

Prepared for
Nevada Environmental Response Trust

Project Number
21-41400C

Prepared by
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Date
November 15, 2017

**INTERIM REPORT
IDENTIFICATION OF COPCs AND
DECISION UNITS FOR OU-1 SOILS,
REVISION 1
NEVADA ENVIRONMENTAL RESPONSE TRUST
SITE
HENDERSON, NEVADA**

Interim Report Identification of COPCs and Decision Units for OU-1 Soils, Revision 1

Nevada Environmental Response Trust Site (Former Tronox LLC Site) Henderson, Nevada

Nevada Environmental Response Trust (NERT) Representative Certification

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Interim Report Identification of COPCs and Decision Units for OU-1 Soils, Revision 1

**Nevada Environmental Response Trust Site
(Former Tronox LLC Site)
Henderson, Nevada**

Responsible Certified Environmental Manager (CEM) for this project

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and, to the best of my knowledge, comply with all applicable federal, state and local statutes, regulations and ordinances.



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Project No. **21-41400C**

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ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing material
AECOM	AECOM, Inc.
AP	ammonium perchlorate
BaP	benzo(a)pyrene
BaPEq	benzo(a)pyrene equivalent
BCL	Basic Comparison Level
bgs	below ground surface
BHC	hexachlorocyclohexane
BHRA	baseline human health risk assessment
BMI	Black Mountain Industrial
box plot	box-and-whisker plot
BRC	Basic Remediation Company
BTEX	benzene, toluene, ethyl benzene, and total xylenes
CAS	Chemical Abstract Service
COPC	chemical of potential concern
CSM	conceptual site model
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DQI	data quality indicator
DU	decision unit
DUE	data usability evaluation
DVSR	Data Validation Summary Report
ECA	Excavation Control Area
EDA	exploratory data analysis
ENSR	ENSR Corporation
ENVIRON	ENVIRON International Corporation
EPC	exposure point concentration
EU	exposure unit
GRAS	Generally Recognized as Safe
GWETS	groundwater extraction and treatment system
HI	hazard index

HRA	health risk assessment
HQ	hazard quotient
IQR	interquartile range
IWF	Interceptor Well Field
LOU	Letter of Understanding
MTBE	methyl tertiary butyl ether
NDEP	Nevada Division of Environmental Protection
Neptune	Neptune and Company
NERT	Nevada Environmental Response Trust
Northgate	Northgate Environmental Management, Inc.
OCH	organochlorine herbicide
OCP	organochlorine pesticide
Operations Area	the area comprising the Site, excluding Parcels C, D, E, F, G, and H
OPP	organophosphate pesticide
OSSM	Olin Chlor Alkali/Stauffer/Syngenta/Montrose
OU-1	Operable Unit 1, also referred to as the Nevada Environmental Response Trust Site or the Site
p-value	calculated probability
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
Phase A investigation	Phase A Source Area Investigation
Phase B investigation	Phase B Source Area Investigation
PQL	practical qualification limit
Q-Q	quartile to quartile plot
QAPP	Quality Assurance Project Plan
QC	quality control
Ra	radium
Ramboll Environ	Ramboll Environ US Corporation
RAW	Removal Action Work Plan for Phase B Soil Remediation
RI/FS	Remedial Investigation and Feasibility Study
RPD	relative percent difference
RSL	regional screening level
RZ	remediation zone

SIM	selective ion monitoring
Site	Nevada Environmental Response Trust Site
SMP	Site Management Plan
SQL	sample quantitation limit
SRC	site-related chemical
Study Area	the area that is the subject of this interim report and that will be evaluated in the BHRA
SVOC	semivolatile organic compound
TEF	toxicity equivalency factor
TEQ	toxicity equivalent
Th	thorium
TIMET	Titanium Metals Corporation
TPH	total petroleum hydrocarbons
Tronox	Tronox, LLC
Trust	Nevada Environmental Response Trust
U	uranium
UCL	upper confidence limit
UMCf	Upper Muddy Creek Formation
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WHO	World Health Organization
<u>Units</u>	
cy	cubic yard
ft	feet, foot
mg/kg	milligram per kilogram
µg/kg	microgram per kilogram

1. INTRODUCTION

This interim report has been prepared by Ramboll Environ US Corporation (Ramboll Environ) on behalf of the Nevada Environmental Response Trust (NERT or the Trust) and presents a preliminary list of soil chemicals of potential concern (COPCs) and identifies decision units (DUs) for evaluation in the baseline human health risk assessment (BHRA) that will be prepared for a 143-acre area referred to in this report as the "Study Area." The Study Area is located within the NERT Site in Henderson, Nevada ("Site").

The NERT Site comprises 346 acres and has been designated as Operable Unit 1 (OU-1) for the Remedial Investigation and Feasibility Study (RI/FS) currently in progress (Figure 1). Within the NERT Site, the Operations Area¹ is a 259-acre area used by the Trust and their tenant, Tronox, for site operations. Tronox currently leases approximately 114 acres within the Operations Area, on which it operates a chemical manufacturing business; three subtenants to Tronox (Angelo & Newton, Industrial Supply, and Pronto Constructors) also have facilities within the Operations Area (Figure 2). The Operations Area excludes six parcels (Parcels C, D, E, F, G, and H, comprising 87 acres) that are not currently used by the Trust or Tronox.

The BHRA Study Area is an approximately 143-acre non-contiguous area within the Operations Area (Figure 3). The BHRA Study Area excludes 116 acres of the Operations Area consisting of remediation zone A (RZ-A), a contiguous 28-acre area in the southern portion of the Operations Area (see Section 2.1.2) and 38 excavation control areas (ECAs) (approximately 88 acres).

Besides the risk for the Study Area being evaluated under this BHRA, the risks for all other property within OU-1 are being evaluated and/or managed. Specifically, post-remediation HRAs for Parcels C, D, F, G and H are currently underway. A health risk assessment (HRA) has been previously completed for RZ-A (see Section 2.1.2). The 38 ECAs are subject to the Site Management Plan (SMP) (Ramboll Environ 2017), which describes measures to mitigate risks to human health and the environment related to potential exposures to residual COPCs during periods of typical site operations. Considering the risk mitigation measures in place, the Nevada Division of Environmental Protection (NDEP) concurred during a meeting in July 2015 that a BHRA would not be required for the ECAs (Ramboll Environ 2015b). Because soil in Parcel E has not been investigated, the Trust is removing Parcel E from the remedial investigation and BHRA. The Trust is currently reviewing information on the historical use of Parcel E and will develop an approach for investigating Parcel E, if necessary, for discussion with NDEP.

1.1 Major Revisions

Key steps of the BHRA include 1) selection of soil COPCs for which cancer risks and noncancer hazards will be evaluated quantitatively; and 2) identification of DUs for evaluation. In May 2015, the first interim report, *Preliminary Selection of Facility Area COPCs* (2015 interim COPC report) (Ramboll Environ 2015a), was submitted to NDEP; that report focused primarily on the identification of COPCs. In July 2015,

¹ The Operations Area is equivalent to the area referred to as the "Facility Area" in previous reports (with the exception of Parcel E, previously considered as part of the Facility Area for risk assessment purposes). These reports include, e.g., the Remedial Investigation and Feasibility Study Work Plan (ENVIRON International Corporation [ENVIRON] 2014a) and the associated risk assessment work plan and report (ENVIRON 2014b, Ramboll Environ 2015a).

representatives of NDEP, NDEP consultants, the Trust, and Ramboll Environ met to discuss the 2015 interim COPC report, and more generally, to identify a path forward for the soil BHRA (Ramboll Environ 2015b). In August 2016, the second interim report, *Identification of COPCs and Exposure Units for Soils*, (2016 interim COPC/EU report) (Ramboll Environ 2016a), was submitted to NDEP. The 2016 interim COPC/EU report updated the list of soil COPCs for the Study Area² consistent with the approach agreed upon during the July 2015 meeting. In addition, soil analytical data as part of the Phase 1 Remedial Investigation (RI) were added to the risk assessment data set, and the data usability evaluation (DUE) and a preliminary identification of EUs were included. In December 2016, NDEP provided comments on the 2016 interim COPC/EU report (NDEP 2016).

This report has been prepared to address NDEP comments on the 2016 interim COPC/EU report. NDEP comments, along with the Trust's responses, are included in Appendix A. In addition, this report updates the soil BHRA data set and has been further revised for consistency with recent updates to NDEP guidance. The primary revisions made to this report, as compared with the previously submitted 2016 interim COPC/EU report, are summarized below:

- **Changes in the DU identification:** In the 2016 interim COPC/EU report, the proposed six EUs were identified based mainly on the current/anticipated future land use and the distribution of COPCs in soil as shown on spatial intensity plots for each chemical by concentration. Because it is difficult to systematically review the spatial plots of all the COPCs in order to evaluate the spatial patterns in concentrations that could be used to identify DUs, the current report reduces the dimensions of the spatial data analysis by focusing on risk-relevant spatial patterns. Spatial risk plots were prepared according to the two health endpoints - cancer risk and noncancer hazard. In addition, dioxin and arsenic concentrations were compared to their site-specific remediation level and background concentrations, respectively.

As agreed with NDEP (and documented in NERT Meeting Minutes dated December 19, 2016, see Appendix A), spatial plots of risk results were initially prepared for the Study Area as a whole. These plots were then used to identify discrete DUs to be evaluated in the BHRA. Based on this evaluation, the Study Area was divided into three DUs.³ The three DUs include DU-1, the northern portion of the Study Area (north of the L'hoist North America facility), DU-2, the southern portion of the Study Area (south of the L'hoist North America facility), and DU-3, the Central Retention Basin. The identification of the three DUs is discussed in detail in Section 5. DU-specific DUEs and COPC identifications have also been conducted.

- **Changes in the soil BHRA data set:** Minor changes to the Site, ECA, and parcel boundaries based on current information resulted in a few soil samples that were no longer located within the Study Area, and these samples have been removed from the BHRA data set. A few soil samples that were either identified as within or outside an ECA have been updated; those identified as outside an ECA are included in the BHRA data set. In addition, several soil samples (i.e., asbestos samples) included in

² The 2015 interim COPC report identified COPCs for areas referred to as "outside ECA soils" and "inside ECA soils." Consistent with the decision to exclude ECAs from the BHRA, the 2016 interim COPC/EU report identified COPCs for "outside ECA soils," or equivalently, the Study Area.

³ The term "Decision Unit" is used in place of the term "Exposure Unit" in this report.

the 2016 BHRA data set were confirmed to be associated with soil removed during the interim soil removal actions conducted in 2010 and 2011, and a few soil samples have been identified as being beneath Pond Mn-2 and inaccessible for soil contact; these samples have been excluded from the BHRA data set. The depths of soil samples after the removal actions have been reconfirmed to make sure that only the samples collected in the top 10 feet (ft) below ground surface (bgs) are included in the BHRA data set. Soil samples that have been changed in the current BHRA data set, compared to the 2016 BHRA data set, are identified in Section 3.1.1.

- **Background evaluation:** In the 2016 interim COPC/EU report, the RZ-A background data set was used to evaluate background conditions for metals and radionuclides. As requested by NDEP (Neptune and Company [Neptune] 2017), in the DU-specific analysis, the regional Basic Remediation Company (BRC)/Titanium Metals Corporation (TIMET) data set (BRC/TIMET 2007) was used for the northern portion of the Study Area and the RZ-A background data set was used for the southern portion of the Study Area. Use of the RZ-A background data set was retained for analysis of the entire Study Area.
- **Expansion of DUE:** The DUE has been expanded per NDEP comments by including detailed discussion and data tables for data quality indicators (DQIs).
- **Update of Soil Screening Levels.** The Basic Comparison Levels (BCLs) used for the concentration/toxicity screen have been updated to be consistent with the most recent NDEP revision to the BCLs (NDEP 2017).

The COPCs and DUs established in this report will be used for the evaluation of soil exposure pathways in the BHRA. COPCs for evaluation of the vapor intrusion pathway are not identified in this report. It is anticipated that for soil gas, all analytes detected in one or more samples will be identified as COPCs.

1.2 Report Organization

The following elements are included in the remainder of this interim report:

- Section 2 summarizes soil investigations and interim soil removal actions conducted at the Operations Area from 2006 through 2014.
- Section 3 identifies the sources of soil analytical data available for the BHRA and presents the DUE, including the data analysis step of the DUE.
- Section 4 describes the COPC selection process and presents a preliminary list of soil COPCs for the Study Area.
- Section 5 presents spatial data analysis for the preliminary soil COPCs, identifies the proposed DUs, and provides DU-specific DUEs and COPC identifications.
- Section 6 lists the references cited in this report.

Supporting tables, figures, and appendices follow the text of the report.

2. SOIL INVESTIGATIONS AND INTERIM REMOVAL ACTIONS

The following sections summarize soil investigations and interim soil removal actions conducted within the Operations Area (including the Study Area) since the 2005 conceptual site model (CSM) (ENSR Corporation [ENSR] 2005). These investigations include “historical” investigations and removal actions, i.e., those conducted before the formation of the Trust as well as the ongoing RI for the Operations Area. The soil samples collected during these investigations provide the soil analytical data for the BHRA.

2.1 Historical Soil Investigations and Interim Removal Actions

The following sections describe the historical soil investigations and interim soil removal actions conducted prior to the RI.

2.1.1 Historical Soil Investigations

In 2005, a CSM report (2005 CSM report) was prepared for the Site that integrated information from the soil and groundwater investigations conducted prior to 2005 to document information on site-specific sources, release mechanisms, transport pathways, exposure routes, and potential receptors (ENSR 2005). Historical site investigations conducted since completion of the 2005 CSM report include the Phase A and Phase B Source Area Investigations, which were designed to further characterize soil, groundwater, and soil gas across the Site (ENSR 2006, 2007a, 2008a, AECOM, Inc. [AECOM] 2008).

The objectives of the Phase A Source Area Investigation (Phase A investigation) were to refine the 2005 CSM, further characterize site conditions, and provide data for future risk assessments. To identify and characterize the distribution of site-related chemicals (SRCs) in soils, the investigation focused on soil conditions associated with the 192 SRCs identified in the 2005 CSM report and their suspected source areas. A total of 127 soil samples were collected in November and December 2006 from 27 suspected source area locations. The sample locations were selected based on results of past site investigations, as presented in the CSM report (ENSR 2005), information on chemical use at the Site, and the 70 Letter of Understanding (LOU) study areas identified by NDEP in 1994 (NDEP 1994). In addition to the 192 SRCs previously identified, 44 additional constituents were analyzed for and reported by the laboratory.

During the Phase A investigation, soil samples were collected at depths of 0.5 to 1 ft and at 10 ft intervals thereafter, until groundwater was encountered (ENSR 2006). The samples were analyzed for metals; volatile organic compounds (VOCs), including fuel oxygenates; semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); dioxins and furans; total petroleum hydrocarbons (TPHs as gasoline, diesel, and oil range organics); organochlorine herbicides (OCHs); organochlorine pesticides (OCPs); and organophosphate pesticides (OPPs). In addition, analyses were conducted for radionuclides, asbestos (surface soil samples only), and wet chemistry constituents. Not all samples were analyzed for all analytes, and at some locations, samples were collected at more frequent depth intervals. Samples were also collected from the manganese tailings stockpile (Figure 2) for analysis of metals and radionuclides. Two near surface

soil samples (1.5 to 3 ft bgs) were collected and analyzed for physical and geotechnical parameters.

Considering the results of the Phase A investigation, the objective of the Phase B Source Area Investigation (Phase B investigation) was to further characterize and evaluate the LOUs in the Operations Area and evaluate their potential impact on soils. Samples were collected at initial soil depths of 0.5 and 10 ft bgs, at the capillary fringe, and at the midpoint between the capillary fringe and 10 ft bgs, without exceeding 20 ft between each vertical sample. Judgmental samples were collected at 0.5 and 10 ft bgs in locations where certain surface features were noted, e.g., minor stains or above-ground pipelines. Soil samples were analyzed for the following analytical groups and analytes: metals (including hexavalent chromium), VOCs, SVOCs, organic acids, PCB Aroclors and congeners, dioxins/furans, OCPs, OPPs, TPHs, chlorate, perchlorate, cyanide, formaldehyde, and radionuclides. In addition, surface samples were collected from 0 to 2 inches and analyzed for asbestos fibers. Samples for wet chemistry and geotechnical parameters were also collected (AECOM 2008).

Supplemental sampling of soils for the Phase B investigation was conducted in December 2009 in accordance with two Tronox memoranda entitled *Scope for Additional Sampling of Area I* (Northgate Environmental Management, Inc. [Northgate] 2009a) and *Scope for Additional Sampling of Area II* (Northgate 2009b). A total of 129 soil samples were collected at or near Phase B investigation locations where reported concentrations of constituents exceeded NDEP BCLs. The purpose of the sampling was to fill remaining data gaps in the pre-excavation data and to provide additional information for excavation planning.

2.1.2 Interim Soil Removal Actions

Interim soil removal actions were conducted in 2010 and 2011 in response to a 2009 order issued by NDEP to Tronox to remove impacted soil from the Site to minimize potential health risks associated with the continued presence of contaminated soil (NDEP 2009a). The Phase A and B investigations identified a number of SRCs within the upper 10 ft of soil with reported concentrations greater than NDEP worker BCLs or modified risk-based goals (as agreed upon by NDEP). These constituents included metals; SVOCs (including hexachlorobenzene); PCBs; OCPs; dioxins/furans; asbestos; and perchlorate. Based on the investigation findings, a detailed scope of work for soil removal was developed, as presented in the *Removal Action Work Plan for Phase B Soil Remediation of Remediation Zones RZ-B through RZ-E* (the RAW) (Northgate 2010a).

For purposes of soil excavation activities, the Operations Area was divided into five RZs based roughly on geographic groupings of elevated detections and CSM considerations (Northgate 2010b), as follows:

- RZ-A: area in the southern portion of the Site;
- RZ-B: area around the Unit Buildings;
- RZ-C: ammonium perchlorate (AP) production area, Koch Materials area, pond and diesel storage tank area, and manganese tailings stockpile;
- RZ-D: former Trade Effluent ponds and AP pad/drum recycling area (including the former hazardous waste landfill); and
- RZ-E: Beta Ditch.

For RZ-A, the results of a HRA for soils (Northgate 2010c) indicated that exposures to residual chemicals in the upper 10 ft of soil were below NDEP's point of departure for cancer risks and noncancer effects. Specifically, the estimated cancer risks were less than one-in-a-million (1×10^{-6}) for indoor commercial workers, outdoor commercial/industrial workers, and construction workers, and the HIs were less than one (1). The upper-bound risks of death from lung cancer or mesothelioma for asbestos exposures to outdoor commercial/industrial workers were less than or equal to 1×10^{-6} for long chrysotile and long amphibole fibers. The best estimate and upper-bound risk estimates for construction workers were less than or equal to 1×10^{-6} for long chrysotile fibers and ranged from zero to 6×10^{-5} for long amphibole fibers. Based on the HRA results, RZ-A was not included in the interim soil removal action.

For RZ-B through RZ-E, Voronoi/Thiessen polygons were generated to define areas of impacted or contaminated soils (Northgate 2010a). The RAW defined contaminated soil as areas with concentrations exceeding worker BCLs or other NDEP-approved concentrations. The remediation strategy consisted of 1) excavation of soils within designated polygons, 2) sampling of discolored soil, 3) removal of discolored soil where above BCLs or otherwise deemed appropriate to remove, and 4) designation of ECAs for inaccessible areas, including certain areas with contaminants above BCLs and/or discolored soil left in place.

To further define the areas for excavation (i.e., the polygons), pre-confirmation sampling was conducted from April to November 2010 in accordance with a pre-confirmation sampling work plan (Northgate 2010b). Borings were advanced during the pre-confirmation sampling program, as follows: 1) 84 borings at existing locations (adjacent to Phase A and B investigation sampling locations) and 2) 91 borings at new locations. Data from "existing locations" were used to establish polygon depths, while data from "new locations" were used to define the horizontal and vertical extent of excavation of near-surface soils (i.e., 0 to 10 ft bgs soils).

Discolored soil was encountered in various locations during removal activities. Considering 1) the location of the discolored soil, 2) available analytical results from adjacent or nearby areas, 3) the anticipated extent of discolored soil, and 4) the excavation activities currently in progress, some areas of discolored soil were removed. Other areas of discolored soil were sampled and evaluated to determine if the soil should be removed or could be left in place in accordance with the *Work Plan for Evaluation of Discolored Soil and Confirmation Soil Sampling in Visually-Impacted Areas* (ENVIRON 2011). Where removal of discolored soil was conducted, confirmation soil samples were collected to verify that remaining soil concentrations were below BCLs. Typically, if the analytical results indicated that concentrations were above BCLs, additional soil was removed and additional confirmation soil sampling was performed.

The interim soil removal action was conducted between August 2010 and November 2011, in which accessible soils with concentrations greater than BCLs were removed down to a maximum depth of 10 ft bgs. An estimated 567,770 cubic yards (cy) of contaminated soil (not including asbestos-containing material [ACM]) were removed during this period. An estimated 11,026 cy of asbestos-containing soil and 1,419 linear feet of ACM piping were also removed and disposed of as part of the soil removal action. Excavated areas were partially backfilled and graded with clean fill from on- and off-site sources. The final grading plan included construction of two retention basins, the Central

Retention Basin and the Northern Retention Basin (shown on Figure 2). Areas of inaccessible soils (with concentrations greater than BCLs) and incompletely characterized soils (due to access issues) were designated as ECAs. Removal activities and post-removal conditions at the Site are described in details in the *Revised Interim Soil Removal Action Completion Report* (ENVIRON 2012). The 38 current ECAs (which are subject to change depending on site investigation and/or interim removal actions), are listed in Appendix A of the most recent SMP (Ramboll Environ 2017).

An interim removal action was also conducted at the manganese tailings stockpile, as presented in the *Manganese Tailings Removal Technical Memorandum* (Northgate 2012). The manganese tailings stockpile was located in RZ-C, north of the Manganese Leach Plant and south of the Mn-1 Pond (in the current location of the Mn-2 Pond, as shown on Figure 2). The area is approximately 8.6 acres and was used from 1975 through 2004 for the disposal of manganese tailings from the leach plant process. Manganese tailings from all former storage locations at the Site were consolidated to this location and covered with soil sometime prior to 1985. Since 2004, manganese tailings from Tronox operations (current tailings production) have been shipped to an off-site landfill.

A total of 284,232 tons of tailings and minor debris were removed from the manganese tailings stockpile as part of the interim removal action. In accordance with a request from NDEP, a confirmation sampling program was implemented subsequent to tailings removal. Based on the results of the confirmation sampling program, additional shallow soil excavation was conducted concurrent with Phase B soil remediation in accordance with the RAW and Appendix A of the *Revised Excavation Plan for Phase B Soil Remediation of RZ-C, Addendum to the Remedial Action Work Plan* (Northgate 2010d). The post-confirmation sampling excavation was conducted to address soil that contained concentrations of arsenic, cobalt, manganese and/or asbestos that exceeded NDEP worker BCLs or modified risk-based goals (Northgate 2010a, 2010d).

One ECA has been remediated since the ECAs were established in 2012. ECA #E3 (Facilities at East End of the Beta Ditch) was remediated via soil excavation in October 2013, concurrent with TIMET's excavation and grading of their property. Confirmation soil sample results were collected. The activities are detailed in the *Excavation of Beta Ditch at NERT-TIMET Property Line* report (ENVIRON 2014c).

2.2 Remedial Investigation – Soil

The following sections describe the soil investigations being performed as part of the RI.

2.2.1 Phase 1 RI Data Gap Investigation

In accordance with the 2011 Interim Consent Agreement between the Trust and NDEP, the Trust is in the process of conducting a RI/FS. Per the RI/FS Work Plan (ENVIRON 2014a), Ramboll Environ conducted field work for a Phase 1 RI data gap investigation between October 2014 and May 2015. The Phase 1 data gap investigation was deemed necessary for areas that required further characterization to determine the nature and extent of COPCs in soil and groundwater. For purposes of soil characterization, four main areas were initially identified for collection of additional physical and chemical data from both shallow and deep soils. These areas included the AP-5 pond area, the debris pile, soil in the area between the debris pile and AP-5 pond, and the area west of the Mn-1 pond (Figure 2). Based on further review, additional investigation areas were identified and the Phase 1 RI soil data gap investigation focused on eight investigation areas

(Areas 1 through 8) within the Operations Area. Investigation was performed in Areas 2 through 8. Soil samples from Area 1 are scheduled to be collected upon the completion of the AP-5 pond decommissioning, currently anticipated to be completed in 2018 or 2019.

In Areas 2 through 8, approximately 450 soil samples were collected for chemical analysis and 35 soil samples were collected for determination of physical properties from 55 soil borings, eight on-site well pilot borings, and three test pits. The results of the Phase 1 data gap investigation are summarized in the *Technical Memorandum, Remedial Investigation Data Evaluation* (Ramboll Environ 2016b). Additional data gaps to be addressed in the Phase 2 RI Data Gap Investigation (Phase 2 RI Investigation) were identified in the same submittal.

All of the applicable soil data within the Study Area from the Phase 1 RI are included in the current soil BHRA data set.

2.2.2 Phase 2 RI Data Gap Investigation

In accordance with the *Remedial Investigation Data Evaluation Technical Memorandum* (Ramboll Environ 2016b), the Trust implemented a second phase of remedial investigation (Phase 2 RI) from January to November 2017. Field work was conducted both at the NERT Site and within the Off-Site RI Study Area. The primary purposes of the Phase 2 RI were to obtain data necessary to further understand the nature and extent of impacts to soil and groundwater and to obtain data necessary to conduct feasibility study evaluations for the selection of the final remedy.

At the NERT Site, 63 monitoring wells and 57 borings were installed as part of the Phase 2 RI. Areas of investigation included 1) the future downgradient Site boundary, 2) between the Interceptor Well Field (IWF)/barrier wall and the downgradient Site boundary, 3) the central area of the Site, 4) west of the GW-11 pond, and 5) upgradient of the IWF. Approximately 957 soil samples were collected for chemical analysis and approximately 292 samples were collected for physical properties.

All soil borings and monitoring well installations were completed using rotary sonic drilling methods. Monitoring well development at the Site and within the Off-Site NERT RI Study Area and an initial round of groundwater sampling at all new Phase 2 monitoring wells were completed following drilling activities. In addition, slug testing was conducted in all new Phase 2 monitoring wells, as well as in 10 nearby existing Trust owned wells that had not been tested previously, in order to provide more complete hydraulic characterization in the Upper Muddy Creek Formation (UMCF) on-Site and in areas outside the paleochannels off-Site.

The results of Phase 1 and Phase 2 RI, along with the results of the AECOM Downgradient Study Area effort and the Tetra Tech Unit 4/5 Buildings Investigation (see Section 2.2.3 below), will be incorporated into a comprehensive RI report currently slated to be submitted to NDEP in late 2018.

Most soil samples collected during the Phase 2 RI were collected at depths below 10 feet bgs. It is anticipated that approximately 100 soil samples collected from 50 boring locations during this investigation will be added to the soil BHRA data set.

2.2.3 Phase 3 Data Gap Investigation

As discussed in the *RI/FS Work Plan Addendum: Phase 3 Remedial Investigation, Revision 1*, submitted to NDEP on October 6, 2017 (currently awaiting NDEP approval), the Trust plans to implement a third phase of remedial investigation (Phase 3 RI) within the Eastside Study Area, located immediately east of the NERT Site and Off-Site Study Area. The investigation is designed to determine the extent of COPC contamination originating from the NERT Site in the Eastside Study Area, obtain data to support future feasibility study evaluations to address COPCs, and to assist in the selection of the final remedy for COPCs in the Eastside Study Area.

Work performed as part of the Phase 3 RI will be outside of OU-1; therefore, soil data obtained during the investigation will not be included in this soil BHRA data set.

2.2.4 Unit 4 and 5 Buildings Investigation

As part of the RI/FS, the *Unit 4 and 5 Buildings Investigation Work Plan* (Tetra Tech 2015) was submitted to NDEP on March 30, 2015 and approved by NDEP on April 13, 2015. The work plan documented the proposed environmental investigation in the area of the Unit 4 and 5 buildings located at the Site. The work plan replaced Section 5.4.1.2 of the RI/FS Work Plan and included demolition of the Unit 4 building floor, construction of an access ramp, and an environmental investigation using conventional drilling techniques on the basement level of the building. The work was divided into three field mobilizations and subsequent reporting, as summarized below.

First Field Mobilization

Fieldwork for the first mobilization was conducted in late 2015 and included advancing four boreholes and collecting discrete-depth groundwater samples from the four exterior corners of the Unit 4 cell floor. The objective of the first mobilization was to obtain preliminary lithologic and analytical data that would be used as a baseline to direct and refine the scope of work for the second field mobilization.

Results of the first field mobilization are summarized in the *Technical Memorandum: Unit 4 and 5 Buildings Investigation First Mobilization* (Tetra Tech 2016a), which was submitted to NDEP on May 6, 2016 and approved on June 28, 2016 following submittal of a response to NDEP comments on June 24, 2016 (Tetra Tech 2016b). Soil samples were collected from four boreholes outside of the four corners of the Unit 4 Building. Since these soil borings were located within ECA B1, these soil samples are not included in the soil BHRA data set.

Second Field Mobilization

Fieldwork for the second mobilization was conducted from June 2016 to January 2017, and was summarized in the *Technical Memorandum: Unit 4 and 5 Buildings Investigation Second Mobilization* (Tetra Tech 2017a), which was submitted to NDEP on May 4, 2017. NDEP approved this memorandum on June 8, 2017 along with a request for a written response about how their comments on the memorandum will be addressed in the third mobilization or final RI report. A response to NDEP comments was submitted to NDEP on July 12, 2017 (Tetra Tech 2017b) and approved by NDEP on August 15, 2017.

Sixty nine boreholes were advanced throughout the investigation area as part of the second field mobilization, including 47 boreholes along five transects, three boreholes in the vicinity of a sump located along the southwest corner of the Unit 4 basement, and

additional 19 boreholes that were added during the second mobilization. Borings were advanced to depths ranging from 90 to 250 feet. Soil and discrete-depth groundwater samples were collected from the borings at selected intervals and analyzed for perchlorate, hexavalent chromium, total chromium, VOCs, total dissolved solids (groundwater only), nitrate and sulfate, and chlorate.

Most soil samples collected during the second mobilization of Unit 4 and 5 Buildings Investigation were collected at depths below 10 feet bgs or within ECAs. It is anticipated that approximately 85 soil samples collected from 17 boring locations from this investigation will be added to the soil BHRA data set.

Third Field Mobilization

Fieldwork associated with the third mobilization is anticipated to be completed in the fourth quarter of 2017 or early January 2018. The third mobilization includes the installation of five to seven monitoring wells and the sampling of new wells and existing wells in the vicinity of the investigation area (Tetra Tech 2015). The advancement of additional boreholes within the investigation area to supplement data collected during the second mobilization was also recommended (Tetra Tech 2017a). Any soil samples collected outside of the ECA and within the Study Area, will be included in the BHRA. Following completion of the third mobilization, the results from all three field mobilizations will be incorporated into the comprehensive RI report.

2.3 Soil BHRA Data Set

As discussed further in Section 3, the current soil BHRA data set includes 1,131 soil samples collected from 0-10 ft bgs at 431 locations within the Study Area. The soil sampling locations are shown on Figure 4. It is anticipated that approximately 185 soil samples collected from 0-10 ft bgs at 67 locations within the Study Area from the Phase 2 RI and Tetra Tech Unit 4 and 5 Buildings Investigation will be added to the updated soil BHRA data set in the forthcoming BHRA report.

3. DATA USABILITY EVALUATION AND DATA ANALYSIS

This section presents the DUE. Section 3.1 presents the first component of the DUE, in which the available soil data are reviewed to ensure that the quality of the data is sufficient to support the BHRA; this component of the evaluation focuses on the quality of each individual data point. Section 3.2 presents the data analysis component of the DUE, which focuses on the entire BHRA data set. In particular, through statistical summaries, background evaluation (for soil metals and radionuclides only), spatial plots, and other exploratory analyses, the data are reviewed relative to our current understanding of the Study Area (as represented by the CSM) and for possible data gaps or other investigation issues.

3.1 Data Usability Evaluation

The DUE was conducted in accordance with NDEP's Supplemental Guidance for Assessing Data Usability for Environmental Investigations at the Black Mountain Industrial (BMI) Facility in Henderson, NV (NDEP 2010a), which is based on the United States Environmental Protection Agency's (USEPA's) Guidance for Data Usability in Risk Assessment (Parts A and B) (USEPA 1992a, b). The USEPA DUE framework provides the basis for identifying and evaluating uncertainties in HRAs with regard to site characterization data. USEPA (1992a) states that "data usability is the process of assuring or determining that the quality of data generated meets the intended use," and that when risk assessment is the intended use, USEPA's guidance "provide[s] direction for planning and assessing analytical data collection activities for the HRA." USEPA has established a specific framework to provide risk assessors a consistent basis for making decisions about the minimum quality and quantity of environmental analytical data to support risk assessment decisions (USEPA 1992a, b; NDEP 2010a). The USEPA data usability guidance identifies the following data quality criteria for evaluating the usability of site investigation data in the risk assessment process:

- Criterion I – Reports to Risk Assessor;
- Criterion II – Documentation;
- Criterion III – Data Sources;
- Criterion IV – Analytical Methods and Detection Limits;
- Criterion V – Data Review; and
- Criterion VI – Data Quality Indicators.

In this section, Criteria I through VI are evaluated for the entire Study Area and not for the individual proposed DUs. It is noted that the conclusions reached for Criteria I through V for the Study Area also apply to the individual DUs. Review of the DU-specific data relative to Criterion VI is discussed in Section 5.3.

The soil data set evaluated using the data quality criteria is identified in Section 3.1.1. Sections 3.1.2 through 3.1.7 briefly describe the evaluation criteria and results of the evaluation. The detailed results are presented in tabular form (Table 1) using the worksheet templates provided by NDEP (2010a).

3.1.1 Soil Data Set and Data Processing

The soil BHRA data set comprises the analytical results that remain representative of current conditions within the Study Area. Specifically, the data set includes samples collected at 0-10 ft bgs⁴ as part of the following investigations:

- “Remaining” soil samples⁵ from the Phase A investigation in 2006;
- “Remaining” soil samples from the Phase B investigation in 2008 and 2009;
- “Remaining” soil samples from the Phase B supplemental investigation in 2009;
- “Remaining” pre-confirmation soil samples in 2010;
- “Remaining” confirmation samples collected in 2011 to inform the interim removal actions; and
- RI investigation samples collected in 2014.

Additional RI soil samples collected from the 0-10 ft depth interval within the Study Area during recent and upcoming soil investigations (i.e., Phase 2 RI Data Gap Investigation, Unit 4 and 5 Buildings Investigation) will be included in the updated DUE section of the forthcoming BHRA report. Because the planned additional data collection efforts are being conducted to support the evaluation of fate and transport of perchlorate and other constituents in soil and groundwater, it is not anticipated that the additional data will impact the proposed DUs or the selection of COPCs presented in this report. Nevertheless, in the forthcoming BHRA, the DUE, COPC selection, and DU identification provided in this report will be revised, using the updated soil BHRA data set, to ensure that the additional soil results are incorporated into the understanding of soil COPCs and their spatial distribution.

For each soil sample collected from the above investigations, sampling locations were verified relative to current parcel, Operations Area, and ECA boundaries. Samples were excluded from the soil BHRA data set if 1) locations were outside the current boundaries of the Study Area; 2) the sampling depths were greater than 10 ft bgs; or 3) location and/or depth information were not available. In addition, samples collected at three locations (TSB-GJ-03, TSB-GJ-04, and TSB-GR-02) previously believed to be in Parcel G, are now considered to be within the Study Area; these samples are also included in the soil BHRA data set.

In addition to a few sample re-assignments resulting from the minor changes to the current parcel, Operations Area, and ECA boundaries, several soil samples (i.e., asbestos samples) included in the 2016 BHRA data set were confirmed to be associated with soil removed during the interim soil removal actions conducted in 2010 and 2011, and a few soil samples have been identified as being beneath the Mn-2 pond and inaccessible for soil contact; these samples have been excluded from the BHRA data set. The depths of soil samples after the removal actions have been reconfirmed to make sure that only the samples collected from the top 10 ft bgs are included in the BHRA data set. The soil

⁴ In this and all remaining sections of the report, the 0 to 10 ft interval refers to the post-excavation soil horizon (i.e., following any excavation, backfilling, and grading completed at the Site) unless otherwise stated.

⁵ “Remaining” soil samples refers to soil samples collected in areas that were not excavated during the interim soil removal actions described in Section 2.1.2 and for which analytical results remain representative of current site conditions.

samples which have been changed in the current BHRA data set, compared to the 2016 BHRA data set, are identified in Appendix B, Table B-1.

The "NERT project database," maintained by Ramboll Environ on behalf of the Trust, houses the analytical data collected during historical and ongoing investigations at the NERT Site and throughout the RI Study Area.⁶ After identifying the preliminary set of data for the BHRA, an initial task before the DUE was implemented to 1) identify and correct inconsistencies in data field entries and 2) create additional fields to support data management and interpretation for the BHRA data set. The following items were completed:

- Standardize chemical names and Chemical Abstract Service (CAS) registry numbers;
- Standardize reporting units, e.g., milligrams per kilogram (mg/kg) for metals and micrograms per kilogram ($\mu\text{g}/\text{kg}$) for organic compounds;
- Standardize analytical method names;
- Correct errors in data entry (e.g. typos in sample identification codes);
- Identify a unique result for use in the BHRA for sample/analyte pairs for which more than one result was reported. For example, if two results were reported for benzo[a]pyrene (BaP) in the same sample – one by USEPA Method 8270 and the second by USEPA Method 8270 Selective Ion Monitoring (SIM) – the result to be used in the BHRA was identified as that from the 8270 SIM analysis because of the greater sensitivity (lower reporting limits) of this method;
- Enter BCLs and confirm that BCLs correspond to the chemical form or species reported. For example, the database compared analytical results for phosphorus with the BCL for white phosphorus. There is no evidence to suggest that white phosphorus is present in Site soils. The most abundant form of phosphorus in soil is orthophosphate. Analytical methods were reviewed to confirm that the analyses were not for white phosphorus; and
- Develop database queries and confirm that queries returned the correct output.

