16	SR01-US-04-4-6	Saddle Rock - SR01 Background
19	SR01-US-04-0-2	
21	SR01-US-04-2-4	
25	SR01-US-05-0-2	
30	SR01-US-05-4-6	
32	SR01-US-05-2-4	
33	SR01-US-01-0-2	
42	SR01-US-01-2-4	
65	SR01-US-02-4-6	
70	SR01-US-01-4-6	
70	SR01-US-02-2-4	
71	SR01-US-03-0-2	
71	SR01-US-03-2-4	
73	SR01-US-03-4-6	
75	SR01-US-02-0-2	

MTCA*Stat* 3.0

Number of samples		Uncensored values	
Uncensored	15	Mean	47.53
Censored	0	Lognormal mean	48.67
TOTAL	15	Std. devn.	23.34
		Median	42
		Min.	16
		Max.	75

Lognormal distribution? Normal distribution?

r-squared is: 0.88 r-squared is: 0.85

Recommendations:

Use nonparametric method.

Distribution selection	Enter percentile	Value corresponding to that percentile is:
3	90	73.80
1 = Lognormal	50th	42.00
2 = Normal	4 X 50th	168.00
3 = Nonparametric method	Coefficient of Variation = N/A	

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.16/8/2019 7:14:32 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

SR02 As Upslope

General Statistics

Total Number of Observations	15	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	18	Mean	33.73
Maximum	72	Median	29
SD	13.51	Std. Error of Mean	3.489
Coefficient of Variation	0.401	Skewness	1.661

Normal GOF Test

Shapiro Wilk Test Statistic	0.861	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.881	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.17	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.22	Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	39.88	95% Adjusted-CLT UCL (Chen-1995)	41.07
		95% Modified-t UCL (Johnson-1978)	40.13

Gamma GOF Test

A-D Test Statistic	0.325	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.738	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.15	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.222	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	7.978	k star (bias corrected MLE)	6.427
Theta hat (MLE)	4.228	Theta star (bias corrected MLE)	5.249
nu hat (MLE)	239.3	nu star (bias corrected)	192.8
MLE Mean (bias corrected)	33.73	MLE Sd (bias corrected)	13.31
		Approximate Chi Square Value (0.05)	161.7
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	158.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	40.23	95% Adjusted Gamma UCL (use when n<50)	41.12

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.961	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.881	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.129	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.22	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.89	Mean of logged Data	3.455
Maximum of Logged Data	4.277	SD of logged Data	0.361

Assuming Lognormal Distribution

95% H-UCL	40.71	90% Chebyshev (MVUE) UCL	43.18
95% Chebyshev (MVUE) UCL	47.51	97.5% Chebyshev (MVUE) UCL	53.52
99% Chebyshev (MVUE) UCL	65.33		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	39.47	95% Jackknife UCL	39.88
95% Standard Bootstrap UCL	39.26	95% Bootstrap-t UCL	42.5
95% Hall's Bootstrap UCL	49.86	95% Percentile Bootstrap UCL	39.8
95% BCA Bootstrap UCL	41.27		
90% Chebyshev(Mean, Sd) UCL	44.2	95% Chebyshev(Mean, Sd) UCL	48.94
97.5% Chebyshev(Mean, Sd) UCL	55.52	99% Chebyshev(Mean, Sd) UCL	68.45

Suggested UCL to Use

95% Student's-t UCL	39.88

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

18	SR02-US-02-4-6	Saddle Rock - SR02 Upslope
18	SR02-US-05-2-4	
24	SR02-US-02-0-2	
26	SR02-US-02-2-4	
27	SR02-US-03-0-2	
28	SR02-US-03-4-6	
29	SR02-US-03-2-4	
29	SR02-US-05-0-2	
33	SR02-US-01-2-4	
36	SR02-US-01-4-6	
36	SR02-US-05-4-6	
39	SR02-US-04-0-2	
44	SR02-US-04-2-4	
47	SR02-US-04-4-6	
72	SR02-US-01-0-2	

MTCA*Stat* 3.0

Number of samples		Uncensored values	
Uncensored	15	Mean	33.73
Censored	0	Lognormal mean	33.78
TOTAL	15	Std. devn.	13.51
		Median	29
		Min.	18
		Max.	72

Lognormal distribution? Normal distribution?

r-squared is: 0.96 r-squared is: 0.85

Recommendations:

Use lognormal distribution.

Distribution selection	Enter percentile	Value corresponding to that percentile is:
1	90	51.95
1 = Lognormal	50th	31.64
2 = Normal	4 X 50th	126.57
3 = Nonparametric method	Coefficient of Variation = 0.4	

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/8/2019 7:20:54 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

SR03 As Upslope

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
Number of Detects	11	Number of Non-Detects	4
Number of Distinct Detects	11	Number of Distinct Non-Detects	4
Minimum Detect	7	Minimum Non-Detect	6
Maximum Detect	101	Maximum Non-Detect	11
Variance Detects	711.3	Percent Non-Detects	26.67%
Mean Detects	23.55	SD Detects	26.67
Median Detects	16	CV Detects	1.133
Skewness Detects	2.9	Kurtosis Detects	8.953
Mean of Logged Detects	2.833	SD of Logged Detects	0.751

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.594	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.85	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.328	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.251	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	18.99	KM Standard Error of Mean	6.244
KM SD	23.05	95% KM (BCA) UCL	30.53
95% KM (t) UCL	29.99	95% KM (Percentile Bootstrap) UCL	30.47
95% KM (z) UCL	29.26	95% KM Bootstrap t UCL	49.21
90% KM Chebyshev UCL	37.72	95% KM Chebyshev UCL	46.21
97.5% KM Chebyshev UCL	57.98	99% KM Chebyshev UCL	81.11

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.779	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.741	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.205	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.259	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.682	k star (bias corrected MLE)	1.284
Theta hat (MLE)	14	Theta star (bias corrected MLE)	18.34
nu hat (MLE)	36.99	nu star (bias corrected)	28.24
Mean (detects)	23.55		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	17.27
Maximum	101	Median	12
SD	24.98	CV	1.447
k hat (MLE)	0.338	k star (bias corrected MLE)	0.315
Theta hat (MLE)	51.06	Theta star (bias corrected MLE)	54.82
nu hat (MLE)	10.15	nu star (bias corrected)	9.45
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (9.45, α)	3.601	Adjusted Chi Square Value (9.45, β)	3.169
95% Gamma Approximate UCL (use when n>=50)	45.32	95% Gamma Adjusted UCL (use when n<50)	51.49

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	18.99	SD (KM)	23.05
Variance (KM)	531.4	SE of Mean (KM)	6.244
k hat (KM)	0.679	k star (KM)	0.587
nu hat (KM)	20.36	nu star (KM)	17.62
theta hat (KM)	27.98	theta star (KM)	32.33
80% gamma percentile (KM)	31.3	90% gamma percentile (KM)	49.63
95% gamma percentile (KM)	68.86	99% gamma percentile (KM)	115.5

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (17.62, α)	9.119	Adjusted Chi Square Value (17.62, β)	8.374
95% Gamma Approximate KM-UCL (use when n>=50)	36.7	95% Gamma Adjusted KM-UCL (use when n<50)	39.97

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.905	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.85	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.148	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.251	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	18.31	Mean in Log Scale	2.432
SD in Original Scale	24.27	SD in Log Scale	0.948
95% t UCL (assumes normality of ROS data)	29.35	95% Percentile Bootstrap UCL	29.02
95% BCA Bootstrap UCL	35.54	95% Bootstrap t UCL	47.61
95% H-UCL (Log ROS)	34.98		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.573	KM Geo Mean	13.11
KM SD (logged)	0.752	95% Critical H Value (KM-Log)	2.376
KM Standard Error of Mean (logged)	0.204	95% H-UCL (KM -Log)	28.04
KM SD (logged)	0.752	95% Critical H Value (KM-Log)	2.376
KM Standard Error of Mean (logged)	0.204		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	18.37	Mean in Log Scale	2.448
SD in Original Scale	24.24	SD in Log Scale	0.925
95% t UCL (Assumes normality)	29.39	95% H-Stat UCL	33.94

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	39.97	95% GROS Adjusted Gamma UCL	51.49

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

6	SR03-US-04-2-4	Saddle Rock - SR03 Background
7	SR03-US-01-4-6	
7	SR03-US-04-4-6	
8	SR03-US-02-4-6	
9	SR03-US-02-2-4	
9	SR03-US-04-0-2	
11	SR03-US-03-0-2	
12	SR03-US-01-0-2	
13	SR03-US-01-2-4	
16	SR03-US-03-4-6	
17	SR03-US-02-0-2	
21	SR03-US-05-0-2	
26	SR03-US-03-2-4	
29	SR03-US-05-2-4	
101	SR03-US-05-4-6	

MTCA*Stat* 3.0

Number of samples		Uncensored values	
Uncensored	15	Mean	19.47
Censored	0	Lognormal mean	18.20
TOTAL	15	Std. devn.	23.62
		Median	12
		Min.	6
		Max.	101

Lognormal distribution? r-squared is: 0.87

Normal distribution? r-squared is: 0.52

Recommendations:

Use nonparametric method.