The above steps were necessary due to the approximately 10-year period over which the soil data was collected and the differences in sampling, analysis, and data entry across investigations. This can be understood in the context of soil samples collected by different entities, analyzed by different analytical laboratories for overlapping suites of chemicals, and the use of different reporting conventions.

No change was made to a datum without first understanding the issue and the steps necessary to correct the issue. As needed, sampling plans, laboratory reports, Data Validation Summary Reports (DVSRs), and other supporting documents were reviewed. Data points were considered unusable for risk assessment if information could not be located to confirm and/or correct an identified issue. Soil data excluded from the BHRA data set during data processing are summarized in Appendix B, Table B-2.

To ensure calculation consistency, dioxin toxicity equivalents (TEQs) were calculated (or recalculated) using the results for dioxins, furans, and dioxin-like PCBs and the World

⁶ Historically, the database has been managed by different entities responsible for investigations and data collection at the Site. Ramboll Environ assumed responsibility for the database in early 2011.

Health Organization (WHO) toxicity equivalency factors (TEFs) scheme (van den Berg et al. 2006). BaP equivalents (BaPEqs) were also calculated (or recalculated) for the seven carcinogenic polycyclic aromatic hydrocarbons (PAHs) (i.e., BaP, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-c,d]pyrene) for which USEPA has derived TEFs (USEPA 2017). Nondetects were addressed using the Kaplan-Meier approach from USEPA's TEQ calculator.

TPH data were excluded from the soil BHRA data set, consistent with NDEP guidance (NDEP 2017). TPH was evaluated through the indicator chemicals, including benzene, toluene, ethyl benzene, and total xylenes (BTEX); methyl tert-butyl ether (MTBE); and PAHs. Over 450 samples in the BHRA data set were analyzed for PAHs and over 200 samples were analyzed for BTEX and MTBE (Appendix C). These samples provide an adequate data set for evaluating TPH.

For asbestos, long chrysotile fibers in four samples were reported as "<1" or "<2" in the laboratory reports and DVSRs (see Table 2; DVSRs are included in Appendix B). In the absence of information allowing for interpretation of these data, the results will not be included in the BHRA data set, but will be discussed in the BHRA.

The soil BHRA data set, which is presented in Appendix C (Table C-1 for chemicals and radionuclides, and Table C-2 for asbestos), includes 1,131 soil samples collected from 0-10 ft bgs at 431 locations.

3.1.2 Criterion I – Reports to Risk Assessor

Criterion I requires confirmation that the reports relied upon are complete and appropriate for use in the HRA. The required information specified under this criterion was verified and is available in the documents associated with the Study Area data collection efforts, as listed in Table 1.

3.1.3 Criterion II – Documentation

The objective of the documentation review is to ensure that each analytical result can be associated with a specific sampling location and that the procedures used to collect the samples are appropriate. As part of this DUE step, Ramboll Environ completed a comprehensive review of the soil samples collected and reported in the documents listed under Criterion I and/or in the NERT project database. The steps completed during the review are listed in Table 1. Figure 4 depicts the location of all soil samples included in the BHRA data set; the analytical results for each sample are included in Appendix C.

3.1.4 Criterion III – Data Sources

The objective of the data sources review is to ensure that adequate sample coverage of source areas has been obtained and that the analytical methods are appropriate to identify chemicals and derive associated exposure point concentrations (EPCs) for the BHRA.

The review of sample coverage from the current BHRA data set is described in Table 1, which is based on the distribution of sample locations prior to excavation, as well as samples collected as part of the Phase 1 RI. Other areas with data gaps are being evaluated by recent or ongoing investigations (i.e., Phase 2 RI, Unit 4 and 5 Buildings Investigation). A review of the updated BHRA data set will be conducted in the forthcoming BHRA to ensure that sample coverage is considered adequate for purposes of the BHRA.

The analytical methods used in the Study Area investigations are described in Table 1. The USEPA analytical methods were adequate for characterizing potential contaminants in soils and provide quantitative analytical results that are of adequate quality for deriving EPCs.

3.1.5 Criterion IV – Analytical Methods and Detection Limits

Criterion IV requires that the analytical method appropriately identifies the chemical form or species, and that for each chemical, the sample quantitation limit (SQL) is sufficiently low for risk characterization. The analytical methods used for the historical and RI investigations are listed in Table 1.

For analytes where the detection frequency was less than 100%, the SQLs from the BHRA data set were compared to 0.1 times the BCL ($0.1 \times \text{BCL}$)⁷ (NDEP 2017) to confirm that they were sufficiently low for risk characterization. For chemicals where a BCL was not available, representative surrogates were identified and used for the comparison. For dioxin TEQs, the SQLs were compared to the NDEP-approved site-specific action level of 0.0027 mg/kg, derived based on a study that evaluated the bioaccessibility of dioxins in soils collected from the NERT Site (Northgate 2010e). Table 3 presents the results of the SQL evaluation along with the screening levels. Chemicals with SQLs above screening levels are summarized in Table 1.

Overall, the SQLs were sufficiently low for risk characterization. The impacts of the few exceptions with elevated SQLs on the COPC selection and DU identification are further discussed in Section 5.3.2.

3.1.6 Criterion V – Data Review

The data review included evaluation of completeness, instrument calibration, laboratory precision, laboratory accuracy, blanks, adherence to method specification and quality control (QC) limits, and method performance in sample matrix. Details of this review are presented in Table 1. In summary, the tabular summaries of the data qualifications included in the NDEP-approved DVSRs listed in Criterion I were reviewed, and with the exception of the rejected data discussed in the DVSRs, all data are deemed to be usable for risk assessment purposes. These data qualifications are further discussed below as a component of Criterion VI.

3.1.7 Criterion VI – Data Quality Indicators

The project Quality Assurance Project Plan (QAPPs) (ENSR 2008b, AECOM and Northgate 2009, ENVIRON 2014d) identified five DQIs to insure that the overall quality of the data is sufficient to support the risk assessment, as follows: completeness, comparability, representativeness, precision, and accuracy. The DQIs provide quantitative and qualitative measures for evaluating the risk assessment data as they relate to uncertainties in the selection of COPCs, characterization of EPCs, and risk descriptors used in support of the BHRA and the risk management decisions that will be made for the Study Area. Specifically, the DQIs address field and analytical data quality aspects as they affect uncertainties in the data collected for site characterization and risk assessment.

⁷ The lower of the indoor and outdoor industrial/commercial worker BLC was used for the comparison.

As discussed previously in Section 2.1.2, an interim soil removal action was conducted at the Operations Area in 2010 and 2011 to minimize potential health risks associated with the continued presence of contaminated soil. Areas designated for removal were identified based on the results of the Phase A and B investigations, pre-confirmation sampling, and supplemental sampling conducted to provide additional information for excavation planning. Over 570,000 cy of soil and over 284,000 tons of manganese tailings were removed (ENVIRON 2012, Northgate 2012). Over 1,100 individual samples were marked as “removed” in the project database. As noted in Section 3.1.1, these samples are not included in the BHRA data set.

The DQI evaluation is presented in Table 1. Based on the evaluation, the overall goals for data quality for risk assessment were achieved, and all DVSRs were reviewed and approved by NDEP (with the exception of the DVSRs for soil samples collected during the RI⁸). In summary, with the exception of the rejected data discussed in Table 1 and listed in Appendix B, Table B-3, all data are deemed to be usable for risk assessment purposes.

3.2 Data Analysis

As described in NDEP guidance (NDEP 2010a), the purpose of the data analysis step is to “use simple exploratory data analysis to compare data to the expectations of the CSM, to determine if the data adequately represent the source terms and exposure areas or evaluation areas.” Consistent with guidance, the steps of the exploratory data analysis (EDA), as described in the following sections, include 1) preparation of summary statistics for the BHRA data set (Section 3.2.1), 2) evaluation of background conditions for metals and radionuclides (Section 3.2.2), and 3) preparation and review of spatial plots for detected analytes (Section 3.2.3). Section 3.2.4 discusses the results of the EDA in the context of current and former manufacturing operations at the Operations Area and the CSM.

3.2.1 Summary Statistics

This section presents summary statistics for the entire Study Area. Summary statistics for individual DUs are presented in Section 5.4.1.

Summary statistics for analytical data collected from the shallow soils (i.e., sample locations currently located between 0 and 10 feet bgs) are presented as follows:

- Table 2 – Soil sampling results for asbestos (long amphibole and chrysotile fibers);
- Table 4 – Summary statistics for chlorine oxyanions, metals, other inorganics, and radionuclides; and
- Table 5 – Summary statistics for organic compounds including dioxin TEQs and BaPEqs.

Tables 4 and 5 include analytes detected in one or more soil samples; Appendix D presents summary statistics for all analytes (i.e., detected analytes and analytes reported at less than the SQL in all samples). Individual sample locations are shown on Figure 4. In developing the summary statistics, soil samples with primary and field duplicate results were treated as independent samples. The effect of duplicate treatment on the COPC selection and DU identification is further discussed in Section 5.3.4.

⁸ Phase 1 RI DVSRs are being submitted to NDEP in 2017. DVSRs for the Phase 2 RI, Phase 3 RI, and Unit 4 and 5 Building Investigations are anticipated to be submitted to NDEP in 2018.

For most analytes, the summary statistics are based on the results of between 200 and 700 samples, although for some analytes the analytical data set is much more limited (<20 samples). However, the analytes with limited sample size were never detected (e.g., chlorite, some SVOCs and VOCs) and/or were not SRCs (e.g., lithium, niobium, chlorite, fluoride, some SVOCs and VOCs). Therefore, the limited sample size for these analytes does not have any impact on the COPC selection and DU identification.

Considering both the data review conducted by Ramboll Environ and the data reviews conducted by NDEP prior to the removal action and the NDEP-approved RAW, the existing data set is considered adequate for risk assessment purposes. Planned additional data collection efforts are being conducted to support the evaluation of fate and transport of perchlorate and other constituents in soil and groundwater. Any additional soil data collected from the 0-10 ft depth interval within the Study Area will be included in the BHRA data set. If additional data are added, the COPC selection and DU identification will be updated using the complete BHRA data set in the forthcoming BHRA report.

Table 2 presents the soil data summary results for asbestos (long amphibole and long chrysotile fibers). Results are reported in terms of the number of long fibers (i.e., >10 µm long and <0.4 µm wide) observed in the sample. As shown in Table 2, one or more long amphibole fibers were observed in four out of 133 post-abatement samples in the Study Area, and one or more long chrysotile fibers were observed in 21 out of 129 post-abatement samples in the Study Area.

3.2.2 Background Evaluation

To support the EDA, a background evaluation was first conducted for the entire Study Area. A separate background evaluation was conducted for each proposed DU to identify DU-specific metal and radionuclide COPCs (see Section 5.4.2).

As identified in the NDEP-approved BHRA Work Plan, analytical results for 0 to 10 ft soil samples within RZ-A were used as the background data set for metals (ENVIRON 2014b).⁹ A detailed discussion of this data set is presented in the Revised Technical Leaching Memorandum (Northgate 2010f). In summary, 31 soil samples, including three field duplicates, were collected from 14 borings¹⁰ within RZ-A during the Phase B investigation; 16 of these samples were collected between 0 and 2 ft bgs and 15 samples were collected between 10 and 11.5 ft bgs. Consistent with the background evaluation conducted for Parcels C, D, F, G, and H (Northgate 2014), a single Phase A boring location (SA02) and five Phase B boring locations (RSAU4, RSAU5, SA28, SA146, and SA147) within LOU 62 (former State Industries, Inc. operational area and boron source area) were excluded from the RZ-A background set due to elevated concentrations of boron and other metals (arsenic, chromium, cobalt, iron, molybdenum, nickel, platinum, and sodium).¹¹

⁹ As noted in the BHRA work plan, NDEP investigated the differences observed in metals concentrations among available BMI background data sets and determined that the RZ-A data set was appropriate for statistical background analysis of metals at the Tronox facility (presently the NERT Site) (NDEP 2010b).

¹⁰ As shown on Appendix E, Figure E-1, RSAT7, RSAT8, and RSAS6 are located outside the boundaries of RZ-A and the Site. These three off-site samples are retained in the background data set.

¹¹ Although metals concentrations in these samples were elevated relative to background, the results of the RZ-A HRA indicated that exposures to residual chemicals in the upper 10 ft of soil were below risk levels of concern (see Section 2.1.2).

The RZ-A samples identified for the metals background evaluation are also used for the radionuclide background evaluation. The NDEP-approved BHRA work plan (ENVIRON 2014b) states that the McCullough background data set presented in *Background Shallow Soil Summary Report, BMI Complex and Common Area Vicinity* (BRC and TIMET 2007) would be used for the radionuclide background evaluation. However, in comments on the Parcels Soil HRA (NDEP 2015), NDEP clarified that the RZ-A data set (and not the McCullough data) should also be used for the radionuclides. The RZ-A data set used for the background evaluation of both metals and radionuclides and the background sample locations are included in Appendix E.

The background evaluation was performed using normal and lognormal quartile to quartile plots (Q-Q plots), and side-by-side box-and-whisker plots (box plots). These plots are included in Appendix F. Normal and lognormal Q-Q plots provide a visual assessment of how closely the data follow a normal or lognormal distribution. Data points that fall roughly on a straight line may be considered to follow a normal or lognormal distribution. Both background and Study Area data are included on these plots such that the Q-Q plots provide a direct visual comparison of the two distributions. The Shapiro-Wilk test was used to more formally evaluate the consistency of each data set with a normal or lognormal distribution.

Box plots provide a visual comparison between the Study Area and background data. For each data set, the "box" in the box-and-whisker plot encompasses the central 50 percent of the results (i.e., the results from the 25th to 75th percentiles, or equivalently, between quartile 1 [Q1] and quartile 3 [Q3]). Substantial overlap between the boxes for background and Study Area data indicates that the Study Area data may not be significantly different from background. The whiskers demarcate one "step" above the 75th percentile and one step below the 25th percentile. One "step" is defined as 1.5 times the interquartile range (IQR, the difference between the 75th and 25th percentiles). Data points above and below the whiskers are considered potential outliers from the distribution and are shown on the plots as open circles for non-detected values and as crosses for detected values. As used here, "outliers" may indicate potential hotspots for spatial analysis.

The computer statistical software program Guided Interactive Statistical Decision Tools (GiSdT®, Neptune 2007) was used to perform all statistical tests.¹² Specifically, statistical background comparisons were performed using the t-test, Gehan test, Quantile test, and Slippage test. This suite of tests is sometimes referred to as "Gilbert's Toolbox." The t-test is a parametric test (i.e., an underlying condition is that the data or log-transformed data are normally distributed). In contrast, the Gehan test, Quantile test, and Slippage test are nonparametric, and thus do not require that the data are normally or lognormally distributed (USEPA 2002, NDEP 2009b). These tests are described below:

The two-sample t-test tests for equality of the means of the Study Area and background concentrations. An underlying assumption of the test is that concentrations are normally distributed for both data sets.

The Gehan test is a modification of the Wilcoxon Rank Sum test that evaluates the difference between the sums of the ranks for two populations. This is a nonparametric

¹² Neptune provided Ramboll Environ with a copy of the GiSdT® program used for the statistical evaluation.

method for assessing differences in the centers of the distributions and is based solely on the relative order (or ranking) of the observations from the two samples. This test has less power than the two-sample t-test when the data are normally distributed, but the assumptions are not as restrictive. The GiSdT® version of the Gehan test uses the Mantel approach for ranking the data, which is equivalent to using the Gehan ranking system. The Gehan ranking system is used to rank non-detects with the detected concentrations (NDEP 2009b).

The Quantile test evaluates “tail effects” that are not specifically considered in the Wilcoxon Rank Sum test. The Quantile test looks for differences in the right tails (upper end of the distribution), rather than evaluating central tendency. The Quantile test was performed using a defined quantile of 0.80, consistent with the approach used in the Parcels HRA (Northgate 2014).

The Slippage test looks for a shift to the right in the extreme right tail of the background data set as compared with the extreme right tail of the Study Area data set. This test evaluates whether the number of Study Area samples with concentrations greater than the maximum background concentration is greater than would be expected statistically if the Study Area and background distributions were the same.

NDEP guidance (2008a) recommends including field duplicates in a data set when the variance of the duplicates is similar to the variance of the primary samples. As noted in the guidance, field duplicate samples represent a discrete and unique measurement of soil chemical conditions proximal to the primary sample (unlike split samples). For the preliminary background evaluation presented in this report, soil samples with primary and field duplicate results were treated as independent samples, consistent with Option 2 in NDEP guidance (NDEP 2008a). The effect of duplicate treatment on the COPC selection and DU identification is further discussed in Section 5.3.4.

Consistent with NDEP guidance (NDEP 2009b), non-detect results are set equal to one-half the limit of detection for the parametric tests and equal to the detection limit for the non-parametric tests. Substitution is not required for the non-parametric tests, which use the Gehan ranking scheme to rank non-detects. For the *t*-test, the Gehan ranking scheme cannot be used; in comments on Revision 2 of the Parcels C, D, F, G, and H HRA, NDEP stated that the value of one-half the detection limit for non-detects is preferred (NDEP 2009b).

The results of all statistical tests included in Gilbert’s Toolbox are presented in Appendix F. However, given the large amount of data, the Shapiro-Wilk test is very likely to reject a hypothesis of normality or of any other distribution. On the other hand, *t*-tests are very robust to deviations from underlying normality assumptions (a large amount of data points causes the mean to be approximately normal). Therefore, the results of the *t*-tests are not reasonable to use in the background evaluation of a large amount of data. As requested by NDEP (2016), the determination of background consistency was only based on the results of the non-parametric tests.

3.2.2.1 Metals

The background evaluation for metals in the Study Area is presented in Appendix F, as follows:

- Table F-1 presents summary statistics for each metal, including the total number of samples, number of detections, percent detections, minimum SQL, maximum SQL, minimum detected value, maximum detected value, median, mean, and standard deviation. Consistent with NDEP guidance (NDEP 2008b), the median, mean, and standard deviation are calculated based on detected concentrations only. The results of the Shapiro-Wilk test are also presented;
- Table F-2 includes the calculated probability (p-values) for the four statistical tests and the overall determination as to whether Study Area soil concentrations are greater than background levels (Five results are shown in the table because the t-test was performed twice, once on the raw data set and once on the log-transformed data set);
- Figures F1-1 through F1-32 present boxplots for metals in background soils and Study Area soils (upper 10 ft); and
- Figures F2-1 through F2-32 present normal and lognormal Q-Q plots for metals in background soils and Study Area soils (upper 10 ft).

A significance level of $\alpha = 0.025$ was used to evaluate the statistical significance of the Gilbert's Toolbox results, consistent with NDEP guidance (NDEP 2009b).

3.2.2.2 Radionuclides

The background (RZ-A) data set includes results for the long-lived radionuclides in the uranium [U]-238 decay series (U-238, U-234, thorium [Th]-230, and radium [Ra]-226) and in the Th-232 series (Th-232, Ra-228, and Th-228). The RZ-A background data set also includes data for U-235, but not for the U-235 decay chain. NDEP guidance (2009c) notes that most isotopes of the U-235 decay chain are barely discernible from the minimal detectable concentrations. The background evaluation and tests for secular equilibrium are presented in Appendix F, as follows:

- Table F-3 presents summary statistics for each radionuclide, including the total number of samples, number of detections, percent detections, minimum and maximum detected values, median, mean, and standard deviation. Consistent with NDEP guidance (NDEP 2008b), the median, mean, and standard deviation are calculated based on detected concentrations only. The results of the Shapiro-Wilk test are also presented;
- Table F-4 includes the p-values for the four statistical tests and the overall determination as to whether Study Area soil concentrations are greater than background levels (Five results are shown in the table because the t-test was performed twice, once on the raw data set and once on the log-transformed data set);
- Tables F-5A and F-5B present the results of the equivalence testing for secular equilibrium of the uranium decay series (U-238 chain) and thorium decay series (Th-232 chain), respectively;
- Table F-6 presents the correlation matrices for the uranium decay series and the thorium decay series;
- Figures F1-33 through F1-40 present the boxplots for radionuclides in background soils and Study Area soils (upper 10 ft); and

- Figures F2-33 through F2-40 present normal and lognormal Q-Q plots for radionuclides in background soils and Study Area soils (upper 10 ft).

The significance level used for the background evaluation of metals ($\alpha = 0.025$) was also used for the background evaluation of radionuclides.

3.2.3 Spatial Analysis

Spatial quartile plots (included in Appendix G) were prepared for detected chemicals in the Study Area to illustrate the spatial distribution of the data, identify potential hotspots, and compare the results to the expectations of the CSM. Each spatial quartile plot presents the following information:

- Areas occupied by ECAs;
- A grid overlay, using 200 × 200 ft squares;
- Sample locations within the grid; and
- Chemical concentrations. The concentration shown in each square is the maximum detected concentration for all samples within the square for soils from 0-10 ft bgs, unless results for all samples within the square were reported as less than the detection limits; concentration bins are defined as follows:
 - ✓ Dark green – concentrations < detection limits;
 - ✓ Light green – concentrations <Q1;
 - ✓ Yellow – concentrations within the IQR;
 - ✓ Orange – concentrations >Q3 and <(Q3 + 1.5×IQR); and
 - ✓ Red – concentrations >(Q3 + 1.5×IQR).

Spatial quartile plots are presented for 44 analytes, as follows:

- Chloroxyanions – chlorate and perchlorate;
- Metals – all metal COPCs (identified in Section 4), metals with concentrations greater than background, and specific metals identified as possible SRCs for certain LOUs (with the exception of calcium, iron, and sodium). Additional metals for which plots were prepared include those commonly associated with industrial operations (e.g., cadmium, copper, and lead);
- Radionuclides – U-238, Th-232 and U-235 (the parent radionuclides); and
- Organics – all organic COPCs (identified in Section 4) and organic SRCs with a detection frequency of five percent or greater (with the exception of common field/laboratory contaminants). In addition, certain organics (e.g., dichlorodiphenyltrichloroethane [DDT]/dichlorodiphenyldichloroethylene [DDE]) were selected for plotting to enable spatial analysis of chemically-related contaminants.

The plots are presented in Appendix G (organized alphabetically by chemical name) and discussed in the following section.

3.2.4 Comparison with CSM

The EDA (including the review of the Appendix G spatial quartile plots) is presented in Table 6 for chlorine oxyanions, metals, other inorganics, and radionuclides, and in

Table 7 for organic compounds. The following presents an overall summary of the soil data in the context of our current understanding of site history and the Study Area CSM.

- **Chloroxyanions.** Chlorate and perchlorate manufacturing operations have been conducted within the Study Area since approximately 1945 (Ramboll Environ 2016b). These compounds are detected throughout the Study Area (Figures G-10 and G-30). Although the 2010-2011 interim removal action addressed chlorate and perchlorate concentrations greater than the industrial worker BCL in the upper 10 ft of soil (relative to original site grades), localized areas remain in which perchlorate concentrations are above BCLs within 10 ft of the post-removal ground surface, since backfill of excavated areas was not placed to original grade in all locations. The highest concentrations are found in the central portion of the Site, consistent with the former chlorate and perchlorate production activities in this area and the discharge of process streams to the Beta Ditch and surface impoundments.
- **Metals.** The 2011 NDEP Action Memorandum (NDEP 2011) identified “metals” as possible site-related contaminants at LOUs within the Study Area. Individual metals specifically identified as potential contaminants at LOUs within the Study Area included arsenic, barium, boron, chromium (total), hexavalent chromium, iron, lead, magnesium, manganese, nickel, platinum, selenium, and zinc. Calcium and sodium were also identified, presumably referring to their salts. Results of the background evaluation of Study Area metals (Appendix F) show that post-removal soil concentrations were greater than background (as compared with the RZ-A background set) for arsenic, barium, chromium (total), cobalt, manganese, sodium, thallium, and tungsten, consistent with the former use of these metals in the Study Area. Boron and hexavalent chromium had low detection frequencies, suggesting that background comparison results may not be applicable. Although historical information indicates that calcium was used in significant quantities, Study Area concentrations were consistent with background levels, possibly due to the relatively high background levels (approximately 30,000 mg/kg), masking possible releases.

Cobalt, present at concentrations greater than background, was not specifically identified as related to former operations by NDEP (2011) or in other reports reviewed. However, the spatial plots for cobalt (Figure G-14) and manganese (Figure G-24) show substantial overlap in the spatial distribution of these metals, suggesting that cobalt may be a by-product of manganese production. A World War II-era report mentioned cobalt-bearing manganese deposits in southern Appalachia, indicating that cobalt can be present in manganese deposits.¹³ Stronger evidence of the association of cobalt with manganese was identified by reviewing analysis of manganese ore and tailing samples in the NERT project database. In one sample, manganese and cobalt ore concentrations were 560,000 mg/kg and 871 mg/kg, respectively, and concentrations in tailings were 79,600 mg/kg and 1,840 mg/kg. The higher cobalt concentration in tailings (both the absolute concentration and concentration relative to that of manganese) is consistent with the expectation that the concentration of cobalt would increase in tailings since manganese was preferentially removed from the ore. The highest concentration of cobalt in soil at the Study Area was 284 mg/kg, detected in the area just north of the leach

¹³ This is not intended to infer that Appalachia was the source of manganese ores at the Site, only that an association between manganese and cobalt has been reported.

plant/manganese tailings pile. For comparison, the maximum cobalt concentration in the RZ-A background data set is 9.1 mg/kg.

Thallium, present at concentrations greater than background, was not identified as a specific contaminant at an LOU. However, the spatial plot for thallium (Figure G-35) shows elevated thallium concentrations in the eastern area of the Site, suggesting a possible historical presence.

Tungsten, present at concentrations greater than background, was not specifically identified as a potential contaminant at LOUs within the Study Area. However, US Vanadium (LOU70) within ECA C18 formerly produced tungsten compounds at the Site. The spatial plot for tungsten (Figure G-39) shows elevated tungsten concentrations in the eastern and the central areas of the Site, suggesting other possible historical presence.

- **Other Inorganics.** This group of inorganic compounds includes common industrial chemicals that are used as chemical feedstocks and/or expected to be present in process waste streams. With the exception of fluoride and nitrate, all compounds were historically identified as SRCs at the Operations Area. These compounds are generally highly soluble when present as free anions or cations. Many of these compounds are physiological electrolytes and/or occur naturally in foods. Although all of the listed inorganics occur naturally in soil, RZ-A background data sets are not available to conduct a background analysis. At the concentrations detected in soil, these inorganics do not present human health concerns. Generally, these inorganics are of greater concern when detected as contaminants in groundwater than when present at elevated concentrations in soil.
- **Radionuclides.** Radionuclides are not known to be associated with any of the former operations identified for the Operations Area. Although no specific source areas were identified, the Study Area soil investigations included analyses for radionuclides in the U-238 and Th-232 decay series and for U-235.
- **Dioxins/Furans.** As shown in Table 5, dioxins/furans were detected in 99% of the soil samples collected within the Study Area. This high detection frequency is not unexpected given that 1) analytical detection limits are very low (less than 0.001 mg/kg), and 2) dioxin/furans are formed during various combustion processes (in the presence of a source of hydrocarbons and chlorine) and are by-products of the production of certain chlorinated chemicals, including pesticides. Dioxins are typically detected in shallow surface soils as a result of airborne deposition. They are extremely persistent in soils and over time will accumulate in the presence of a continuing source. During review of the post-removal data set, soil concentrations exceeding the site-specific action level (0.0027 mg/kg) were noted in the area southwest of the GW-11 Pond, an area that had not been identified for excavation in the 2010/2011 interim removal action. Additional samples were collected in this area as part of the Phase 1 RI to further delineate dioxin in soil (see discussion in Section 5.1).
- **PAHs.** PAHs are ubiquitous environmental contaminants and formed during incomplete combustion of organic materials. The detection frequencies of PAHs in the Study Area were generally very low.

- **OCPs and Other Organochlorine Compounds.** OCPs and chlorinated by-products of pesticides and other manufacturing processes involving chlorine have been detected at the Site. These chemicals include aldrin, chlordane, DDT (and DDE) (Figures G-16 through G-18), hexachlorocyclohexane (BHC) (Figures G-1 and G-6), dieldrin (Figure G-19), endosulfan, endrin, hexachlorobenzene (Figure G-21), methoxychlor, PCBs, and toxaphene (Figure G-38) (See above for a separate discussion of dioxins/furans). The detection of these compounds is consistent with former site operations, including the manufacture of chlorobenzenes and DDT by Hardesty/AMECCO from 1946 to 1949 (Kleinfelder 1993, Ramboll Environ 2016b), as well as the manufacture of chlorinated compounds at the adjacent Olin Chlor Alkali/Stauffer/ Syngenta/Montrose (OSSM) facility. Stauffer produced lindane at the former Lindane Plant from 1946 through 1958, and Montrose produced organic chemicals, including chlorobenzene, PCBs, chloral, and 4,4'-dichlorobenzil from 1947 through 1983. In addition to possible air emissions (and deposition) from these processes, associated wastes streams were conveyed to the former Beta Ditch between 1971 and 1976 (Ramboll Environ 2016b).
- **OPPs.** Only two OPPs were detected in the Study Area with very low detection frequencies (i.e., dimethoate and stirophos). Although OPPs were historically listed as SRCs, NDEP did not identify these pesticides as a specific contaminant at an LOU.
- **SVOCs.** Eight SVOCs were detected in the Study Area with very low detection frequencies, including six phthalates, hexachlorobutadiene, and octachlorostyrene. Phthalates were not historically listed as SRCs, and are common field/laboratory contaminants. Hexachlorobutadiene was not historically listed as a SRC, although it can be a byproduct of reactions involving chlorine and hydrocarbons. Octachlorostyrene was historically listed as a SRC, and is highly persistent in soil. It is a by-product of many industrial chemical processes, and forms during incineration and combustion processes involving chlorinated compounds.
- **VOCs.** Consistent with results observed in investigations at other industrial facilities, a number of VOCs were detected in soils, but at low frequencies (typically less than 3%). The primary exceptions are chloroform (33% detected in soil samples, widely present in groundwater beneath and in the vicinity of the Site [Ramboll Environ 2016b]), and certain VOCs that have been identified by USEPA (1989) as "common laboratory contaminants", including acetone, 2-butanone, methylene chloride, and toluene (detection frequencies ranging from 20 to 40%). All the VOCs in soil were detected at low concentrations, not indicative of a potential source area.

In the BHRA report, the CSM discussion will be integrated with the updated CSM presented in the forthcoming RI report.

4. PRELIMINARY IDENTIFICATION OF SOIL COPCS

Soil COPCs for quantitative evaluation in the BHRA are identified following a two-tiered process. The first tier, presented in this section, is the identification of COPCs for the entire Study Area based on the following three-step approach:

1. Concentration/toxicity screen;
2. Background evaluation for metals and radionuclides; and
3. Chemical-specific considerations.

The chemicals that “fail” these steps are retained as COPCs for the Study Area and those that “pass” are excluded as COPCs,¹⁴ as described in Sections 4.1 through 4.3 and shown on Figure 5.

In Section 5, using a COPC-specific, risk-based spatial analysis and a series of spatial plots of concentrations, cancer risks, and noncancer HIs, the Study Area was divided into DUs. The second tier of the process is the identification of COPCs specific to each DU, which is presented in Section 5.4.

4.1 Step 1 – Concentration/Toxicity Screen

The concentration/toxicity screen is conducted to identify those chemicals that could contribute significantly to the cancer risk and/or noncancer hazard estimate (i.e., the HI). The screen considers the maximum detected concentration in soils in the Study Area and chemical-specific toxicity, as reflected in the BCL (or other criteria established for the Site); specifically, a chemical is excluded as a COPC if the maximum detected concentration is less than 0.1 times the BCL ($0.1 \times \text{BCL}$). Chemicals that pass this screen for the entire Study Area are eliminated as COPCs. Chemicals that fail this screen (i.e., are present at concentrations greater than or equal to $0.1 \times \text{BCL}$) are further screened under Step 2 and/or Step 3.

The BHRA data set identified in Section 3 is the starting point for the concentration/toxicity screen. This data set includes the results for all analytes detected in one or more samples from the 0 to 10 ft depth interval,¹⁵ with the exception of the analytical results excluded based on the DUE, as discussed in Section 3. For most analytes, the BCL used for the concentration/toxicity screen is the minimum of the indoor and outdoor industrial/commercial worker BCL (NDEP 2017). Because BCLs have not been established for all Study Area analytes, surrogate values were identified where possible. Surrogates and other chemical-specific exceptions as well as the results of the screen are presented in Table 8 and discussed in the following sections.

4.1.1 Surrogates

The concentration/toxicity screen can be implemented only for chemicals for which a BCL or appropriate surrogate is available. Surrogates were identified for most, but not all, chemicals for which a BCL was not available, as follows:

¹⁴ The three screening steps are consistent with the COPC identification steps outlined in the BHRA work plan (ENVIRON 2014b). However, as agreed upon by NDEP (Ramboll Environ 2015b), the order of the steps has been changed.

¹⁵ An underlying assumption is that soils from depths of up to 10 ft could be brought to the surface during excavation or other activities, leading to potential worker exposures.

Analyte	Surrogate
Acenaphthylene	Acenaphthene
gamma-Chlordane	Chlordane
Cyanide (total)	Free cyanide (CN-)
Chromium (total)	Chromium III
2,4'-DDE	4,4'-DDE
Endosulfan I	Endosulfan
Endosulfan sulfate	Endosulfan
Endrin ketone	Endrin
Ethyl tert-butyl ether	Methyl tert-butyl ether
ortho-Phosphate	Phosphoric acid
Phosphorus (total)	Phosphoric acid

Surrogates were identified for all but eight analytes (calcium, palladium, potassium, silicon, sodium, sulfate, sulfur, and octachlorostyrene). By default, these analytes are carried forward to Step 2 (metals) and Step 3 (all other analytes) of the COPC selection process.

4.1.2 Chemicals with Non-Health Based BCLs

NDEP has established a non-health based upper-limit soil concentration or a “not-to-exceed” concentration of 100,000 mg/kg for metals and for inorganic and organic compounds with low toxicity. That is, if the calculated health-based BCL is greater than 100,000 mg/kg, a limit value of 100,000 mg/kg is listed in the BCL table. For all detected analytes with a NDEP-established upper limit BCL, the maximum concentration is less than 100,000 mg/kg. Thus, these compounds were not identified as COPCs based on concentration considerations (Table 8).

For health-based considerations (i.e., COPC identification), it is appropriate to use the NDEP-calculated health-based BCL (and not the concentration-limit value of 100,000 mg/kg). The health-based BCLs were taken from the BCL calculation table (NDEP 2017). Due to the very low toxicity, the calculated health-based BCL for some chemicals is greater than one million parts per million. The chemicals for which health-based BCLs are used in place of non-health based BCLs are identified in Table 8.

4.1.3 Arsenic, Dioxin TEQs, and Lead

As presented in the BHRA work plan (ENVIRON 2014b), site-specific values are used for arsenic and dioxin TEQs:

- For arsenic, the maximum detected concentration is compared to the site-specific remediation goal of 7.2 mg/kg (NDEP 2010c), which is the maximum arsenic concentration reported for the BRC/TIMET background data set (BRC and TIMET 2007); arsenic would be eliminated as a COPC if the maximum concentration is less than this screening value.
- For dioxin TEQs, the maximum detected value is compared to the site-specific action level of 0.0027 mg/kg; this value was derived based on an *in vitro* soil

bioaccessibility study conducted using Site soils (Northgate 2010e); NDEP approved this value based on the information presented in the study (NDEP 2010c).

USEPA has not established toxicity values (i.e., a cancer slope factor or reference dose) for lead (USEPA 2017). Instead, USEPA used a blood-lead model to establish a regional screening level (RSL) of 800 mg/kg, which NDEP has adopted as the BCL for commercial/industrial workers. Because the health endpoint for lead (i.e., a blood lead concentration) is not cancer risk or noncancer HI, the maximum detected concentration is compared directly to the commercial/industrial worker BCL of 800 mg/kg, and not to $0.1 \times \text{BCL}$.

4.1.4 Asbestos

BCLs have not been established for asbestos (long amphibole and long chrysotile fibers). Exposure and risk assessments for asbestos are highly dependent on sample size. Even for the case where fibers are not identified (i.e., zero fibers), upper-bound cancer risk estimates can be greater than 1×10^{-6} , depending on sample size. For these reasons, amphibole and chrysotile are retained as COPCs.

4.1.5 Results of Concentration/Toxicity Screen

The concentration/toxicity screen is presented in Table 8. For each listed chemical, the maximum detected concentration and the BCL (or other screening value) are presented. The final column indicates whether the chemical “passed” or “failed” the screen. Of the 132 analytes listed in Table 8, 98 chemicals passed, 26 chemicals failed based on the BCL (or other screening criteria) comparison, and eight chemicals did not have a screening level. Chemicals that failed or that did not have a screening level are carried forward to Steps 2 and/or 3.

4.2 Step 2 – Background Evaluation

The background evaluation step is consistent with USEPA (1989) and NDEP (2009d) guidance, which indicate that metals and radionuclides can be eliminated as COPCs if site concentrations are consistent with background levels. Metals and radionuclides that are present at concentrations greater than background and those for which a background data set are not available are then further screened under Step 3.

The metals and radionuclides that either failed the concentration/toxicity screen or for which a BCL was not available for screening are listed in Tables 9 and 10, respectively. The results of the background evaluation presented in Section 3.2.2 and Appendix F are also presented. Of the 12 metals carried forward from Step 1, two metals (calcium and potassium)¹⁶ were present at concentrations consistent with background and are eliminated as COPCs. Five metals (arsenic, cobalt, manganese, sodium, and thallium) were present at concentrations greater than background, and background data were not available for four metals (palladium, silicon, sulfur, and zirconium). In addition, background comparison results may not be applicable for chromium VI due to low detection frequency (<25%) in both Study Area and RZ-A background data sets; however, chromium VI concentrations in the Study Area were greater than background based on the box plot (Figure F1-9) and Q-Q plot (Figure F2-9). Therefore, except calcium and potassium, all the other metals are carried forward to Step 3.

¹⁶ NDEP (2017) notes that calcium and potassium are essential nutrients and do not need to be evaluated in a BHRA.

For radionuclides, as presented in the NDEP flowchart (Appendix H), when approximate secular equilibrium is exhibited in an isotope decay chain, in theory radionuclides in the same decay chain should yield similar background comparison results; if any radionuclide is greater than background, all the radionuclides in that decay chain would be carried forward in the risk assessment. When approximate secular equilibrium is not exhibited in an isotope decay chain, those radionuclides that fail the background evaluation would be carried forward in the risk assessment. As indicated in Table 10, both the U-238 and Th-232 decay series were found to be in secular equilibrium in the Study Area, and statistical testing indicated that activities of all the radionuclides were consistent with RZ-A background levels.

However, the validity of the statistical testing is complicated by several issues associated with sample preparation and analytical methods for radionuclides in both the BHRA and RZ-A background data sets. Similar issues have previously been identified by NDEP in the radionuclide analytical data sets for soil samples collected across the BMI Complex (NDEP 2009c). RZ-A background samples were collected and analyzed in 2009, while Study Area samples were collected and analyzed between 2006 and 2014, i.e., both before and after NDEP issued guidance for evaluating radionuclide data (NDEP 2009c). Over this time period, samples were submitted for analysis to different analytical laboratories and analyzed using different preparation and analytical methods. For example, the analytical methods for Ra-228 included beta spectroscopy and gamma spectroscopy, depending on the laboratory, which may be the reason for the lack of correlation with Ra-228 in the Th-232 decay chain (Table F-6). It is also an unexpected finding that for the RZ-A background data set, the Th-232 decay chain was not in secular equilibrium (Table F-5B).

Given the factors above, the results of background analysis for radionuclides must be interpreted with caution, and it is difficult to consider them as a reliable basis for the COPC selection. Therefore, all radionuclides are retained as COPCs for further DU-specific evaluation in Section 5.4.

4.3 Step 3 – Chemical-Specific Evaluations

For the final step of COPC identification, chemicals commonly recognized as having low toxicity and for which a BCL was not available (such that a concentration/toxicity screen could not be conducted) were further reviewed. These chemicals include macronutrients or essential micronutrients and/or are listed on the Generally Recognized as Safe (GRAS) list developed by the U.S. Food and Drug Administration.¹⁷ These include:

- Silicon (essential nutrient; present in foods, with a typical dietary intake of over 20 mg/day in adults);
- Sodium (essential macronutrient, required in large quantities; high consumption from foods; GRAS); NDEP (2017) identifies sodium as an element that typically does not need to be included in a risk assessment because of its low toxicity; and
- Sulfur, sulfate (essential macronutrients, required in large quantities; high consumption from foods; GRAS).

¹⁷ <http://www.ecfr.gov/cgi-bin/text-idx?SID=e956d645a8b4e6b3e34e4e5d1b690209&mc=true&node=pt21.3.184&rgn=div5>

Silicon, sodium, sulfur, and sulfate were eliminated as COPCs based on their low toxicity.

4.4 Study Area Preliminary COPCs

The preliminary COPCs identified for Study Area soils are listed in Table 11. The 30 COPCs include chlorate and perchlorate, seven metals, eight radionuclides (U-238 and Th-232 decay series, and U-235), 11 organic compounds, and two asbestos fibers. For two COPCs (palladium and octachlorostyrene), BCLs (and associated toxicity values) are not available; in the absence of toxicity values, these COPCs will be evaluated qualitatively in the BHRA. Also, RZ-A background data are not available for palladium and zirconium and therefore a background evaluation cannot be conducted.

Spatial intensity plots were developed for most COPCs, including chlorate, perchlorate, arsenic, chromium VI, cobalt, manganese, thallium, zirconium, U-238, Th-232 and U-235 (the parent radionuclides), dioxin TEQ, BaPEq, naphthalene, beta-BHC, 4,4'-DDE, 4,4'-DDT, dieldrin, hexachlorobenzene, toxaphene, bis(2-ethylhexyl)phthalate, and long amphibole and long chrysotile fibers (Figures 6 through 21).¹⁸ Plots were not prepared for palladium and octachlorostyrene for which BCLs are not available, and their spatial distributions are presented in the spatial quartile plots (Figures G-29 and G-28, respectively).

Each COPC spatial intensity plot presents the following information:

- A grid overlay, using 200×200 ft squares;
- Sample locations within the grid;
- Areas occupied by ECAs;
- COPC concentrations. The concentration shown in each square is the maximum detected concentration from all samples collected from 0-10 ft deep soil within the square, unless results for all samples within the square were reported as less than the detection limits; concentrations are binned relative to BCLs or other screening criteria, as shown on the individual plots. Results for samples reported as less than the detection limit are colored dark green.

In Section 5.1, for the purpose of identifying DUs, the spatial intensity plots were reviewed along with other spatial plots for concentrations, cancer risks, and noncancer HIs to identify possible “hot spots”¹⁹ and other spatial patterns of the data.

¹⁸ In addition to the spatial quartile plots discussed in Section 3.2.3 (and included in Appendix G) as part of the Data Analysis, additional spatial intensity plots were developed for most COPCs. The two sets of plots differ in the concentration bins used for plotting. The concentration bins for the Appendix G plots are based on quartiles of the concentration distribution. The concentration bins used for the COPC plots are based on the BCLs or other screening criteria.

¹⁹ For the purpose of this report, “hotspot” is used generically and refers to a localized area in which concentrations tend to be at the upper end of the distribution. These areas are identified based on review of the spatial intensity plots; a statistical hotspot analysis has not been conducted.

5. PRELIMINARY IDENTIFICATION OF DECISION UNITS

The DUs define the spatial boundaries of the individual subareas within the Study Area for which exposures and risks will be estimated in the BHRA. USEPA risk assessment guidance (USEPA 1989) recommends using a concentration term that represents “a reasonable estimate of the concentration likely to be contacted over time”, when assessing exposures and risk. The purpose of the DU identification is to avoid “diluting” or lowering EPCs by averaging concentrations from hot spots (if present) with samples collected from areas with significantly lower concentrations.

Spatial data analysis for the preliminary soil COPCs considered to establish the DUs are described in Section 5.1. The proposed DUs are described in Section 5.2. DU-specific DUEs and COPC identifications are presented in Sections 5.3 and 5.4, respectively.

5.1 Spatial Data Analysis

As presented in Section 3, tables of summary statistics and spatial quartile plots were prepared for 44 detected soil analytes. As presented in Section 4, through a three-step COPC selection process, 30 preliminary soil COPCs were identified for the entire Study Area, and spatial intensity plots were prepared for these COPCs. Since a total of 30 COPCs were identified, it is difficult to systematically review the spatial plots of all the COPCs in order to evaluate the spatial patterns in concentrations that could be used to identify DUs. To reduce the dimensions of the spatial data analysis by focusing DUs on risk-relevant spatial patterns, spatial risk plots (as described below) were prepared according to the two health endpoints of cancer risk and noncancer hazard. In addition, since arsenic and dioxin TEQ are evaluated based on comparison to site-specific screening criteria, the concentrations plots for these two COPC plots were prepared separately. Finally, asbestos spatial plots were prepared based on fiber counts. Spatial risk/concentration plots were created with the data separated into three depth intervals: 0-10 ft bgs, 0-2 ft bgs (surface soil), and 2-10 ft bgs (subsurface soil), except that only the surface soil depth interval was applicable to asbestos spatial plots.

In summary, the following 17 spatial risk/concentration plots were created:

- Dioxin TEQ: The maximum detected concentration within the specific depth interval at each location was compared to the site-specific action level of 0.0027 mg/kg (Figures 22a through 22c);
- Arsenic: The maximum detected concentration within the specific depth interval at each location was compared to the maximum BRC/TIMET background value of 7.2 mg/kg (Figures 23a through 23c);
- Cancer Risk: Cancer risks for each carcinogenic COPC, calculated as a ratio of the maximum detected concentration within the specific depth interval at each location to the commercial/industrial BCL for cancer effects (corresponding to a cancer risk of 10^{-6}), were summed for all chemicals (Figures 24a through 24d);
- Noncancer HI: Hazard quotients (HQs) for each COPC, calculated as a ratio of the maximum detected concentration within the specific depth interval at each location to the commercial/industrial BCL for noncancer effects (corresponding to a noncancer HQ of one), were summed for all chemicals (Figures 25a through 25c);

- Radionuclide Cancer Risk: Cancer risks for each radionuclide, calculated as a ratio of the maximum detected concentration within the specific depth interval at each location to the commercial/industrial BCL for cancer effects (corresponding to a cancer risk of 10^{-6}), were summed for all radionuclides (Figures 26a through 26c); and
- Long Amphibole/Chrysotile Fiber: Maximum fiber count at each location (Figures 27 and 28).

The spatial patterns of the spatial risk/concentration plots are discussed below:

Dioxin TEQs

As indicated in Figure 22a, dioxin TEQs exceeded the site-specific action level of 0.0027 mg/kg at five locations in the northern portion of the Study Area (north of the L'hoist North America facility), four of which were at 0-2 ft bgs (Figure 22b) and one of which was at 2-10 ft bgs (Figure 22c). In a small area southwest of the GW-11 Pond, one soil sample at 2.5 ft bgs at SSAK3-05 (0.011 mg/kg) was initially found to be at a concentration above the site-specific action level, but this area had not been identified for excavation in the 2010/2011 interim removal action. During the Phase 1 RI, soil samples were collected at three additional locations (RISB-50, 51, and 52) in this area to further delineate dioxin in soil, the results at 0.5 ft bgs were all above the site-specific action level. Dioxin TEQs also exceeded the site-specific action level at one location (RISB-14; 0.0047 mg/kg) in the eastern portion of the Site.

Arsenic

As indicated in Figure 23a, arsenic concentrations exceeded the maximum BRC/TIMET background value of 7.2 mg/kg at several scattered locations throughout the northern portion of the Study Area, while arsenic concentrations in the southern portion of the Study Area were all below the maximum BRC/TIMET background value. Most of the soil samples with arsenic concentration exceedances were collected at 2-10 ft bgs (Figure 23b). In the northern portion of the Study Area, the maximum arsenic concentration in soils at 0-2 ft bgs was 11.9 mg/kg (DS-C45-2) and the maximum arsenic concentration in soils at 2-10 ft bgs was 33.5 mg/kg (EE-C25-1).

Cancer Risk

As indicated in Figure 24a, all the estimated cancer risks from chemical COPCs were below or within the NDEP acceptable cancer risk range of 10^{-6} to 10^{-4} . Cancer risks at nine scattered locations in the northern portion of the Study Area were above 10^{-6} , one of which was above 10^{-5} (2×10^{-5} at SA106). Most of the cancer risks exceeding 10^{-6} occurred at 2-10 ft bgs (Figure 24c). The cancer risk drivers included chromium VI (at four locations), hexachlorobenzene (at four locations), and BaPEq (at one location).

Noncancer Hazard Index

As indicated in Figure 25a, the estimated noncancer HIs from chemical COPCs were below the NDEP threshold of greater than one, except for four locations. Three locations with HI exceedances (SSAN6-02, SA65, and RSAM5) were in the central retention basin and south of the AP-5 Pond and former Beta Ditch, and the HI

exceedances occurred at 0-2 ft bgs for all the three locations (Figure 25b) and at 2-10 ft bgs for SSAN6-02 (Figure 25c). The major chemical contributor to the non-cancer HI was perchlorate.

Radionuclide Cancer Risk

As indicated in Figures 26a through 26c, the estimated radionuclide cancer risks were either below or at 2×10^{-4} at all depth intervals throughout the Study Area. No spatial patterns were observed. Ra-226 and Th-228 were the major contributors to the radionuclide cancer risks.

To provide a point of comparison from a health risk perspective between radionuclides in Study Area soils and background soils, the total radionuclide cancer risks for the RZ-A background soils and BRC/TIMET regional background soils were also estimated based on the 95% upper confidence limit (UCL) on the mean soil activity, calculated by the ProUCL software (Version 5.1). The results of background radionuclide cancer risks are presented in Table 12, and the ProUCL output files are included in Appendix I. As indicated in Table 12, the radionuclide cancer risks for both RZ-A background and BRC/TIMET regional background were 2×10^{-4} . Therefore, although the radionuclide cancer risks for Study Area were slightly above the NDEP acceptable risk range of 10^{-6} to 10^{-4} , they are consistent with background in the area.

Asbestos

As indicated in Figure 27, at three Phase 1 RI sample locations (RISB-10, 12 and 14) in the northern portion of the Study Area and one sample location (SSAS8-04) in the southeast corner of the Study Area, counts of long amphibole fibers were greater than the RAW specified level²⁰ of one (1) or more fibers per sample (Northgate 2010a). As indicated in Figure 28, for all soil samples throughout the Study Area, counts of long chrysotile fibers were less than the level presented in the RAW (five or more fibers per sample, Northgate 2010a).

As indicated in the spatial plots provided in this report (i.e., Figures 7 through 10, Figures 23a through 23c, and spatial quartile plots in Appendix G) and in the analyses conducted by Neptune (2017), concentrations of some metals (e.g., arsenic, cobalt and manganese) and some radionuclides (e.g., U-238) in the southern portion of the Site appear lower than in the northern portion of the Site, suggesting that background conditions in the northern and southern portion of the Site may be different (the reasons are not clear; however, these differences could be related to historical site operations).

5.2 Proposed Decision Units

Based on the spatial analysis, it is proposed that the Study Area be separated into three DUs as shown on Figure 29. DU-1, the northern portion of the Study Area (north of the L'hoist North America facility), and DU-2, the southern portion of the Study Area (south of the L'hoist North America facility), were selected as separate DUs based on potential differences in background concentrations (metals and radionuclides) and due to higher estimated cancer risks in the northern portion. Because of its geography, and potentially

²⁰ The RAW does not specifically use the term "trigger level" or identify remediation goals. However, areas identified for asbestos abatement were those in which amphibole counts in soil samples were one (1) or more fibers and chrysotile counts were five (5) or more fibers (Northgate 2010a).

different exposure profile than DU-1 or DU-2, the Central Retention Basin has been selected as its own DU, DU-3. DU-3 is the location of three out of four soil locations that exceeded an HI of one; mainly due to elevated perchlorate concentrations in this area. The three DUs are described below.

- DU-1 has a total area of 112 acres. DU-1 includes various ancillary buildings operated by Tronox, roadways and utilities, the AP-6 and Mn-2 ponds, debris pile, and the Northern Retention Basin along with its associated drainage channel. The groundwater extraction and treatment system (GWETS, e.g., treatment system, barrier wall, IWF extraction wells) is also located in DU-1; however, many of the GWETS operational areas are classified as ECAs and are therefore not included in the BHRA. The land is largely vacant with the exception of a high-voltage power line that crosses the property in a linear north-south direction, an office trailer used for Trust operations, the fluidized bed reactors and associated sludge processing treatment plant building, an office trailer used by the treatment plant operator, and scattered non-operational railroad tracks, monitoring wells, and concrete block walls. The immediate area surrounding each power line pole has been designated as an ECA. While some portions of DU-1 are located within the Tronox leasehold, the majority of DU-1 is located outside the leasehold.
- DU-2 has a total area of 23 acres. DU-2 includes the Tronox administrative office, most of the Tronox manufacturing area, various ancillary operations (e.g., security, shipping/receiving), and a rectangular area west of RZ-A with a dirt access road used by Pronto Constructors, a Tronox tenant (Figure 2). While some portions of DU-2 are located outside the Tronox leasehold, the majority of DU-2 is located within the leasehold. Much of this area has been designated as an ECA (e.g., Unit Buildings, leach plant), and will not be evaluated in the BHRA.
- DU-3 is the Central Retention Basin, south of the AP-5 Pond and former Beta Ditch, with a total area of 8.5 acres. It is located outside the Tronox leasehold.

5.3 Data Usability Evaluation for Individual Decision Units

In Section 3, the DJE was conducted to evaluate the usability of soil BHRA data for the entire Study Area. The conclusions reached for Criteria I through V for the Study Area also apply to the individual DUs. In this section, the DU-specific data are reviewed relative to the five DQIs of Criterion VI, and the impacts of data quality on the COPC selection and DU identification are further discussed. The DU identification for each BHRA data point is included in Appendix C.

5.3.1 Completeness

As discussed in Table 1, both field completeness for each individual investigation and laboratory completeness for each specific DVSR meet the completeness goals of 90% established in the QAPPs (ENSR 2008b, AECOM and Northgate 2009, ENVIRON 2014d). The conclusions also apply to the individual DUs. Rejected ("R" qualified) data associated with post-remediation soil samples at 0-10 ft bgs in each DU of the Study Area are summarized in Appendix B, Table B-3, and these data are excluded from the DU-specific BHRA data set. Laboratory completeness was calculated for the soil BHRA data set (Appendix C) for each individual DU as 99.9% for DU-1, 99.8% for DU-2, and 99.9% for DU-3. Given the small percentage of rejected data, these rejected data have little impact on the spatial coverage of the soil BHRA data set. Additionally, none of the rejected data

were above 0.1xBCL except for benzidine in DU-1, reported as nondetects at 0.66 mg/kg to 0.70 mg/kg (see Table B-3). However, these rejected values were lower than the maximum SQL for benzidine in the BHRA data set for DU-1 (37 mg/kg, see Appendix C). The impacts of elevated SQLs for benzidine on the COPC selection and DU identification are further discussed in Section 5.3.2. In summary, the rejected data do not significantly impact the COPC selection and DU identification.

5.3.2 Comparability

As discussed in Table 1, different reporting limits for the same analyte in soil may impact the comparability of the data sets. The ranges of the SQLs for each analyte where the detection frequency was less than 100% are presented in Table 3. For most of the analytes, the SQLs are well below 0.1xBCL (or other screening criteria); therefore, different reporting limits for the same analyte would not affect the COPC selection and DU identification. In each DU, there are some soil analytes with SQLs exceeding 0.1xBCL (or other screening criteria) (summarized in Table 13), and their impacts on the COPC selection and DU identification are discussed below.

In DU-1:

- For dieldrin, hexachlorobenzene, BaPEq, naphthalene, and toxaphene, the SQLs exceeded 0.1xBCL in 26, 135, 18, one, and 38 samples reported as nondetects. These chemicals were identified as COPCs for DU-1 (see Section 5.4), and the SQLs exceeded the BCL in fewer samples (0 to 12 samples) out of more than 200 samples reported as nondetects. Therefore, elevated SQLs for these chemicals would have little impact on the COPC selection and DU identification.
- For aldrin, alpha-BHC, 1-methylnaphthalene, anthracene, and Aroclor-1260, the detection frequencies were low (0.85% to 15%). The SQLs exceeded 0.1xBCL in one to eight samples out of 22 to 355 samples reported as nondetects. However, no SQL exceeded the BCL. Therefore, although these chemicals were not identified as COPCs for DU-1, SQLs above 0.1xBCL in a limited number of samples would have an insignificant impact on the COPC selection and DU identification.
- For 19 analytes that were never detected (including heptachlor, heptachlor epoxide, dibrom, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, 1,4-dioxane, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 3,3'-dichlorobenzidine, 4-chloroaniline, hexachlorocyclopentadiene, hexachloroethane, nitrobenzene, pentachlorophenol, bis(2-chloroethyl) ether, and 1,2-dibromo-3-chloropropane), the SQLs exceeded 0.1xBCL in one to seven samples out of 18 to 362 samples reported as nondetects. However, no samples or only one sample had SQLs exceeding the BCL. Therefore, although these chemicals were not identified as COPCs for DU-1, SQLs above 0.1xBCL or BCL in a limited number of samples would have an insignificant impact on the COPC selection and DU identification.
- Benzidine was only analyzed in 14 soil samples collected from nine locations in DU-1 during the Phase 1 RI, and all the concentrations were reported as nondetects with the SQLs exceeding both 0.1xBCL and BCL. Excluding benzidine as a COPC for DU-1 may have a moderate impact on the risk evaluation.
- N-nitroso-di-n-propylamine concentrations, analyzed in 18 soil samples collected from nine locations in DU-1 during the Phase 1 RI, were all reported as nondetects

with the SQLs exceeding 0.1xBCL. The SQLs exceeded the BCL in only one sample. Therefore, although this chemical was not identified as a COPC for DU-1, the SQL above the BCL in only one sample would have an insignificant impact on the COPC selection and DU identification.

In DU-2:

- For dioxin TEQs, the SQLs exceeded the site-specific action level of 0.0027 mg/kg in only one sample. Therefore, although dioxin TEQ was not identified as a COPC for DU-2, the SQL above the site-specific action level in only one sample would have an insignificant impact on the COPC selection and DU identification.
- For hexachlorobenzene and BaPEq, the SQLs exceeded 0.1xBCL in 16 and six samples reported as nondetects. These chemicals were identified as COPCs for DU-2 (see Section 5.4), and the SQLs did not exceed the BCL in any sample reported as nondetect. Therefore, SQLs above 0.1xBCL in a limited number of samples for these chemicals do not have any impact on the COPC selection and DU identification.
- For dieldrin and toxaphene that were never detected, the SQLs exceeded 0.1xBCL in only three samples reported as nondetect, with no sample having SQLs exceeding the BCL. Therefore, although these chemicals were not identified as COPCs for DU-2, SQLs above 0.1xBCL in a limited number of samples would have an insignificant impact on the COPC selection and DU identification.

In DU-3:

- For hexachlorobenzene and BaPEq, the SQLs exceeded 0.1xBCL in 17 and six samples reported as nondetect. These chemicals were identified as COPCs for DU-3 (see Section 5.4), and the SQLs exceeded the BCL in four and five samples reported as nondetect. Therefore, SQLs above 0.1xBCL or BCL in a limited number of samples for these chemicals would have an insignificant impact on the COPC selection and DU identification.
- For dieldrin, toxaphene, and 1,2-dibromo-3-chloropropane that were never detected, the SQLs exceeded 0.1xBCL in only one sample reported as nondetect, with no sample having SQLs exceeding the BCL. Therefore, although these chemicals were not identified as COPCs for DU-3, SQLs above 0.1xBCL in only one sample would have an insignificant impact on the COPC selection and DU identification.

In summary, except for benzidine in DU-1 (which is not a SRC), different reporting limits for the same soil analyte would have little impact on the COPC selection and DU identification.

Also, differences in sample preparation and analytical methods exist between the Study Area data set and the RZ-A background and BRC/TIMET regional background data set for both metals and radionuclides, which may affect the statistical testing results of background evaluation. However, as discussed in Section 5.4.2, the metals identified as soil COPCs (arsenic in DU-1 and DU-3, chromium VI in all the three DUs, and cobalt and manganese in DU-1) were present at concentrations greater than the background, while the metals eliminated as soil COPCs (thallium and zirconium in DU-1) were present at concentrations consistent with background concentrations. In addition, radionuclides were excluded as COPCs based on the calculation of total cancer risks, not the statistical testing results of the background evaluation. Therefore, potential changes of statistical

testing results of the background evaluation due to the incomparability issues of analytical methods would not have any impact on COPC selection.

5.3.3 Representativeness

As discussed in Table 1, the spatial representativeness of the BHRA data set for the Study Area was achieved by following both judgmental and random sampling approaches, and it will be further discussed in the forthcoming BHRA after incorporating additional soil data collected during ongoing investigations (i.e., Phase 2 RI, Unit 4 and 5 Buildings Investigation). The concentration representativeness of the BHRA data set for the Study Area was achieved by using standard methods for sampling and analysis for all the investigations. These conclusions reached for the Study Area also apply to the individual DUs.

5.3.4 Precision

As presented in Table B-4, in the soil BHRA data set, a total of 156 pairs of primary and field duplicate results for DU-1, 14 pairs for DU-2, and 41 pairs for DU-3 were qualified due to relative percent difference (RPD) or reporting limit exceedance. None of the soil analytes qualified due to RPD or reporting limit exceedance was identified as a soil COPC, except for the following chemicals (see Section 5.4):

- DU-1: chlorate, perchlorate, chromium VI, manganese, dioxin TEQ, beta-BHC, 4,4-DDE, 4,4-DDT, hexachlorobenzene, BaPEq, naphthalene, and octachlorostyrene
- DU-2: chromium VI, beta-BHC, and hexachlorobenzene
- DU-3: arsenic, chromium VI, hexachlorobenzene, and octachlorostyrene

For the above COPCs, the duplicate results qualified due to RPD or reporting limit exceedance (see Table B-4) were less than the maximum detected concentrations used in the COPC selection (see Table 14), and were also below the BCLs based on cancer or noncancer effects or other screening criteria. Therefore, the precision issues for the duplicate samples do not impact on the COPC selection and DU identification.

Soil samples with qualified primary and field duplicate results were treated as independent samples in the COPC selection and DU identification, although the variance of the duplicate and primary samples was not tested. The impacts are discussed as follows:

- First, only 4,4'-DDE in DU-1 was identified as a soil COPC based on the maximum concentration detected in a sample with a duplicate (Table 14). The detected 4,4'-DDE concentration was 6 mg/kg in SSAM3-01-7BPC and 5.8 mg/kg in SSAM3-01-7FD (Appendix C), both of which were above the 0.1xBCL. Therefore, 4,4'-DDE would be identified as a soil COPC for DU-1 regardless of how the duplicates were treated.
- Second, although the treatment of duplicate samples may affect the results of the background evaluation, as discussed in Section 5.4.2, the metals identified as soil COPCs (arsenic in DU-1 and DU-3, chromium VI in all the three DUs, and cobalt and manganese in DU-1) were present at concentrations greater than the background, while the metals eliminated as soil COPCs (thallium and zirconium in DU-1) were present at concentrations consistent with background concentrations. Given the limited amount of duplicate data for these metals (0-20%), treatment of duplicate

samples would not significantly change the selection of metal COPCs. In addition, radionuclides were excluded as COPCs based on the calculation of total cancer risks, not the statistical testing results of the background evaluation.

- Finally, among the sample locations with elevated dioxin TEQ, arsenic concentration, cancer risk, noncancer HI, and count of asbestos fibers (Figures 22 through 28), very limited duplicate samples were available, and therefore the spatial pattern of concentrations/risks would not be affected by the treatment of duplicates.

In summary, there is no impact of duplicate treatment on the COPC selection and DU identification.

5.3.5 Accuracy

The soil analytical data were evaluated in DVSRs presented in Appendix B, with a subset of the data qualified with a J qualifier (J, J-, or J+) based on method blank, field duplicate, and/or other quantitation issues (4,257 out of 49,868 data points, see Table C-1); that is, the reported value was estimated, with no (J), low (J-), or high (J+) bias. The potential impact of the J qualified data on the COPC selection and DU identification was evaluated:

- J and J+ Qualified Data: A review of the J and J+ qualified data indicated that the estimated results were either below the 0.1xBCL (or other screening criteria) or below/equal to the maximum detected concentration used in the COPC selection (Appendix B, Table B-6). Only dioxin TEQ, dieldrin, and toxaphene in DU-1 and octachlorostyrene in DU-2 were identified as COPCs based on a maximum detected concentration with a J qualifier (see Table 14). No BCL is available for octachlorostyrene, and this chemical will be discussed qualitatively in the forthcoming BHRA. The J qualified concentrations for the three COPCs in DU-1 were three- to seven-fold above the 0.1xBCL (or other screening criteria), and the actual concentrations are still likely above the 0.1xBCL (or other screening criteria). Further, although the J or J+ qualified data may affect the results of the background evaluation, as discussed in Section 5.4.2, the metals identified as soil COPCs based on the statistical testing results of the background evaluation (arsenic in DU-1 and DU-3, chromium VI in all the three DUs, and cobalt and manganese in DU-1) were present at concentrations greater than the background concentration. Given the limited amount of J or J+ qualified data for these metals (1-18%), these data would not significantly change the selection of metal COPCs. In addition, radionuclides were excluded as COPCs based on the calculation of total cancer risks, not the statistical testing results of the background evaluation. Finally, among the sample locations with elevated dioxin TEQ, arsenic concentration, cancer risk, and noncancer HI (Figures 22 through 26), only one J qualified data point was available (0.019 mg/kg for dioxin TEQ at RISB-50), and therefore the spatial pattern of concentrations/risks would not be affected by the J or J+ qualified data. In summary, the J and J+ qualified data do not have any impact on the COPC selection and DU identification.
- J- Qualified Data: A review of the J- qualified data indicated most of the results estimated with low bias were either significantly below the 0.1xBCL (or other screening criteria) or lower than the maximum detected concentration used in the COPC selection (Appendix B, Table B-6). No soil COPCs were identified based on a maximum detected concentration with a J- qualifier (see Table 14). Therefore,

correction for the low bias would not change the selection of COPCs. Further, although the J- qualified data may affect the results of the background evaluation, as discussed in Section 5.4.2, the metals eliminated as soil COPCs based on the statistical testing results of the background evaluation (thallium and zirconium in DU-1) were present at concentrations consistent with background concentrations without any J- qualified data. In addition, radionuclides were excluded as COPCs based on the calculation of total cancer risks, not the statistical testing results of the background evaluation. Finally, correction of J- qualified data would not result in additional samples with elevated dioxin TEQ, arsenic concentration, cancer risk, and noncancer HI, and therefore the spatial pattern of concentrations/risks would not be affected by the J- qualified data. In summary, the J- qualified data do not have any impact on the COPC selection and DU identification.

As discussed in Table 1, in accordance with the most recent guidance (NDEP 2012) for evaluating data associated with blank contamination, Ramboll Environ queried the censored (or nondetect) data for blank contamination from the project database, and changed them from nondetected values at the practical qualification limit (PQLs) (U qualified) to detected values at reported concentrations (J qualified) if the PQLs were higher than the reported concentrations. The revisions of censored data for blank contamination are summarized in Appendix B, Table B-5. Both the PQLs and the reported concentrations were lower than 0.1xBCL, so none of the analytes affected by blank contamination was identified as a soil COPC. In addition, the revisions of data associated with blank contamination to estimated detected values may affect the background evaluation for some metals (e.g., antimony, boron, mercury, molybdenum, platinum, selenium, tin, and tungsten); however, these metals all passed the concentration/toxicity screen (Table 8) and would not be identified as soil COPCs. Therefore, the revisions of data associated with blank contamination to estimated detected values do not have any impact on the COPC selection and DU identification.

5.4 Identification of Soil COPCs for Individual Decision Units

DU-specific COPCs are identified from the list of the Study Area COPCs shown in Table 11 following the same methodology as described in Section 4. The analytes eliminated as Study Area COPCs are not re-visited for the individual DUs, based on the following considerations:

- Metals and other inorganics: with the exception of calcium and potassium, the metals and other inorganics not identified as COPCs were eliminated based on 1) the concentration/toxicity screen (using the maximum detected concentration for the Study Area) or 2) the chemical-specific considerations discussed in Section 4.3. The results of the screening are the same, whether applied to the Study Area or to an individual DU. Although calcium and potassium were eliminated based on the background evaluation, these metals are of very low toxicity and would have been eliminated as Study Area COPCs even if present at concentrations greater than background (NDEP 2017).
- Organic compounds: the concentration/toxicity screen was the only criterion used to eliminate organic compounds as COPCs. The maximum detected concentration across the Study Area was used for this screen. The results of the screen are the same, whether applied to the Study Area or to an individual DU.

For chemicals identified as COPCs for the Study Area, as shown in Table 11, it is possible that when evaluated for individual DUs, they would pass the concentration/toxicity screen if the maximum detected concentration in a certain DU is lower than the maximum detected concentration in the entire Study Area. Also, for metals and radionuclides, the results of the background evaluation may change (e.g., the concentrations of a metal are greater than background levels when considered within the entire Study Area, but are consistent with background levels in a certain DU). For these reasons, the COPCs identified for the Study Area are further evaluated in this section for each individual DU.

5.4.1 Step 1 – Concentration/Toxicity Screen

The summary statistics and concentration/toxicity screen for the 28 non-asbestos COPCs identified for the Study Area are presented in Table 14. For each listed chemical, the maximum detected concentration and the BCL (or other screening value) are presented. The final column indicates whether the chemical “passed” or “failed” the screen. The chemicals that “failed” the screen are carried forward to Step 2 and/or 3, and those that “passed” are excluded as COPCs. The results of concentration/toxicity screen for each DU are discussed as follows:

- DU-1: Two chemicals passed, 25 chemicals failed based on the BCL (or other screening criteria) comparison, and one chemical (octachlorostyrene) do not have a screening level.
- DU-2: 12 chemicals passed, 14 chemicals failed based on the BCL (or other screening criteria) comparison, and two chemicals (palladium and octachlorostyrene) do not have a screening level.
- DU-3: two chemicals (palladium and zirconium) were not analyzed, 12 chemicals passed, 13 chemicals failed based on the BCL (or other screening criteria) comparison, and one chemical (octachlorostyrene) does not have a screening level.

Chemicals that failed or that did not have a screening level are carried forward to Steps 2 and/or 3.

Table 2 presents the soil data summary results for asbestos (long amphibole and long chrysotile fibers) for each DU. As shown in Table 2, one or more long amphibole fibers were observed in three out of 95 post-abatement samples in DU-1 and one out of 36 post-abatement samples in DU-2. Also, one or more long chrysotile fibers were observed in 11 out of 93 post-abatement samples in DU-1 and 10 out of 34 post-abatement samples in DU-2. No long amphibole or chrysotile fibers were observed in the two post-abatement samples in DU-3. As discussed in Section 4.1.4, exposure and risk assessments for asbestos are highly dependent on sample size, and even for the case where fibers are not identified (i.e., zero fibers), upper-bound cancer risk estimates can be greater than 1×10^{-6} , depending on sample size. For these reasons, amphibole and chrysotile are retained as COPCs for the individual DUs.

5.4.2 Step 2 – Background Evaluation

In this section, a background evaluation was conducted for each proposed DU to identify DU-specific metal and radionuclide COPCs. As indicated in the spatial plots in this report (i.e., Figures 7 through 10, Figures 23a through 23c, and spatial quartile plots in Appendix G) and in the analyses conducted by Neptune (2017), the concentrations of

some metals and some radionuclides (e.g., U-238) in the southern portion of the Site were lower than in the northern portion of the Site, suggesting that background conditions in the northern and southern portion of the Site may be different. As recommended by Neptune (2017), the regional BRC/TIMET data set was used for the northern portion of the Study Area (DU-1 and DU-3) and the RZ-A background data set was used for the southern portion of the Study Area (DU-2).

The RZ-A background data set is described in Section 3.2.2. A detailed discussion of the BRC/TIMET regional background data set is presented in the *Background Shallow Soil Summary Report, BMI Complex and Common Area Vicinity* (BRC and TIMET 2007). The BRC/TIMET regional background data set is a combination of soil background data collected by ENVIRON for the City of Henderson in 2003 and by BRC/TIMET in 2005. In the 2003 ENVIRON study, soil samples were collected from eight borings at 0 to 1 ft bgs and 3 to 4 ft bgs. In the 2005 BRC/TIMET study, soil samples were collected from 33 initial sampling locations on 11 undeveloped properties near and upgradient from the Site at 0 to 0.5, 4 to 6, and 9 to 11 ft bgs. The sampling locations of both the 2003 ENVIRON study and 2005 BRC/TIMET study were presented in Appendix A of the *Background Shallow Soil Summary Report, BMI Complex and Common Areas Vicinity*, prepared by BRC and TIMET (BRC and TIMET 2007), which were off-site locations in relatively close proximity to the Site but were upgradient and sufficiently distant so that impacts from Site operations were not likely. The RZ-A and BRC/TIMET background data set used for the background evaluation are included in Appendix E.

The DU-specific background evaluation was conducted using the same methodology as described in Section 3.2.2, with the results of statistical tests, side-by-side box plots, and Q-Q plots presented in Appendix J. As discussed in Section 3.2.2, the results of the t-tests are not reasonable to use in the background evaluation of a large amount of data. Therefore, the determination of background consistency was only based on the results of non-parametric tests for analytes with large sample size (>100), and based on the results of both parametric and non-parametric tests for analytes with small sample size (<=100).

The metals and radionuclides in each individual DU that either failed the concentration/toxicity screen or for which a BCL was not available for screening are listed in Tables 15 and 16, respectively. The results of the background evaluation are also presented in the tables and summarized as follows:

- DU-1: Of the six metals carried forward from Step 1, three metals (arsenic, thallium, and zirconium) were present at concentrations consistent with background. Two metals (cobalt and manganese) were present at concentrations greater than background. In addition, background comparison results may not be applicable for chromium VI due to low detection frequency (<25%) in both DU-1 and BRC/TIMET regional background data sets (Table J-1). Of the eight radionuclides carried forward from Step 1, one radionuclide (Th-228) failed the statistical testing for background consistency, while concentrations of all the other radionuclides were consistent with background.
- DU-2: Of the three metals carried forward from Step 1, RZ-A background data were not available for two metals (palladium and zirconium). In addition, background comparison results may not be applicable for chromium VI due to low detection frequency (<25%) in both DU-2 and RZ-A background data sets (Table J-1). Of the

eight radionuclides carried forward from Step 1, all concentrations were consistent with background.