Distribution selection	Enter percentile	Value corresponding to that percentile is:
3	90	57.80
1 = Lognormal	50th	12.00
2 = Normal	4 X 50th	48.00
3 = Nonparametric method		

Coefficient of Variation = N/A

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.16/8/2019 7:26:33 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

SR04 As Upslope

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
		Number of Missing Observations	0
Minimum	8	Mean	37
Maximum	186	Median	17
SD	48.37	Std. Error of Mean	12.49
Coefficient of Variation	1.307	Skewness	2.513

Normal GOF Test

Shapiro Wilk Test Statistic	0.621	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.881	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.366	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.22	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	59	95% Adjusted-CLT UCL (Chen-1995)	66.21
		95% Modified-t UCL (Johnson-1978)	60.35

Gamma GOF Test

A-D Test Statistic	1.335	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.76	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.273	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.227	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.158	k star (bias corrected MLE)	0.971
Theta hat (MLE)	31.95	Theta star (bias corrected MLE)	38.11
nu hat (MLE)	34.74	nu star (bias corrected)	29.12
MLE Mean (bias corrected)	37	MLE Sd (bias corrected)	37.55
		Approximate Chi Square Value (0.05)	17.81
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	16.72

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	60.52	95% Adjusted Gamma UCL (use when n<50)	64.44

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.874	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.881	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.223	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.22	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.079	Mean of logged Data	3.121
Maximum of Logged Data	5.226	SD of logged Data	0.914

Assuming Lognormal Distribution

95% H-UCL	65.13	90% Chebyshev (MVUE) UCL	58.58
95% Chebyshev (MVUE) UCL	70.1	97.5% Chebyshev (MVUE) UCL	86.07
99% Chebyshev (MVUE) UCL	117.5		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	57.54	95% Jackknife UCL	59
95% Standard Bootstrap UCL	57.42	95% Bootstrap-t UCL	91.45
95% Hall's Bootstrap UCL	117.4	95% Percentile Bootstrap UCL	58.67
95% BCA Bootstrap UCL	68.47		
90% Chebyshev(Mean, Sd) UCL	74.47	95% Chebyshev(Mean, Sd) UCL	91.44
97.5% Chebyshev(Mean, Sd) UCL	115	99% Chebyshev(Mean, Sd) UCL	161.3

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	91.44

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

8	SR04-US-01-2-4	Saddle Rock - SR04 Background
9	SR04-US-02-0-2	
11	SR04-US-02-4-6	
12	SR04-US-01-4-6	
13	SR04-US-02-2-4	
15	SR04-US-01-0-2	
15	SR04-US-04-0-2	
17	SR04-US-04-2-4	
17	SR04-US-04-4-6	
25	SR04-US-05-0-2	
28	SR04-US-05-2-4	
29	SR04-US-05-4-6	
71	SR04-US-03-0-2	
99	SR04-US-03-2-4	
186	SR04-US-03-4-6	

MTCA*Stat* 3.0

Number of samples		Uncensored values	
Uncensored	15	Mean	37.00
Censored	0	Lognormal mean	34.42
TOTAL	15	Std. devn.	48.37
		Median	17
		Min.	8
		Max.	186

Lognormal distribution? Normal distribution?

r-squared is: 0.88 r-squared is: 0.60

Recommendations:

Use nonparametric method.

Distribution selection	Enter percentile	Value corresponding to that percentile is:
3	90	133.80
1 = Lognormal	50th	17.00
2 = Normal	4 X 50th	68.00
3 = Nonparametric method	Coefficient of Variation = N/A	

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.16/8/2019 7:29:58 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

SR05 As Upslope

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	15	Mean	59.2
Maximum	153	Median	44
SD	46.32	Std. Error of Mean	11.96
Coefficient of Variation	0.782	Skewness	1.188

Normal GOF Test

Shapiro Wilk Test Statistic	0.811	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.881	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.233	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.22	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	80.26	95% Adjusted-CLT UCL (Chen-1995)	82.79
		95% Modified-t UCL (Johnson-1978)	80.88

Gamma GOF Test

A-D Test Statistic	0.524	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.747	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.157	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.224	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.014	k star (bias corrected MLE)	1.655
Theta hat (MLE)	29.4	Theta star (bias corrected MLE)	35.76
nu hat (MLE)	60.41	nu star (bias corrected)	49.66
MLE Mean (bias corrected)	59.2	MLE Sd (bias corrected)	46.01
		Approximate Chi Square Value (0.05)	34.48
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	32.93

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	85.26	95% Adjusted Gamma UCL (use when n<50)	89.28

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.939	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.881	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.138	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.22	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.708	Mean of logged Data	3.813
Maximum of Logged Data	5.03	SD of logged Data	0.755

Assuming Lognormal Distribution

95% H-UCL	97.36	90% Chebyshev (MVUE) UCL	95.34
95% Chebyshev (MVUE) UCL	111.9	97.5% Chebyshev (MVUE) UCL	134.8
99% Chebyshev (MVUE) UCL	179.9		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	78.87	95% Jackknife UCL	80.26
95% Standard Bootstrap UCL	78.28	95% Bootstrap-t UCL	86.56
95% Hall's Bootstrap UCL	78.17	95% Percentile Bootstrap UCL	79.07
95% BCA Bootstrap UCL	83.33		
90% Chebyshev(Mean, Sd) UCL	95.08	95% Chebyshev(Mean, Sd) UCL	111.3
97.5% Chebyshev(Mean, Sd) UCL	133.9	99% Chebyshev(Mean, Sd) UCL	178.2

Suggested UCL to Use

95% Adjusted Gamma UCL	89.28

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

15	SR05-US-06-4-6	Saddle Rock - SR05 Upslope
18	SR05-US-06-2-4	
20	SR05-US-06-0-2	
23	SR05-US-03-4-6	
28	SR05-US-03-0-2	
28	SR05-US-03-2-4	
40	SR05-US-01-2-4	
44	SR05-US-01-4-6	
56	SR05-US-01-0-2	
59	SR05-US-02-0-2	
63	SR05-US-02-2-4	
67	SR05-US-02-4-6	
136	SR05-US-05-0-2	
138	SR05-US-05-4-6	
153	SR05-US-05-2-4	

MTCA*Stat* 3.0

Number of samples		Uncensored values	
Uncensored	15	Mean	59.20
Censored	0	Lognormal mean	60.21
TOTAL	15	Std. devn.	46.32
		Median	44
		Min.	15
		Max.	153

Lognormal distribution? Normal distribution?

r-squared is: 0.96 r-squared is: 0.82

Recommendations:

Use lognormal distribution.

Distribution selection	Enter percentile	Value corresponding to that percentile is:
1	90	127.65
1 = Lognormal	50th	45.27
2 = Normal	4 X 50th	181.06
3 = Nonparametric method	Coefficient of Variation = 0.96	

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.16/8/2019 7:41:33 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

SR08 As Upslope

General Statistics

Total Number of Observations	16	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	7	Mean	73.69
Maximum	433	Median	20.5
SD	107.8	Std. Error of Mean	26.94
Coefficient of Variation	1.462	Skewness	2.75

Normal GOF Test

Shapiro Wilk Test Statistic	0.638	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.887	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.268	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.213	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	120.9	95% Adjusted-CLT UCL (Chen-1995)	137.8
		95% Modified-t UCL (Johnson-1978)	124

Gamma GOF Test

A-D Test Statistic	0.83	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.774	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.256	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.223	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.772	k star (bias corrected MLE)	0.669
Theta hat (MLE)	95.48	Theta star (bias corrected MLE)	110.2
nu hat (MLE)	24.7	nu star (bias corrected)	21.4
MLE Mean (bias corrected)	73.69	MLE Sd (bias corrected)	90.11
		Approximate Chi Square Value (0.05)	11.89
Adjusted Level of Significance	0.0335	Adjusted Chi Square Value	11.09

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	132.6	95% Adjusted Gamma UCL (use when n<50)	142.2

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.918	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.887	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.211	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.213	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.946	Mean of logged Data	3.527
Maximum of Logged Data	6.071	SD of logged Data	1.268

Assuming Lognormal Distribution

95% H-UCL	212.4	90% Chebyshev (MVUE) UCL	145.6
95% Chebyshev (MVUE) UCL	179.8	97.5% Chebyshev (MVUE) UCL	227.3
99% Chebyshev (MVUE) UCL	320.5		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	118	95% Jackknife UCL	120.9
95% Standard Bootstrap UCL	117.4	95% Bootstrap-t UCL	173.7
95% Hall's Bootstrap UCL	282.6	95% Percentile Bootstrap UCL	121.6
95% BCA Bootstrap UCL	134.5		
90% Chebyshev(Mean, Sd) UCL	154.5	95% Chebyshev(Mean, Sd) UCL	191.1
97.5% Chebyshev(Mean, Sd) UCL	241.9	99% Chebyshev(Mean, Sd) UCL	341.7

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	191.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Saddle Rock - SR08 Background

7	SR08-US-02-0-2
7	SR08-US-02-4-6
8	SR08-US-02-2-4
14	SR08-US-01-4-6
14	SR08-US-03-4-6
16	SR08-US-03-2-4
18	SR08-US-03-0-2
20	SR08-US-01-0-2
21	SR08-US-01-2-4
44	SR08-US-06-2-4
89	SR08-US-05-2-4
89	SR08-US-05-4-6
111	SR08-US-05-0-2
144	SR08-US-06-0-2
144	SR08-US-07-0-2
433	SR08-US-06-4-6

MTCA*Stat* 3.0

Number of samples		Uncensored values	
Uncensored	16	Mean	73.69
Censored	0	Lognormal mean	76.00
TOTAL	16	Std. devn.	107.75
		Median	20.5
		Min.	7
		Max.	433

Lognormal distribution? Normal distribution?