- DU-3: Of the two metals carried forward from Step 1, arsenic was present at concentrations greater than background. In addition, background comparison results may not be applicable for chromium VI due to low detection frequency (<25%) in the BRC/TIMET regional background data set (Table J-1). Of the eight radionuclides carried forward from Step 1, five radionuclides (U-238, U-234, Th-232, Th-230, and Th-228) failed the statistical testing for background consistency, while concentrations of all the other radionuclides were consistent with background.

Background comparison results may not be applicable for chromium VI due to low detection frequency. However, the chromium VI concentrations in the individual DUs are greater than background concentrations based on the box plot (Figure J1-2) and Q-Q plot (Figure J2-2). Therefore, chromium VI is retained as a COPC for all the three DUs.

For arsenic in DU-1, although statistical tests indicated that the concentrations were consistent with the BRC/TIMET background (Table J-2), the Q-Q plot (Figure J2-1) showed that the values were lower than the background concentration in the low concentration range and the values were higher than the background concentration in the high concentration range (the maximum concentration is 34 mg/kg). To be conservative, arsenic is retained as a COPC for DU-1.

For radionuclides, as presented in the NDEP flowchart (Appendix H), when approximate secular equilibrium is exhibited in an isotope decay chain, in theory radionuclides in the same decay chain should yield similar background comparison results; if any radionuclide is greater than background, all the radionuclides in that decay chain would be carried forward in the risk assessment. When approximate secular equilibrium is not exhibited in an isotope decay chain, those radionuclides that fail the background evaluation would be carried forward in the risk assessment. As indicated in Table 16, secular equilibrium is exhibited in the U-238 decay chain for all three DUs, but only exhibited in the Th-232 decay chain for DU-2. Also, it is unexpected that in the U-238 decay chain in DU-3, which is at secular equilibrium, radionuclides both passed and failed the background comparisons. Similar issues have previously been identified by NDEP in the radionuclide analytical data sets for soil samples collected across the BMI Complex (NDEP 2009c).

Sample preparation and analytical methods were important factors in explaining some of the radionuclide data anomalies. The BRC/TIMET regional background samples were collected and analyzed in 2003 and 2005, the RZ-A background samples were collected and analyzed in 2009, and Study Area samples were collected and analyzed between 2006 and 2014, i.e., both before and after NDEP issued guidance for evaluating radionuclide data (NDEP 2009c). Over this period, samples were submitted for analysis to different analytical laboratories and analyzed using different preparation and analytical methods. For example, the analytical methods for Ra-228 included beta spectroscopy and gamma spectroscopy, depending on the laboratory, which may be the reason for the lack of correlation with Ra-228 in the Th-232 decay chain (Table J-6). It is also an unexpected finding that for the RZ-A background data set, the Th-232 decay chain was not in secular equilibrium (Table J-5B).

Given that the validity of the statistical testing is complicated by several issues identified above, it is difficult to interpret the results of background evaluation for radionuclides

and consider them as a reliable basis for the COPC selection. To provide a point of comparison from a health risk perspective, the total radionuclide cancer risk at each sampling location was compared to the total radionuclide cancer risks for the RZ-A background soils and BRC/TIMET regional background soils. As indicated in Figures 26a through 26c, the estimated total radionuclide cancer risks were either below or at 2×10^{-4} at all depths intervals throughout the Study Area, which were consistent with the estimated total radionuclide cancer risks for the RZ-A background and BRC/TIMET regional background data sets (Table 12). Radionuclides are not known to be associated with any of the former operations at the Site. Based on the above discussion, radionuclides were not identified as COPCs for any DU. The impact of excluding radionuclides as COPCs on the risk results and conclusions will be further discussed in the forthcoming BHRA.

5.4.3 Step 3 – Chemical-Specific Evaluations

Since chemicals commonly recognized as having low toxicity and for which a BCL was not available (i.e., macronutrients or essential micronutrients) were already eliminated as COPCs for the Study Area in Section 4.3, no COPC is further eliminated in this step for the DU-specific evaluation.

5.4.4 Preliminary DU-Specific COPCs

The preliminary COPCs identified for soils in each individual DU are listed in Table 17, and summarized as follows:

- DU-1: The eighteen COPCs identified for DU-1 include chlorate and perchlorate, four metals (arsenic, chromium VI, cobalt, and manganese), dioxin TEQ, two PAHs (BaPEq and naphthalene), six OCPs (beta-BHC, 4,4'-DDE, 4,4'-DDT, dieldrin, hexachlorobenzene, and toxaphene), octachlorostyrene, and asbestos (long amphibole and long chrysotile fibers).
- DU-2: The ten COPCs identified for DU-2 include three metals (chromium VI, palladium, and zirconium), BaPEq, two OCPs (beta-BHC and hexachlorobenzene), two SVOCs (bis(2-ethylhexyl)phthalate and octachlorostyrene), and asbestos (long amphibole and long chrysotile fibers).
- DU-3: The eight COPCs identified for DU-3 include perchlorate, two metals (arsenic and chromium VI), BaPEq, hexachlorobenzene, octachlorostyrene, and asbestos (long amphibole and long chrysotile fibers).

For two COPCs (palladium and octachlorostyrene), BCLs (and associated toxicity values) are not available; in the absence of toxicity values, these COPCs will be evaluated qualitatively in the forthcoming BHRA. Also, RZ-A background data are not available for palladium and zirconium in DU-2, and therefore a background evaluation cannot be conducted with this data set. The background comparison of these two metals will be further discussed in the forthcoming BHRA in comparison to the regional BRC/TIMET background data set (BRC and TIMET 2007). Lastly, for arsenic identified as a COPC in both DU-1 and DU-3, an evaluation of the total arsenic risk as compared to background risk will be performed in the forthcoming BHRA.

6. CONCLUSIONS AND PATH FORWARD

In summary, this revised interim report updated the DUE, the selection of preliminary soil COPCs, and the identification of DUs using the updated BHRA soil data set. This interim report builds upon the 2015 interim COPC report (Ramboll Environ 2015a) and the 2016 interim COPC/EU report (Ramboll Environ 2016a), incorporates the strategy discussed with NDEP and its consultants at the December 19, 2016 meeting (see Meeting Minutes in Appendix A), and addresses comments received from NDEP on December 22, 2016. A total of 30 COPCs have been identified for the entire Study Area, and based on a risk-based spatial analysis of concentrations, cancer risks, and noncancer HIs, three new DUs have been proposed. These include DU-1, the northern portion of the Study Area (north of the L'hoist North America facility), DU-2, the southern portion of the Study Area (south of the L'hoist North America facility), and DU-3, the Central Retention Basin. DU-specific DUEs and COPC identifications have also been conducted.

In 2018, the Soil BHRA Report for OU-1 will be prepared and submitted to NDEP. In the Soil BHRA Report, the soil BHRA data set will be updated by incorporating additional soil data from applicable ongoing investigations (i.e., Phase 2 RI, Unit Building 4/5 Investigation) and the COPC selection and DU identification will be updated using the same methodology as described in this report. Further, the exposure assessment, toxicity assessment, and risk characterization will be conducted, and the conclusions of the soil BHRA for OU-1 will be presented.

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Nevada Environmental Response Trust Site
Henderson, Nevada

TABLES

TABLE 1. Data Usability Evaluation
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Data Usability Criterion <i>(description of criterion)</i>	Evaluation Result
<p>I. Reports to the Risk Assessor</p> <p><i>List all reports and dates and confirm that report(s) relied upon are complete and appropriate for use in the BHRA</i></p>	<p>Historical Investigations</p> <p>The work plans and DVSRs¹ for historical investigations completed within the Study Area are reported in the following documents.</p> <p><u><i>Phase A Investigation (between November 1 and December 8, 2006)</i></u></p> <ul style="list-style-type: none"> • Phase A Work Plan (ENSR 2006, approved by NDEP on October 26, 2006) • Phase A Source Area Investigation Results Report (ENSR 2007a, approved by NDEP on November 30, 2007) • Phase A DVSR (ENSR 2007b, approved by NDEP on December 17, 2007) <p><u><i>Phase B Investigation (between June 11 and July 11, 2008 and between June 2 and November 5, 2009)</i></u></p> <ul style="list-style-type: none"> • Phase B Work Plan Areas I-IV (AECOM 2008, approved by NDEP on January 16, 2009) • (A Phase B investigation results report was not identified.) • DVSR, Phase B Investigation Area I Soil (Northgate 2010g, approved by NDEP on January 20, 2010) • DVSR, Phase B Investigation Area II Soil (Northgate 2010h, approved by NDEP on February 18, 2010) • DVSR, Phase B Investigation Area III Soil (Northgate 2010i, approved by NDEP on March 17, 2010) • DVSR, Phase B Investigation Area IV Soil (Northgate 2010j, approved by NDEP on March 29, 2010) <p><u><i>Phase B Supplemental Investigation (between December 9 and December 22, 2009)</i></u></p> <ul style="list-style-type: none"> • Phase B Scope for Additional Sampling Area I (Northgate 2009a, approved by NDEP on November 24, 2009)

¹ DVSRs are provided in Appendix B.

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	<ul style="list-style-type: none">• Phase B Scope for Additional Sampling Area II (Northgate 2009b, approved by NDEP on December 11, 2009)• (A Phase B supplemental investigation results report was not identified.)• DVSR, Phase B Shallow Soil Supplemental Sampling Areas I and II (Neptune 2010, approved by NDEP on July 28, 2010) <p><i><u>Interim Soil Removal Pre-Confirmation Sampling (between April 6 and November 12, 2010)</u></i></p> <ul style="list-style-type: none">• Pre-Confirmation Sampling Work Plan (Northgate 2010b, approved by NDEP on March 30, 2010)• (A pre-confirmation sampling results report was not identified.)• DVSR, Additional Pre-Confirmation Sampling (Northgate 2011, approved by NDEP on February 21, 2013) <p><i><u>Confirmation and Completion Sampling for the Interim Soil Removal Action (between February 9 and August 31, 2011)</u></i></p> <ul style="list-style-type: none">• Confirmation Soil Sampling Work Plan (ENVIRON 2011, approved by NDEP on May 12, 2011)• Interim Soil Removal Action Completion Report (ENVIRON 2012, approved by NDEP on December 17, 2012)• DVSR, Revision 4, February to August 2011 Soil Remediation Completion Sampling (Laboratory Data Consultants 2013, approved by NDEP on February 13, 2014) <p><i><u>Other Removal Actions</u></i></p> <ul style="list-style-type: none">• Excavation of Beta Ditch at NERT-TIMET Property Line (ENVIRON 2014c, NDEP approved June 3, 2014) <p><i><u>Samples not included in the above investigations</u></i></p> <p>Samples at three locations (TSB-GJ-03, TSB-GJ-04, and TSB-GR-02), collected as part of the investigations of Parcels C, D, F, G, and H, map within the Study Area. These samples have been removed from the parcels risk assessment data set and are now included in the Study Area data set.</p> <p>Remedial Investigation (October 2014 to present)</p>
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	<ul style="list-style-type: none"> • Remedial Investigation and Feasibility Study Work Plan (ENVIRON 2014a, approved by NDEP on July 2, 2014) • Remedial Investigation Data Evaluation Technical Memorandum (Ramboll Environ 2016b, approved by NDEP on August 23, 2016) • Remedial Investigation DVSR (ongoing; DVSR will be submitted to NDEP for approval) <p>Overall, the available reports, and the accompanying laboratory reports and DVSRs, are considered complete for BHRA purposes.</p>
<p>II. Documentation</p> <p><i>Confirm that each analytical result is associated with a specific sample location and that the appropriate sampling procedure is documented.</i></p>	<p>For this step, Ramboll Environ reviewed the soil samples collected and reported in the documents listed under Criterion I and/or in the NERT project database. The following steps were then completed (presented in chronological order):</p> <ul style="list-style-type: none"> • Identification of “removed” samples and re-assignment of sample depths: Following the manganese tailings and interim soil removal actions (described in Section 2.1.2), samples that had been collected within an excavated area were tagged in the NERT project database as “removed.” The “remaining” samples were reviewed, as follows: for each sample, the sample location and depth (as reported in the original investigation) were reviewed and the top and bottom depths were re-assigned, as needed, to reflect the post-excavation depth. The re-assignment was necessary because not all excavated areas were back-filled to original grade. For example, a sample with a pre-excavation top depth of 10 ft bgs in an area for which soil was excavated to 8 ft bgs and then backfilled with 5 ft of clean soil, was reassigned a top depth of 7 ft bgs. • Confirmation of sample locations: Samples with missing geographic location information (i.e., x, y coordinates and/or depth) were removed from the BHRA data set. (Approximately 23 samples were missing this information.) The geographic location of each “remaining” sample was confirmed relative to the current boundaries of the Operations Area, ECAs, and parcels. Samples located outside the Study Area were removed from the BHRA data set, and samples collected as part of a parcel investigation but actually located in the Study Area were moved into the BHRA data set. • Confirmation of sampling procedures: As discussed in the work plans listed under Criterion I, all sample collection and handling procedures were consistent with the NDEP-approved QAPP (ENSR 2008b, AECOM

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	<p>and Northgate 2009, ENVIRON 2014d). Ramboll Environ reviewed the chain-of-custody forms prepared in the field and compared them with the analytical data results provided by the laboratories to ensure completeness of the data set.</p> <p>The available information is adequate to relate each analytical result retained in the risk assessment dataset to a geographic location, depth interval, and sampling procedure.</p>
<p>III. Data Sources</p> <p><i>Confirmation that source areas are adequately sampled and that analytical methods are appropriate to identify COPCs and estimate EPCs.</i></p>	<p>Historical Investigations</p> <p>Samples were collected in accordance with the work plans listed under Criterion I. Both judgmental and random sampling approaches were followed, with judgmental samples collected at LOUs that had been identified as source areas. Following each investigation, results were reviewed in consultation with NDEP and areas for additional sampling were identified.</p> <p>As part of the work plans and the QAPPs, the use of standard USEPA analytical methods (listed under Criterion IV) were approved by NDEP. Analyses were conducted by NDEP-certified laboratories for the classes of chemical compounds identified as SRCs, including chlorine oxyanions (chlorate and perchlorate), metals and other inorganics, radionuclides, asbestos, dioxins/furans, organic acids, PAHs, PCBs, OCPs, OPPs, SVOCs, TPHs (diesel, gasoline, and oil/grease), and VOCs.</p> <p>Remedial Investigation</p> <p>As part of the ongoing RI/FS (ENVIRON 2014a; Ramboll Environ 2016b), soil samples were collected to address data gaps identified during review of available historical soil and groundwater data. Surface and subsurface samples were collected from two areas (referred to as Areas 5 and 6 in the work plan) to address spatial data gaps during Phase 1 RI. Review of the analytical results indicates that these spatial data gaps have been addressed. Other areas with data gaps are being evaluated by undergoing investigations (i.e., Phase 2 RI, Unit 4 and 5 Buildings Investigation).</p> <p>The specific analyses conducted (asbestos, chlorine oxyanions, metals, VOCs, SVOCs, OCPs, PAHs, PCBs, dioxins/furans, organic acids, radionuclides, TPH, and general chemistry) were identified based on the review of the historical sampling results; Analyses with standard USEPA analytical methods (listed under Criterion IV) were conducted by NDEP-certified laboratories.</p>

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	<p>In summary, the review of sampling coverage from the current BHRA data set is based on the distribution of sample locations prior to excavation, as well as samples collected as part of the Phase 1 RI. A review of the updated BHRA data set will be conducted in the forthcoming BHRA to ensure that sample coverage is considered adequate for purposes of the BHRA. The USEPA analytical methods are adequate for characterizing potential contaminants in soils and provide quantitative analytical results that are of adequate quality for deriving EPCs.</p>
<p>IV. Analytical Methods and Detection Limits</p> <p><i>Confirm that analytical methods appropriately identify the chemical form or species and that the SQL is at or below a concentration appropriate for the BHRA.</i></p>	<p>Standard analytical methods were used for all analyses as listed below.</p> <p>Historical Investigations</p> <ul style="list-style-type: none"> • USEPA Method 6020 or 6010 (metals) • USEPA Method 7199 or 7196A (chromium VI) • USEPA Method 7471A (mercury) • USEPA Method 350.1 (ammonia) • USEPA Method 540-R-97-028 (asbestos) • USEPA Method 9056 or 300 (bromide, chloride, nitrate, ortho-phosphate, sulfate) • USEPA Method 365.1 or 6020 (phosphorus) • USEPA Method 9056, 300 or 300.1 (chlorate) • USEPA Method 9012A (cyanide [total]) • USEPA Method 300.1 (chlorite) • USEPA Method 300 (fluoride) • USEPA Method 9056 or 353.2 (nitrite) • USEPA Method 314.0 (perchlorate) • USEPA Method 8015 or 9071B (TPHs and fuel alcohols)

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	<ul style="list-style-type: none">• USEPA Method 8081 (OCPs)• USEPA Method 8082 (PCB Aroclors)• USEPA Method 1668A (PCB congeners)• USEPA Method 8290 or 8290 Screen (dioxins/furans)• DOE EML HASL 300 (Th, U)• DOE EML HASL 300, USEPA Method 901.1, or USEPA Method 903.1 (Ra-226)• DOE EML HASL 300, USEPA Method 901.1, or USEPA Method 904.0 (Ra-228)• USEPA Method 8141A (OPPs)• USEPA Method 8151 (herbicides)• USEPA Method 8260 (VOCs)• USEPA Method 8270 SIM or 8270 (SVOCs)• USEPA Method 8315A (formaldehyde)• HPLC-UV per Alpha (organic acids) <p>Remedial Investigation</p> <ul style="list-style-type: none">• USEPA Method 6020 or 6010 (metals)• USEPA Method 7199 (chromium VI)• USEPA Method 7471 (mercury)• SM 4500 (ammonia)• USEPA Method 540-R-97-028 (asbestos)• USEPA Method 300 (bromide, chloride, nitrate, nitrite, ortho-phosphate, sulfate)• USEPA Method 300.1 (chlorate)
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	<ul style="list-style-type: none"> • USEPA Method 314.0 (perchlorate) • USEPA Method 8015 (TPHs) • USEPA Method 8081 (OCPs) • USEPA Method 8082 (PCB Aroclors) • USEPA Method 1668A (PCB congeners) • USEPA Method 8290 (dioxins/furans) • DOE EML HASL 300 (Th, U) • USEPA Method 903.0 (Ra-226) • USEPA Method 904.0 (Ra-228) • USEPA Method 8141A (OPPs) • USEPA Method 8260 (VOCs) • USEPA Method 8270 or 8270 SIM (SVOCs) • USEPA Method 8270 (organic acids) <p>The above methods are adequate to characterize the corresponding chemical groups in soil.</p> <p>The SQLs were evaluated to confirm that they were sufficiently low for risk characterization (i.e., below 0.1xBCL, as established in NDEP 2017). As shown in Table 3, maximum SQLs were less than the stated screening levels, with the following exceptions:</p> <ul style="list-style-type: none"> • For 28 analytes (OCPs, OPPs, PAHs, PCB Aroclors, SVOCs, and VOCs), the SQLs exceeded 0.1xBCL in 0.2 to 15% of the samples reported as non-detected. • For dioxin TEQs, the SQLs exceeded the site-specific action level of 0.0027 mg/kg in one out of three samples reported as non-detected, while the detection frequency was 99% (463 out of 466 samples).
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	<ul style="list-style-type: none"> • For hexachlorobenzene, the SQLs exceeded 0.1xBCL in 168 out of 289 samples reported as non-detected, while the detection frequency was 57% (385 out of 674 samples). • Benzidine and n-nitroso-di-n-propylamine were reported as less than detection limits in all samples; the SQLs exceeded 0.1xBCL in 100% and 71% of the non-detected samples, respectively. <p>Overall, the SQLs were sufficiently low for risk characterization. The impacts of the few exceptions with elevated SQLs on the COPC selection and DU identification are further discussed in Section 5.3.2.</p>
<p>V. Data Review</p> <p><i>Confirm that the quality of the analytical data is assessed by professionals knowledgeable in field collection procedures and analytical chemistry and that data quality is adequate to estimate EPCs.</i></p>	<p>The laboratory results from historical investigations and the RI were subjected to formal data validation consistent with USEPA guidelines (USEPA 1999, 2001, 2004, 2005a,b, 2008, 2009), the BMI Plant Site Specific Supplemental Guidance on Data Validation (NDEP 2009d), and BRC Standard Operating Procedure (SOP) 40 and Data Review/Validation (BRC 2009). The USEPA guidelines, which were prepared for Contract Laboratory Program data, were adapted to reflect the analytical methods and measurement quality objectives established for the individual sampling events and NDEP guidance.</p> <p>The NDEP-approved DVSRs listed in Criterion I for soil data included in the BHRA data set are provided in Appendix B, in which the names and qualifications of the reviewers, the specific data validation procedures, and the qualification findings are presented. Each DVSR includes the following tabular summaries of the data qualifications:</p> <ul style="list-style-type: none"> • Summary of data qualified due to holding time exceedances • Summary of data qualified due to detection below quantitation limit • Summary of data qualified due to laboratory blank contamination • Summary of data qualified due to field blank contamination • Summary of data qualified due to matrix spike (MS)/matrix spike duplicate (MSD) recovery exceedances • Summary of data qualified due to laboratory control spike (LCS) recovery exceedances • Summary of data qualified due to field/laboratory duplicate • Summary of data qualified due to surrogate recovery exceedances

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	<ul style="list-style-type: none"> • Summary of data qualified due to calibration violations • Summary of data qualified due to calibration range exceedances • Summary of data qualified due to internal standard recovery exceedances • Summary of data qualified due to serial dilutions • Summary of qualified data results • Summary of rejected data results <p>These data qualifications are further discussed below as a component of Criterion VI.</p>
<p>VI. Data Quality Indicators</p> <p><i>Document that sampling and analysis DQIs are evaluated using criteria specific to the risk assessment.</i></p>	<p><u>Completeness</u></p> <p>The completeness criterion includes evaluation of field completeness and laboratory completeness. Field completeness is defined as the percentage of samples collected versus those intended to be collected as specified in the sampling work plans. Laboratory completeness is defined as the percentage of samples reported by the laboratories versus those requested on the chain-of-custodies. The completeness goal stated in the QAPPs is 90% or greater.</p> <p>First, completeness was reviewed as reported in the DVSR prepared for each individual investigation contributing to the soil BHRA data set. A comparison of samples reported in the NERT project database with the work plans for soil investigations listed under Criterion I indicates an actual field completeness of 99% to 100% for all sampling events. In addition, all chain-of-custodies requests were executed by the laboratories, with minor exceptions detailed in the DVSRs. Depending on the specific DVSR, 99.2% to 100% laboratory completeness was archived based on validated data, with 0% to 0.8% of the data qualified as rejected (“R” qualified).</p> <p>Rejected (“R” qualified) data associated with post-remediation soil samples at 0-10 ft bgs in the Study Area are summarized in Appendix B, Table B-3. Laboratory completeness was calculated for the soil BHRA data set (Appendix C) for the Study Area as 99.9%.</p> <p>In summary, both field and laboratory completeness meet the completeness goals of 90% established in the QAPPs. Rejected data are excluded from the soil BHRA data set, and a discussion of how these rejected data</p>

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	<p>occurrences potentially affect the COPC selection and DU identification are further discussed in Section 5.3.1.</p> <p><u>Comparability</u></p> <p>Comparability is a qualitative characteristic expressing the confidence with which one data set can be combined with another for purposes of estimating exposure. More specifically, comparability is a qualitative expression of the measure of confidence that two or more data sets may contribute to a common analysis. In general, comparability of data is maximized by using standard methods for sampling and analysis, reporting data, and data validation.</p> <p>Soil samples identified for the BHRA were collected by different entities and analyzed by different analytical laboratories (and in some cases, different analytical methods were used for the same analyte); overall, the investigations from which data are being used span a period of approximately 10 years. Different reporting limits for the same analyte may also impact the comparability of the data sets. The ranges of the SQLs for each analyte where the detection frequency was less than 100% are presented in Table 3. For most of the analytes, the SQLs are well below 0.1xBCL (or other screening criteria); therefore, different reporting limits for the same analyte would not affect the COPC selection and DU identification. There are a few analytes with SQLs exceeding 0.1xBCL (or other screening criteria), and their impacts on the COPC selection and DU identification are further discussed in Section 5.3.2.</p> <p>Of particular concern are possible differences in the background and Study Area data sets for both metals and radionuclides as a result of different sample preparation methods, modified (or different) analytical methods, and possible systematic differences among the internal laboratory SOPs. For example, the Q-Q plots for cadmium and iron indicate that Study Area concentrations are generally less than background (see Section 3.2.2). These observations indicate possible differences in the data sets, possibly associated with sample extraction, analytical methods, or other less-identifiable differences across the SOPs used by the different laboratories. For radionuclides, such issues were even more obvious, and may be important factors in explaining some of the radionuclide data anomalies. RZ-A background samples were collected and analyzed in 2009, while Operations Area samples were collected and analyzed between 2006 and 2014, i.e., both before and after NDEP issued guidance for evaluating radionuclide data (NDEP 2009c). Over this time period, samples were submitted for analysis to different analytical laboratories and analyzed using different</p>
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	<p>preparation and analytical methods. The impact of these issues on the COPC selection and DU identification are further discussed in Section 5.3.2.</p> <p><u>Representativeness</u></p> <p>Representativeness is the degree to which data accurately and precisely represent a characteristic of the population at a sampling point or an environmental condition. There is no standard method or formula for evaluating representativeness, which is a qualitative term. Spatial representativeness is achieved through selection of sampling locations that are appropriate relative to the objective of the specific investigation, and by collection of an adequate number of samples from locations identified in relation to the investigation objectives. Concentration representativeness is achieved by obtaining analytical results of sufficient quality, as specified in the QAPP.</p> <p>Spatial representativeness was discussed previously under Criterion III. As noted, both judgmental and random sampling approaches were followed, with judgmental samples collected at LOUs that had been identified as source areas. The objectives of the sampling programs were met, considering the phased approach used to delineate contaminated areas. Other areas with data gaps are being evaluated by undergoing investigations (i.e., Phase 2 RI, Unit 4 and 5 Buildings Investigation). The spatial representativeness of the updated BHRA data set will be discussed in the forthcoming BHRA to ensure that the post-excavation data provide a conservative representation of current conditions within the Study Area in the context of the CSM.</p> <p>As presented in the DVSRs listed under Criterion I, standard methods for sampling and analysis were used for all the investigations, which confirmed that the analytical data are representative of the soil concentrations at the locations sampled.</p> <p><u>Precision</u></p> <p>Precision is a measure of the degree of agreement between replicate measurements of the same source (field precision) or sample (analytical precision). Field precision is evaluated by calculating the RPD between the primary field sample and its field duplicate. Laboratory precision is quantitated for each laboratory data batch by calculating the RPD using data for the LCS/laboratory control spike duplicate (LCSD) and/or data for the MS/MSD. The field precision goal established in the QAPPs is a RPD of less than or equal to 50%, except for the case in which one (or both) of the primary or duplicate result is less than five times the</p>
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reporting limit. For the latter case, the acceptance criteria is the reporting limit (i.e., the absolute value of the difference between the primary and duplicate result is less than or equal to the reporting limit). Laboratory precision goals are defined for specific analytical methods, as indicated in the QAPP (see Table 2 of ENVIRON [2014d]).

Field precision for the Study Area samples was assessed by evaluating the field duplicate results in accordance with the Statistical Analysis Recommendations for Field Duplicates and Field Splits (NDEP 2008a), where the primary sample and field duplicate are independent samples. A total of 211 pairs of primary and field duplicate results were qualified due to RPD or reporting limit exceedance (see Appendix B, Table B-4). For laboratory duplicates, there were 573 data qualified due to RPD or reporting limit exceedance (see DVSRs tables in Appendix B). All data with precision exceedances were qualified as "J/Estimated" or "UJ/Estimated non-detected" and are determined to be usable for purposes of the BHRA, and the effects of these qualified data on the COPC selection and DU identification are further discussed in Section 5.3.4.

Accuracy

Accuracy measures the level of bias that an analytical method or measurement exhibits. Both field accuracy and laboratory accuracy are evaluated under this DQI. Accuracy in the field is assessed through the use of trip and equipment blanks and through adherence to all sample handling, preservation, and holding time requirements. As specified in the QAPPs, the objective for trip and equipment blanks is for no analyte to be present at levels greater than the PQL. Accuracy in the laboratory analytical data is a measure of the overestimation or underestimation of reported concentrations. Several QC parameters are used to evaluate the accuracy of reported analytical results, including:

- Holding times;
- Field and laboratory blanks;
- MS/MSD percent recovery;
- Surrogate spike recovery; and
- LCS percent recovery.

All qualified results (i.e., U, J, J-, and J+ qualified data) for the non-asbestos analytes are presented in Appendix C, Table C-1, and the reasons for these qualified results are summarized in the DVSRs (see Appendix B). Although laboratory limits were exceeded for certain compounds or analyses, as identified by the laboratory (and confirmed during data validation), there does not appear to be a systematic or widespread impact on the quality of the analytical results. Furthermore, based on a review of the laboratory

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	<p>narratives (provided in the laboratory reports in each DVSR), the laboratory does not believe that the observed exceedances of laboratory criteria are cause for concern. Therefore, the qualified data are determined to be usable and valid for purposes of the BHRA and are included in the BHRA data set. The impacts of qualified data on the COPC selection and DU identification are further discussed in Section 5.3.5.</p> <p>Data collected before 2012 and associated with field and laboratory blank contamination were originally qualified as nondetects based on the NDEP guidance at that time. As requested by NDEP and in accordance with the most recent guidance (NDEP 2012) for evaluating data associated with blank contamination, Ramboll Environ queried the censored data for blank contamination from the project database, and changed them from nondetected values at PQLs (U qualified) to detected values at reported concentrations (J qualified) if the PQLs were higher than the reported concentrations. The revisions of censored data for blank contamination are summarized in Appendix B, Table B-5, and the impacts on COPC selection and DU identification are further discussed in Section 5.3.5.</p> <p>In summary, with the exception of the rejected data discussed listed in Appendix B, Table B-3, all data are acceptable through the DQI evaluation and deemed to be usable for risk assessment purposes.</p>
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TABLE 2. Soil Sampling Results for Asbestos (Long Amphibole and Chrysotile Fibers)
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Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
RISB-09-0.5-20141211	DU-1	N	12/11/2014	0.5	0	0	8960000	8960000
RISB-09-5.0-20141211	DU-1	N	12/11/2014	5	0	0	8900000	8900000
RISB-10-0.5-20141215	DU-1	N	12/15/2014	0.5	1	0	8970000	8970000
RISB-10-5.0-20141215	DU-1	N	12/15/2014	5	0	0	8860000	8860000
RISB-11-0.5-20141217	DU-1	N	12/17/2014	0.5	0	0	8900000	8900000
RISB-11-5.0-20141217	DU-1	N	12/17/2014	5	0	0	8970000	8970000
RISB-12-0.5-20141215	DU-1	N	12/15/2014	0.5	1	2	8900000	8900000
RISB-12-5.0-20141216	DU-1	N	12/16/2014	5	0	0	8900000	8900000
RISB-13-0.5-20141217	DU-1	N	12/17/2014	0.5	0	0	8970000	8970000
RISB-13-5.0-20141218	DU-1	N	12/18/2014	5	0	0	8940000	8940000
RISB-14-0.5-20141216	DU-1	N	12/16/2014	0.5	0	0	8970000	8970000
RISB-14-5.0-20141216	DU-1	N	12/16/2014	5	1	0	8920000	8920000
RSAH3-0.0	DU-1	N	6/11/2008	0.5	0	1	2998000	2998000
RSAC4-0.0	DU-1	N	6/12/2008	0	0	1	2991000	2991000
RSAC6-0.0	DU-1	N	6/17/2008	0	0	0	2976000	2976000
RSAL4-0.0	DU-1	N	6/12/2008	0	0	0	2999026	2999026
RSAL5-0.0	DU-1	N	6/12/2008	0	0	1	2966000	2966000
RSAL6-0.0B	DU-1	N	9/16/2009	0	0	0	8860000	8860000
RSAL7-0.0	DU-1	N	6/17/2008	0	0	0	2981000	2981000
RSAL8-0.0	DU-1	N	6/17/2008	0	0	0	2991000	2991000
RSAM2-0.0	DU-1	N	6/18/2008	0	0	0	2959000	2959000
RSAM3-0.0	DU-1	N	6/18/2008	0.5	0	0	2966000	2966000
RSAM4-0.0	DU-1	N	6/18/2008	0	0	0	2969000	2969000
RSAM6-0.0B	DU-1	N	7/17/2009	0	0	0	8860000	8860000
RSAM7-1.00BPC	DU-1	N	6/16/2010	0.5	0	0	8224442	8224442
RSAN2-0.0	DU-1	N	6/18/2008	1	0	0	2985000	2985000
RSAN3-0.0	DU-1	N	6/18/2008	0	0	0	2983000	2983000
RSAN4-0.0	DU-1	N	6/18/2008	0	0	0	2983000	2983000
RSAN5-0.0B	DU-1	N	7/28/2009	0	0	0	8850000	8850000
RSAN7-0.0B	DU-1	N	8/4/2009	0.5	0	0	8850000	8850000
RSOA2-0.0	DU-1	N	6/16/2008	0	0	0	2974627	2974627

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Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
RSAO6-0.33BPC	DU-1	N	4/15/2010	0	0	0	8930000	8930000
RSAO6-0.33BPC-FD	DU-1	FD	4/15/2010	0	0	0	8910000	8910000
RSAP5-0.0B	DU-2	N	8/7/2009	0.5	0	2	8910000	8910000
RSAP7-0.0B	DU-2	N	10/27/2009	0	0	0	8970000	8970000
RSAQ4-0.0B	DU-2	N	8/7/2009	0.5	0	0	8850000	8850000
RSAQ7-0.0B	DU-2	N	10/2/2009	0	0	0	8850000	8850000
RSAS5-0.0B	DU-2	N	9/24/2009	0.5	0	< 1	8870000	8870000
RSAS8-0.33BPC	DU-2	N	4/8/2010	1.5	0	0	8880000	8880000
S2-PG-1-1-0.0	DU-2	N	4/8/2010	0	0	0	8940000	8940000
S2-PG-1-1-0.0-FD	DU-2	FD	4/8/2010	0	0	0	8910000	8910000
SA05-033BPC	DU-2	N	5/13/2010	1	0	0	8310000	8310000
SA100-0.0	DU-1	N	6/18/2008	0.5	0	0	2969000	2969000
SA103-0.0B	DU-2	N	8/7/2009	0	0	2	8870000	8870000
SA11-0.33BPC	DU-1	N	4/12/2010	0	0	0	8860000	8860000
SA121-0.33BPC	DU-2	N	4/7/2010	0.5	0	3	2980000	2980000
SA122-0.0B	DU-2	N	9/11/2009	3.5	0	1	8930000	8930000
SA123-0.0B	DU-1	N	7/13/2009	1	0	1	8850000	8880000
SA126-0.0B	DU-2	N	8/5/2009	0.5	0	0	8920000	8920000
SA136-0.33BPC	DU-2	N	4/8/2010	1	0	0	8930000	8930000
SA138-0.0B	DU-2	N	8/7/2009	0	0	0	8970000	8970000
SA144-0.0B	DU-1	N	7/29/2009	0.5	0	0	8910000	8910000
SA144009-0.0B	DU-1	FD	7/29/2009	0.5	0	0	8910000	8910000
SA145-0.0B	DU-1	N	7/23/2009	0	0	0	8850000	8850000
SA151-0.0B	DU-1	N	7/28/2009	0	0	0	8910000	8910000
SA151-0.33BPC	DU-1	N	4/12/2010	0.5	0	0	8870000	8870000
SA151009-0.0B	DU-1	FD	7/28/2009	0	0	0	8910000	8910000
SA152-0.0	DU-1	N	6/16/2008	0	0	0	2826974	2826974
SA157-0.0B	DU-1	N	10/2/2009	0	0	0	8860000	8860000
SA158-0.0B	DU-1	N	8/7/2009	0	0	0	8910000	8910000
SA166-0.0	DU-1	N	6/18/2008	0	0	0	2969000	2969000
SA170-0.0B	DU-2	N	8/11/2009	1.5	0	0	8860000	8860000

TABLE 2. Soil Sampling Results for Asbestos (Long Amphibole and Chrysotile Fibers)
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
SA170009-0.0B	DU-2	FD	8/11/2009	1.5	0	0	8920000	8920000
SA176-0.0	DU-1	N	6/18/2008	0	0	0	2991000	2991000
SA18	DU-1	N	12/3/2006	0	0	2	2995000	5990000
SA185-0.0B	DU-1	N	7/31/2009	0.5	0	1	8930000	8930000
SA186-0.0B	DU-1	N	7/31/2009	0	0	0	8920000	8920000
SA189-0.33BPC	DU-1	N	5/3/2010	0.5	0	0	8960000	8960000
SA197-0.0B	DU-3	N	7/13/2009	0	0	0	8920000	8920000
SA200-0.0B	DU-1	N	7/29/2009	0.5	0	0	8850000	8850000
SA21	DU-1	N	12/2/2006	0	0	0	2935000	2935000
SA211-0.0B	DU-2	N	8/7/2009	0.5	0	0	8940000	8940000
SA211009-0.0B	DU-2	FD	8/7/2009	0.5	0	0	8940000	8940000
SA212-0.0B	DU-2	N	8/7/2009	0	0	1	8850000	8850000
SA31-0.0B	DU-2	N	9/15/2009	0	0	0	8910000	8910000
SA47-0.0	DU-1	N	6/19/2008	0.5	0	0	2969000	2969000
SA54-0.0B	DU-1	N	7/29/2009	1	0	0	8870000	8870000
SA55-0.0	DU-1	N	6/18/2008	0	0	0	2978000	2978000
SA6	DU-2	N	12/7/2006	0.5	0	0	2846000	2846000
SA62-0.0B	DU-1	N	7/17/2009	0	0	0	8850000	8850000
SA64-0.0B	DU-3	N	7/13/2009	0	0	0	8960000	8960000
SA67-0.0	DU-1	N	6/18/2008	0	0	0	2978000	2978000
SA69-0.0	DU-1	N	6/18/2008	0	0	0	2991000	2991000
SA7	DU-2	N	12/7/2006	0	0	1	2988000	2990000
SA70-0.0B	DU-1	N	7/13/2009	0.5	0	0	8910000	8910000
SA71-0.0B	DU-1	N	7/17/2009	0	0	0	8860000	8860000
SA73-0.0B	DU-1	N	9/16/2009	0	0	0	8920000	8920000
SA74-0.0	DU-1	N	6/12/2008	0	0	0	2969000	2969000
SA75-0.0	DU-1	N	6/12/2008	0	0	0	2978000	2978000
SA77-0.33BPC	DU-2	N	4/20/2010	1	0	0	8930000	8930000
SA77-0.33BPC_FD	DU-2	FD	4/20/2010	1	0	0	8930000	8930000
SA8	DU-2	N	12/7/2006	0.5	0	2	2997000	5990000
SA85-0.0	DU-1	N	6/18/2008	0	0	1	2991000	2991000

TABLE 2. Soil Sampling Results for Asbestos (Long Amphibole and Chrysotile Fibers)
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
SA87-0.0	DU-1	N	6/18/2008	0	0	0	2982000	2982000
SSAK2-01-0.00BPC	DU-1	N	4/15/2010	2.5	0	0	8900000	8900000
SSAK2-01-0.00BPC_FD	DU-1	FD	4/15/2010	2.5	0	0	8900000	8900000
SSAK5-02-0.00BPC	DU-1	N	4/21/2010	0	0	0	8940000	8940000
SSAK5-03-0.00BPC	DU-1	N	5/12/2010	0	0	0	8870000	8870000
SSAL2-03-0.00BPC	DU-1	N	4/28/2010	0	0	3	8940000	8940000
SSAL3-03-0.00BPC	DU-1	N	5/11/2010	0	0	3	7500000	7500000
SSAL4-02-0.00BPC	DU-1	N	4/15/2010	0	0	0	8960000	8960000
SSAL4-02-0.00BPC_FD	DU-1	FD	4/15/2010	0	0	0	8930000	8930000
SSAL4-03-0.00BPC	DU-1	N	4/15/2010	0	0	0	8940000	8940000
SSAL5-01-0.00BPC	DU-1	N	5/13/2010	0	0	0	8000000	8000000
SSAL5-02-0.00BPC	DU-1	N	5/13/2010	0	0	0	8130000	8130000
SSAL7-03-0.00BPC	DU-1	N	4/23/2010	0.5	0	0	8870000	8870000
SSAM4-01-0.67BPC	DU-1	N	8/3/2010	1	0	0	8940000	8940000
SSAM4-03-0.00BPC	DU-1	N	8/3/2010	0	0	0	8900000	8900000
SSAM4-04-0.00BPC	DU-1	N	6/28/2010	0.5	0	0	8910000	8910000
SSAM7-01-0.00BPC	DU-1	N	4/22/2010	0	0	0	8870000	8870000
SSAM7-02-0.33BPC	DU-1	N	4/19/2010	0.5	0	0	8840000	8840000
SSAM7-08-0.00BPC	DU-1	N	8/23/2010	0.5	0	< 1	8108643	8108643
SSAN3-01-0.00 BPC	DU-1	N	4/9/2010	0	0	0	8930000	8930000
SSAN3-02-0.00BPC	DU-1	N	4/8/2010	0	0	0	8930000	8930000
SSAN4-01-0.00_1_BPC	DU-1	N	10/28/2010	2	0	< 2	7516394	7516394
SSAN5-01-0.00BPC	DU-1	N	4/12/2010	0	0	0	8850000	8850000
SSAN6-05-0.00BPC	DU-1	N	4/12/2010	0	0	1	8920000	8920000
SSAN7-03-0.00BPC	DU-1	N	5/12/2010	0.5	0	0	7650000	7650000
SSAN7-03-0.00BPC_FD	DU-1	FD	5/12/2010	0.5	0	0	7380000	7380000
SSAO5-01-0.00BPC	DU-1	N	4/20/2010	0.5	0	0	8960000	8960000
SSAO5-01-0.00BPC_FD	DU-1	FD	4/20/2010	0.5	0	0	8930000	8930000
SSAO6-04-0.00BPC	DU-1	N	4/12/2010	0	0	0	8930000	8930000
SSAO7-01-0.00BPC	DU-1	N	4/12/2010	0	0	0	8930000	8930000
SSAQ3-04-0.00_1_BPC	DU-2	N	9/24/2010	0	0	< 2	7993975	7993975

TABLE 2. Soil Sampling Results for Asbestos (Long Amphibole and Chrysotile Fibers)
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
SSAQ4-01-0.00BPC	DU-2	N	4/7/2010	0	0	3	2990000	2990000
SSAQ4-02-0.00 BPC	DU-2	N	4/9/2010	0	0	0	8910000	8910000
SSAS8-01-0.00BPC	DU-2	N	5/19/2010	1	0	0	7910000	7910000
SSAS8-02-0.00BPC	DU-2	N	8/18/2010	0	0	1	8870000	8870000
SSAS8-03-0.33BPC	DU-2	N	8/18/2010	0	0	0	8870000	8870000
SSAS8-04-0.00BPC	DU-2	N	8/16/2010	0	3	0	8880000	8850000
SSAS8-04-0.33BPC	DU-2	N	8/16/2010	0.33	0	0	8860000	8860000
TSB-GJ-03-0	DU-2	N	11/19/2007	0	0	0	2987831	2987831
TSB-GR-02-0	DU-2	N	11/19/2007	0	0	1	2968961	2968961

Notes:

bgs = below ground surface

ft = feet

s/g PM₁₀ = structure (fiber) per gram of particulate matter (< 10 micrometer)

s/sample = structure (fiber) per sample

BHRA = Baseline Health Risk Assessment

DU = Decision unit

DVSR = Data Validation Summary Report

FD = Field Duplicate

N = Normal Sample

indicates value reported as "< X" in the DVSR or analytical report. Datum will not be included in the quantitative risk evaluation.

indicates that analytical sensitivity is different between long amphibole and long chrysotile as reported in the DVSRs or analytical reports. The higher analytical sensitivity will be conservatively used in the BHRA risk calculations.

TABLE 3. Evaluation of Sample Quantitation Limits
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
							Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
Chlorine Oxyanions	Chlorate	38,900	mg/kg	254	198	78	0.044	5.8	0	0	--
	Perchlorate	908	mg/kg	337	321	95	0.035	0.43	0	0	--
Metals	Antimony	519	mg/kg	257	77	30	0.50	2.3	0	0	--
	Boron	259,000	mg/kg	260	236	91	1.4	13	0	0	Use health-based BCL instead of non-health based upper-limit
	Cadmium	1,260	mg/kg	260	139	53	0.0050	0.51	0	0	--
	Chromium VI	7.0	mg/kg	215	48	22	0.11	0.49	0	0	--
	Mercury	389	mg/kg	262	230	88	0.0067	0.040	0	0	Mercury compounds BCL is used
	Molybdenum	6,490	mg/kg	260	194	75	0.052	2.0	0	0	--
	Niobium	130	mg/kg	19	1	5.3	0.76	2.1	0	0	--
	Palladium	N/A	mg/kg	25	7	28	0.048	0.060	N/A	N/A	--
	Platinum	649	mg/kg	195	143	73	0.010	0.24	0	0	--
	Selenium	6,490	mg/kg	260	16	6.2	0.16	4.7	0	0	--
	Silver	6,490	mg/kg	260	49	19	0.20	1.5	0	0	--
	Sulfur	N/A	mg/kg	25	16	64	211	430	N/A	N/A	--
	Thallium	13	mg/kg	260	176	68	0.10	0.28	0	0	--
Tin	779,000	mg/kg	195	184	94	9.4	12	0	0	Use health-based BCL instead of non-health based upper-limit	
Tungsten	1,040	mg/kg	213	173	81	0.10	5.6	0	0	--	
Other Inorganics	Ammonia	6,140	mg/kg	199	36	18	0.080	6.5	0	0	--
	Bromide	441,000	mg/kg	209	24	11	0.063	28	0	0	Use health-based BCL instead of non-health based upper-limit
	Chloride	113,000	mg/kg	206	196	95	2.1	85	0	0	Use health-based BCL instead of non-health based upper-limit (consider chloride as non-volatile)
	Chlorite	38,900	mg/kg	7	0	0	0.040	0.040	0	0	--
	Cyanide (total)	179	mg/kg	132	2	1.5	0.13	1.2	0	0	Conservatively use BCL for CN-
	Fluoride	51,900	mg/kg	7	1	14	0.25	0.25	0	0	--
	Nitrate	2,080,000	mg/kg	210	187	89	0.048	6.1	0	0	Use health-based BCL instead of non-health based upper-limit
	Nitrate/Nitrite	130,000	mg/kg	18	17	94	1.2	1.2	0	0	Minimum BCL of nitrate and nitrite, use health-based BCL instead of non-health based upper-limit
	Nitrite	130,000	mg/kg	202	40	20	0.080	22	0	0	Use health-based BCL instead of non-health based upper-limit
ortho-Phosphate	30,400,000	mg/kg	48	6	13	1.1	57	0	0	Use phosphoric acid as a surrogate, use health-based BCL instead of non-health based upper-limit	
Sulfate	N/A	mg/kg	210	208	99	2.1	22	N/A	N/A	--	
Dioxin/Furans	2,3,7,8-TCDD TEQ*	0.0027	mg/kg	466	463	99	0.000044	0.0037	1	--	Site-specific action level
Other Organics	Benzenesulfonic acid	649,000	mg/kg	27	0	0	0.50	0.50	0	0	Use health-based BCL instead of non-health based upper-limit
	4-Chlorobenzenesulfonic acid	117	mg/kg	27	0	0	0.50	0.50	0	0	--
	o,o-Dimethyl Phosphorodithioate	130,000	mg/kg	27	0	0	2.5	2.5	0	0	Use health-based BCL instead of non-health based upper-limit
	Diethylphosphorodithioate	104,000	mg/kg	27	0	0	0.50	0.50	0	0	Use health-based BCL instead of non-health based upper-limit
	Phthalic acid	1,830,000	mg/kg	52	0	0	0.25	70	0	0	Use health-based BCL instead of non-health based upper-limit
PAHs	Acenaphthene	118	mg/kg	474	7	1.5	0.00016	1.1	0	0	--
	Acenaphthylene	118	mg/kg	474	6	1.3	0.00017	1.8	0	0	Use acenaphthene as a surrogate
	Anthracene	4.3	mg/kg	474	14	3.0	0.00072	1.8	0	1	--
	BaPEq*	0.32	mg/kg	474	83	18	0.00090	2.4	15	30	--
	Benzo(g,h,i)perylene	25,300	mg/kg	473	53	11	0.0011	1.7	0	0	--
	Fluoranthene	33,700	mg/kg	474	68	14	0.0010	3.9	0	0	--
	Fluorene	93	mg/kg	474	3	0.60	0.00047	1.9	0	0	--

TABLE 3. Evaluation of Sample Quantitation Limits
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
							Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
PAHs	1-Methylnaphthalene	81	mg/kg	26	4	15	0.00026	8.3	0	1	--
	2-Methylnaphthalene	368	mg/kg	474	10	2.1	0.00031	3.9	0	0	--
	Naphthalene	18	mg/kg	536	23	4.3	0.00032	3.3	0	1	--
	Phenanthrene	25	mg/kg	474	64	14	0.0011	1.8	0	0	--
	Pyrene	44	mg/kg	474	90	19	0.0011	1.3	0	0	--
PCBs	Aroclor-1016	33	mg/kg	48	0	0	0.034	0.37	0	0	--
	Aroclor-1221	1.1	mg/kg	48	0	0	0.034	0.74	0	1	--
	Aroclor-1232	1.1	mg/kg	48	0	0	0.034	0.37	0	1	--
	Aroclor-1242	1.1	mg/kg	48	0	0	0.034	0.37	0	1	--
	Aroclor-1248	1.1	mg/kg	48	1	2.1	0.034	0.37	0	1	--
	Aroclor-1254	1.1	mg/kg	48	0	0	0.034	0.37	0	1	--
	Aroclor-1260	1.1	mg/kg	66	2	3.0	0.017	0.37	0	1	--
Pesticides - OCPs	Aldrin	0.21	mg/kg	281	2	0.70	0.000088	0.092	0	8	--
	alpha-BHC	0.49	mg/kg	281	15	5.3	0.000096	0.092	0	2	--
	beta-BHC	1.7	mg/kg	281	161	57	0.00035	0.15	0	0	--
	delta-BHC	334	mg/kg	281	7	2.5	0.000083	0.092	0	0	--
	gamma-BHC	2.8	mg/kg	281	3	1.1	0.000083	0.11	0	0	--
	alpha-Chlordane	7.3	mg/kg	281	0	0	0.00010	0.092	0	0	Use chlordane as a surrogate
	gamma-Chlordane	7.3	mg/kg	279	1	0.40	0.000086	0.092	0	0	Use chlordane as a surrogate
	trans/gamma-Chlordane	7.3	mg/kg	1	0	0	0.00055	0.00055	0	0	Use chlordane as a surrogate
	Chlordane (total)	7.3	mg/kg	247	1	0.40	0.00021	0.45	0	0	--
	2,4'-DDD	15	mg/kg	7	0	0	0.00011	0.00011	0	0	Use 4,4'-DDD as a surrogate
	4,4'-DDD	15	mg/kg	280	10	3.6	0.00016	0.18	0	0	--
	2,4'-DDE	9.5	mg/kg	32	9	28	0.000089	0.015	0	0	Use 4,4'-DDE as a surrogate
	4,4'-DDE	9.5	mg/kg	281	153	54	0.00024	0.18	0	0	--
	4,4'-DDT	7.5	mg/kg	281	122	43	0.00043	0.18	0	0	--
	Dieldrin	0.16	mg/kg	281	4	1.4	0.000073	0.18	2	30	--
	Endosulfan I	5,500	mg/kg	281	2	0.70	0.000083	0.092	0	0	Use endosulfan as a surrogate
	Endosulfan II	5,500	mg/kg	281	0	0	0.00015	0.18	0	0	Use endosulfan as a surrogate
	Endosulfan sulfate	5,500	mg/kg	281	2	0.70	0.00012	0.18	0	0	Use endosulfan as a surrogate
	Endrin	30	mg/kg	281	2	0.70	0.000083	0.18	0	0	--
	Endrin aldehyde	30	mg/kg	281	0	0	0.00011	0.18	0	0	Use endrin as a surrogate
	Endrin ketone	30	mg/kg	281	10	3.6	0.00038	0.18	0	0	Use endrin as a surrogate
	Heptachlor	0.81	mg/kg	279	0	0	0.00021	0.092	0	2	--
	Heptachlor epoxide	0.40	mg/kg	280	0	0	0.00012	0.098	0	7	--
	Hexachlorobenzene	0.23	mg/kg	674	385	57	0.00028	10	16	168	--
	Methoxychlor	4,580	mg/kg	281	16	5.7	0.00043	0.92	0	0	--
Toxaphene	2.3	mg/kg	281	1	0.40	0.0071	3.6	2	42	--	
2,4,5-TP	7,330	mg/kg	1	0	0	0.021	0.021	0	0	--	
Pesticides - OPPs	Atrazine	11	mg/kg	16	0	0	0.012	0.15	0	0	--
	Chlorpyrifos	916	mg/kg	57	0	0	0.0062	0.082	0	0	--
	Coumaphos	N/A	mg/kg	57	0	0	0.0027	0.036	N/A	N/A	--

TABLE 3. Evaluation of Sample Quantitation Limits
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
							Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
Pesticides - OPPs	Dasanit	N/A	mg/kg	57	0	0	0.0078	0.10	N/A	N/A	--
	Demeton (O + S)	37	mg/kg	16	0	0	0.0072	0.096	0	0	--
	Demeton-O	37	mg/kg	57	0	0	0.0051	0.067	0	0	Use demeton as a surrogate
	Demeton-S	37	mg/kg	57	0	0	0.0047	0.062	0	0	Use demeton as a surrogate
	Diazinon	732	mg/kg	57	0	0	0.0070	0.093	0	0	--
	Dibrom	1.3	mg/kg	57	0	0	0.022	0.29	0	1	--
	Dichlorovos	8.8	mg/kg	57	0	0	0.0071	0.094	0	0	--
	Dimethoate	183	mg/kg	57	3	5.3	0.0068	0.090	0	0	--
	Disulfoton	52	mg/kg	57	0	0	0.0074	0.098	0	0	--
	Ethoprop	N/A	mg/kg	57	0	0	0.0047	0.063	N/A	N/A	--
	Ethyl p-nitrophenyl benzenethiophosphate	13	mg/kg	57	0	0	0.0035	0.047	0	0	--
	Famphur	N/A	mg/kg	57	0	0	0.0031	0.041	N/A	N/A	--
	Fenthion	N/A	mg/kg	57	0	0	0.0084	0.11	N/A	N/A	--
	Guthion	2,750	mg/kg	57	0	0	0.0034	0.045	0	0	--
	Malathion	18,300	mg/kg	57	0	0	0.0045	0.059	0	0	--
	Merphos	1.0	mg/kg	57	0	0	0.0049	0.065	0	0	--
	Methyl parathion	229	mg/kg	57	0	0	0.0061	0.081	0	0	--
	Mevinphos	N/A	mg/kg	57	0	0	0.0044	0.059	N/A	N/A	--
	Parathion	5,500	mg/kg	57	0	0	0.0051	0.067	0	0	--
	Phorate	183	mg/kg	57	0	0	0.0055	0.073	0	0	--
	Prothiophos	N/A	mg/kg	57	0	0	0.0038	0.050	N/A	N/A	--
	Ronnel	27	mg/kg	57	0	0	0.015	0.19	0	0	--
	Simazine	21	mg/kg	16	0	0	0.021	0.28	0	0	--
	Stirophos	107	mg/kg	57	1	1.8	0.0042	0.055	0	0	--
Sulfotepp	458	mg/kg	57	0	0	0.0060	0.080	0	0	--	
Sulprofos	N/A	mg/kg	57	0	0	0.0041	0.054	N/A	N/A	--	
Thionazin	N/A	mg/kg	57	0	0	0.0054	0.071	N/A	N/A	--	
o-Ethyl o-2,4,5-trichlorophenyl ethyl-phosphonothioate	N/A	mg/kg	57	0	0	0.0060	0.080	N/A	N/A	--	
SVOCs	Acetophenone	2,520	mg/kg	7	0	0	0.033	0.033	0	0	--
	Aniline	450	mg/kg	25	0	0	0.033	4.7	0	0	--
	Azobenzene	33	mg/kg	7	0	0	0.033	0.033	0	0	--
	Benzenethiol	1,260	mg/kg	7	0	0	0.12	0.12	0	0	--
	Benzidine	0.011	mg/kg	14	0	0	0.67	37	14	14	--
	Benzoic acid	3,670,000	mg/kg	24	0	0	0.033	19	0	0	Use health-based BCL instead of non-health based upper-limit
	Benzyl alcohol	91,600	mg/kg	25	0	0	0.033	8.3	0	0	--
	bis(2-Chloro-1-methylethyl) ether	1,020	mg/kg	7	0	0	0.033	0.033	0	0	--
	bis(2-Chloroethoxy)methane	2,750	mg/kg	25	0	0	0.033	7.4	0	0	--
	bis(2-Chloroethyl) ether	1.3	mg/kg	25	0	0	0.033	3.9	1	1	--
	bis(2-Ethylhexyl)phthalate	183	mg/kg	469	97	21	0.033	5.0	0	0	--

TABLE 3. Evaluation of Sample Quantitation Limits
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
							Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
SVOCs	bis(4-Chlorophenyl) disulfide	N/A	mg/kg	7	0	0	0.20	0.20	N/A	N/A	--
	bis(4-Chlorophenyl) sulfone	733	mg/kg	7	0	0	0.33	0.33	0	0	--
	4-Bromophenyl-phenyl ether	N/A	mg/kg	25	0	0	0.033	4.2	N/A	N/A	--
	Butylbenzylphthalate	1,350	mg/kg	469	7	1.5	0.0025	4.6	0	0	--
	Carbazole	128	mg/kg	7	0	0	0.033	0.033	0	0	--
	4-Chloro-3-methylphenol	91,600	mg/kg	25	0	0	0.033	3.9	0	0	--
	4-Chloroaniline	18	mg/kg	25	0	0	0.033	7.4	0	1	--
	2-Chloronaphthalene	175	mg/kg	25	0	0	0.033	3.7	0	0	--
	2-Chlorophenol	6,490	mg/kg	25	0	0	0.033	3.9	0	0	--
	4-Chlorophenyl-phenyl ether	N/A	mg/kg	25	0	0	0.033	4.7	N/A	N/A	--
	4-Chlorothiobanisole	N/A	mg/kg	7	0	0	0.0076	0.0076	N/A	N/A	--
	4-Chlorothiophenol	N/A	mg/kg	7	0	0	0.19	0.19	N/A	N/A	--
	Dibenzofuran	171	mg/kg	25	0	0	0.033	3.7	0	0	--
	3,3'-Dichlorobenzidine	5.7	mg/kg	25	0	0	0.033	8.3	1	1	--
	2,2'-/4,4'-Dichlorobenzil	389	mg/kg	7	0	0	0.070	0.70	0	0	Use 4,4-dichlorobenzil as a surrogate
	2,4-Dichlorophenol	3,220	mg/kg	25	0	0	0.033	3.7	0	0	--
	Diethylphthalate	733,000	mg/kg	469	5	1.1	0.024	5.3	0	0	Use health-based BCL instead of non-health based upper-limit
	2,4-Dimethylphenol	18,300	mg/kg	25	0	0	0.033	7.2	0	0	--
	Dimethylphthalate	9,160,000	mg/kg	469	54	12	0.00093	3.7	0	0	Use health-based BCL instead of non-health based upper-limit
	Di-n-butylphthalate	91,600	mg/kg	469	33	7.0	0.027	5.0	0	0	--
	2,4-Dinitrophenol	1,830	mg/kg	25	0	0	0.33	18	0	0	--
	2,4-Dinitrotoluene	8.3	mg/kg	25	0	0	0.033	4.5	0	1	--
	2,6-Dinitrotoluene	2.4	mg/kg	25	0	0	0.033	5.3	1	1	--
	Di-n-octylphthalate	9,160	mg/kg	469	2	0.40	0.0012	5.0	0	0	--
	1,4-Dioxane	36	mg/kg	449	0	0	0.0052	7.1	0	1	--
	Diphenyl disulfide	N/A	mg/kg	7	0	0	0.029	0.029	N/A	N/A	--
	Diphenyl sulfide	N/A	mg/kg	7	0	0	0.0035	0.0035	N/A	N/A	--
	Diphenyl sulfone	733	mg/kg	7	0	0	0.0067	0.0067	0	0	--
	1,2-Diphenylhydrazine	3.2	mg/kg	7	0	0	0.033	0.033	0	0	--
	Hexachlorobutadiene	6.1	mg/kg	256	5	2.0	0.00028	0.033	0	0	--
	Hexachlorocyclopentadiene	8.2	mg/kg	25	0	0	0.13	7.4	0	1	--
	Hexachloroethane	9.3	mg/kg	25	0	0	0.033	7.4	0	1	--
	Hydroxymethyl phthalimide	N/A	mg/kg	7	0	0	0.043	0.043	N/A	N/A	--
	Isophorone	2,700	mg/kg	25	0	0	0.033	3.7	0	0	--
	2-Methylphenol	45,800	mg/kg	25	0	0	0.080	4.5	0	0	--
	3&4-Methylphenol	45,800	mg/kg	25	0	0	0.067	7.4	0	0	Minimum BCL of 4-methylphenol and 3-methylphenol
	2-Nitroaniline	8,880	mg/kg	25	0	0	0.033	3.7	0	0	--
	3-Nitroaniline	3,660	mg/kg	25	0	0	0.033	7.4	0	0	Use 4-nitroaniline as a surrogate (noncancer endpoint)
	4-Nitroaniline	128	mg/kg	25	0	0	0.13	7.4	0	0	--
	Nitrobenzene	25	mg/kg	469	0	0	0.0019	3.9	0	1	--
2-Nitrophenol	7,330	mg/kg	25	0	0	0.033	7.4	0	0	Use 4-nitrophenol as a surrogate	
4-Nitrophenol	7,330	mg/kg	25	0	0	0.14	7.8	0	0	--	

TABLE 3. Evaluation of Sample Quantitation Limits
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
							Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
SVOCs	n-Nitroso-di-n-propylamine	0.37	mg/kg	25	0	0	0.033	3.9	1	18	--
	n-Nitrosodiphenylamine	524	mg/kg	25	0	0	0.033	4.5	0	0	--
	Octachlorostyrene	N/A	mg/kg	467	78	17	0.0037	130	N/A	N/A	--
	Pentachlorobenzene	19	mg/kg	7	0	0	0.033	0.033	0	0	--
	Pentachlorophenol	4.5	mg/kg	25	0	0	0.33	19	1	1	--
	Phenol	275,000	mg/kg	25	0	0	0.033	5.0	0	0	Use health-based BCL instead of non-health based upper-limit
	Pyridine	1,300	mg/kg	469	0	0	0.028	14	0	0	--
	1,2,4,5-Tetrachlorobenzene	8.0	mg/kg	7	0	0	0.033	0.033	0	0	--
	2,4,5-Trichlorophenol	91,600	mg/kg	25	0	0	0.033	7.2	0	0	--
	2,4,6-Trichlorophenol	233	mg/kg	25	0	0	0.033	4.2	0	0	--
VOCs	Acetone	1,040,000	mg/kg	256	102	40	0.0017	0.041	0	0	Use health-based BCL instead of non-health based upper-limit
	Acetonitrile	3,750	mg/kg	7	0	0	0.0020	0.0020	0	0	--
	t-Amyl methyl ether	70,900	mg/kg	249	0	0	0.00011	0.010	0	0	Use methyl tert-butyl ether as a surrogate (noncancer endpoint)
	Benzene	5.8	mg/kg	256	0	0	0.00017	0.010	0	0	--
	Bromobenzene	679	mg/kg	256	0	0	0.00023	0.010	0	0	--
	Bromochloromethane	692	mg/kg	256	0	0	0.00015	0.010	0	0	--
	Bromodichloromethane	1.4	mg/kg	256	2	0.80	0.00011	0.010	0	0	--
	Bromoform	104	mg/kg	256	1	0.40	0.00012	0.010	0	0	--
	Bromomethane	33	mg/kg	256	0	0	0.00025	0.013	0	0	--
	2-Butanone	28,400	mg/kg	256	75	29	0.00073	0.020	0	0	--
	tert-Butyl alcohol	21,300	mg/kg	249	1	0.40	0.0052	0.20	0	0	--
	n-Butylbenzene	108	mg/kg	256	0	0	0.00028	0.010	0	0	--
	sec-Butylbenzene	145	mg/kg	256	0	0	0.00025	0.010	0	0	--
	tert-Butylbenzene	183	mg/kg	256	0	0	0.00025	0.010	0	0	--
	Carbon disulfide	735	mg/kg	7	0	0	0.00055	0.00055	0	0	--
	Carbon tetrachloride	3.2	mg/kg	256	1	0.40	0.00032	0.010	0	0	--
	Chlorobenzene	18,300	mg/kg	256	6	2.3	0.00012	0.010	0	0	--
	Chloroethane	2,110	mg/kg	256	0	0	0.00035	0.010	0	0	--
	Chloroform	1.5	mg/kg	256	85	33	0.00014	0.0091	0	0	--
	Chloromethane	510	mg/kg	256	0	0	0.00039	0.010	0	0	--
	2-Chlorotoluene	907	mg/kg	256	0	0	0.00026	0.010	0	0	--
	4-Chlorotoluene	18,300	mg/kg	256	0	0	0.00039	0.010	0	0	--
	Cumene	91,600	mg/kg	256	0	0	0.00018	0.010	0	0	--
	p-Cymene	647	mg/kg	256	1	0.40	0.00024	0.010	0	0	--
	1,2-Dibromo-3-chloropropane	0.071	mg/kg	256	0	0	0.00030	0.010	0	5	--
	Dibromochloromethane	43	mg/kg	256	0	0	0.00029	0.010	0	0	--
	1,2-Dibromoethane	0.18	mg/kg	249	0	0	0.00026	0.010	0	0	--
	Dibromomethane	21,000,000	mg/kg	256	0	0	0.00032	0.010	0	0	Use health-based BCL instead of non-health based upper-limit
	1,2-Dichlorobenzene	376	mg/kg	256	5	2.0	0.00015	0.010	0	0	--
	1,3-Dichlorobenzene	373	mg/kg	256	0	0	0.00013	0.010	0	0	--
1,4-Dichlorobenzene	475	mg/kg	256	4	1.6	0.00011	0.010	0	0	--	

TABLE 3. Evaluation of Sample Quantitation Limits
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
							Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
VOCs	Dichlorodifluoromethane	403	mg/kg	256	0	0	0.00026	0.010	0	0	--
	1,1-Dichloroethane	17	mg/kg	256	1	0.40	0.00011	0.010	0	0	--
	1,2-Dichloroethane	2.3	mg/kg	256	0	0	0.00034	0.010	0	0	--
	1,1-Dichloroethene	1,100	mg/kg	256	4	1.6	0.00030	0.010	0	0	--
	1,2-Dichloroethene	2,360	mg/kg	7	0	0	0.00054	0.00054	0	0	Minimum BCL of trans-1,2-Dichloroethene and cis-1,2-Dichloroethene
	cis-1,2-Dichloroethene	2,360	mg/kg	256	1	0.40	0.00028	0.010	0	0	--
	trans-1,2-Dichloroethene	18,300	mg/kg	256	0	0	0.00020	0.010	0	0	--
	1,2-Dichloropropane	5.0	mg/kg	256	0	0	0.00028	0.010	0	0	--
	1,3-Dichloropropane	18,300	mg/kg	256	0	0	0.00018	0.010	0	0	--
	2,2-Dichloropropane	73	mg/kg	256	0	0	0.00017	0.010	0	0	Use 1,2-dichloropropane as a surrogate (noncancer endpoint)
	1,1-Dichloropropene	27,500	mg/kg	256	0	0	0.00027	0.010	0	0	Use 1,3-dichloropropene as a surrogate (noncancer endpoint)
	cis-1,3-Dichloropropene	26	mg/kg	256	0	0	0.00033	0.010	0	0	Use 1,3-dichloropropene as a surrogate
	trans-1,3-Dichloropropene	26	mg/kg	256	0	0	0.00020	0.010	0	0	Use 1,3-dichloropropene as a surrogate
	Diisopropyl ether	2,260	mg/kg	249	0	0	0.00023	0.010	0	0	--
	Dimethyl disulfide	N/A	mg/kg	7	0	0	0.00021	0.00021	N/A	N/A	--
	2,2-Dimethylpentane	N/A	mg/kg	7	0	0	0.00028	0.00028	N/A	N/A	--
	2,3-Dimethylpentane	N/A	mg/kg	7	0	0	0.00022	0.00022	N/A	N/A	--
	2,4-Dimethylpentane	N/A	mg/kg	7	0	0	0.00019	0.00019	N/A	N/A	--
	3,3-Dimethylpentane	N/A	mg/kg	7	0	0	0.00020	0.00020	N/A	N/A	--
	Ethanol	15,100,000	mg/kg	13	0	0	0.19	60	0	0	Use health-based BCL instead of non-health based upper-limit
	Ethyl benzene	233	mg/kg	228	0	0	0.00019	0.010	0	0	--
	Ethyl tert-butyl ether	70,900	mg/kg	249	1	0.40	0.00023	0.010	0	0	Use methyl tert-butyl ether as a surrogate (noncancer endpoint)
	Ethylene glycol	1,830,000	mg/kg	6	0	0	53	60	0	0	Use health-based BCL instead of non-health based upper-limit
	3-Ethylpentane	N/A	mg/kg	7	0	0	0.00021	0.00021	N/A	N/A	--
	Formaldehyde	80	mg/kg	3	0	0	0.21	0.22	0	0	--
	n-Heptane	220	mg/kg	7	0	0	0.00016	0.00016	0	0	--
	2-Hexanone	1,650	mg/kg	256	0	0	0.00028	0.020	0	0	--
	Iodomethane	1,510	mg/kg	7	0	0	0.00026	0.00026	0	0	--
	Methanol	1,750,000	mg/kg	6	0	0	53	60	0	0	Use health-based BCL instead of non-health based upper-limit
	Methyl tert-butyl ether	238	mg/kg	256	0	0	0.00017	0.010	0	0	--
	4-Methyl-2-pentanone	3,360	mg/kg	256	0	0	0.00063	0.020	0	0	--
	Methylene Chloride	1,550	mg/kg	256	68	27	0.00037	0.010	0	0	--
	2-Methylhexane	N/A	mg/kg	7	0	0	0.00020	0.00020	N/A	N/A	--
	3-Methylhexane	N/A	mg/kg	7	0	0	0.00014	0.00014	N/A	N/A	--
2-Nitropropane	0.066	mg/kg	7	0	0	0.0017	0.0017	0	0	--	
n-Nonyl aldehyde	N/A	mg/kg	7	0	0	0.00088	0.00088	N/A	N/A	--	
n-Propylbenzene	264	mg/kg	256	0	0	0.00029	0.010	0	0	--	
Styrene	867	mg/kg	256	1	0.40	0.00032	0.010	0	0	--	
1,1,1,2-Tetrachloroethane	10	mg/kg	256	0	0	0.00022	0.010	0	0	--	
1,1,1,2,2-Tetrachloroethane	3.2	mg/kg	256	0	0	0.00014	0.010	0	0	--	
Tetrachloroethene	117	mg/kg	256	1	0.40	0.00027	0.010	0	0	--	

TABLE 3. Evaluation of Sample Quantitation Limits
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
							Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
VOCs	Toluene	817	mg/kg	256	53	21	0.00013	0.010	0	0	--
	1,1,2-Trichloro-1,2,2-trifluoroethane	900	mg/kg	11	0	0	0.00054	0.0055	0	0	--
	1,2,3-Trichlorobenzene	151	mg/kg	256	2	0.80	0.00038	0.010	0	0	--
	1,2,4-Trichlorobenzene	125	mg/kg	256	6	2.3	0.00037	0.010	0	0	--
	1,3,5-Trichlorobenzene	285	mg/kg	7	0	0	0.00068	0.00068	0	0	Use 1,2,4-trichlorobenzene as a surrogate (noncancer endpoint)
	1,1,1-Trichloroethane	638	mg/kg	256	1	0.40	0.00015	0.010	0	0	--
	1,1,2-Trichloroethane	5.8	mg/kg	256	0	0	0.00028	0.010	0	0	--
	Trichloroethene	6.9	mg/kg	256	2	0.80	0.00012	0.010	0	0	--
	Trichlorofluoromethane	1,210	mg/kg	256	5	2.0	0.00032	0.010	0	0	--
	1,2,3-Trichloropropane	0.12	mg/kg	256	0	0	0.00041	0.010	0	0	--
	1,2,4-Trimethylbenzene	218	mg/kg	256	6	2.3	0.00022	0.010	0	0	--
	1,3,5-Trimethylbenzene	182	mg/kg	256	1	0.40	0.00021	0.010	0	0	--
	2,2,3-Trimethylbutane	N/A	mg/kg	7	0	0	0.00021	0.00021	N/A	N/A	--
	Vinyl acetate	2,750	mg/kg	7	0	0	0.00018	0.00018	0	0	--
	Vinyl chloride	2.2	mg/kg	256	1	0.40	0.00024	0.010	0	0	--
	m,p-Xylene	387	mg/kg	233	7	3.0	0.00053	0.010	0	0	Minimum BCL of m-xylene and p-xylene
	o-Xylene	434	mg/kg	233	3	1.3	0.00031	0.010	0	0	--
Xylenes (total)	259	mg/kg	30	0	0	0.00086	0.013	0	0	--	

Notes:

-- = Not applicable
mg/kg = milligram per kilogram
BaPEq = Benzo(a)pyrene equivalent
BCL = Basic Comparison Level
BHC = Hexachlorocyclohexane
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
N/A = No screening level available
NDEP = Nevada Department of Environmental Protection
OCP = Organochlorine pesticide

OPP = Organophosphorus pesticide
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
SQL = Sample Quantitation Limit
SVOC = Semivolatile organic compound
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = Toxicity equivalent
TP = Trichlorophenoxy
VOC = Volatile organic compound
* Methodology for equivalent calculations explained in text
[1] Screening levels are the lowest level among the indoor worker and outdoor worker BCLs (NDEP 2017), unless noted.

Source:

NDEP. 2017. User's Guide and Background Technical Document for NDEP Basic Comparison Levels (BCLs) for Human Health for the BMI Complex and Common Areas. Revision 14, July.