r-squared is: 0.93 r-squared is: 0.62

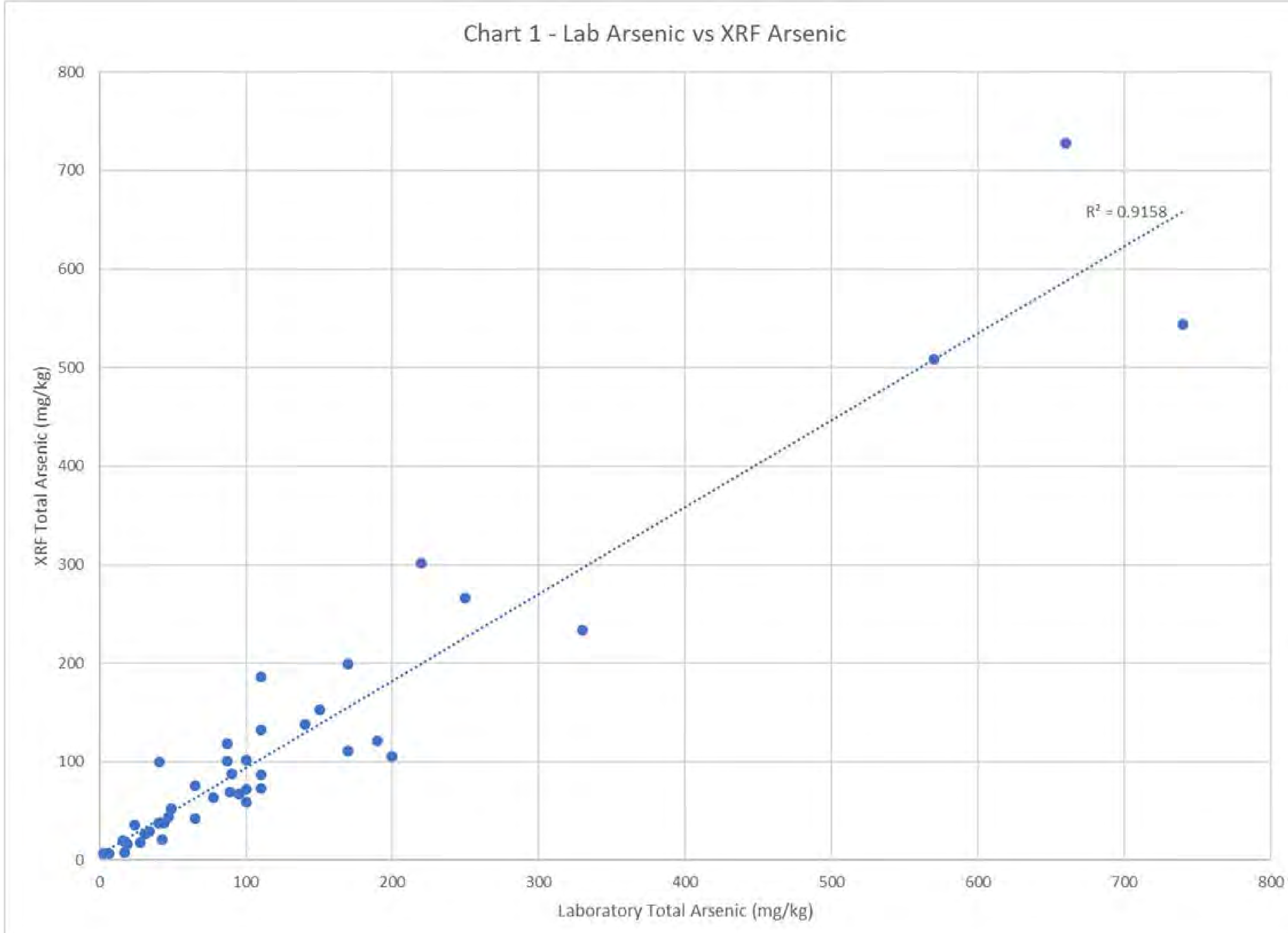
Recommendations:

Use lognormal distribution.

Distribution selection	Enter percentile	Value corresponding to that percentile is:
1	90	197.90
1 = Lognormal	50th	34.03
2 = Normal	4 X 50th	136.10
3 = Nonparametric method	Coefficient of Variation = 2.37	

Attachment E-4

Lab vs XRF



Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.15/30/2019 2:54:24 PM

4296-008-00 Date Exported: 06/26/2019

Lab vs XRF	
Saddle Rock Interim Remedial Action Project Wenatchee, Washington	
GeoEngineers	**Chart 1**

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.15/30/2019 2:54:24 PM

Lab vs XRF	
Saddle Rock Interim Remedial Action Project Wenatchee, Washington	
GeoEngineers	**Chart 2**

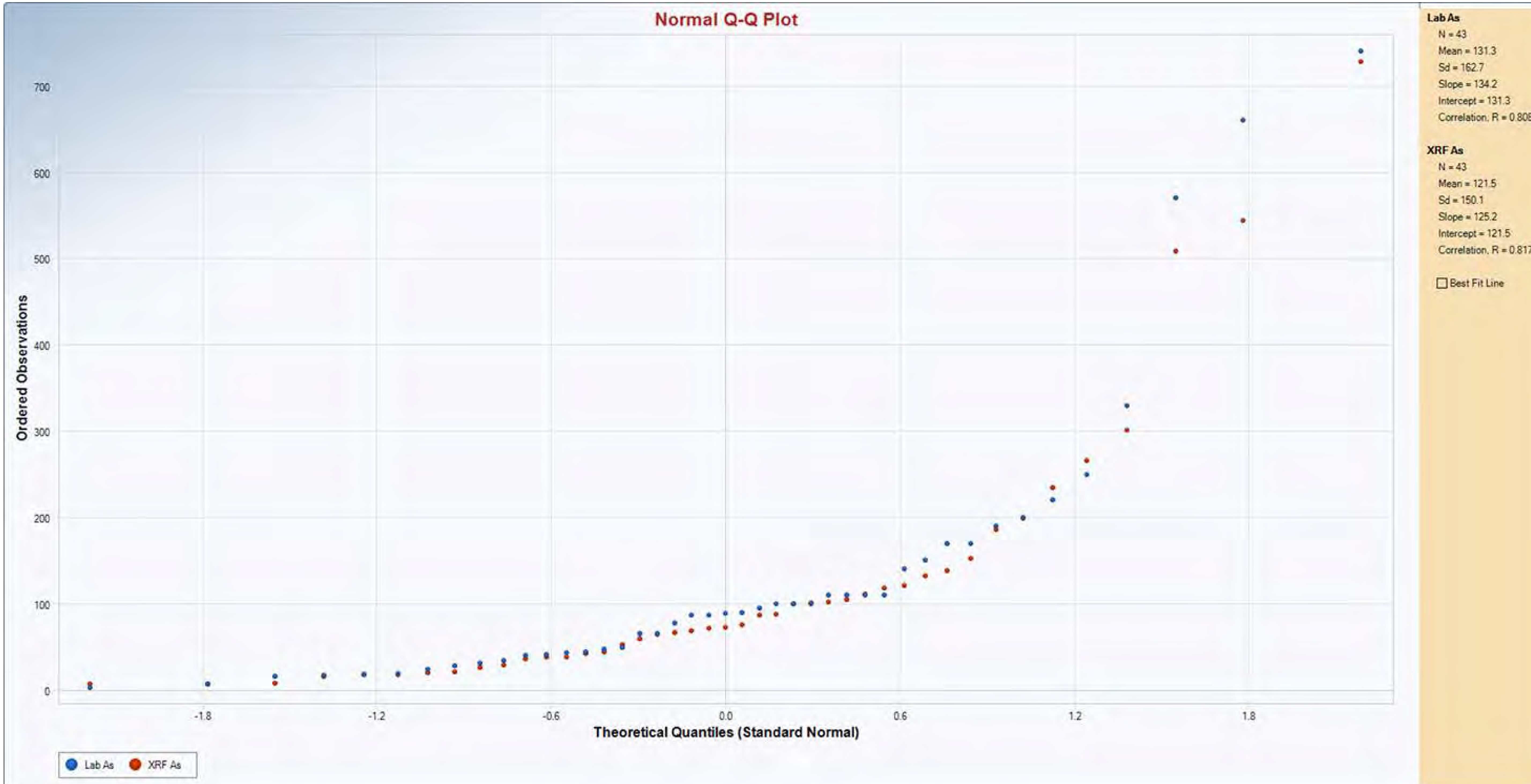
4296-008-00 Date Exported: 06/26/2019

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.15/30/2019 2:54:24 PM

Lab vs XRF	
Saddle Rock Interim Remedial Action Project Wenatchee, Washington	
GeoEngineers	**Chart 3**