TABLE 4. Summary Statistics for Chlorine Oxyanions, Metals, Other Inorganics, and Radionuclides: Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Chlorine Oxyanions	Chlorate	mg/kg	254	198	78	0.044	5.8	0.045	20,900	3.0	204	1,610	7.9	SA106
	Perchlorate	mg/kg	337	321	95	0.035	0.43	0.012	2,620	8.4	100	288	2.9	RSAM5
Metals	Aluminum	mg/kg	260	260	100	--	--	3,900	12,200	9,020	8,930	1,420	0.16	SA43
	Antimony	mg/kg	257	77	30	0.50	2.3	0.11	2.4	0.32	0.70	0.70	1.0	SA114
	Arsenic	mg/kg	571	571	100	--	--	0.58	34	3.3	3.7	2.2	0.58	EE-C25-1
	Barium	mg/kg	260	260	100	--	--	65	1,780	177	190	110	0.58	SA123
	Beryllium	mg/kg	195	195	100	--	--	0.22	0.71	0.46	0.46	0.074	0.16	SA86
	Boron	mg/kg	260	236	91	1.4	13	2.5	1,510	7.3	24	135	5.6	SA62
	Cadmium	mg/kg	260	139	53	0.0050	0.51	0.040	8.9	0.13	0.26	0.77	2.9	SA103
	Calcium	mg/kg	195	195	100	--	--	9,930	62,500	26,700	27,500	9,280	0.34	RSAM2
	Chromium (total)	mg/kg	262	262	100	--	--	3.5	102	9.4	12	11	0.93	SA106
	Chromium VI	mg/kg	215	48	22	0.11	0.49	0.11	106	0.79	5.8	18	3.1	SA106
	Cobalt	mg/kg	310	310	100	--	--	3.2	284	7.6	13	29	2.3	RSAO8
	Copper	mg/kg	260	260	100	--	--	8.0	160	18	20	12	0.61	RISB-12
	Iron	mg/kg	260	260	100	--	--	7,050	24,000	15,000	14,900	2,690	0.18	RISB-12
	Lead	mg/kg	321	321	100	--	--	3.6	267	8.9	13	19	1.5	SA92
	Lithium	mg/kg	7	7	100	--	--	10	14	11	12	1.5	0.13	TSB-GR-02
	Magnesium	mg/kg	309	309	100	--	--	5,300	71,000	9,700	10,700	5,070	0.48	DS-C39B-1
	Manganese	mg/kg	410	410	100	--	--	133	29,200	390	962	2,220	2.3	CS-C44-1
	Mercury	mg/kg	262	230	88	0.0067	0.040	0.0030	1.9	0.017	0.035	0.13	3.7	M-162D
	Molybdenum	mg/kg	260	194	75	0.052	2.0	0.15	55	0.48	1.1	4.9	4.5	RISB-12
	Nickel	mg/kg	260	260	100	--	--	6.6	164	15	16	11	0.66	RSAO8
	Niobium	mg/kg	19	1	5.3	0.76	2.1	9.2	9.2	9.2	9.2	--	--	TSB-GR-02
	Palladium	mg/kg	25	7	28	0.048	0.060	0.33	0.52	0.44	0.43	0.072	0.17	TSB-GJ-03
	Phosphorus (total)	mg/kg	187	187	100	--	--	456	1,600	853	861	188	0.22	RISB-09
	Platinum	mg/kg	195	143	73	0.010	0.24	0.0050	0.16	0.011	0.015	0.017	1.1	SA64
	Potassium	mg/kg	195	195	100	--	--	1,230	6,120	2,160	2,320	649	0.28	SA141
	Selenium	mg/kg	260	16	6.2	0.16	4.7	0.70	1.5	1.0	1.0	0.24	0.24	RSAJ3
	Silicon	mg/kg	25	25	100	--	--	41	250	140	132	53	0.40	RISB-10
	Silver	mg/kg	260	49	19	0.20	1.5	0.020	7.6	0.12	0.30	1.1	3.6	SA201
	Sodium	mg/kg	195	195	100	--	--	198	11,700	756	1,160	1,290	1.1	SA106
	Strontium	mg/kg	213	213	100	--	--	73	805	186	208	98	0.47	SA15
Sulfur	mg/kg	25	16	64	211	430	498	14,000	798	1,680	3,300	2.0	RISB-14	
Thallium	mg/kg	260	176	68	0.10	0.28	0.054	8.4	0.10	0.19	0.64	3.3	SA180	
Tin	mg/kg	195	184	94	9.4	12	0.40	12	4.2	3.8	1.6	0.43	RSAK8	
Titanium	mg/kg	195	195	100	--	--	361	1,270	751	743	179	0.24	SA166	
Tungsten	mg/kg	213	173	81	0.10	5.6	0.080	8.5	0.23	0.42	0.80	1.9	RSAK8	
Uranium (total)	mg/kg	213	213	100	--	--	0.55	3.6	1.0	1.2	0.52	0.45	SA86	
Vanadium	mg/kg	195	195	100	--	--	22	78	42	42	9.0	0.21	RSAK8	

TABLE 4. Summary Statistics for Chlorine Oxyanions, Metals, Other Inorganics, and Radionuclides: Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Metals	Zinc	mg/kg	260	260	100	--	--	18	300	33	37	25	0.69	RISB-37
	Zirconium	mg/kg	25	25	100	--	--	15	31	22	22	3.9	0.18	RISB-14
Other Inorganics	Ammonia	mg/kg	199	36	18	0.080	6.5	0.11	563	1.6	39	120	3.0	RSAM5
	Bromide	mg/kg	209	24	11	0.063	28	0.20	83	1.1	4.7	17	3.6	SA15
	Chloride	mg/kg	206	196	95	2.1	85	0.90	6,670	75	402	840	2.1	RSAJ2
	Cyanide (total)	mg/kg	132	2	1.5	0.13	1.2	0.48	1.3	0.89	0.89	0.58	0.65	RSAJ2
	Fluoride	mg/kg	7	1	14	0.25	0.25	0.52	0.52	0.52	0.52	--	--	TSB-GR-02
	Nitrate	mg/kg	210	187	89	0.048	6.1	0.27	515	5.6	20	46	2.4	SA15
	Nitrate/Nitrite	mg/kg	18	17	94	1.2	1.2	2.7	37	11	11	8.1	0.73	RISB-10
	Nitrite	mg/kg	202	40	20	0.080	22	0.090	77	0.47	3.3	12	3.7	SA64
	ortho-Phosphate	mg/kg	48	6	13	1.1	57	2.4	2,900	6.5	490	1,180	2.4	SA11
	Sulfate	mg/kg	210	208	99	2.1	22	6.7	15,300	187	839	2,350	2.8	SA65
Radionuclides	Radium-226	pCi/g	208	208	100	--	--	0.20	2.5	0.92	0.95	0.36	0.38	SA92
	Radium-228	pCi/g	208	208	100	--	--	0	3.3	1.2	1.3	0.49	0.39	SA70
	Thorium-228	pCi/g	205	205	100	--	--	0.48	3.0	1.8	1.8	0.36	0.20	SA65
	Thorium-230	pCi/g	205	205	100	--	--	0.43	4.3	1.1	1.2	0.44	0.37	SA74
	Thorium-232	pCi/g	205	205	100	--	--	0.54	2.5	1.6	1.6	0.33	0.21	SA189
	Uranium-234	pCi/g	187	187	100	--	--	0.27	3.4	1.0	1.1	0.44	0.39	SA128
	Uranium-235	pCi/g	187	187	100	--	--	-0.029	0.25	0.052	0.062	0.043	0.70	RSAK6
	Uranium-238	pCi/g	205	205	100	--	--	0.24	3.3	0.96	1.0	0.38	0.37	SA128

Notes:

-- = No value

bgs = below ground surface

ft = feet

mg/kg = milligram per kilogram

pCi/g = picocurie per gram

TABLE 5. Summary Statistics for Organic Compounds: Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Dioxin/Furans	2,3,7,8-TCDD TEQ*	mg/kg	466	463	99	0.000044	0.0037	0.00000055	0.019	0.000018	0.00030	0.0012	3.8	RISB-50
PAHs	Acenaphthene	mg/kg	474	7	1.5	0.00016	1.1	0.00062	0.70	0.026	0.12	0.26	2.2	EE-C25-1
	Acenaphthylene	mg/kg	474	6	1.3	0.00017	1.8	0.00066	0.22	0.0014	0.038	0.089	2.4	EE-C25-1
	Anthracene	mg/kg	474	14	3.0	0.00072	1.8	0.00055	0.30	0.0035	0.028	0.079	2.8	EE-C25-1
	BaPEq*	mg/kg	474	83	18	0.00090	2.4	0.0069	0.40	0.016	0.047	0.075	1.6	SSAM5-03
	Benzo(g,h,i)perylene	mg/kg	473	53	11	0.0011	1.7	0.0014	0.38	0.014	0.036	0.062	1.7	SSAO6-04
	Fluoranthene	mg/kg	474	68	14	0.0010	3.9	0.0017	0.35	0.010	0.038	0.063	1.7	SA180
	Fluorene	mg/kg	474	3	0.60	0.00047	1.9	0.00052	1.1	0.0010	0.37	0.63	1.7	EE-C25-1
	1-Methylnaphthalene	mg/kg	26	4	15	0.00026	8.3	0.00062	5.6	0.0022	1.4	2.8	2.0	EE-C25-1
	2-Methylnaphthalene	mg/kg	474	10	2.1	0.00031	3.9	0.00077	7.9	0.0092	0.81	2.5	3.1	EE-C25-1
	Naphthalene	mg/kg	536	23	4.3	0.00032	3.3	0.0010	3.1	0.0014	0.23	0.75	3.2	EE-C25-1
	Phenanthrene	mg/kg	474	64	14	0.0011	1.8	0.0017	1.5	0.0055	0.057	0.22	3.9	EE-C25-1
	Pyrene	mg/kg	474	90	19	0.0011	1.3	0.0011	1.3	0.011	0.054	0.15	2.8	EE-C25-1
PCBs	Aroclor-1248	mg/kg	48	1	2.1	0.034	0.37	0.091	0.091	0.091	0.091	--	--	RSAS5
	Aroclor-1260	mg/kg	66	2	3.0	0.017	0.37	0.034	0.061	0.048	0.048	0.019	0.40	RISB-12
Pesticides - OCPs	Aldrin	mg/kg	281	2	0.70	0.000088	0.092	0.00049	0.00052	0.00051	0.00051	0.000021	0.042	SSAL2-05
	alpha-BHC	mg/kg	281	15	5.3	0.000096	0.092	0.00024	0.012	0.00059	0.0019	0.0032	1.7	RSAQ4
	beta-BHC	mg/kg	281	161	57	0.00035	0.15	0.00072	0.87	0.011	0.044	0.10	2.3	SA67
	delta-BHC	mg/kg	281	7	2.5	0.000083	0.092	0.00048	0.0015	0.00059	0.00079	0.00038	0.48	SA86
	gamma-BHC	mg/kg	281	3	1.1	0.000083	0.11	0.00083	0.0019	0.0013	0.0013	0.00054	0.40	RSAQ4
	gamma-Chlordane	mg/kg	279	1	0.40	0.000086	0.092	0.0014	0.0014	0.0014	0.0014	--	--	RSAO7
	Chlordane (total)	mg/kg	247	1	0.40	0.00021	0.45	0.0030	0.0030	0.0030	0.0030	--	--	SA66
	4,4'-DDD	mg/kg	280	10	3.6	0.00016	0.18	0.0014	0.032	0.0046	0.0078	0.0093	1.2	SSAL3-04
	2,4'-DDE	mg/kg	32	9	28	0.000089	0.015	0.0018	0.088	0.0060	0.027	0.031	1.1	RISB-52
	4,4'-DDE	mg/kg	281	153	54	0.00024	0.18	0.00040	6.0	0.015	0.27	0.83	3.1	SSAM3-01
	4,4'-DDT	mg/kg	281	122	43	0.00043	0.18	0.00066	2.3	0.013	0.10	0.27	2.6	SSAM2-01
	Dieldrin	mg/kg	281	4	1.4	0.000073	0.18	0.00027	0.059	0.016	0.023	0.028	1.2	SSAM2-01
	Endosulfan I	mg/kg	281	2	0.70	0.000083	0.092	0.00024	0.0015	0.00087	0.00087	0.00089	1.0	SSAL3-01
	Endosulfan sulfate	mg/kg	281	2	0.70	0.00012	0.18	0.0042	0.016	0.010	0.010	0.0083	0.83	BDT-4-S-15
	Endrin	mg/kg	281	2	0.70	0.000083	0.18	0.00070	0.0054	0.0031	0.0031	0.0033	1.1	SA180
	Endrin ketone	mg/kg	281	10	3.6	0.00038	0.18	0.00061	0.020	0.0012	0.0035	0.0059	1.7	SA86
	Hexachlorobenzene	mg/kg	674	385	57	0.00028	10	0.00032	4.7	0.053	0.19	0.37	2.0	SSAK3-05
	Methoxychlor	mg/kg	281	16	5.7	0.00043	0.92	0.00050	0.38	0.0021	0.064	0.12	1.9	SSAM2-01
Toxaphene	mg/kg	281	1	0.40	0.0071	3.6	0.62	0.62	0.62	0.62	--	--	SSAL3-04	
Pesticides - OPPs	Dimethoate	mg/kg	57	3	5.3	0.0068	0.090	0.011	0.013	0.012	0.012	0.0010	0.083	SA05
	Stirophos	mg/kg	57	1	1.8	0.0042	0.055	0.041	0.041	0.041	0.041	--	--	SA166
SVOCs	bis(2-Ethylhexyl)phthalate	mg/kg	469	97	21	0.033	5.0	0.058	61	0.097	0.79	6.2	7.8	SSAP4-01
	Butylbenzylphthalate	mg/kg	469	7	1.5	0.0025	4.6	0.0033	0.053	0.0056	0.017	0.018	1.1	RSAL2
	Di-n-butylphthalate	mg/kg	469	33	7.0	0.027	5.0	0.035	7.5	0.076	0.59	1.4	2.4	SSAP4-01
	Di-n-octylphthalate	mg/kg	469	2	0.40	0.0012	5.0	0.084	0.088	0.086	0.086	0.0028	0.033	SSAO4-01
	Diethylphthalate	mg/kg	469	5	1.1	0.024	5.3	0.042	0.35	0.062	0.11	0.13	1.2	SA86
	Dimethylphthalate	mg/kg	469	54	12	0.00093	3.7	0.0015	0.79	0.042	0.12	0.17	1.4	BDT-1-S-10

TABLE 5. Summary Statistics for Organic Compounds: Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
SVOCs	Hexachlorobutadiene	mg/kg	256	5	2.0	0.00028	0.033	0.00041	0.0045	0.00095	0.0017	0.0017	1.0	SA11
	Octachlorostyrene	mg/kg	467	78	17	0.0037	130	0.0021	2.1	0.067	0.11	0.25	2.2	SSAK3-05
VOCs	Acetone	mg/kg	256	102	40	0.0017	0.041	0.0027	0.15	0.012	0.022	0.027	1.2	SA106
	Bromodichloromethane	mg/kg	256	2	0.80	0.00011	0.010	0.00040	0.00069	0.00055	0.00055	0.00021	0.38	SSAO8-10
	Bromoform	mg/kg	256	1	0.40	0.00012	0.010	0.0017	0.0017	0.0017	0.0017	--	--	SA102
	2-Butanone	mg/kg	256	75	29	0.00073	0.020	0.00065	0.027	0.0016	0.0034	0.0056	1.7	SSAO7-06
	tert-Butyl alcohol	mg/kg	249	1	0.40	0.0052	0.20	0.0076	0.0076	0.0076	0.0076	--	--	RSAM4
	Carbon tetrachloride	mg/kg	256	1	0.40	0.00032	0.010	0.00063	0.00063	0.00063	0.00063	--	--	RSAN3
	Chlorobenzene	mg/kg	256	6	2.3	0.00012	0.010	0.00064	0.0019	0.0011	0.0011	0.00044	0.39	SA15
	Chloroform	mg/kg	256	85	33	0.00014	0.0091	0.00031	0.15	0.0014	0.0064	0.022	3.4	SA11
	p-Cymene	mg/kg	256	1	0.40	0.00024	0.010	0.00055	0.00055	0.00055	0.00055	--	--	SSAN8-04
	1,2-Dichlorobenzene	mg/kg	256	5	2.0	0.00015	0.010	0.00026	0.00039	0.00038	0.00036	0.000055	0.15	RSAM4
	1,4-Dichlorobenzene	mg/kg	256	4	1.6	0.00011	0.010	0.00056	0.016	0.0012	0.0047	0.0075	1.6	SA08
	1,1-Dichloroethane	mg/kg	256	1	0.40	0.00011	0.010	0.0030	0.0030	0.0030	0.0030	--	--	SA08
	1,1-Dichloroethene	mg/kg	256	4	1.6	0.00030	0.010	0.00055	0.0012	0.00081	0.00084	0.00027	0.32	SSAN8-04
	cis-1,2-Dichloroethene	mg/kg	256	1	0.40	0.00028	0.010	0.0041	0.0041	0.0041	0.0041	--	--	RISB-57
	Ethyl tert-butyl ether	mg/kg	249	1	0.40	0.00023	0.010	0.00038	0.00038	0.00038	0.00038	--	--	RSAO2
	Methylene Chloride	mg/kg	256	68	27	0.00037	0.010	0.00034	0.0082	0.0013	0.0016	0.0012	0.75	RSAM8
	Styrene	mg/kg	256	1	0.40	0.00032	0.010	0.00028	0.00028	0.00028	0.00028	--	--	SA55
	Tetrachloroethene	mg/kg	256	1	0.40	0.00027	0.010	0.00068	0.00068	0.00068	0.00068	--	--	SA128
	Toluene	mg/kg	256	53	21	0.00013	0.010	0.00023	0.0022	0.00075	0.00084	0.00040	0.48	RSAM3
	1,2,3-Trichlorobenzene	mg/kg	256	2	0.80	0.00038	0.010	0.00081	0.0013	0.0011	0.0011	0.00035	0.33	SA11
	1,2,4-Trichlorobenzene	mg/kg	256	6	2.3	0.00037	0.010	0.00065	0.0037	0.0012	0.0017	0.0012	0.71	SA11
	1,1,1-Trichloroethane	mg/kg	256	1	0.40	0.00015	0.010	0.00095	0.00095	0.00095	0.00095	--	--	SA08
	Trichloroethene	mg/kg	256	2	0.80	0.00012	0.010	0.00042	0.0021	0.0013	0.0013	0.0012	0.94	RISB-57
	Trichlorofluoromethane	mg/kg	256	5	2.0	0.00032	0.010	0.00035	0.0017	0.0016	0.0013	0.00057	0.44	SA136
	1,2,4-Trimethylbenzene	mg/kg	256	6	2.3	0.00022	0.010	0.00042	0.0014	0.00084	0.00085	0.00033	0.39	SSAO8-11
	1,3,5-Trimethylbenzene	mg/kg	256	1	0.40	0.00021	0.010	0.00050	0.00050	0.00050	0.00050	--	--	SSAO8-11
	Vinyl chloride	mg/kg	256	1	0.40	0.00024	0.010	0.00028	0.00028	0.00028	0.00028	--	--	RSAM7
	m,p-Xylene	mg/kg	233	7	3.0	0.00053	0.010	0.00064	0.0023	0.0012	0.0013	0.00053	0.41	RISB-54
o-Xylene	mg/kg	233	3	1.3	0.00031	0.010	0.00046	0.00074	0.00057	0.00059	0.00014	0.24	RISB-54	

Notes:

-- = No value
bgs = below ground surface
ft = feet
mg/kg = milligram per kilogram
BaPEq = Benzo(a)pyrene equivalent
BHC = Hexachlorocyclohexane
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane

OCP = Organochlorine pesticide
OPP = Organophosphorus pesticide
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
SVOC = Semivolatile organic compound
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = Toxicity equivalent
VOC = Volatile organic compound
* Methodology for equivalent calculations explained in text

TABLE 6. Exploratory Data Analysis: Comments for Perchlorate, Metals, Other Inorganics and Radionuclides (0-10 ft bgs Soils)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration ^[1]	2005 CSM SRC? ^[2]	Background Evaluation			Spatial Plot	Comment ^[c]
						Fail Statistical Testing for Background?	Table	Figure		
Chlorine Oxyanions	Chlorate	254	198	20,900	Yes	NA	NA	NA	Figure 6, G-10	Manufactured at the Site from approximately 1945-1998; chlorate and perchlorate are frequently co-located. The highest post-removal concentrations are found near the Unit Buildings, Beta Ditch, and ponds, corresponding to former manufacturing and disposal areas. Polygons with concentrations >38,900 mg/kg (chlorate) and 908 mg/kg (perchlorate) were targeted for removal in 2010/2011; however, soils with residual perchlorate concentrations remain in certain areas. (See discussion in Section 5.1).
	Perchlorate	337	321	2,620	Yes	NA	NA	NA	Figure 6, G-30	
Metals	Aluminum	260	260	12,200	Yes	No	F2	F1-1 F2-1	NA	Although historically listed as a SRC, NDEP did not identify aluminum as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1xBCL.
	Antimony	257	77	2.4	Yes	LDF	F2	F1-2 F2-2	NA	Although historically listed as a SRC, NDEP did not identify antimony as a specific contaminant at an LOU. Concentrations are <0.1xBCL.
	Arsenic	571	571	34	Yes	Yes	F2	F1-3 F2-3	Figure 7, G-2	Hardesty/AMECCO (LOU4) manufactured sodium arsenite solution. NDEP identified arsenic as a potential contaminant for LOU4 and LOU60 (Acid Drain system). Post-removal, scattered locations remain throughout the Study Area with concentrations >background. No clear spatial pattern. (See discussion in Section 5.1).
	Barium	260	260	1,780	Yes	Yes	F2	F1-4 F2-4	Figure G-3	NDEP identified barium as a potential contaminant at several LOUs, including the Storm Sewer System (#59); Acid Drain System (#60); former State Industries (#62); Kelley Trucking (#63); and Nevada Precast Concrete (#65). Barium concentrations are greater than background, with elevated concentrations detected in the former State Industries area and at scattered locations throughout the Study Area. But concentrations are <0.1xBCL.
	Beryllium	195	195	0.71	Yes	No	F2	F1-5 F2-5	NA	Although historically listed as a SRC, NDEP did not identify beryllium as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1xBCL.
	Boron	260	236	1,510	Yes	LDF	F2	F1-6 F2-6	Figure G-8	Kerr-McGee manufactured boron at the Site beginning in approximately 1994, and Tronox continues to operate a boron plant. The highest levels are located in the central and eastern areas of the Site. Study Area concentrations are <0.1xBCL.
	Cadmium	260	139	8.9	Yes	No	F2	F1-7 F2-7	Figure G-9	Although historically listed as a SRC, NDEP did not identify cadmium as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1xBCL.
	Calcium	195	195	62,500	Yes	No	F2	F1-8 F2-8	NA	Although used extensively or formed as a waste product (e.g., calcium is a process waste from chlorate and manganese production), concentrations are consistent with background. Calcium background concentrations are high (~30,000 mg/kg), possibly masking calcium releases.
	Chromium (total)	262	262	102	Yes	Yes	F2	F1-9 F2-9	Figure G-12	NDEP identified chromium (total) as associated with LOU32 (the groundwater remediation unit). Concentrations are greater than background, with the highest concentrations in the general area of the former P-2 and P-3 ponds and the groundwater barrier wall. Concentrations are <0.1xBCL.
	Chromium VI	215	48	106	Yes	LDF	F2	F1-10 F2-10	Figure 8, G-13	In unimpacted soils, chromium VI concentrations are typically below detection limits (i.e., <0.5 mg/kg). Historically, hexavalent chromium (as sodium dichromate) was used extensively for production of sodium chlorate and sodium perchlorate. NDEP identified hexavalent chromium as a potential contaminant at over 25 LOUs. The highest concentrations of hexavalent chromium are co-located with chromium in the general area of the former P-2 and P-3 Ponds.
	Cobalt	310	310	284	Yes	Yes	F2	F1-11 F2-11	Figure 9, G-14	NDEP identified cobalt as a potential contaminant at LOU70 (US Vanadium Leasehold). Cobalt concentrations are greater than background; spatially, elevated concentrations generally co-locate with manganese, since it may be a by-product of manganese production.
Copper	260	260	160	Yes	No	F2	F1-12 F2-12	Figure G-15	Although historically listed as a SRC, NDEP did not identify copper as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1xBCL.	

TABLE 6. Exploratory Data Analysis: Comments for Perchlorate, Metals, Other Inorganics and Radionuclides (0-10 ft bgs Soils)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration ^[1]	2005 CSM SRC? ^[2]	Background Evaluation			Spatial Plot	Comment ^[c]
						Fail Statistical Testing for Background?	Table	Figure		
Metals	Iron	260	260	24,000	Yes	No	F2	F1-13 F2-13	NA	NDEP identified iron as a potential contaminant at multiple LOUs. At the IWF, extracted groundwater was electrolytically treated to reduce chromium/other heavy metals and precipitate as iron oxide sludge (disposed of off-site). Iron is also associated with manganese ores. Post-removal concentrations are consistent with background and <0.1xBCL.
	Lead	321	321	267	Yes	No	F2	F1-14 F2-14	Figure G-22	NDEP identified lead as a potential contaminant at several LOUs, including the Storm Sewer System (LOU59); the Acid Drain System (LOU60); and State Industries (LOU62). Post-removal soil concentrations are consistent with background and less than the lead BCL.
	Lithium	7	7	14	No	NA	NA	NA	NA	Not historically identified as a SRC. Small sample size. RZ-A background data are not available. Concentrations are <0.1xBCL.
	Magnesium	309	309	71,000	Yes	No	F2	F1-15 F2-15	Figure G-23	Produced at the Site from approximately 1942 to 1944. NDEP identified magnesium as a potential contaminant associated with numerous LOUs. Post-removal soil concentrations are consistent with background and less than 0.1 times the health-based BCL.
	Manganese	410	410	29,200	Yes	Yes	F2	F1-16 F2-16	Figure 10, G-24	Produced at the Site since 1951; ongoing production by Tronox. Highest concentrations are present primarily in the eastern portion of the Site, from soil depths of 0-10 ft bgs. Study Area concentrations are greater than background.
	Mercury	262	230	1.9	Yes	No	F2	F1-17 F2-17	NA	Although historically identified as a SRC, NDEP did not identify mercury as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1xBCL.
	Molybdenum	260	194	55	Yes	No	F2	F1-18 F2-18	Figure G-25	US Vanadium Corporation (LOU70) formerly leased facilities at the Site for production of molybdenum compounds. Study Area concentrations are consistent with background and <0.1xBCL.
	Nickel	260	260	164	Yes	No	F2	F1-19 F2-19	Figure G-27	NDEP identified nickel as a potential contaminant within the Storm Sewer System (LOU 59). Concentrations are consistent with background and <0.1xBCL.
	Niobium	19	1	9.2	No	NA	NA	NA	NA	Not historically identified as a SRC. Small sample size. RZ-A background data are not available. Concentrations are <0.1xBCL.
	Palladium	25	7	0.52	No	NA	NA	NA	Figure G-29	Not historically identified as a SRC. Small sample size. RZ-A background data are not available.
	Phosphorus (total)	187	187	1,600	Yes	NA	NA	NA	NA	Although historically identified as a SRC, NDEP did not identify phosphorus as a specific contaminant at an LOU. RZ-A background data are not available. <i>See related discussion for "phosphates."</i>
	Platinum	195	143	0.16	Yes	No	F2	F1-20 F2-20	Figure G-32	NDEP identified platinum as a potential contaminant at the Platinum Drying Unit (LOU 15). Study Area concentrations are consistent with background and <0.1xBCL.
	Potassium	195	195	6,120	Yes	No	F2	F1-21 F2-21	NA	Although historically listed as a SRC, NDEP did not identify potassium as associated with contamination at an LOU. Concentrations are consistent with background.
	Selenium	260	16	1.5	Yes	LDF	F2	F1-22 F2-22	NA	NDEP identified selenium as a potential contaminant within the Acid Drain System (LOU 60). Low detection frequency; concentrations are <0.1xBCL.
	Silicon	25	25	250	Yes	NA	NA	NA	NA	Although historically listed as a SRC, NDEP did not identify silicon as specific contaminant at an LOU. RZ-A background data are not available.
	Silver	260	49	7.6	Yes	LDF	F2	F1-23 F2-23	NA	Although historically identified as a SRC, NDEP did not identify silver as a specific contaminant at an LOU. Low detection frequency; concentrations are <0.1xBCL.
Sodium	195	195	11,700	Yes	Yes	F2	F1-24 F2-24	NA	NDEP identified sodium as a potential contaminant at multiple LOUs. Concentrations are greater than background.	
Strontium	213	213	805	Yes	No	F2	F1-25 F2-25	NA	Although historically listed as a SRC, NDEP did not identify strontium as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1xBCL.	

TABLE 6. Exploratory Data Analysis: Comments for Perchlorate, Metals, Other Inorganics and Radionuclides (0-10 ft bgs Soils)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration ^[1]	2005 CSM SRC? ^[2]	Background Evaluation			Spatial Plot	Comment ^[c]
						Fail Statistical Testing for Background?	Table	Figure		
Metals	Sulfur	25	16	14,000	Yes	NA	NA	NA	NA	See discussion for "Other Inorganics."
	Thallium	260	176	8.4	Yes	Yes	F2	F1-26 F2-26	Figure 11, G-35	Although historically listed as a SRC, NDEP did not identify thallium as a specific contaminant at an LOU. Concentrations are greater than background, suggesting a possible historical presence at the Site.
	Tin	195	184	12	Yes	LDF	F2	F1-27 F2-27	NA	Although historically listed as a SRC, NDEP did not identify tin as a specific contaminant at an LOU. Concentrations are <0.1xBCL.
	Titanium	195	195	1,270	Yes	No	F2	F1-28 F2-28	Figure G-37	NDEP identified titanium as a potential contaminant at the former J.B Kelley Trucking (LOU 63) and Nevada Precast Concrete (LOU 65). Concentrations are consistent with background and <0.1xBCL.
	Tungsten	213	173	8.5	Yes	Yes	F2	F1-29 F2-29	Figure G-39	US Vanadium (LOU70) formerly produced tungsten compounds at the Site. Concentrations are greater than background, with elevated tungsten concentrations are found in the eastern and the central areas of the Site. Concentrations are <0.1xBCL.
	Uranium (total)	213	213	3.6	Yes	No	F2	F1-30 F2-30	Figure G-40	Although historically identified as a SRC, NDEP did not identify uranium as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1 BCL.
	Vanadium	195	195	78	Yes	No	F2	F1-31 F2-31	NA	Although historically identified as a SRC, NDEP did not identify vanadium as a specific contaminant at an LOU. Concentrations are consistent with background and <0.1 BCL.
	Zinc	260	260	300	Yes	No	F2	F1-32 F2-32	Figure G-43	NDEP identified zinc as a potential contaminant within the Storm Sewer System (LOU59). Soil concentrations are consistent with background and concentrations are <0.1xBCL.
	Zirconium	25	25	31	No	NA	NA	NA	Figure 12, G-44	Not historically listed as a SRC. Small sample size. RZ-A background data are not available.
Other Inorganics	Ammonia	199	36	563	Yes	NA	NA	NA	NA	This group of inorganic compounds includes common industrial chemicals that are used as chemical feedstocks and/or expected to be present in process waste streams. With the exception of fluoride and nitrate, all compounds were historically identified as SRCs. These compounds are generally highly soluble when present as free anions or cations. Although all of the listed inorganics occur naturally in soil, RZ-A background data sets are not available to conduct a background analysis. At the concentrations detected in soil, these inorganics do not present human health concerns. (Many are physiological electrolytes and/or occur naturally in foods.) Generally, these inorganics are of greater concern when detected as contaminants in groundwater than when present at elevated concentrations in soil.
	Bromide	209	24	83	Yes	NA	NA	NA	NA	
	Chloride	206	196	6,670	Yes	NA	NA	NA	NA	
	Cyanide (total)	132	2	1.3	Yes	NA	NA	NA	NA	
	Fluoride	7	1	0.52	No	NA	NA	NA	NA	
	Nitrate	210	187	515	Yes	NA	NA	NA	NA	
	Nitrate/Nitrite	18	17	37	Yes	NA	NA	NA	NA	
	Nitrite	202	40	77	No	NA	NA	NA	NA	
	ortho-Phosphate	48	6	2,900	Yes	NA	NA	NA	NA	
Sulfate	210	208	15,300	Yes	NA	NA	NA	NA		

TABLE 6. Exploratory Data Analysis: Comments for Perchlorate, Metals, Other Inorganics and Radionuclides (0-10 ft bgs Soils)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration ^[1]	2005 CSM SRC? ^[2]	Background Evaluation			Spatial Plot	Comment ^[c]
						Fail Statistical Testing for Background?	Table	Figure		
Radio-nuclides	Uranium-238	205	205	3.3	Yes	No	F4	F1-33 F2-33	Figure 13, G-42	Although historically listed as SRCs, radionuclides are not known to be associated with any of the former/current operations at the Site. Although no potential source areas were identified, soil samples were analyzed for radionuclides. Activities of all radionuclides are consistent with background levels. The results of background analysis must be interpreted with caution given the issues associated with sample preparation and analytical methods.
	Uranium-234	187	187	3.4	Yes	No	F4	F1-34 F2-34	NA	
	Thorium-230	205	205	4.3	Yes	No	F4	F1-35 F2-35	NA	
	Radium-226	208	208	2.5	Yes	No	F4	F1-36 F2-36	NA	
	Thorium-232	205	205	2.5	Yes	No	F4	F1-37 F2-37	Figure 13, G-36	
	Thorium-228	205	205	3.0	Yes	No	F4	F1-38 F2-38	NA	
	Radium-228	208	208	3.3	Yes	No	F4	F1-39 F2-39	NA	
	Uranium-235	187	187	0.25	No	No	F4	F1-40 F2-40	Figure 13, G-41	

Notes:

bgs = below ground surface

ft = feet

mg/kg = milligram per kilogram

pCi/g = picocurie per gram

BCL = Basic comparison level

CSM = Conceptual site model

Listed analytes are those detected in one or more samples in the Study Area.

LDF = Low detection frequency (<25%) in either site or background datasets. Background comparison results may not be applicable.

LOU = Letter of Understanding

NA = Not applicable

NDEP = Nevada Division of Environmental Protection

SRC = Site related chemical, as identified in the Conceptual Site Model (ENSR 2005)

[1] Concentrations are in mg/kg for all groups except radionuclides; radionuclide activities are in pCi/g.

[2] From Table 5 of the ENSR (2005) Conceptual Site Model report.

[3] Based on information from: ENSR 2005; ENVIRON 2011; NDEP 2011; and Ramboll Environ 2016.

Sources:

ENSR. 2005. Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada. February. NDEP requested response to comments during the next monthly meeting October 22.

ENVIRON. 2011. Phase I Environmental Site Assessment of Tronox LLC, Clark County, Nevada. January.

NDEP. 2011. Action Memorandum: Removal Actions, Nevada Environmental Response Trust Site, Clark County, Nevada. July.

Ramboll Environ. 2016. Technical Memorandum, Remedial Investigation Data Evaluation, Nevada Environmental Response Trust Site, Henderson, Nevada, dated May 2.

TABLE 7. Exploratory Data Analysis: Comments for Organic Compounds (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration (mg/kg)	2005 CSM SRC? ^[1]	Spatial Plot	Comment ^[2]
Dioxins/ Furans	2,3,7,8-TCDD TEQ*	466	463	0.019	Yes	Figure 14, G-34	Unintentional by-product of high-temperature processes, e.g., incomplete combustion and pesticide production (a source of chlorine is required). Highly persistent. High detection frequency due, in part, to sensitive analytical methods. Polygons with concentrations >0.0027 mg/kg targeted for removal in 2010/2011; however, soils with residual concentrations >0.0027 mg/kg remain. (See discussion in Section 5.1).
PAHs	Acenaphthene	474	7	0.70	Yes	NA	Expected to co-locate with BaPEqs.
	Acenaphthylene	474	6	0.22	Yes	NA	
	Anthracene	474	14	0.30	Yes	NA	
	BaPEq*	474	83	0.40	Yes	Figure 15, G-4	Listed as SRCs, PAHs are ubiquitous environmental contaminants, formed during incomplete combustion of organic materials. The highest concentrations are located in the center of the Study Area.
	Benzo(g,h,i)perylene	473	53	0.38	Yes	Figure G-5	Expected to co-locate with BaPEqs.
	Fluoranthene	474	68	0.35	Yes	Figure G-20	
	Fluorene	474	3	1.1	Yes	NA	Naphthalene was historically listed as a SRC. Low detection frequencies, with the highest concentrations generally found in the area of the former diesel above-ground storage tanks.
	1-Methylnaphthalene	26	4	5.6	No	NA	
	2-Methylnaphthalene	474	10	7.9	No	NA	
	Naphthalene	536	23	3.1	Yes	Figure 16, G-26	
	Phenanthrene	474	64	1.5	Yes	Figure G-31	Expected to co-locate with BaPEqs.
Pyrene	474	90	1.3	Yes	Figure G-33		
PCBs	Aroclor-1248	48	1	0.091	Yes	NA	As reported in the Environmental Conditions Assessment (Kleinfelder 1993), in 1980 22 PCB-containing transformers were reported at the Site, but only 12 remained as of the date of the 1993 report. The Kleinfelder report also noted that in 1978, Tronox began storing PCBs and equipment in Unit 2. Post-removal concentrations are <0.1xBCL. Low detection frequency.
	Aroclor-1260	66	2	0.061	Yes	NA	
Pesticides OCPs	Aldrin	281	2	0.00052	No	NA	Although OCPs were historically listed as SRCs, NDEP did not identify aldrin as a specific contaminant at an LOU. Low detection frequency (<1%). Post-removal concentrations are <0.1xBCL.
	alpha-BHC	281	15	0.012	No	Figure G-1	Not listed historically as a SRC. However, the former Stauffer facility (to the west) produced gamma-BHC (lindane) from 1946 through 1958; the alpha, beta, and delta isomers are by-products of lindane production. The highest concentrations were generally found in the western half of the Site.
	beta-BHC	281	161	0.87	No	Figure 18, G-6	
	delta-BHC	281	7	0.0015	No	NA	
	gamma-BHC	281	3	0.0019	No	NA	
	Chlordane (total)	247	1	0.0030	No	NA	
	gamma-Chlordane	279	1	0.0014	No	NA	Although OCPs were historically listed as SRCs, NDEP did not identify chlordane as a specific contaminant at an LOU. Low detection frequency (<1%). Post-removal concentrations are <0.1xBCL.
	2,4'-DDE	32	9	0.088	Yes	Figure G-16	Historical information indicates that Hardesty/AMECCO (1946-1949, LOU4) listed DDT for production. While detected concentrations of DDT and related compounds at the Site are relatively low, significantly higher concentrations (DDT, 6,900 mg/kg; DDD, 16,000 mg/kg; and DDE, 38,000 mg/kg) were reported in soil samples at the former Stauffer facility to the west (PES Environmental, Inc. 2016). 4,4'-DDT and 4,4'-DDE are mostly co-located; the highest concentrations are in the west/central portion of the Study Area.
	4,4'-DDD	280	10	0.032	Yes	NA	
	4,4'-DDE	281	153	6.0	Yes	Figure 17, G-17	
	4,4'-DDT	281	122	2.3	Yes	Figure 17, G-18	
Dieldrin	281	4	0.059	No	Figure 18, G-19	Although OCPs were historically listed as SRCs, NDEP did not identify dieldrin as a specific contaminant at an LOU. Very persistent in soils; low detection frequency (<2%).	