4296-008-00 Date Exported: 06/26/2019



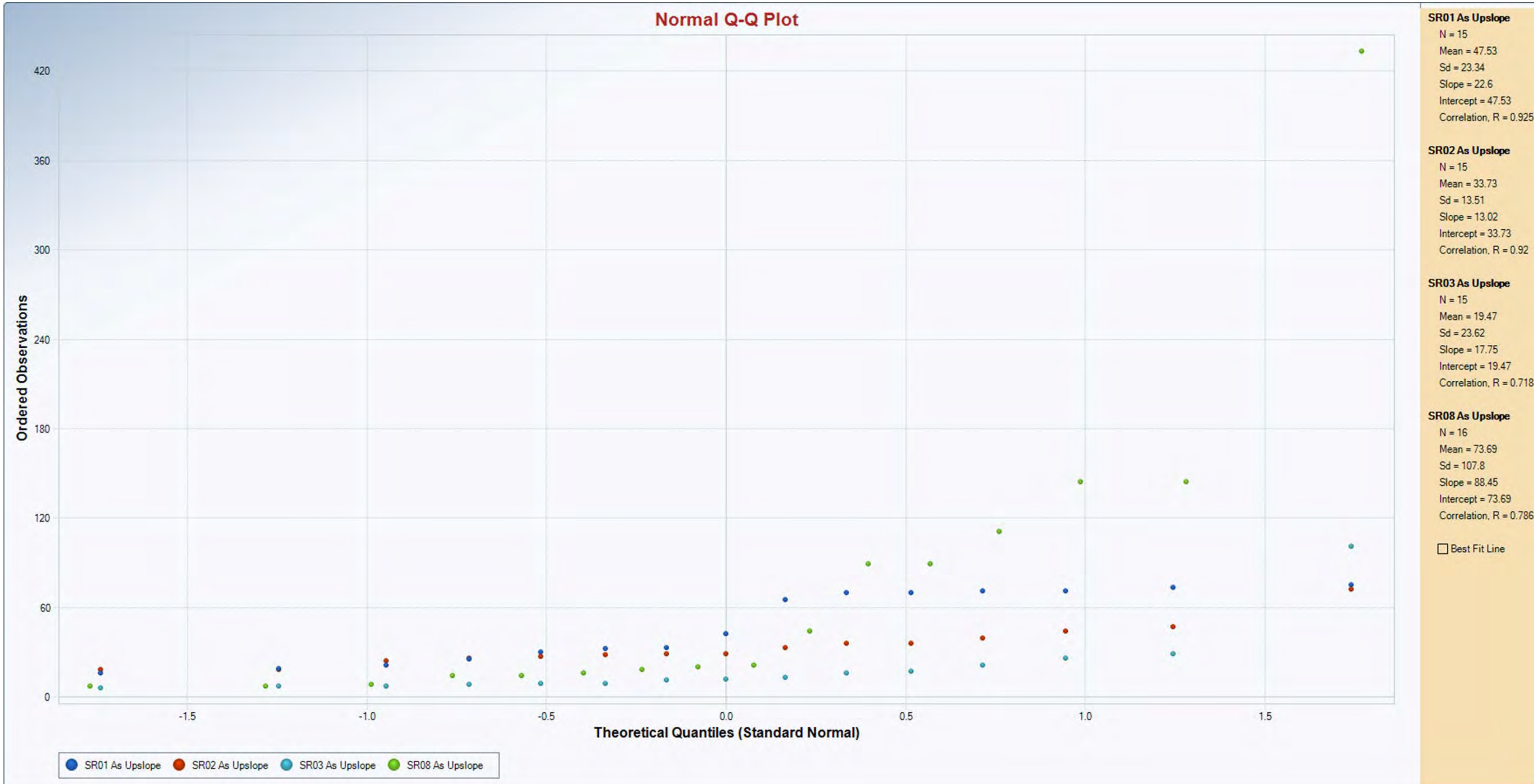
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.15/30/2019 2:54:24 PM

Lab vs XRF	
Saddle Rock Interim Remedial Action Project Wenatchee, Washington	
GEOENGINEERS	Chart 4

4296-008-00 Date Exported: 06/26/2019

Attachment E-5
Statistical Distribution



Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

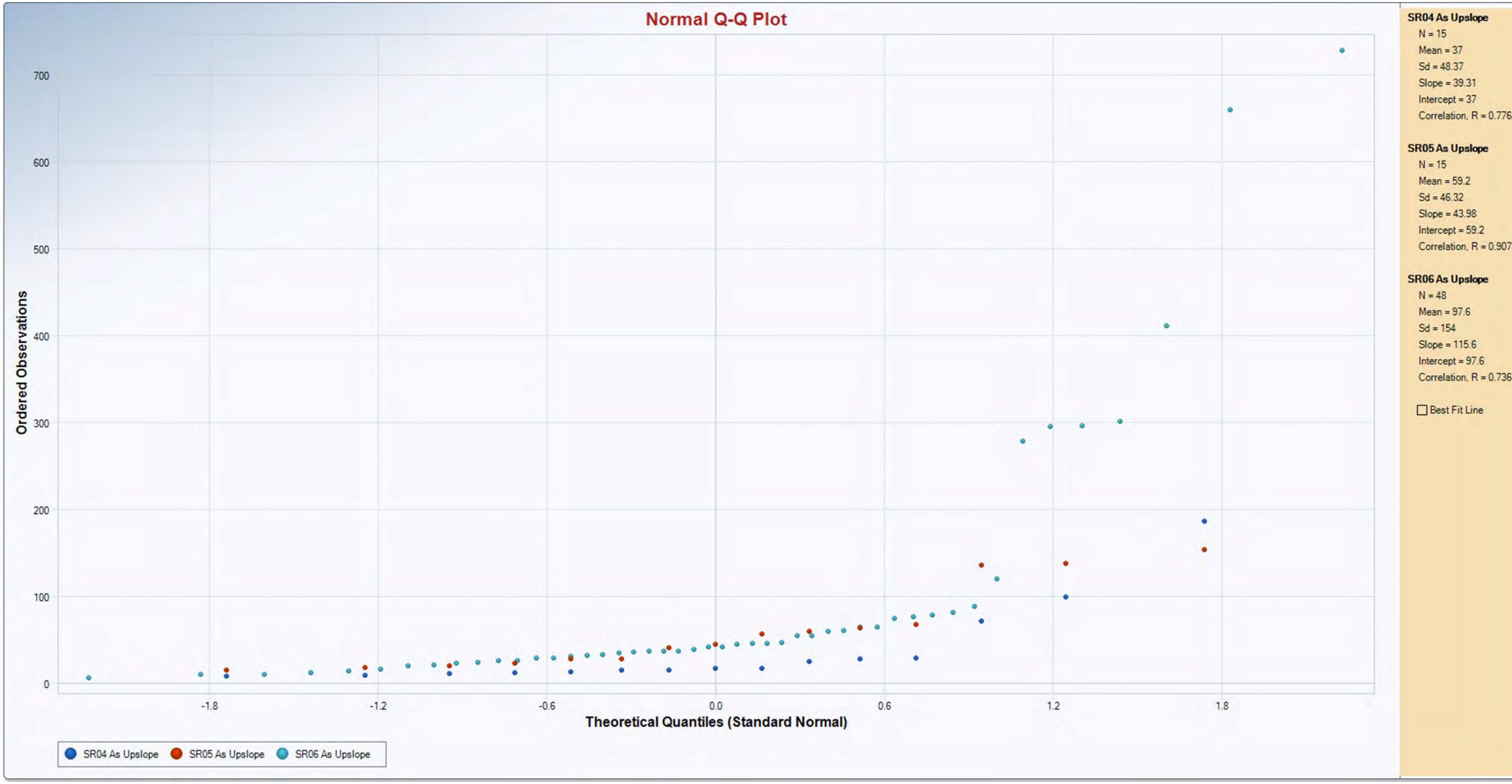
Statistical Distribution

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

GEOENGINEERS

QQ Plot Phase I

4296-008-00 Date Exported: 06/26/2019



Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ProUCL 5.16/12/2019 2:52:52 PM

Statistical Distribution

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

GEOENGINEERS

QQ Plot
Phase 2

4296-008-00 Date Exported: 06/26/2019

Attachment E-6
XRF Upslope vs Downslope

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
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Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
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Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: SR01 AS Down
Sample 2 Data: SR01 As Up

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	12	15
Number of Distinct Observations	9	13
Minimum	17	16
Maximum	48	75
Mean	29.75	47.53
Median	28	42
SD	8.159	23.34
SE of Mean	2.355	6.028

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	135
WMW U-Stat	57
Mean (U)	90
SD(U) - Adj ties	20.48
WMW U-Stat Critical Value (0.05)	124
Standardized WMW U-Stat	-1.636
Approximate P-Value	0.949

Conclusion with Alpha = 0.05
Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.14/30/2019 7:40:55 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Arsenic Downslope
Sample 2 Data: Arsenic Upslope

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	15	15
Number of Distinct Observations	12	12
Minimum	11	18
Maximum	44	72
Mean	24.2	33.73
Median	24	29
SD	9.451	13.51
SE of Mean	2.44	3.489

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	174.5
WMW U-Stat	54.5
Mean (U)	112.5
SD(U) - Adj ties	24.07
WMW U-Stat Critical Value (0.05)	152
Standardized WMW U-Stat	-2.432
Approximate P-Value	0.992

Conclusion with Alpha = 0.05
Do Not Reject H0, Conclude Sample 1 <= Sample 2

Gehan Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/12/2019 1:28:05 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: SR03 AS Down
Sample 2 Data: SR03 As Up

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	21	15
Number of Non-Detects	0	4
Number of Detect Data	21	11
Minimum Non-Detect	N/A	6
Maximum Non-Detect	N/A	11
Percent Non-detects	0.00%	26.67%
Minimum Detect	21	7
Maximum Detect	138	101
Mean of Detects	54.62	23.55
Median of Detects	45	16
SD of Detects	32.2	26.67
KM Mean	54.62	18.99
KM SD	32.2	23.05

Sample 1 vs Sample 2 Gehan Test

H0: Mean/Median of Sample 1 <= Mean/Median of background

Gehan z Test Value	4.067
Critical z (0.05)	1.645
P-Value	2.38E-05

Conclusion with Alpha = 0.05
Reject H0, Conclude Sample 1 > Sample 2
P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/12/2019 1:28:52 PM
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Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: SR03 AS Down
Sample 2 Data: SR03 As Up

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	21	15
Number of Non-Detects	0	4
Number of Detects	21	11
Minimum Non-Detect	N/A	6
Maximum Non-Detect	N/A	11
Percent Non-detects	0.00%	26.67%
Minimum Detect	21	7
Maximum Detect	138	101
Mean of Detects	54.62	23.55
Median of Detects	45	16
SD of Detects	32.2	26.67
KM Mean	54.62	18.99
KM SD	32.2	23.05

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	4.534
TW Critical Value (0.05)	1.645
P-Value	2.8919E-6

Conclusion with Alpha = 0.05
Reject H0, Conclude Sample 1 > Sample 2
P-Value < alpha (0.05)

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.16/12/2019 1:36:51 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: SR04 AS Down
Sample 2 Data: SR04 As Up

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	15	15
Number of Distinct Observations	15	13
Minimum	28	8
Maximum	160	186
Mean	61.67	37
Median	54	17
SD	35.07	48.37
SE of Mean	9.056	12.49

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	305.5
WMW U-Stat	185.5
Mean (U)	112.5
SD(U) - Adj ties	24.1
WMW U-Stat Critical Value (0.05)	152
Standardized WMW U-Stat	3.008
Approximate P-Value	0.00131

Conclusion with Alpha = 0.05
Reject H0, Conclude Sample 1 > Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.14/30/2019 7:58:02 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Arsenic Downslope
Sample 2 Data: Arsenic Upslope

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	21	15
Number of Distinct Observations	17	14
Minimum	29	15
Maximum	102	153
Mean	57.62	59.2
Median	52	44
SD	20.81	46.32
SE of Mean	4.541	11.96

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	418.5
Standardized WMW U-Stat	0.947
Mean (U)	157.5
SD(U) - Adj ties	31.15
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	0.172

Conclusion with Alpha = 0.05
Do Not Reject H0, Conclude Sample 1 <= Sample 2
P-Value >= alpha (0.05)

Gehan Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.14/30/2019 9:18:01 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Arsenic Downslope
Sample 2 Data: Arsenic Upslope

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	45	48
Number of Non-Detects	0	2
Number of Detect Data	45	46
Minimum Non-Detect	N/A	6
Maximum Non-Detect	N/A	10
Percent Non-detects	0.00%	4.17%
Minimum Detect	74	10
Maximum Detect	675	728
Mean of Detects	212	101.5
Median of Detects	177	42.5
SD of Detects	128	156.2
KM Mean	212	97.52
KM SD	128	152.5

Sample 1 vs Sample 2 Gehan Test

H0: Mean/Median of Sample 1 <= Mean/Median of background

Gehan z Test Value	6.043
Critical z (0.05)	1.645
P-Value	7.582E-10

Conclusion with Alpha = 0.05
Reject H0, Conclude Sample 1 > Sample 2
P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.14/30/2019 9:18:30 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Arsenic Downslope
Sample 2 Data: Arsenic Upslope

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	45	48
Number of Non-Detects	0	2
Number of Detects	45	46
Minimum Non-Detect	N/A	6
Maximum Non-Detect	N/A	10
Percent Non-detects	0.00%	4.17%
Minimum Detect	74	10
Maximum Detect	675	728
Mean of Detects	212	101.5
Median of Detects	177	42.5
SD of Detects	128	156.2
KM Mean	212	97.52
KM SD	128	152.5

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	7.289
TW Critical Value (0.05)	1.645
P-Value	1.564E-13

Conclusion with Alpha = 0.05
Reject H0, Conclude Sample 1 > Sample 2
P-Value < alpha (0.05)

Gehan Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.14/30/2019 8:21:01 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Arsenic Downslope
Sample 2 Data: Arsenic Upslope

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	13	14
Number of Non-Detects	2	2
Number of Detect Data	11	12
Minimum Non-Detect	7	7
Maximum Non-Detect	7	8
Percent Non-detects	15.38%	14.29%
Minimum Detect	10	7
Maximum Detect	38	433
Mean of Detects	19.64	93.58
Median of Detects	19	66.5
SD of Detects	7.685	118.7
KM Mean	17.69	81.21
KM SD	8.137	109.5

Sample 1 vs Sample 2 Gehan Test

H0: Mean/Median of Sample 1 <= Mean/Median of background

Gehan z Test Value	-1.41
Critical z (0.05)	1.645
P-Value	0.921

Conclusion with Alpha = 0.05
Do Not Reject H0, Conclude Sample 1 <= Sample 2
P-Value >= alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.14/30/2019 8:21:28 AM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Arsenic Downslope
Sample 2 Data: Arsenic Upslope

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	13	14
Number of Non-Detects	2	2
Number of Detects	11	12
Minimum Non-Detect	7	7
Maximum Non-Detect	7	8
Percent Non-detects	15.38%	14.29%
Minimum Detect	10	7
Maximum Detect	38	433
Mean of Detects	19.64	93.58
Median of Detects	19	66.5
SD of Detects	7.685	118.7
KM Mean	17.69	81.21
KM SD	8.137	109.5

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	-1.009
TW Critical Value (0.05)	1.645
P-Value	0.844

Conclusion with Alpha = 0.05
Do Not Reject H0, Conclude Sample 1 <= Sample 2
P-Value >= alpha (0.05)

ATTACHMENT F
Data Validation Report

GeoEngineers

Data Validation Report

1101 Fawcett Avenue, Suite 200, Tacoma, Washington 98402, Telephone: 253.383.4940, Fax: 253.383.4923 www.geoengineers.com

Project: City of Wenatchee – Saddle Rock Natural Area Interim Remedial Action
March and April 2019 Soil Samples

GEI File No: 04296-008-00

Date: May 13, 2019

This report documents the results of a United States Environmental Protection Agency (EPA)-defined Stage 2A or Stage 2B* data validation (EPA Document 540-R-08-005; EPA 2009) of analytical data from the analyses of soil samples collected as part of the March and April 2019 sampling events, and the associated laboratory quality control (QC) samples. The samples were obtained from the Saddle Rock Natural Area site located in Wenatchee, Washington.

*The stage of data validation is dependent upon the sample delivery group (SDG). The SDGs and stage of validation are detailed in Table 1.

OBJECTIVE AND QUALITY CONTROL ELEMENTS

GeoEngineers, Inc. (GeoEngineers) completed the data validation consistent with the EPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review (EPA 2017a) and Inorganic Superfund Methods Data Review (EPA 2017b) (National Functional Guidelines) and with guidance from Biological Testing Methods 80-12 for the Designation of Dangerous Waste (Ecology 2009) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (QAPP) (Appendix A of the Sampling and Analysis Plan, Interim Remedial Action Design and Remedial Action (GeoEngineers 2019), the data validation included review of the following QC elements:

- Data Package Completeness
- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Method Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples
- Laboratory Duplicates
- Internal Standards

- Initial Calibrations (ICALs)
- Continuing Calibrations (CCALs)
- Reporting Limits

VALIDATED SAMPLE DELIVERY GROUPS

This data validation included review of the sample delivery groups (SDGs) listed below in Table 1.

TABLE 1. SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDG	Validation Stage	Samples Validated
1903-258	2A	SR-2-4C-PS, SR-01-WR-1C-PS
1904-158	2B	SR01-US-01-2-4, SR01-US-03-4-6, SR01-US-04-4-6, SR02-US-01-0-2, SR02-US-02-4-6, SR02-US-05-4-6, SR03-US-01-4-6, SR03-US-05-4-6, SR05-US-02-0-2, SR05-US-05-2-4, SR05-US-06-2-4, SR06-DS-01-4-6, SR06-DS-03-4-6, SR06-DS-05-4-6, SR06-DS-07-4-6, SR06-DS-13-0-2, SR06-DS-15-4-6, SR06-US-02-4-6, SR06-US-06-0-2, SR06-US-07-0-2, SR06-US-08-4-6, SR06-US-12-2-4, SR06-US-16-0-2, SR08-US-02-0-2, SR08-US-05-0-2
1904-160	2B	SR01-DS-03-4-6, SR01-DS-07-4-6, SR02-D09-ASSAY, SR02-DS-01-4-6, SR02-DS-05-2-4, SR03-DS-01-2-4, SR03-DS-03-4-6, SR03-DS-05-2-4, SR03-DS-09-4-6, SR04-DS-02-4-6, SR04-DS-03-0-2, SR04-US-01-2-4, SR04-US-03-4-6, SR04-US-05-4-6, SR05-D05-TCLP, SR05-DS-02-2-4, SR05-DS-03-0-2, SR05-DS-07-0-2, SR06-C02-ASSAY, SR08-DS-03-4-6, SR08-DS-04-2-4
1901-160B	2B	SR05-D05-TCLP
	2A	(Sub-contracted) SR02-D09-Assay

CHEMICAL ANALYSIS PERFORMED

OnSite Environmental, Inc. (OnSite), located in Redmond, Washington, performed laboratory analysis on the samples using one or more of the following methods:

- Total Metals by Methods EPA6010D, EPA6020B, EPA7471B;
- Total Metals Toxicity Characteristic Leaching Procedure (TCLP) by Method EPA6020B; and
- Total Metals Synthetic Precipitation Leaching Procedure (SPLP) by Method EPA6020B

Rainier Environmental (Rainier), located in Tacoma, Washington, served as a secondary laboratory sub-contracted through OnSite and performed analysis using the following method:

- Static Acute Fish Toxicity Test by Ecology Method 80-12

DATA VALIDATION SUMMARY

The results for each of the QC elements are summarized below.

Data Package Completeness

The laboratories provided the required deliverables for the data validation according to the National Functional Guidelines. The laboratories followed adequate corrective action processes and the identified anomalies were discussed in the relevant laboratory case narrative.

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. The COCs were accurate and complete when submitted to the laboratory.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for each analysis. The sample cooler arrived at the laboratory at the appropriate temperatures of between 2 and 6 degrees Celsius.

Method Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For the sample batches, method blanks for the applicable methods were analyzed at the required frequency. None of the analytes of interest were detected above the reporting limits in the method blanks.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG 1904-158: (Total Metals) The laboratory performed an MS/MSD sample set on Sample SR06-US-06-0-2. The percent recoveries for total iron and total manganese were greater than the control limits in the MS/MSD sample set digested on 4/19/2019. The parent sample concentrations for these target analytes were greater than four times the amount spiked into the sample; therefore, no qualifications were required.

The laboratory performed an MS/MSD sample set on Sample SR06-US-06-0-2. The percent recovery for total mercury was greater than the control limits in the MSD digested on 4/23/2019; however, the percent recovery for this target analyte was within the control limits in the corresponding MS. No action was required for this outlier.