TABLE 7. Exploratory Data Analysis: Comments for Organic Compounds (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration (mg/kg)	2005 CSM SRC? ^[1]	Spatial Plot	Comment ^[2]
Pesticides OCPs	Endosulfan I	281	2	0.0015	No	NA	Although OCPs were historically listed as SRCs, NDEP did not identify these pesticides as specific contaminants at an LOU. Very persistent in soils. Compounds were detected at low detection frequencies (<4%) and post-removal concentrations are <0.1xBCL.
	Endosulfan sulfate	281	2	0.016	No	NA	
	Endrin	281	2	0.0054	No	NA	
	Endrin ketone	281	10	0.020	No	NA	
	Hexachlorobenzene	674	385	4.7	Yes	Figure 19, G-21	Historically listed as a SRC. Formed as a by-product during the manufacture of other chemicals involving chlorine, mainly solvents and pesticides.
	Methoxychlor	281	16	0.38	No	NA	Although OCPs were historically listed as SRCs, NDEP did not identify these pesticides as a specific contaminant at an LOU. Low detection frequencies (<6%).
	Toxaphene	281	1	0.62	No	Figure 18, G-38	
Pesticides OPPs	Dimethoate	57	3	0.013	No	NA	Although OPPs were historically listed as SRCs, NDEP did not identify these pesticides as a specific contaminant at an LOU. Low detection frequency (<6%). Post-removal concentrations are <0.1xBCL.
	Stirophos	57	1	0.041	No	NA	
SVOCs	Bis(2-ethylhexyl)phthalate	469	97	61	No	Figure 20, G-7	Not historically listed as a SRC. Bis(2-ethylhexyl)phthalate is a common field/laboratory contaminant. No clear spatial pattern was revealed in a spatial review of the 10 samples with the highest detected concentrations (ranging from 0.39 to 61 mg/kg).
	Butylbenzylphthalate	469	7	0.053	No	NA	Not historically listed as SRCs. Phthalates are common field/laboratory contaminants. Low detection frequencies (0.5 to 12%) and concentrations are <0.1xBCL.
	Di-n-butylphthalate	469	33	7.5	No	NA	
	Di-n-octylphthalate	469	2	0.088	No	NA	
	Diethylphthalate	469	5	0.35	No	NA	
	Dimethylphthalate	469	54	0.79	No	NA	Not historically listed as a SRC, although can be a byproduct of reactions involving chlorine and hydrocarbons. Low detection frequency (<2%). Post-removal concentrations are <0.1xBCL.
	Hexachlorobutadiene	256	5	0.0045	No	NA	
Octachlorostyrene	467	78	2.1	Yes	Figure G-28	Historically listed as a SRC. By-product of many industrial chemical processes; formed during incineration and combustion processes involving chlorinated compounds. Highly persistent.	
VOCs	Acetone	256	102	0.15	Yes	NA	See VOC comments below.
	Bromodichloromethane	256	2	0.00069	No	NA	
	Bromoform	256	1	0.0017	No	NA	
	2-Butanone	256	75	0.027	No	NA	
	Carbon tetrachloride	256	1	0.00063	No	NA	
	Chlorobenzene	256	6	0.0019	Yes	NA	
	Chloroform	256	85	0.15	Yes	Figure G-11	Although chloroform is the most prevalent groundwater VOC, there are no written records of its use at the Site. Tronox has communicated that chloroform was used in small quantities at the facility lab. Post-removal soil concentrations are very low and not indicative of a potential source area.
	p-Cymene	256	1	0.00055	No	NA	See VOC comments below.
	1,2-Dichlorobenzene	256	5	0.00039	Yes	NA	Mono- and dichlorobenzenes were produced by Hardesty/Amecco from 1946-1949. Soil concentrations are very low and are not considered indicative of a potential source area. Low detection frequency.
	1,4-Dichlorobenzene	256	4	0.016	Yes	NA	
	1,1-Dichloroethane	256	1	0.0030	No	NA	See VOC comments below.
	1,1-Dichloroethene	256	4	0.0012	No	NA	
	cis-1,2-Dichloroethene	256	1	0.0041	No	NA	
Ethyl tert-butyl ether	249	1	0.00038	No	NA		

TABLE 7. Exploratory Data Analysis: Comments for Organic Compounds (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration (mg/kg)	2005 CSM SRC? ^[1]	Spatial Plot	Comment ^[2]
VOCs	Methylene chloride	256	68	0.0082	Yes	NA	Historically, a number of individual VOCs were listed as SRCs and NDEP identified "VOCs" (as a general category) as possible contaminants at several LOUs. Several of the VOCs are common field/laboratory contaminants, for example, acetone, 2-butanone, methylene chloride, and toluene. These specific VOCs were detected at higher frequencies (but low concentrations) than the other listed VOCs, but the detected levels are not indicative of a source. Other than the common field/laboratory contaminants, detection frequencies and concentrations of the remaining VOCs are very low and are not indicative of a potential source.
	Styrene	256	1	0.00028	No	NA	
	tert Butyl alcohol	249	1	0.0076	No	NA	
	Tetrachloroethene	256	1	0.00068	Yes	NA	
	Toluene	256	53	0.0022	Yes	NA	
	1,2,3-Trichlorobenzene	256	2	0.0013	No	NA	
	1,2,4-Trichlorobenzene	256	6	0.0037	No	NA	
	1,1,1-Trichloroethane	256	1	0.00095	No	NA	
	Trichloroethene	256	2	0.0021	Yes	NA	
	Trichlorofluoromethane	256	5	0.0017	No	NA	
	1,2,4-Trimethylbenzene	256	6	0.0014	No	NA	
	1,3,5-Trimethylbenzene	256	1	0.00050	No	NA	
	Vinyl chloride	256	1	0.00028	No	NA	
	m,p-Xylene	233	7	0.0023	Yes	NA	
o-Xylene	233	3	0.00074	Yes	NA		

Notes:

bgs = below ground surface	OCP = Organochlorine pesticides
ft = feet	OPP = Organophosphorus pesticides
mg/kg = milligram per kilogram	PAH = Polycyclic aromatic hydrocarbons
BaPEq = Benzo(a)pyrene equivalent	PCB = Polychlorinated biphenyl
BCL = Basic comparison level	SRC = site-related chemical
BHC = Hexachlorocyclohexane	SVOC = Semivolatile organic compound
DDD = Dichlorodiphenyldichloroethane	TCDD = Tetrachlorodibenzo-p-dioxin
DDE = Dichlorodiphenyldichloroethylene	TEQ = Toxicity equivalent
DDT = Dichlorodiphenyltrichloroethane	VOC = Volatile organic compound
LOU = Letter of Understanding	* Methodology for equivalent calculations explained in text
NA = not applicable	

Listed analytes are those detected in one or more samples in the Study Area.

[1] From Table 5 of the ENSR (2005) Conceptual Site Model report.

[2] Based on information from: ENSR 2005; ENVIRON 2011; NDEP 2011; and Ramboll Environ 2016.

Sources:

ENSR. 2005. Conceptual Site Model, Kerr-McGee Facility, Henderson, Nevada. February. NDEP requested response to comments during the next monthly meeting October 22.
 ENVIRON. 2011. Phase I Environmental Site Assessment of Tronox LLC, Clark County, Nevada. January.
 Kleinfelder. 1993. Environmental Conditions Assessment, Kerr-McGee Chemical Corporation, Henderson, Nevada Facility. April.
 NDEP. 2011. Action Memorandum: Removal Actions, Nevada Environmental Response Trust Site, Clark County, Nevada. July.
 PES Environmental, Inc., 2016. Conceptual Site Model (revised), Vadose Zone, BHC Cake Pile 3 & Former BHC Haul Route (LOU No. 12), Former Stauffer Chemical Company Facility, Olin Chlor Alkali Products, Henderson, Nevada, February 12.
 Ramboll Environ. 2016. Technical Memorandum, Remedial Investigation Data Evaluation, Nevada Environmental Response Trust Site, Henderson, Nevada, dated May 2.

TABLE 8. Concentration/Toxicity Screen
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Detects		Screening Levels ^[1]	Screening Level Note	No. of Samples > 0.1 x Screening Level	Concentration/ Toxicity Screen Result
						Maximum	Location of Maximum				
Chlorine Oxyanions	Chlorate	mg/kg	254	198	78	20,900	SA106	38,900	--	2	Fail
	Perchlorate	mg/kg	337	321	95	2,620	RSAM5	908	--	61	Fail
Metals	Aluminum	mg/kg	260	260	100	1,220	SA43	1,240,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Antimony	mg/kg	257	77	30	2.4	SA114	519	--	0	Pass
	Arsenic	mg/kg	571	571	100	34	EE-C25-1	7.2	Maximum BRC/TIMET background	--	Fail
	Barium	mg/kg	260	260	100	1,780	SA123	238,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Beryllium	mg/kg	195	195	100	0.71	SA86	2,540	--	0	Pass
	Boron	mg/kg	260	236	91	1,510	SA62	259,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Cadmium	mg/kg	260	139	53	8.9	SA103	1,260	--	0	Pass
	Calcium	mg/kg	195	195	100	62,500	RSAM2	N/A	--	N/A	N/A
	Chromium (total)	mg/kg	262	262	100	102	SA106	1,950,000	Use chromium III as a surrogate, use health-based BCL instead of non-health based upper-limit	0	Pass
	Chromium VI	mg/kg	215	48	22	106	SA106	7.0	--	25	Fail
	Cobalt	mg/kg	310	310	100	284	RSAO8	385	--	9	Fail
	Copper	mg/kg	260	260	100	160	RISB-12	36,700	--	0	Pass
	Iron	mg/kg	260	260	100	24,000	RISB-12	908,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Lead	mg/kg	321	321	100	267	SA92	800	--	--	Pass
	Lithium	mg/kg	7	7	100	14	TSB-GR-02	2,600	--	0	Pass
	Magnesium	mg/kg	309	309	100	71,000	DS-C39B-1	5,200,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Manganese	mg/kg	410	410	100	29,200	CS-C44-1	28,100	--	23	Fail
	Mercury	mg/kg	262	230	88	1.9	M-162D	389	Mercury compounds BCL is used	0	Pass
	Molybdenum	mg/kg	260	194	75	55	RISB-12	6,490	--	0	Pass
	Nickel	mg/kg	260	260	100	164	RSAO8	24,700	--	0	Pass
	Niobium	mg/kg	19	1	5.3	9.2	TSB-GR-02	130	--	0	Pass
	Palladium	mg/kg	25	7	28	0.52	TSB-GJ-03	N/A	--	N/A	N/A
	Phosphorus (total)	mg/kg	187	187	100	1,600	RISB-09	9,630,000	Use phosphoric acid as a surrogate, use health-based BCL instead of non-health based upper-limit, adjust BCL based on molecular weight	0	Pass
	Platinum	mg/kg	195	143	73	0.16	SA64	649	--	0	Pass
	Potassium	mg/kg	195	195	100	6,120	SA141	N/A	--	N/A	N/A
	Selenium	mg/kg	260	16	6.2	1.5	RSAJ3	6,490	--	0	Pass
	Silicon	mg/kg	25	25	100	250	RISB-10	N/A	--	N/A	N/A
	Silver	mg/kg	260	49	19	7.6	SA201	6,490	--	0	Pass
Sodium	mg/kg	195	195	100	11,700	SA106	N/A	--	N/A	N/A	
Strontium	mg/kg	213	213	100	805	SA15	779,000	Use health-based BCL instead of non-health based upper-limit	0	Pass	
Sulfur	mg/kg	25	16	64	14,000	RISB-14	N/A	--	N/A	N/A	
Thallium	mg/kg	260	176	68	8.4	SA180	13	--	1	Fail	
Tin	mg/kg	195	184	94	12	RSAK8	779,000	Use health-based BCL instead of non-health based upper-limit	0	Pass	
Titanium	mg/kg	195	195	100	1,270	SA166	5,190,000	Use health-based BCL instead of non-health based upper-limit	0	Pass	
Tungsten	mg/kg	213	173	81	8.5	RSAK8	1,040	--	0	Pass	
Uranium (total)	mg/kg	213	213	100	3.6	SA86	3,830	--	0	Pass	

TABLE 8. Concentration/Toxicity Screen
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Detects		Screening Levels ^[1]	Screening Level Note	No. of Samples > 0.1 x Screening Level	Concentration/ Toxicity Screen Result
						Maximum	Location of Maximum				
Metals	Vanadium	mg/kg	195	195	100	78	RSAK8	6,420	--	0	Pass
	Zinc	mg/kg	260	260	100	300	RISB-37	389,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Zirconium	mg/kg	25	25	100	31	RISB-14	104	--	25	Fail
Other Inorganics	Ammonia	mg/kg	199	36	18	563	RSAM5	6,140	--	0	Pass
	Bromide	mg/kg	209	24	11	83	SA15	441,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Chloride	mg/kg	206	196	95	6,670	RSAJ2	113000	Use health-based BCL instead of non-health based upper-limit (consider chloride as non-volatile)	0	Pass
	Cyanide (total)	mg/kg	132	2	1.5	1.3	RSAJ2	179	Conservatively use BCL for CN-	0	Pass
	Fluoride	mg/kg	7	1	14	0.52	TSB-GR-02	51,900	--	0	Pass
	Nitrate	mg/kg	210	187	89	515	SA15	2,080,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Nitrate/Nitrite	mg/kg	18	17	94	37	RISB-10	130,000	Minimum BCL of nitrate and nitrite, use health-based BCL instead of non-health based upper-limit	0	Pass
	Nitrite	mg/kg	202	40	20	77	SA64	130,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	ortho-Phosphate	mg/kg	48	6	13	2,900	SA11	30,400,000	Use phosphoric acid as a surrogate, use health-based BCL instead of non-health based upper-limit	0	Pass
	Sulfate	mg/kg	210	208	99	15,300	SA65	N/A	--	N/A	N/A
Radionuclides	Radium-226	pCi/g	208	208	100	2.5	SA92	0.023	--	208	Fail
	Radium-228	pCi/g	208	208	100	3.3	SA70	0.041	--	207	Fail
	Thorium-228	pCi/g	205	205	100	3.0	SA65	0.025	--	205	Fail
	Thorium-230	pCi/g	205	205	100	4.3	SA74	8.4	--	187	Fail
	Thorium-232	pCi/g	205	205	100	2.5	SA189	7.4	--	202	Fail
	Uranium-234	pCi/g	187	187	100	3.4	SA128	11	--	69	Fail
	Uranium-235	pCi/g	187	187	100	0.25	RSAK6	0.35	--	149	Fail
	Uranium-238	pCi/g	205	205	100	3.3	SA128	1.4	--	205	Fail
Dioxin/Furans	2,3,7,8-TCDD TEQ*	mg/kg	466	463	99	0.019	RISB-50	0.0027	Site-specific action level	--	Fail
PAHs	Acenaphthene	mg/kg	474	7	1.5	0.70	EE-C25-1	118	--	0	Pass
	Acenaphthylene	mg/kg	474	6	1.3	0.22	EE-C25-1	118	Use acenaphthene as a surrogate	0	Pass
	Anthracene	mg/kg	474	14	3.0	0.30	EE-C25-1	4.3	--	0	Pass
	BaPEq*	mg/kg	474	83	18	0.40	SSAM5-03	0.32	--	25	Fail
	Benzo(g,h,i)perylene	mg/kg	473	53	11	0.38	SSAO6-04	25,300	--	0	Pass
	Fluoranthene	mg/kg	474	68	14	0.35	SA180	33,700	--	0	Pass
	Fluorene	mg/kg	474	3	0.60	1.1	EE-C25-1	93	--	0	Pass
	1-Methylnaphthalene	mg/kg	26	4	15	5.6	EE-C25-1	81	--	0	Pass
	2-Methylnaphthalene	mg/kg	474	10	2.1	7.9	EE-C25-1	368	--	0	Pass
	Naphthalene	mg/kg	536	23	4.3	3.1	EE-C25-1	18	--	2	Fail
	Phenanthrene	mg/kg	474	64	14	1.5	EE-C25-1	25	--	0	Pass
Pyrene	mg/kg	474	90	19	1.3	EE-C25-1	44	--	0	Pass	
PCBs	Aroclor-1248	mg/kg	48	1	2.1	0.091	RSAS5	1.1	--	0	Pass
	Aroclor-1260	mg/kg	66	2	3.0	0.061	RISB-12	1.1	--	0	Pass
Pesticides - OCPs	Aldrin	mg/kg	281	2	0.70	0.00052	SSAL2-05	0.21	--	0	Pass
	alpha-BHC	mg/kg	281	15	5.3	0.012	RSAQ4	0.49	--	0	Pass

TABLE 8. Concentration/Toxicity Screen
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Detects		Screening Levels ^[1]	Screening Level Note	No. of Samples > 0.1 x Screening Level	Concentration/ Toxicity Screen Result
						Maximum	Location of Maximum				
Pesticides - OCPs	beta-BHC	mg/kg	281	161	57	0.87	SA67	1.7	--	11	Fail
	delta-BHC	mg/kg	281	7	2.5	0.0015	SA86	334	--	0	Pass
	gamma-BHC	mg/kg	281	3	1.1	0.0019	RSAQ4	2.8	--	0	Pass
	gamma-Chlordane	mg/kg	279	1	0.40	0.0014	RSAO7	7.3	Use chlordane as a surrogate	0	Pass
	Chlordane (total)	mg/kg	247	1	0.40	0.0030	SA66	7.3	--	0	Pass
	4,4'-DDD	mg/kg	280	10	3.6	0.032	SSAL3-04	15	--	0	Pass
	2,4'-DDE	mg/kg	32	9	28	0.088	RISB-52	9.5	Use 4,4'-DDE as a surrogate	0	Pass
	4,4'-DDE	mg/kg	281	153	54	6.0	SSAM3-01	9.5	--	10	Fail
	4,4'-DDT	mg/kg	281	122	43	2.3	SSAM2-01	7.5	--	6	Fail
	Dieldrin	mg/kg	281	4	1.4	0.059	SSAM2-01	0.16	--	2	Fail
	Endosulfan I	mg/kg	281	2	0.70	0.0015	SSAL3-01	5,500	Use endosulfan as a surrogate	0	Pass
	Endosulfan sulfate	mg/kg	281	2	0.70	0.016	BDT-4-S-15	5,500	Use endosulfan as a surrogate	0	Pass
	Endrin	mg/kg	281	2	0.70	0.0054	SA180	30	--	0	Pass
	Endrin ketone	mg/kg	281	10	3.6	0.020	SA86	30	Use endrin as a surrogate	0	Pass
	Hexachlorobenzene	mg/kg	674	385	57	4.7	SSAK3-05	0.23	--	256	Fail
	Methoxychlor	mg/kg	281	16	5.7	0.38	SSAM2-01	4,580	--	0	Pass
Toxaphene	mg/kg	281	1	0.40	0.62	SSAL3-04	2.3	--	1	Fail	
Pesticides - OPPs	Dimethoate	mg/kg	57	3	5.3	0.013	SA05	183	--	0	Pass
	Stirophos	mg/kg	57	1	1.8	0.041	SA166	107	--	0	Pass
SVOCs	bis(2-Ethylhexyl)phthalate	mg/kg	469	97	21	61	SSAP4-01	183	--	1	Fail
	Butylbenzylphthalate	mg/kg	469	7	1.5	0.053	RSAL2	1,350	--	0	Pass
	Diethylphthalate	mg/kg	469	5	1.1	0.35	SA86	733,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Dimethylphthalate	mg/kg	469	54	12	0.079	BDT-1-S-10	9,160,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Di-n-butylphthalate	mg/kg	469	33	7.0	7.5	SSAP4-01	91,600	--	0	Pass
	Di-n-octylphthalate	mg/kg	469	2	0.40	0.088	SSAO4-01	9,160	--	0	Pass
	Hexachlorobutadiene	mg/kg	256	5	2.0	0.0045	SA11	6.1	--	0	Pass
	Octachlorostyrene	mg/kg	467	78	17	2.1	SSAK3-05	N/A	--	N/A	N/A
VOCs	Acetone	mg/kg	256	102	40	0.15	SA106	1,040,000	Use health-based BCL instead of non-health based upper-limit	0	Pass
	Bromodichloromethane	mg/kg	256	2	0.80	0.00069	SSAO8-10	1.4	--	0	Pass
	Bromoform	mg/kg	256	1	0.40	0.0017	SA102	104	--	0	Pass
	2-Butanone	mg/kg	256	75	29	0.027	SSAO7-06	28,400	--	0	Pass
	tert-Butyl alcohol	mg/kg	249	1	0.40	0.0076	RSAM4	21,300	--	0	Pass
	Carbon tetrachloride	mg/kg	256	1	0.40	0.00063	RSAN3	3.2	--	0	Pass
	Chlorobenzene	mg/kg	256	6	2.3	0.0019	SA15	18,300	--	0	Pass
	Chloroform	mg/kg	256	85	33	0.15	SA11	1.5	--	0	Pass
	p-Cymene	mg/kg	256	1	0.40	0.00055	SSAN8-04	647	--	0	Pass
	1,2-Dichlorobenzene	mg/kg	256	5	2.0	0.00039	RSAM4	376	--	0	Pass
	1,4-Dichlorobenzene	mg/kg	256	4	1.6	0.016	SA08	475	--	0	Pass
	1,1-Dichloroethane	mg/kg	256	1	0.40	0.0030	SA08	17	--	0	Pass

TABLE 8. Concentration/Toxicity Screen
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Detects		Screening Levels ^[1]	Screening Level Note	No. of Samples > 0.1 x Screening Level	Concentration/ Toxicity Screen Result
						Maximum	Location of Maximum				
VOCs	1,1-Dichloroethene	mg/kg	256	4	1.6	0.0012	SSAN8-04	1,100	--	0	Pass
	cis-1,2-Dichloroethene	mg/kg	256	1	0.40	0.0041	RISB-57	2,360	--	0	Pass
	Ethyl tert-butyl ether	mg/kg	249	1	0.40	0.00038	RSAO2	70,900	Use methyl tert-butyl ether as a surrogate (noncancer endpoint)	0	Pass
	Methylene Chloride	mg/kg	256	68	27	0.082	RSAM8	1,550	--	0	Pass
	Styrene	mg/kg	256	1	0.40	0.00028	SA55	867	--	0	Pass
	Tetrachloroethene	mg/kg	256	1	0.40	0.00068	SA128	117	--	0	Pass
	Toluene	mg/kg	256	53	21	0.0022	RSAM3	817	--	0	Pass
	1,2,3-Trichlorobenzene	mg/kg	256	2	0.80	0.0013	SA11	151	--	0	Pass
	1,2,4-Trichlorobenzene	mg/kg	256	6	2.3	0.0037	SA11	125	--	0	Pass
	1,1,1-Trichloroethane	mg/kg	256	1	0.40	0.00095	SA08	638	--	0	Pass
	Trichloroethene	mg/kg	256	2	0.80	0.0021	RISB-57	6.9	--	0	Pass
	Trichlorofluoromethane	mg/kg	256	5	2.0	0.0017	SA136	1,210	--	0	Pass
	1,2,4-Trimethylbenzene	mg/kg	256	6	2.3	0.0014	SSAO8-11	218	--	0	Pass
	1,3,5-Trimethylbenzene	mg/kg	256	1	0.40	0.00050	SSAO8-11	182	--	0	Pass
	Vinyl chloride	mg/kg	256	1	0.40	0.00028	RSAM7	2.2	--	0	Pass
	m,p-Xylene	mg/kg	233	7	3.0	0.0023	RISB-54	387	Minimum BCL of m-xylene and p-xylene	0	Pass
o-Xylene	mg/kg	233	3	1.3	0.00074	RISB-54	434	--	0	Pass	

Notes:

-- = Not applicable

mg/kg = milligram per kilogram

pCi/g = picocurie per gram

BaPEq = Benzo(a)pyrene equivalent

BCL = Basic Comparison Level

BHC = Hexachlorocyclohexane

COPC = Chemical of Potential Concern

DDD = Dichlorodiphenyldichloroethane

DDE = Dichlorodiphenyldichloroethylene

DDT = Dichlorodiphenyltrichloroethane

N/A = BCL (other screening value) not available for screen

NDEP = Nevada Department of Environmental Protection

OCP = Organochlorine pesticide

OPP = Organophosphorus pesticide

PAH = Polycyclic aromatic hydrocarbon

PCB = Polychlorinated biphenyl

SVOC = Semivolatile organic compound

TCDD = Tetrachlorodibenzo-p-dioxin

TEQ = Toxicity equivalent

VOC = Volatile organic compound

* Methodology for equivalent calculations explained in text

[1] Screening levels are the lowest level among the indoor worker and outdoor worker BCLs (NDEP 2017), unless noted.

indicates analyte is carried forward to COPC identification Step 2. For arsenic, lead, and 2,3,7,8-TCDD TEQ, the maximum detected concentration is compared directly to the screening level. For all other analytes, the maximum detected concentration is compared to 0.1 x screening level. If the maximum detected concentration is greater than or equal to the 0.1 x screening level, the analyte "fails" and is carried forward to Step 2. If less than the 0.1 x screening level, the analyte "passes" and is eliminated as a COPC. By default, analytes for which screening levels are not available are retained for Step 2 (metals) and Step 3 (organics).

Source:

NDEP. 2017. User's Guide and Background Technical Document for NDEP Basic Comparison Levels (BCLs) for Human Health for the BMI Complex and Common Areas. Revision 14, July.

**TABLE 9. Results of the Background Evaluation for Metals Carried Forward from the Concentration/Toxicity Screen
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chemical Name	Study Area Concentrations Greater than Background Levels?^[1]
Arsenic	Yes
Calcium	No
Chromium VI ^[2]	LDF
Cobalt	Yes
Manganese	Yes
Palladium	NA
Potassium	No
Silicon	NA
Sodium	Yes
Sulfur	NA
Thallium	Yes
Zirconium	NA

Notes:

LDF = Low detection frequency (<25%) in either Study Area or background data sets. Background comparison results may not be applicable.

NA = Background data are not available

element is present at concentrations greater than background or background data are not available.

[1] Based on background evaluation presented in Appendix F.

[2] For chromium VI, although background comparison results may not be applicable due to low detection frequency in both Study Area and RZ-A background data sets, concentrations in the Study Area are greater than background based on the box plot (Figure F1-9) and Q-Q plot (Figure F2-9).

**TABLE 10. Results of the Background Evaluation for Radionuclides Carried from the Concentration/Toxicity Screen
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chain	Secular Equilibrium?	Radionuclide	Study Area Concentrations Greater than Background Levels? ^{[1],[2]}	Hydrofluoric Acid Digestion?
Uranium-238	Yes	Uranium-238	No	Yes
		Uranium-234	No	
		Thorium-230	No	
		Radium-226	No	
Thorium-232	Yes	Thorium-232	No	Yes
		Radium-228	No	
		Thorium-228	No	
Uranium-235	Not Evaluated	Uranium-235	No	Yes

Notes:

_____ radionuclide is present at concentrations greater than background.

[1] Based on background analysis presented in Appendix F.

[2] The validity of statistical testing for radionuclide background evaluation is confounded by sample preparation and analytical method issues in both Study Area and RZ-A background data sets. For a full discussion of these limitations, see Section 4.2 of the report.

**TABLE 11. Preliminary COPCs Identified for Study Area Soils (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chemical Group	COPC
Chlorine Oxyanions	Chlorate
	Perchlorate
Metals	Arsenic
	Chromium VI
	Cobalt
	Manganese
	Palladium ^{[1],[2]}
	Thallium
	Zirconium ^[2]
Radionuclides	Thorium-232 Series ^[3]
	Uranium-238 Series ^[3]
	Uranium-235 ^[3]
Dioxin/Furans	2,3,7,8-TCDD TEQ*
PAHs	BaPEq*
	Naphthalene
Pesticides - OCPs	beta-BHC
	4,4'-DDE
	4,4'-DDT
	Dieldrin
	Hexachlorobenzene
	Toxaphene
SVOCs	Bis(2-Ethylhexyl)phthalate
	Octachlorostyrene ^[1]
Asbestos	Long amphibole fibers
	Long chrysotile fibers

Notes:

bgs = below ground surface

ft = feet

BaPEq = Benzo(a)pyrene equivalent

BCL = Basic Comparison Level

BHC = Hexachlorocyclohexane

COPC = Chemical of Potential Concern

DDE = Dichlorodipenyldichloroethylene

DDT = Dichlorodiphenyltrichloroethane

OCP = Organochlorine pesticide

PAH = Polycyclic aromatic hydrocarbon

SVOC = Semivolatile organic compound

TCDD = Tetrachlorodibenzo-p-dioxin

TEQ = Toxicity equivalent

[1] Retained as a COPC in the absence of a BCL or other screening level. This COPC will be discussed qualitatively in the uncertainties assessment.

[2] RZ-A background data are not available for this chemical, and therefore a background evaluation cannot be conducted

[3] Although statistical testing results indicate all decay products in the thorium-232 and uranium-238 decay series and uranium-235 are consistent with background, the radionuclides are retained for further evaluation for each individual decision unit.

TABLE 12. Cancer Risks for Radionuclides in Background Soils

Nevada Environmental Response Trust Site

Henderson, Nevada

Chain	Radionuclide	Commercial/Industrial BCL (pCi/g)	RZ-A Background		BRC/TIMET Background	
			95% UCL (pCi/g)	Cancer Risk	95% UCL (pCi/g)	Cancer Risk
Uranium-238	Uranium-238	1.4	1.1	7.8E-07	1.1	8.2E-07
	Uranium-234	11	1.2	1.0E-07	1.2	1.1E-07
	Thorium-230	8.4	1.2	1.4E-07	1.3	1.6E-07
	Radium-226	0.023	1.1	4.6E-05	1.2	5.1E-05
Thorium-232	Thorium-232	7.4	1.6	2.1E-07	1.7	2.2E-07
	Radium-228	0.041	1.4	3.5E-05	2.0	4.9E-05
	Thorium-228	0.025	1.8	7.3E-05	1.7	6.9E-05
Uranium-235	Uranium-235	0.35	0.065	1.9E-07	0.072	2.1E-07
Total Cancer Risk			--	2E-04	--	2E-04

Notes:

-- = Not applicable

pCi/g = picocurie per gram

BCL = Basic Comparison Level

UCL = Upper Confidence Limit

TABLE 13. Evaluation of Sample Quantitation Limits for Individual Decision Units
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
								Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
DU-1	PAHs	Anthracene	4.3	mg/kg	367	12	3.3	0.00072	1.8	0	1	--
		BaPEq*	0.32	mg/kg	367	55	15	0.00090	2.4	10	18	--
		1-Methylnaphthalene	81	mg/kg	26	4	15	0.00026	8.3	0	1	--
		Naphthalene	18	mg/kg	421	22	5.2	0.00032	3.3	0	1	--
	PCBs	Aroclor-1221	1.1	mg/kg	25	0	0	0.034	0.74	0	1	--
		Aroclor-1232	1.1	mg/kg	25	0	0	0.034	0.37	0	1	--
		Aroclor-1242	1.1	mg/kg	25	0	0	0.034	0.37	0	1	--
		Aroclor-1248	1.1	mg/kg	25	0	0	0.034	0.37	0	1	--
		Aroclor-1254	1.1	mg/kg	25	0	0	0.034	0.37	0	1	--
		Aroclor-1260	1.1	mg/kg	43	1	2.3	0.017	0.37	0	1	--
	Pesticides-OCPs	Aldrin	0.21	mg/kg	236	2	0.85	0.00024	0.092	0	8	--
		alpha-BHC	0.49	mg/kg	236	10	4.2	0.00021	0.092	0	2	--
		Dieldrin	0.16	mg/kg	236	4	1.7	0.00020	0.18	2	26	--
		Heptachlor	0.81	mg/kg	235	0	0	0.00021	0.092	0	2	--
		Heptachlor epoxide	0.40	mg/kg	235	0	0	0.00041	0.098	0	7	--
		Hexachlorobenzene	0.23	mg/kg	555	319	57	0.00028	10	12	135	--
		Toxaphene	2.3	mg/kg	236	1	0.42	0.015	3.6	2	38	--
	Pesticides-OPPs	Dibrom	1.3	mg/kg	41	0	0	0.022	0.29	0	1	--
	SVOCs	Benzidine	0.011	mg/kg	14	0	0	0.67	37	14	14	--
		Bis(2-Chloroethyl) ether	1.3	mg/kg	18	0	0	0.070	3.9	1	1	--
		4-Chloroaniline	18	mg/kg	18	0	0	0.13	7.4	0	1	--
		3,3'-Dichlorobenzidine	5.7	mg/kg	18	0	0	0.15	8.3	1	1	--
		2,4-Dinitrotoluene	8.3	mg/kg	18	0	0	0.080	4.5	0	1	--
2,6-Dinitrotoluene		2.4	mg/kg	18	0	0	0.095	5.3	1	1	--	
1,4-Dioxane		36	mg/kg	342	0	0	0.0052	7.1	0	1	--	
Hexachlorocyclopentadiene		8.2	mg/kg	18	0	0	0.13	7.4	0	1	--	
Hexachloroethane		9.3	mg/kg	18	0	0	0.13	7.4	0	1	--	
Nitrobenzene		25	mg/kg	362	0	0	0.0019	3.9	0	1	--	
n-Nitroso-di-n-propylamine		0.37	mg/kg	18	0	0	0.070	3.9	1	18	--	
Pentachlorophenol		4.5	mg/kg	18	0	0	0.34	19	1	1	--	
VOCs	1,2-Dibromo-3-chloropropane	0.071	mg/kg	191	0	0	0.00030	0.010	0	4	--	
DU-2	Dioxin/Furans	2,3,7,8-TCDD TEQ*	0.0027	mg/kg	33	31	94	0.000046	0.0037	1	--	Site-specific action level
	PAHs	BaPEq*	0.32	mg/kg	45	18	40	0.0081	0.040	0	6	--
	Pesticides-OCPs	Dieldrin	0.16	mg/kg	34	0	0	0.000073	0.035	0	3	--
		Hexachlorobenzene	0.23	mg/kg	50	18	36	0.00030	0.035	0	16	--
	Toxaphene	2.3	mg/kg	34	0	0	0.0071	0.53	0	3	--	

TABLE 13. Evaluation of Sample Quantitation Limits for Individual Decision Units
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Chemical Group	Analyte	Screening Levels ^[1]	Unit	No. of Samples	No. of Detects	% Detects	Nondetects				Screening Level Note
								Minimum SQL	Maximum SQL	No. of Samples Above Screen	No. of Samples Above 10% Screen	
DU-3	PAHs	BaPEq*	0.32	mg/kg	62	10	16	0.0082	0.45	5	6	--
	Pesticides-OCPs	Dieldrin	0.16	mg/kg	11	0	0	0.0013	0.020	0	1	--
		Hexachlorobenzene	0.23	mg/kg	69	48	70	0.0018	0.39	4	17	--
		Toxaphene	2.3	mg/kg	11	0	0	0.035	0.59	0	1	--
	VOCs	1,2-Dibromo-3-chloropropane	0.071	mg/kg	25	0	0	0.0037	0.0091	0	1	--

Notes:

-- = Not applicable
mg/kg = milligram per kilogram
BaPEq = Benzo(a)pyrene equivalent
BCL = Basic Comparison Level
BHC = Hexachlorocyclohexane
DU = Decision unit
NDEP = Nevada Department of Environmental Protection
OCP = Organochlorine pesticide
OPP = Organophosphorus pesticide

PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
SQL = Sample Quantitation Limit
SVOC = Semivolatile organic compound
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = Toxicity equivalent
VOC = Volatile organic compound

* Methodology for equivalent calculations explained in text
[1] Screening levels are the lowest level among the indoor worker and outdoor worker BCLs (NDEP 2017), unless noted.