SDG 1904-160: (Total Metals) The laboratory performed two MS/MSD sample sets with QC outliers; however, they were performed on a sample from a different SDG and are not applicable to the field samples within this SDG; therefore, no action was required.

Laboratory Control Samples

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS control limits for accuracy are usually more rigorous than for MS analyses. Additionally, data qualification based on LCS analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits are specified in the laboratory documents.

The laboratory performed MS/MSD sample sets in lieu of an LCS analysis.

Laboratory Duplicates

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. The RPD control limits are specified in the laboratory documents. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met.

Internal Standards (Low Resolution Mass Spectrometry)

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry instrumentation and are usually added to the sample aliquot after extraction has taken place. The internal standards should be analyzed at the beginning of a 12-hour sample run. All internal standard recoveries were within the internal laboratory control limits or the control limits stated in the National Functional Guidelines (EPA 2017).

Initial Calibrations (ICALs)

All initial calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. All relative standard deviation (%RSD) and relative response factors (RRF) were within the internal laboratory control limits or the control limits stated in the National Functional Guidelines (EPA 2017).

Continuing Calibrations (CCALs)

All continuing calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. All percent difference (%D) and relative response factors (RRF) were within the internal laboratory control limits or the control limits stated in the National Functional Guidelines (EPA 2017).

Reporting Limits

The contract required quantitation limits (CRQL) were met by the laboratory for the target analytes throughout this sampling event.

OVERALL ASSESSMENT

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the MS/MSD percent recovery values, with the exceptions noted above. Precision was acceptable, as demonstrated by the MS/MSD and laboratory duplicate RPD values.

No analytical results were qualified. The data are acceptable for the intended use.

REFERENCES

GeoEngineers, Inc. 2019. "Sampling and Analysis Plan, Interim Remedial Action Design and Remedial Action," prepared for City of Wenatchee. GEI File No. 4296-008-00. February 20, 2019.

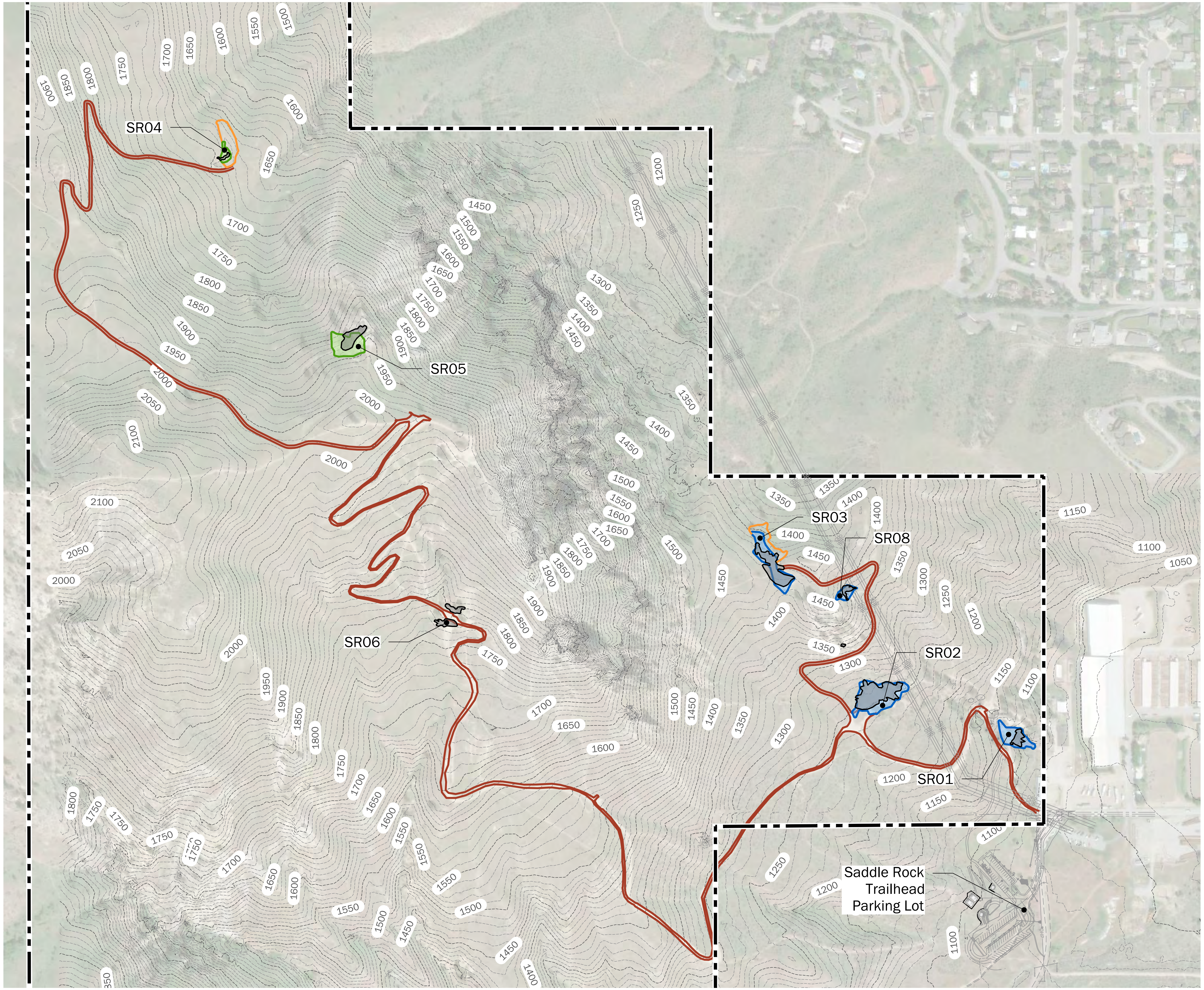
U.S. Environmental Protection Agency (EPA). "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use," EPA-540-R-08-005. January 2009.

U.S. Environmental Protection Agency (EPA), 2017a. "Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review," EPA-540-R-2017-002. January 2017.

U.S. Environmental Protection Agency (EPA), 2017b. "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review," EPA-540-R-2017-001. January 2017.

Washington State Department of Ecology (Ecology). 2009. "Biological Testing Methods 80-12 for the Designation of Dangerous Waste," Publication number 80-12. June 2009.

ATTACHMENT G
Waste Rock Pile Comparison



SR01

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Base survey from Dawson Surveying and Lidar topo data from City Of Wenatchee dated 01/08/19. Survey waste rocks and samples from 48 Degree North Land Survey dated 06/05/19.

Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

400

Overall Site Waste Rock Pile Comparison

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

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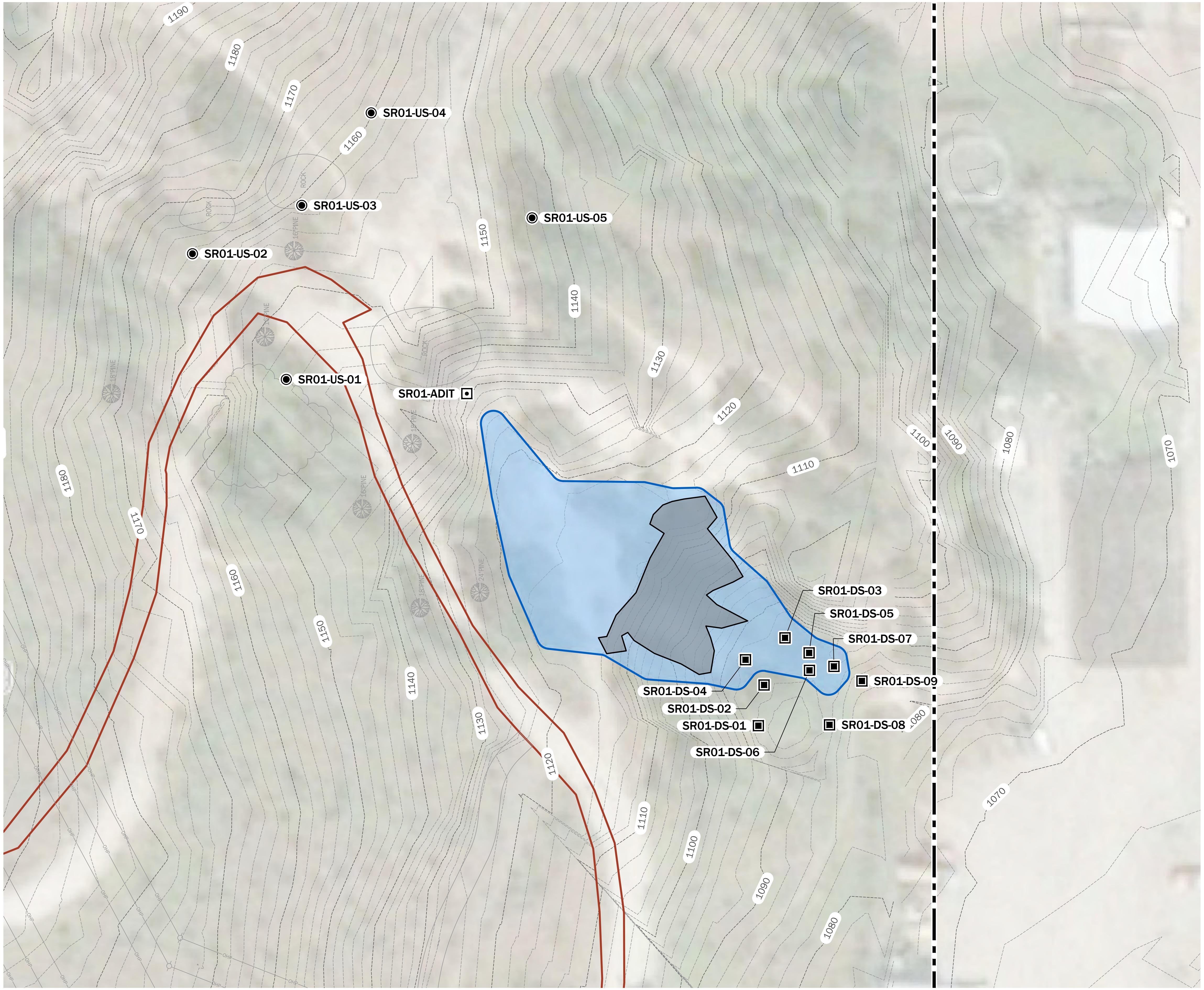
Figure 1

P:\4\4296008\CAD\00\SAP IRA Tech Memo Report\429600800_T200_Appendix F_F02 to F08_Overall and Site Plans.dwg TAB:F02 Date Exported: 06/12/19 - 14:25 by syi



SR01

SR01-DS-01

SR01-US-01

SR01-ADIT

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Base survey from Dawson Surveying and Lidar topo data from City Of Wenatchee dated 01/08/19. Survey waste rocks and samples from 48 Degree North Land Survey dated 06/05/19.

Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

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SR01 Waste Rock Pile Comparison

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

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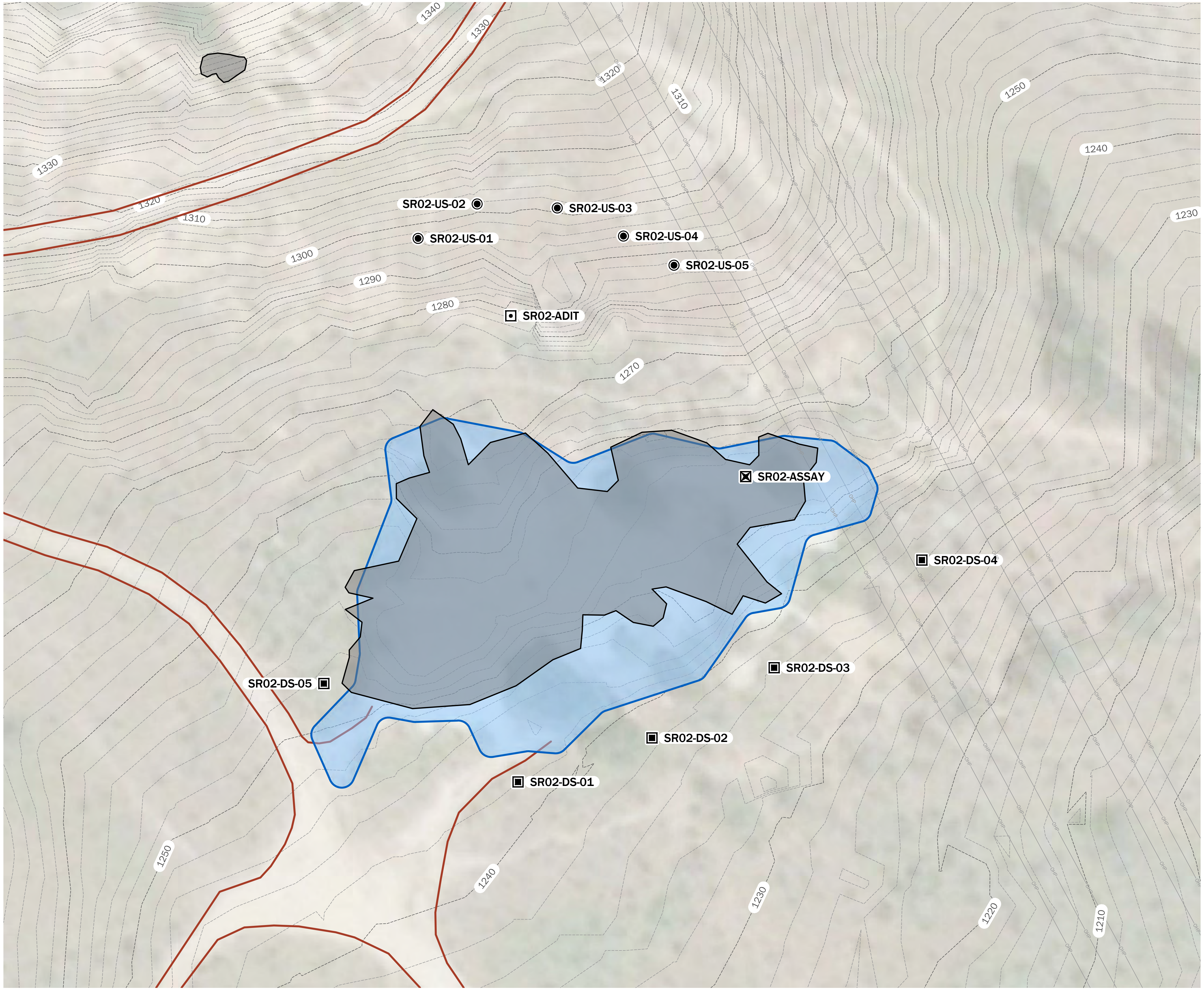
Figure 2

P:\4\4296008\CAD\00\SAP IRA Tech Memo Report\429600800_T200_Appendix F_F02 to F08_Overall and Site Plans.dwg TAB:F03 Date Exported: 06/12/19 - 14:26 by syi



SR02

SR02-DS-01

SR02-US-01

SR02-ADIT

SR02-ASSAY

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

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SR02 Waste Rock Pile Comparison

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

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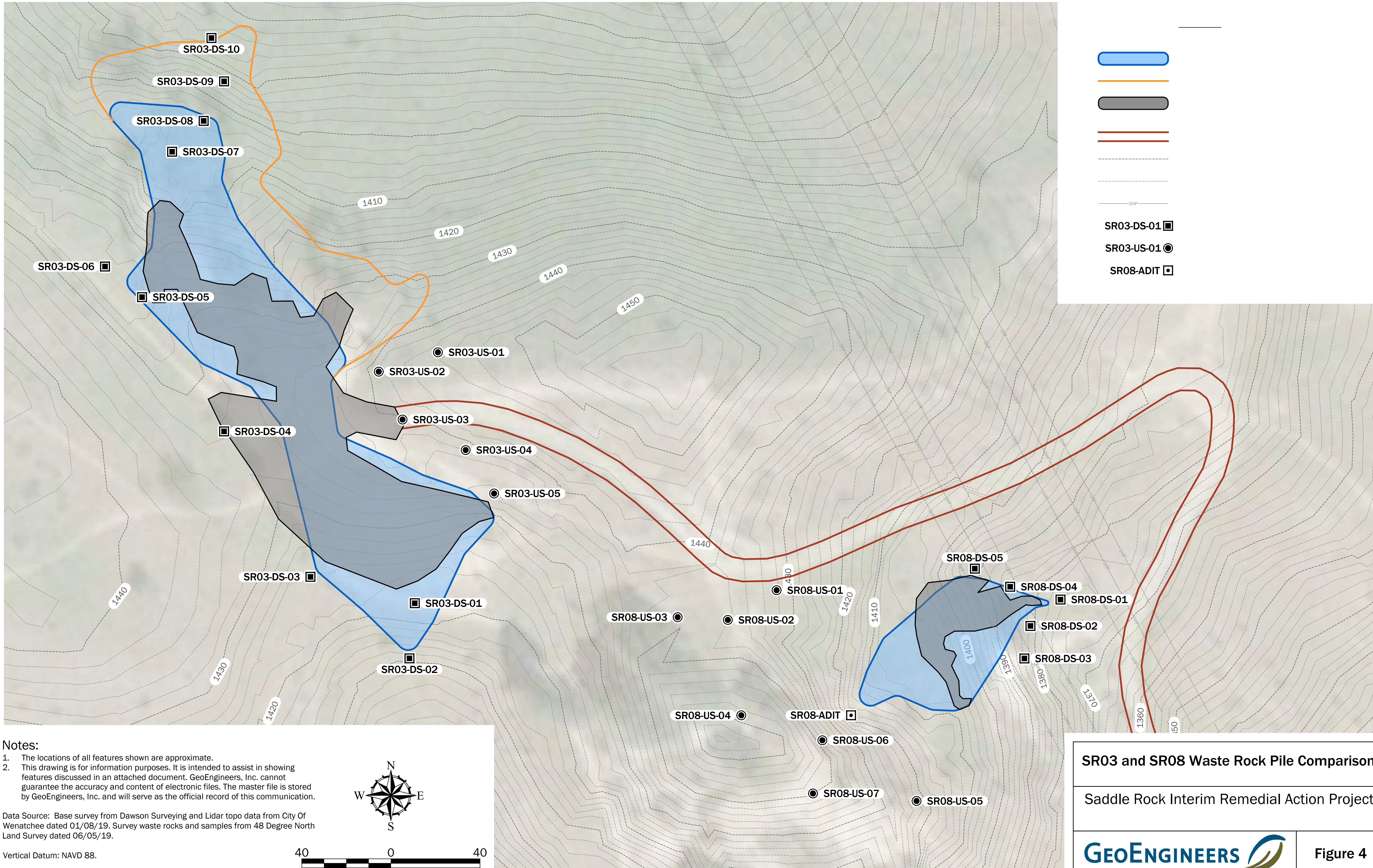
Figure 3

P:\4\4296008\CAD\00\SAP IRA Tech Memo Report\429600800_T200_Appendix F_F02 to F08_Overall and Site Plans.dwg TAB:F04 Date Exported: 06/12/19 - 14:26 by syi



Notes:

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Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

SR03 and SR08 Waste Rock Pile Comparison

Saddle Rock Interim Remedial Action Project

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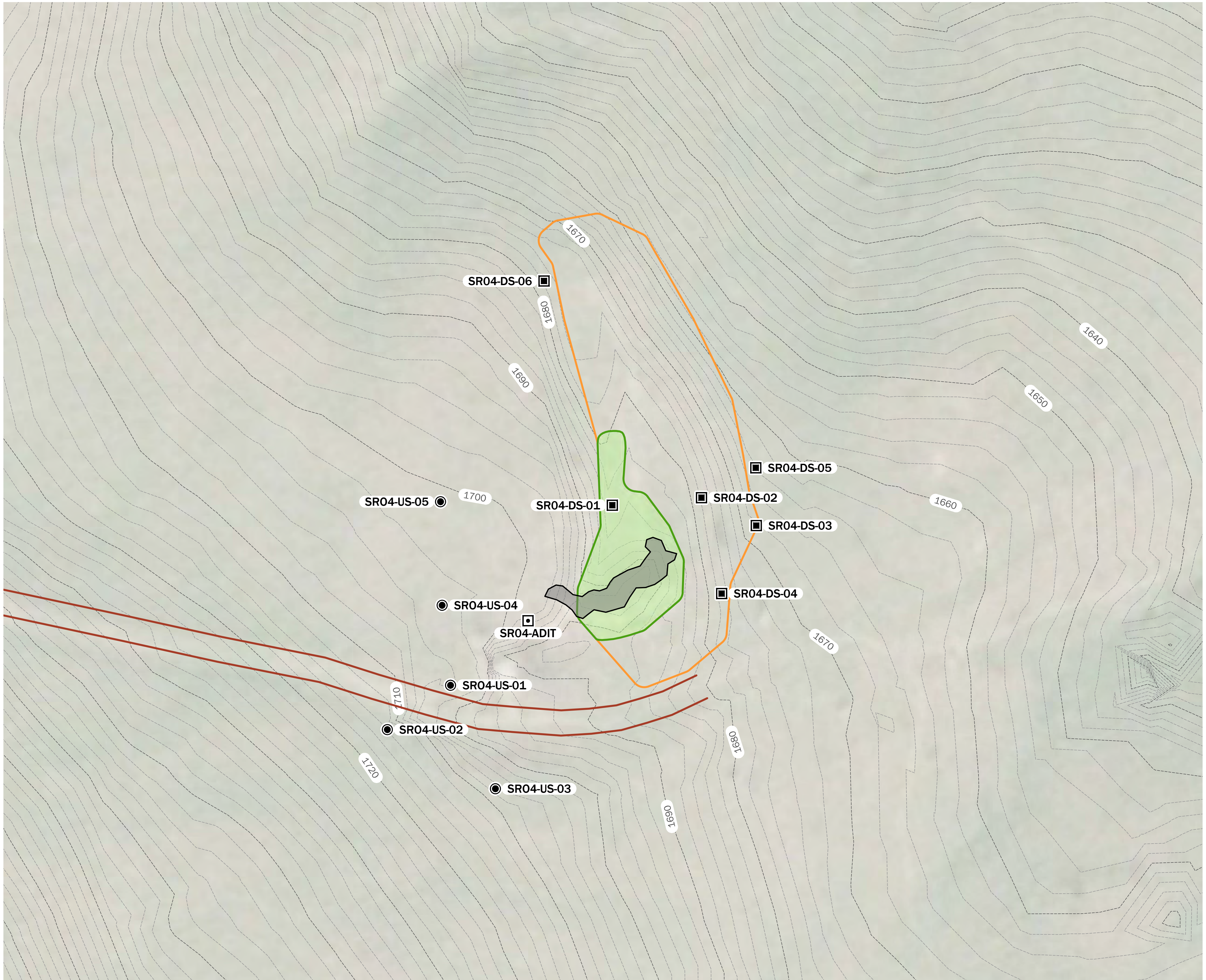
Figure 4

P:\4\4296008\CAD\00\SAP IRA Tech Memo Report\429600800_T200_Appendix F_F02 to F08_Overall and Site Plans.dwg TAB:F05 Date Exported: 06/13/19 - 11:23 by syi



SR04

SR04-DS-01

SR04-US-01

SR04-ADIT

Notes:

1. The locations of all features shown are approximate.
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Data Source: Base survey from Dawson Surveying and Lidar topo data from City Of Wenatchee dated 01/08/19. Survey waste rocks and samples from 48 Degree North Land Survey dated 06/05/19.

Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

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SR04 Waste Rock Pile Comparison

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

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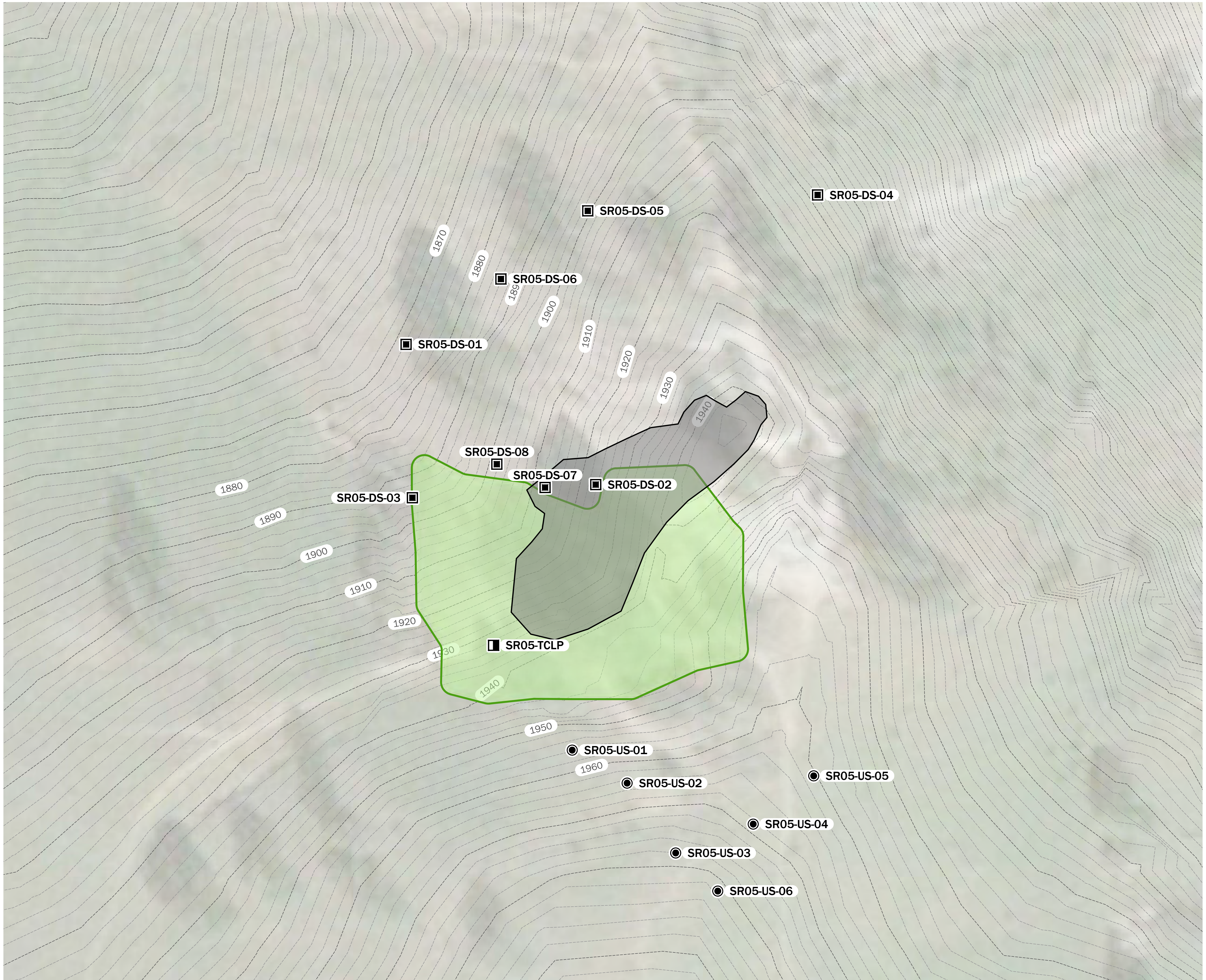
Figure 5

P:\4\4296008\CAD\00\SAP IRA Tech Memo Report\429600800_T200_Appendix F_F02 to F08_Overall and Site Plans.dwg TAB:F06 Date Exported: 06/12/19 - 14:27 by syi



SR05

SR05-DS-01
SR05-US-01
SR05-TCLP

Notes:
1. The locations of all features shown are approximate.
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Data Source: Base survey from Dawson Surveying and Lidar topo data from City Of Wenatchee dated 01/08/19. Survey waste rocks and samples from 48 Degree North Land Survey dated 06/05/19.

Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

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SR05 Waste Rock Pile Comparison

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

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Figure 6

P:\4\4296008\CAD\00\SAP IRA Tech Memo Report\429600800_T200_Appendix F_F02 to F08_Overall and Site Plans.dwg TAB:F07 Date Exported: 06/12/19 - 14:27 by syi

SR06

SR06-DS-01

SR06-US-01

Notes:

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Data Source: Base survey from Dawson Surveying and Lidar topo data from City Of Wenatchee dated 01/08/19. Survey waste rocks and samples from 48 Degree North Land Survey dated 06/05/19.

Vertical Datum: NAVD 88.

Projection: NAD83 Washington State Planes, North Zone, US Foot.

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SR06 Waste Rock Pile Comparison

Saddle Rock Interim Remedial Action Project
Wenatchee, Washington

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Figure 7

P:\4\4296008\CAD\00\SAP IRA Tech Memo Report\429600800_T200_Appendix F_F02 to F08_Overall and Site Plans.dwg TAB:F08 Date Exported: 06/12/19 - 14:29 by syi