Source:
NDEP. 2017. User's Guide and Background Technical Document for NDEP Basic Comparison Levels (BCLs) for Human Health for the BMI Complex and Common Areas. Revision 14, July.

TABLE 14. Summary Statistics and Concentration/Toxicity Screen for Individual Decision Units
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						Screening Levels ⁽¹⁾	Screening Level Note	No. of Samples > 0.1 x Screening Level	Concentration/ Toxicity Screen Result	
							Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation					Location of Maximum
DU-1	Chlorine Oxyanions	Chlorate	mg/kg	194	152	78	0.044	5.4	0.045	20,900	2.5	245	1,830	7.5	SA106	38,900	--	2	Fail
		Perchlorate	mg/kg	254	239	94	0.035	0.43	0.012	1,500	8.8	67	206	3.1	SSAM6-02	908	--	38	Fail
	Metals	Arsenic	mg/kg	457	457	100	--	--	0.58	34	3.2	3.6	2.3	0.62	EE-C25-1	7.2	Maximum BRC/TIMET background	--	Fail
		Chromium VI	mg/kg	154	34	22	0.11	0.49	0.13	106	1.3	7.9	21	2.7	SA106	7.0	--	22	Fail
		Cobalt	mg/kg	249	249	100	--	--	4.6	284	7.8	14	32	2.3	RSAO8	385	--	9	Fail
		Manganese	mg/kg	347	347	100	--	--	133	29,200	407	1,070	2,400	2.2	CS-C44-1	28,100	--	23	Fail
		Palladium	mg/kg	18	0	0	0.048	0.060	--	--	--	--	--	--	--	N/A	--	N/A	Pass
		Thallium	mg/kg	199	133	67	0.21	0.28	0.060	8.4	0.10	0.22	0.73	3.3	SA180	13	--	1	Fail
		Zirconium	mg/kg	18	18	100	--	--	15	31	22	22	4.6	0.21	RISB-14	104	--	18	Fail
	Radionuclides	Radium-226	pCi/g	147	147	100	--	--	0.20	2.5	0.91	0.93	0.36	0.39	SA92	0.023	--	147	Fail
		Radium-228	pCi/g	147	147	100	--	--	0	3.3	1.2	1.2	0.50	0.41	SA70	0.041	--	146	Fail
		Thorium-228	pCi/g	147	147	100	--	--	0.48	2.8	1.8	1.8	0.36	0.20	SA82	0.025	--	147	Fail
		Thorium-230	pCi/g	147	147	100	--	--	0.43	4.3	1.1	1.2	0.38	0.32	SA74	8.4	--	135	Fail
		Thorium-232	pCi/g	147	147	100	--	--	0.66	2.5	1.6	1.6	0.32	0.20	SA189	7.4	--	145	Fail
		Uranium-234	pCi/g	129	129	100	--	--	0.27	2.8	0.98	1.1	0.37	0.35	SA74	11	--	42	Fail
		Uranium-235	pCi/g	129	129	100	--	--	-0.026	0.25	0.052	0.061	0.041	0.67	RSAB6	0.35	--	107	Fail
		Uranium-238	pCi/g	147	147	100	--	--	0.24	2.4	0.95	1.0	0.31	0.31	SA74	1.4	--	147	Fail
	Dioxin/Furans	2,3,7,8-TCDD TEQ*	mg/kg	395	394	99.8	0.000044	0.000044	0.00000074	0.019	0.000017	0.00033	0.0012	3.8	RISB-50	0.0027	Site-specific action level	--	Fail
	PAHs	BaPEq*	mg/kg	367	55	15	0.00090	2.4	0.0069	0.29	0.015	0.039	0.059	1.5	EE-C25-1	0.32	--	14	Fail
		Naphthalene	mg/kg	421	22	5.2	0.00032	3.3	0.0010	3.1	0.0014	0.25	0.77	3.1	EE-C25-1	18	--	2	Fail
	Pesticides - OCPs	beta-BHC	mg/kg	236	139	59	0.00064	0.15	0.00072	0.87	0.010	0.044	0.10	2.4	SA67	1.7	--	9	Fail
		4,4'-DDE	mg/kg	236	133	56	0.00024	0.18	0.00040	6.0	0.015	0.29	0.88	3.0	SSAM3-01	9.5	--	10	Fail
		4,4'-DDT	mg/kg	236	104	44	0.00058	0.18	0.00066	2.3	0.013	0.11	0.29	2.7	SSAM2-01	7.5	--	6	Fail
		Dieldrin	mg/kg	236	4	1.7	0.00020	0.18	0.00027	0.059	0.016	0.023	0.028	1.2	SSAM2-01	0.16	--	2	Fail
		Hexachlorobenzene	mg/kg	555	319	57	0.00028	10	0.00032	4.7	0.048	0.19	0.40	2.1	SSAK3-05	0.23	--	208	Fail
Toxaphene		mg/kg	236	1	0.42	0.015	3.6	0.62	0.62	0.62	0.62	--	--	SSAL3-04	2.3	--	1	Fail	
SVOCs	bis(2-Ethylhexyl)phthalate	mg/kg	362	80	22	0.044	5.0	0.058	0.82	0.097	0.15	0.14	0.94	SSAO4-01	183	--	0	Pass	
	Octachlorostyrene	mg/kg	360	61	17	0.0037	130	0.0021	2.1	0.067	0.11	0.27	2.4	SSAK3-05	N/A	--	N/A	N/A	
DU-2	Chlorine Oxyanions	Chlorate	mg/kg	36	29	81	0.22	5.8	0.072	1,510	5.8	100	354	3.4	SA156	38,900	--	0	Pass
		Perchlorate	mg/kg	40	40	100	--	--	0.032	34	1.7	6.0	8.9	1.5	SA07	908	--	0	Pass
	Metals	Arsenic	mg/kg	48	48	100	--	--	1.2	6.3	2.8	2.9	0.89	0.31	SA156	7.2	Maximum BRC/TIMET background	--	Pass
		Chromium VI	mg/kg	36	6	17	0.11	0.43	0.11	2.4	0.39	0.83	0.95	1.1	SA05	7.0	--	2	Fail
		Cobalt	mg/kg	36	36	100	--	--	5.4	8.8	7.1	7.1	0.95	0.13	SA05	385	--	0	Pass
		Manganese	mg/kg	36	36	100	--	--	249	1,290	368	395	168	0.43	SA07	28,100	--	0	Pass
		Palladium	mg/kg	7	7	100	--	--	0.33	0.52	0.44	0.43	0.072	0.17	TSB-GJ-03	N/A	--	N/A	N/A
		Thallium	mg/kg	36	22	61	0.10	0.26	0.074	0.15	0.10	0.11	0.025	0.23	SA103	13	--	0	Pass
		Zirconium	mg/kg	7	7	100	--	--	21	25	22	22	1.5	0.067	TSB-GR-02	104	--	7	Fail
	Radionuclides	Radium-226	pCi/g	36	36	100	--	--	0.46	1.3	0.89	0.86	0.23	0.27	SA06	0.023	--	36	Fail
		Radium-228	pCi/g	36	36	100	--	--	0.32	2.4	1.5	1.5	0.49	0.33	SA31	0.041	--	36	Fail
		Thorium-228	pCi/g	36	36	100	--	--	1.2	2.2	1.6	1.6	0.23	0.14	TSB-GJ-04	0.025	--	36	Fail
		Thorium-230	pCi/g	36	36	100	--	--	0.74	2.0	1.1	1.1	0.22	0.20	TSB-GJ-04	8.4	--	32	Fail
		Thorium-232	pCi/g	36	36	100	--	--	1.1	2.3	1.4	1.5	0.32	0.21	SA03	7.4	--	36	Fail
		Uranium-234	pCi/g	36	36	100	--	--	0.77	1.9	1.0	1.1	0.27	0.24	SA122	11	--	14	Fail
		Uranium-235	pCi/g	36	36	100	--	--	-0.029	0.21	0.047	0.056	0.048	0.86	SA03	0.35	--	26	Fail
		Uranium-238	pCi/g	36	36	100	--	--	0.34	1.7	0.96	1.0	0.25	0.24	SA03	1.4	--	36	Fail
	Dioxin/Furans	2,3,7,8-TCDD TEQ*	mg/kg	33	31	94	0.000046	0.0037	0.00000055	0.0016	0.000052	0.00012	0.00031	2.7	TSB-GR-02	0.0027	Site-specific action level	--	Pass
	PAHs	BaPEq*	mg/kg	45	18	40	0.0081	0.040	0.0073	0.34	0.012	0.048	0.081	1.7	SSAP4-01	0.32	--	6	Fail
		Naphthalene	mg/kg	51	0	0	0.00087	0.037	--	--	--	--	--	--	--	18	--	--	Pass
	Pesticides - OCPs	beta-BHC	mg/kg	34	13	38	0.00035	0.018	0.0013	0.29	0.018	0.070	0.096	1.4	RSAQ4	1.7	--	2	Fail
		4,4'-DDE	mg/kg	34	14	41	0.00025	0.035	0.00089	0.91	0.0050	0.080	0.24	3.0	TSB-GJ-04	9.5	--	0	Pass
		4,4'-DDT	mg/kg	34	12	35	0.00043	0.035	0.0020	0.61	0.012	0.069	0.17	2.5	TSB-GJ-04	7.5	--	0	Pass
		Dieldrin	mg/kg	34	0	0	0.000073	0.035	--	--	--	--	--	--	--	0.16	--	--	Pass

TABLE 14. Summary Statistics and Concentration/Toxicity Screen for Individual Decision Units
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						Screening Levels ⁽¹⁾	Screening Level Note	No. of Samples > 0.1 x Screening Level	Concentration/ Toxicity Screen Result	
							Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation					Location of Maximum
DU-2	Pesticides - OCPs	Hexachlorobenzene	mg/kg	50	18	36	0.00030	0.035	0.00048	0.52	0.0090	0.066	0.15	2.3	SSAQ3-01	0.23	--	5	Fail
		Toxaphene	mg/kg	34	0	0	0.0071	0.53	--	--	--	--	--	--	--	2.3	--	--	Pass
	SVOCs	bis(2-Ethylhexyl)phthalate	mg/kg	45	5	11	0.033	0.91	0.089	61	0.096	12	27	2.2	SSAP4-01	183	--	1	Fail
		Octachlorostyrene	mg/kg	45	2	4.4	0.0069	0.43	0.15	0.21	0.18	0.18	0.042	0.24	SSAQ3-01	N/A	--	N/A	N/A
DU-3	Chlorine Oxyanions	Chlorate	mg/kg	24	17	71	0.22	5.6	0.086	107	2.3	10	25	2.5	SA175	38,900	--	0	Pass
		Perchlorate	mg/kg	43	42	98	0.054	0.054	0.071	2,620	121	385	551	1.4	RSAM5	908	--	23	Fail
	Metals	Arsenic	mg/kg	66	66	100	--	--	1.7	11	4.5	4.9	1.8	0.36	SA15	7.2	Maximum BRC/TIMET background	--	Fail
		Chromium VI	mg/kg	25	8	32	0.11	0.44	0.12	1.3	0.53	0.54	0.36	0.67	SA64	7.0	--	1	Fail
		Cobalt	mg/kg	25	25	100	--	--	3.2	8.4	6.7	6.4	1.4	0.22	SA104	385	--	0	Pass
		Manganese	mg/kg	27	27	100	--	--	151	1,500	302	347	251	0.72	SA165	28,100	--	0	Pass
		Palladium	mg/kg	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	N/A	--	NS	NS
		Thallium	mg/kg	25	21	84	0.22	0.24	0.054	0.18	0.095	0.097	0.028	0.29	SA60	13	--	0	Pass
		Zirconium	mg/kg	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	104	--	NS
	Radionuclides	Radium-226	pCi/g	25	25	100	--	--	0.45	2.0	1.2	1.2	0.43	0.36	SA64	0.023	--	25	Fail
		Radium-228	pCi/g	25	25	100	--	--	0.45	1.9	1.2	1.2	0.44	0.36	SA16	0.041	--	25	Fail
		Thorium-228	pCi/g	22	22	100	--	--	0.78	3.0	1.6	1.7	0.47	0.28	SA65	0.025	--	22	Fail
		Thorium-230	pCi/g	22	22	100	--	--	0.53	3.3	1.2	1.6	0.77	0.47	SA128	8.4	--	20	Fail
		Thorium-232	pCi/g	22	22	100	--	--	0.54	2.4	1.6	1.5	0.42	0.28	SA65	7.4	--	21	Fail
		Uranium-234	pCi/g	22	22	100	--	--	0.37	3.4	1.3	1.4	0.80	0.56	SA128	11	--	13	Fail
		Uranium-235	pCi/g	22	22	100	--	--	0.0047	0.17	0.075	0.076	0.047	0.62	SA128	0.35	--	16	Fail
	Uranium-238	pCi/g	22	22	100	--	--	0.38	3.3	1.1	1.3	0.75	0.57	SA128	1.4	--	22	Fail	
	Dioxin/Furans	2,3,7,8-TCDD TEQ*	mg/kg	38	38	100	--	--	0.00000021	0.0021	0.000092	0.00021	0.00041	2.0	SA175	0.0027	Site-specific action level	--	Pass
	PAHs	BaPEq*	mg/kg	62	10	16	0.0082	0.45	0.0078	0.40	0.032	0.091	0.12	1.3	SSAM5-03	0.32	--	5	Fail
		Naphthalene	mg/kg	64	1	1.6	0.0055	0.39	0.0011	0.0011	0.0011	0.0011	--	--	SA128	18	--	0	Pass
	Pesticides - OCPs	beta-BHC	mg/kg	11	9	82	0.0019	0.0068	0.0018	0.052	0.014	0.019	0.015	0.81	SA15	1.7	--	0	Pass
		4,4'-DDE	mg/kg	11	6	55	0.0018	0.0036	0.0046	0.20	0.051	0.084	0.085	1.0	SSAM5-03	9.5	--	0	Pass
		4,4'-DDT	mg/kg	11	6	55	0.0018	0.0061	0.0042	0.33	0.054	0.11	0.13	1.2	SSAM5-03	7.5	--	0	Pass
Dieldrin		mg/kg	11	0	0	0.0013	0.020	--	--	--	--	--	--	--	0.16	--	--	Pass	
Hexachlorobenzene		mg/kg	69	48	70	0.0018	0.39	0.0042	1.1	0.14	0.22	0.25	1.2	SSAM5-03	0.23	--	43	Fail	
Toxaphene		mg/kg	11	0	0	0.035	0.59	--	--	--	--	--	--	--	2.3	--	--	Pass	
SVOCs	bis(2-Ethylhexyl)phthalate	mg/kg	62	12	19	0.047	1.1	0.077	0.85	0.16	0.29	0.29	1.0	SSAM5-03	183	--	0	Pass	
	Octachlorostyrene	mg/kg	62	15	24	0.0071	0.39	0.013	0.68	0.064	0.10	0.16	1.6	SA86	N/A	--	N/A	N/A	

Notes:

- = Not applicable
- mg/kg = milligram per kilogram
- pCi/g = picocurie per gram
- BaPEq = Benzo(a)pyrene equivalent
- BCL = Basic Comparison Level
- BHC = Hexachlorocyclohexane
- COPC = Chemical of Potential Concern
- DDE = Dichlorodiphenylchloroethylene
- DDT = Dichlorodiphenyltrichloroethane
- DU = Decision Unit
- N/A = BCL (other screening value) not available for screen
- NDEP = Nevada Department of Environmental Protection
- NS = Not sampled
- OCP = Organochlorine pesticide
- PAH = Polycyclic aromatic hydrocarbon
- SVOC = Semivolatile organic compound
- TCDD = Tetrachlorodibenzo-p-dioxin
- TEQ = Toxicity equivalent
- * Methodology for equivalent calculations explained in text
- [1] Screening levels are the lowest level among the indoor worker and outdoor worker BCLs (NDEP 2017), unless noted.

indicates analyte is carried forward to COPC identification Step 2. For arsenic, lead, and 2,3,7,8-TCDD TEQ, the maximum detected concentration is compared directly to the screening level. For all other analytes, the maximum detected concentration is compared to 0.1 x screening level. If the maximum detected concentration is greater than or equal to the 0.1 x screening level, the analyte "fails" and is carried forward to Step 2. If less than the 0.1 x screening level, the analyte "passes" and is eliminated as a COPC. By default, analytes for which screening levels are not available are retained for Step 2 (metals) and Step 3 (organics).

Source:

NDEP. 2017. User's Guide and Background Technical Document for NDEP Basic Comparison Levels (BCLs) for Human Health for the BMI Complex and Common Areas. Revision 14, July.

TABLE 15. Results of the Background Evaluation for Metals Carried Forward from the Concentration/Toxicity Screen for Individual Decision Units

**Nevada Environmental Response Trust Site
Henderson, Nevada**

Decision Unit	Chemical Name	Decision Unit Concentrations Greater than Background Levels? ^[1]
DU-1	Arsenic ^[2]	No
	Chromium VI ^[3]	LDF
	Cobalt	Yes
	Manganese	Yes
	Thallium	No
	Zirconium	No
DU-2	Chromium VI ^[3]	LDF
	Palladium	NA
	Zirconium	NA
DU-3	Arsenic	Yes
	Chromium VI ^[3]	LDF

Notes:

COPC = Chemical of Potential Concern

DU = Decision unit

LDF = Low detection frequency (<25%) in either Study Area or background data sets. Background comparison results may not be applicable.

NA = Background data are not available

element is present at concentrations greater than background or background data are not available.

[1] Based on background evaluation presented in Appendix J.

[2] Despite statistical tests indicating that concentrations are consistent with BRC/TIMET background, conservatively retained as a COPC for DU-1 based on the Q-Q plot (Figure J2-1) .

[3] For chromium VI, although background comparison results may not be applicable due to low detection frequency in the DU, BRC/TIMET, and RZ-A background data sets, concentrations in all three DUs are greater than background based on the box plot (Figure J1-2) and Q-Q plot (Figure J2-2).

**TABLE 16. Results of the Background Evaluation for Radionuclides Carried from the Concentration/Toxicity Screen for Individual Decision Units
Nevada Environmental Response Trust Site
Henderson, Nevada**

Decision Unit	Chain	Secular Equilibrium?	Radionuclide	Decision Unit Concentrations Greater than Background Levels? ^{[1],[2]}	Hydrofluoric Acid Digestion?
DU-1	Uranium-238	Yes	Uranium-238	No	Yes
			Uranium-234	No	
			Thorium-230	No	
			Radium-226	No	
	Thorium-232	No	Thorium-232	No	Yes
			Radium-228	No	
			Thorium-228	Yes	
Uranium-235	Not Evaluated	Uranium-235	No	Yes	
DU-2	Uranium-238	Yes	Uranium-238	No	Yes
			Uranium-234	No	
			Thorium-230	No	
			Radium-226	No	
	Thorium-232	Yes	Thorium-232	No	Yes
			Radium-228	No	
			Thorium-228	No	
Uranium-235	Not Evaluated	Uranium-235	No	Yes	
DU-3	Uranium-238	Yes	Uranium-238	Yes	Yes
			Uranium-234	Yes	
			Thorium-230	Yes	
			Radium-226	No	
	Thorium-232	No	Thorium-232	Yes	Yes
			Radium-228	No	
			Thorium-228	Yes	
Uranium-235	Not Evaluated	Uranium-235	No	Yes	

Notes:

COPC = Chemical of Potential Concern

DU = Decision unit

radionuclide is present at concentrations greater than background.

[1] Based on background analysis presented in Appendix J.

[2] The validity of statistical testing for radionuclide background evaluation is confounded by sample preparation and analytical method issues in the DU, BRC/TIMET, and RZ-A background data sets. For a full discussion of these limitations, see Section 5.4.2 of the report. No radionuclides are identified as COPCs in any DU, because the estimated total radionuclide cancer risks at all sample locations throughout the Study Area are consistent with the estimated total radionuclide cancer risks for the RZ-A background and BRC/TIMET regional background and radionuclides are not known to be associated with any of the former operations at the Site.

**TABLE 17. Preliminary COPCs Identified for Soils (0-10 ft bgs) in Individual Decision Units
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chemical Group	COPC	DU-1	DU-2	DU-3
Chlorine Oxyanions	Chlorate	X		
	Perchlorate	X		X
Metals	Arsenic	X		X
	Chromium VI	X	X	X
	Cobalt	X		
	Manganese	X		
	Palladium ^{[1],[2]}		X	
	Zirconium ^[2]		X	
Dioxin/Furans	2,3,7,8-TCDD TEQ*	X		
PAHs	BaPEq*	X	X	X
	Naphthalene	X		
Pesticides - OCPs	beta-BHC	X	X	
	4,4'-DDE	X		
	4,4'-DDT	X		
	Dieldrin	X		
	Hexachlorobenzene	X	X	X
	Toxaphene	X		
SVOCs	Bis(2-Ethylhexyl)phthalate		X	
	Octachlorostyrene ^[1]	X	X	X
Asbestos	Long amphibole fibers	X	X	X
	Long chrysotile fibers	X	X	X

Notes:

bgs = below ground surface

ft = feet

BaPEq = Benzo(a)pyrene equivalent

BCL = Basic Comparison Level

BHC = Hexachlorocyclohexane

COPC = Chemical of Potential Concern

DDE = Dichlorodiphenyldichloroethylene

DDT = Dichlorodiphenyltrichloroethane

DU = Decision unit

OCP = Organochlorine pesticide

PAH = Polycyclic aromatic hydrocarbon

SVOC = Semivolatile organic compound

TCDD = Tetrachlorodibenzo-p-dioxin

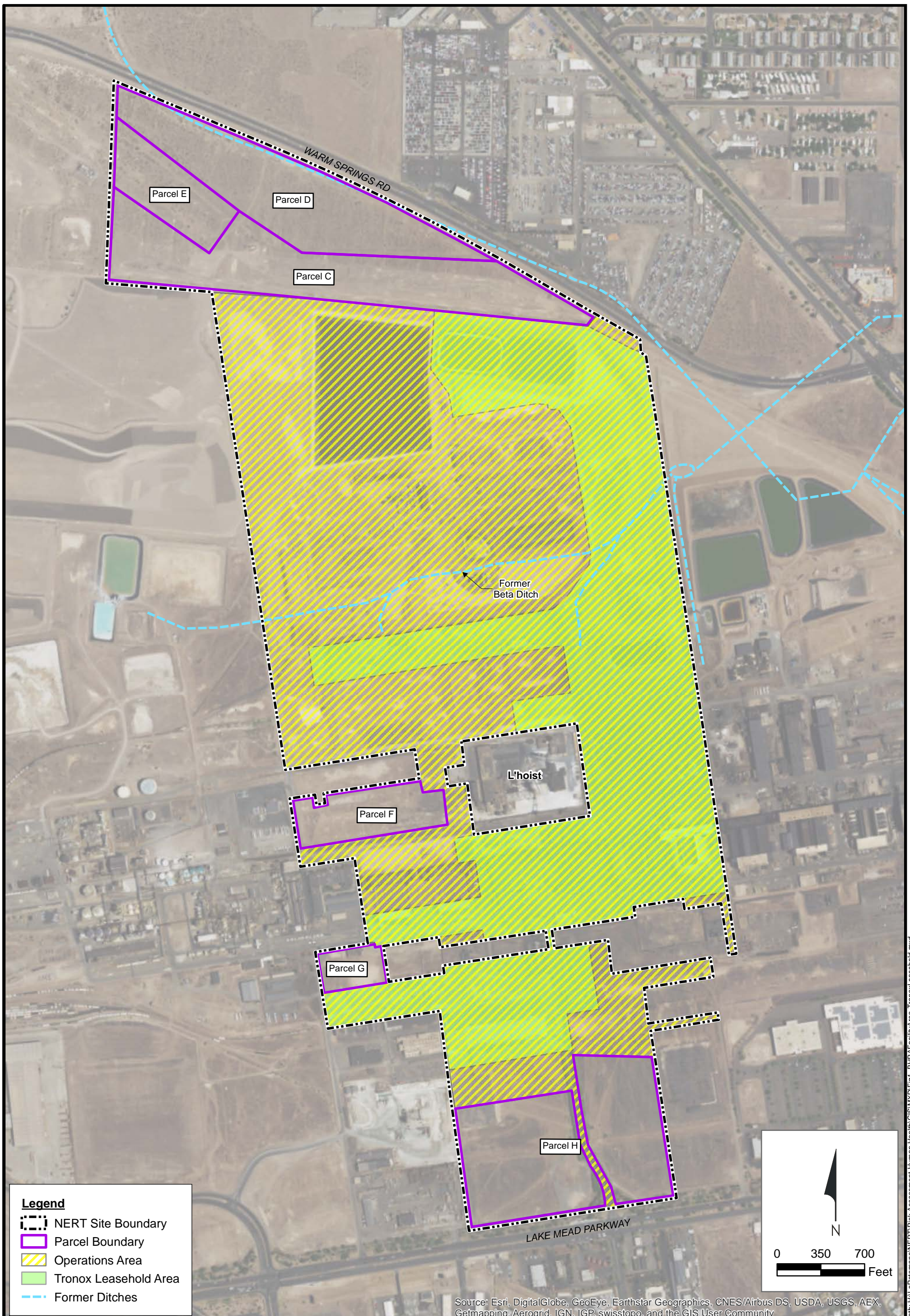
TEQ = Toxicity equivalent

[1] Retained as a COPC in the absence of a BCL or other screening level. This COPC will be discussed qualitatively in the uncertainties assessment.






[2] RZ-A background data are not available for this chemical, and therefore a background evaluation cannot be conducted for DU-2.

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

FIGURES



Legend

-  NERT Site Boundary
-  Parcel Boundary
-  Operations Area
-  Tronox Leasehold Area
-  Former Ditches

N

0 350 700

Feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

RAMBOLL ENVIRON

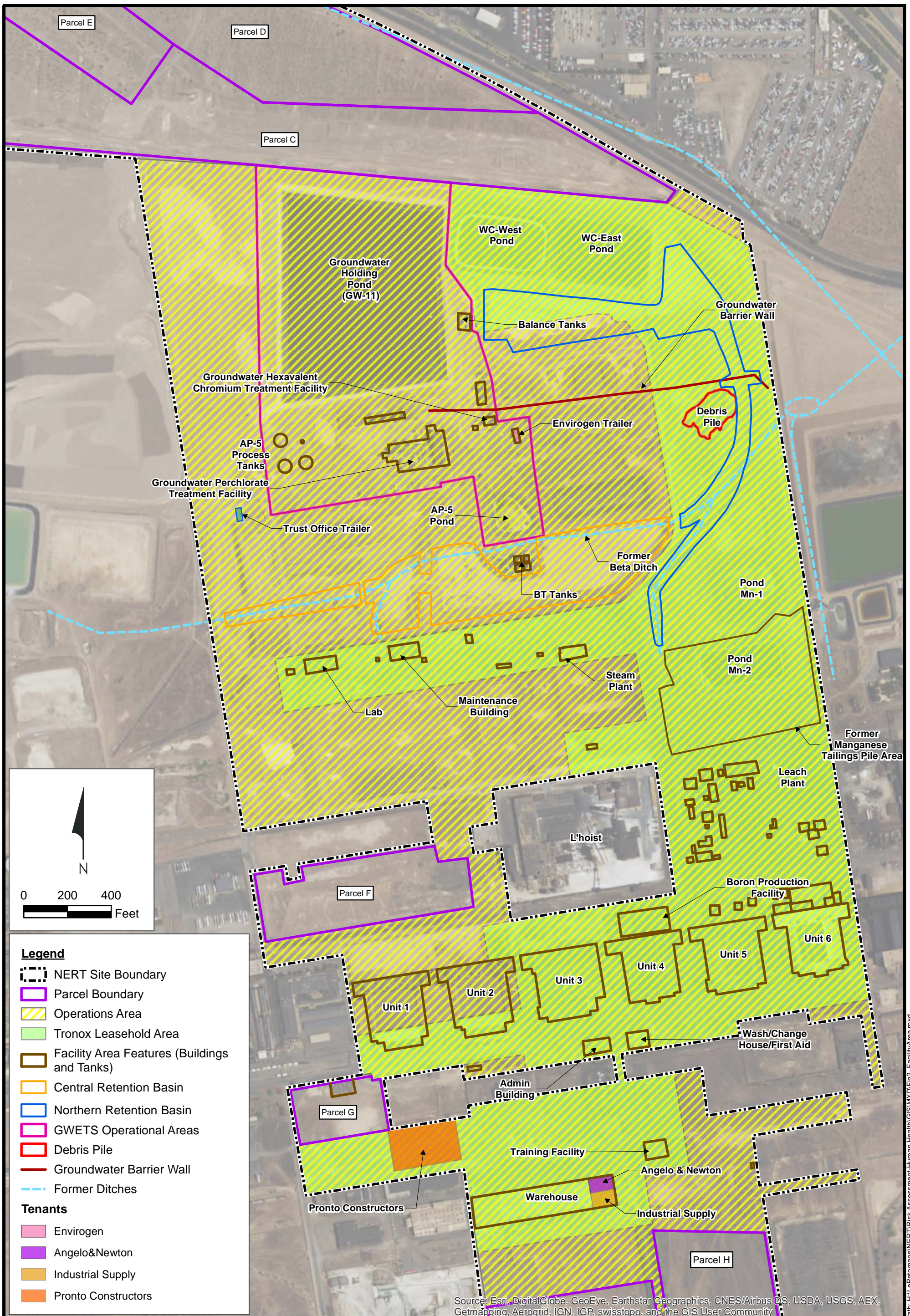
2200 Powell St., Suite 700, Emeryville, CA 94608

Operations Area Boundary and Tronox Leasehold Area
Nevada Environmental Response Trust Site, Henderson, Nevada

Drafter: RS Date: 10/27/2017 Contract Number: 21-41400C-M06A Approved by: Revised:

Figure
1

Path: H:\LerPetomane\NERT\Risk Assessment\Human Health\GIS\MXD\Fig1_BHR\AFacilityArea-TronoxLeasehold.mxd

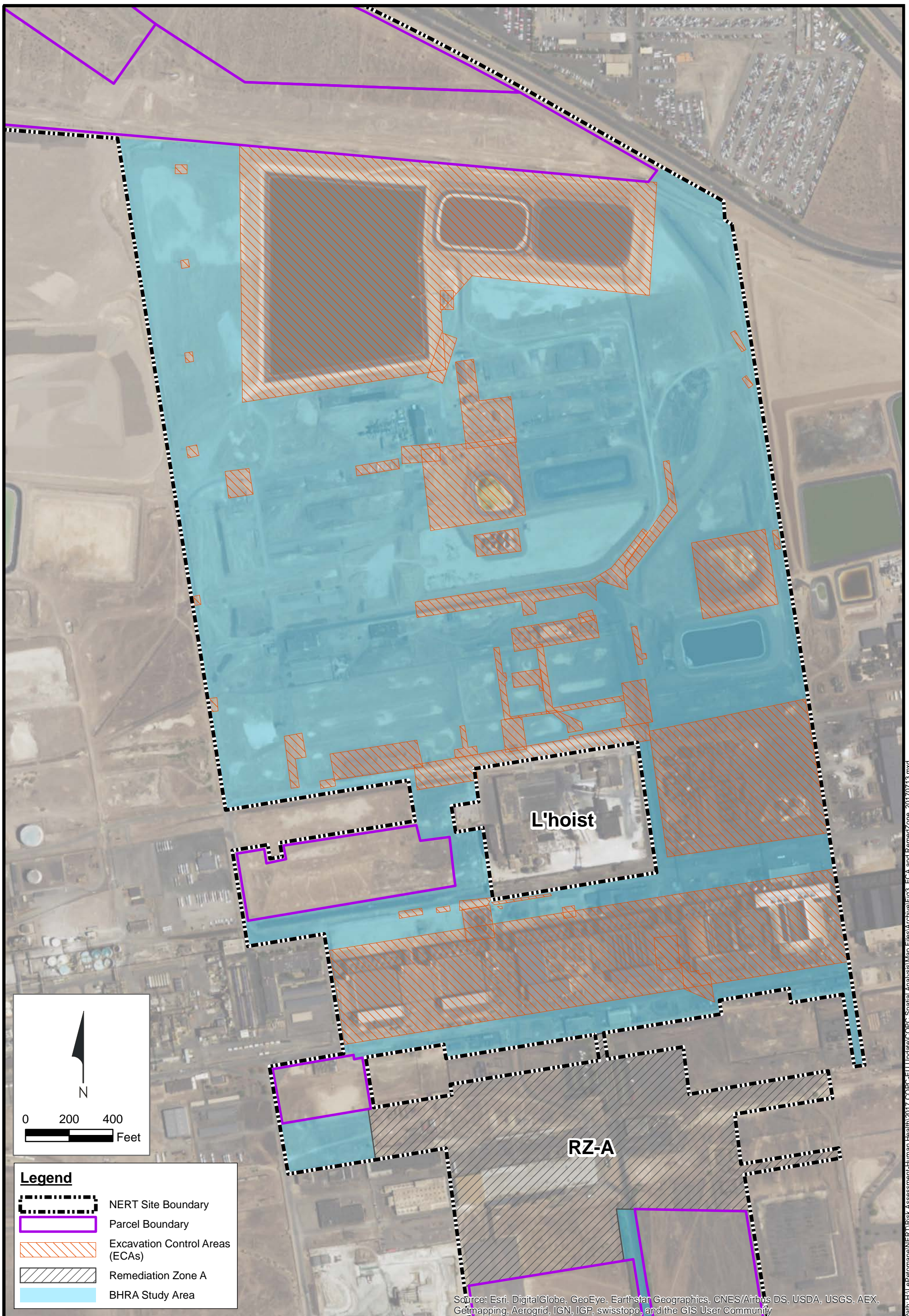


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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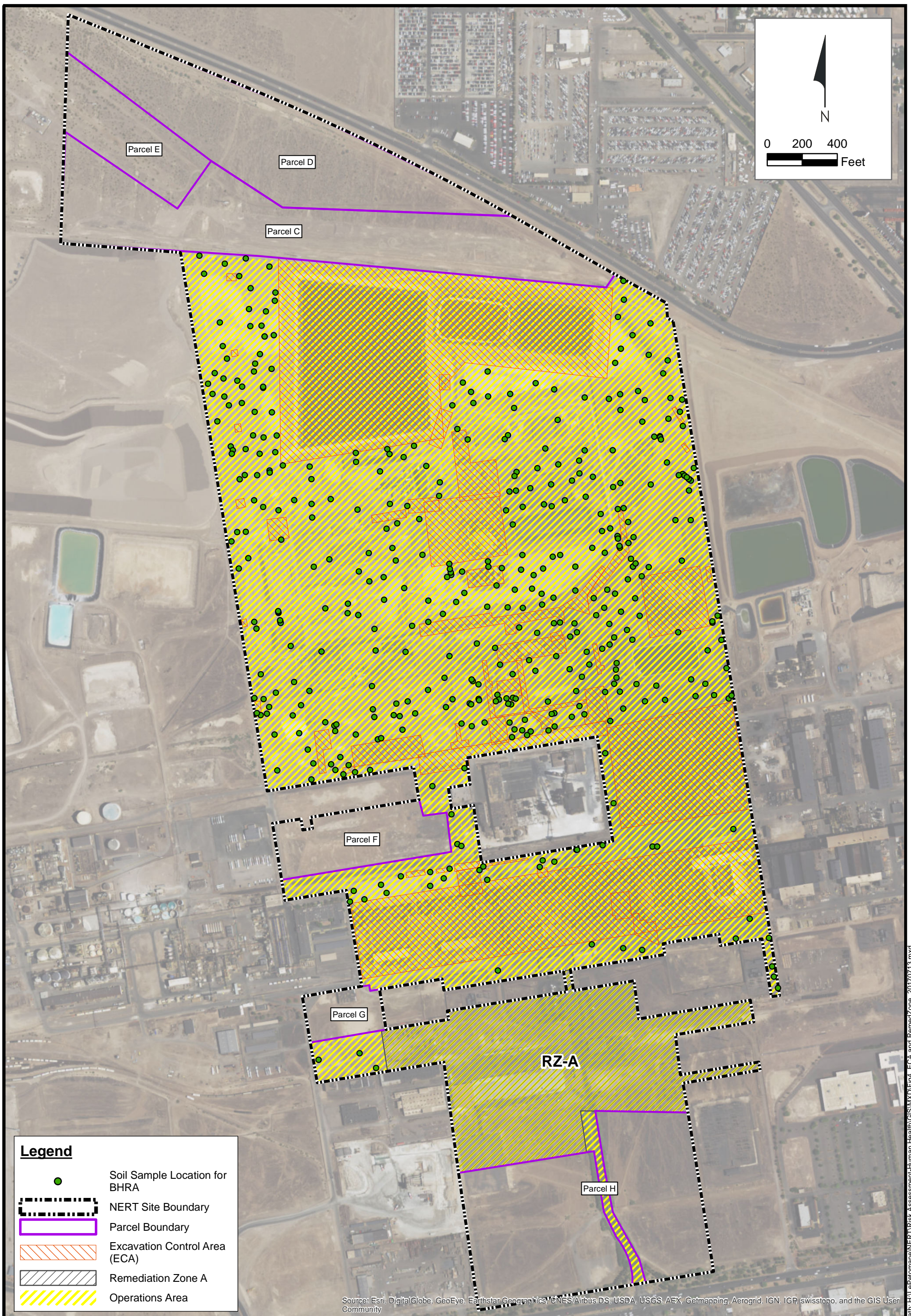
Operations Area Features
Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
2



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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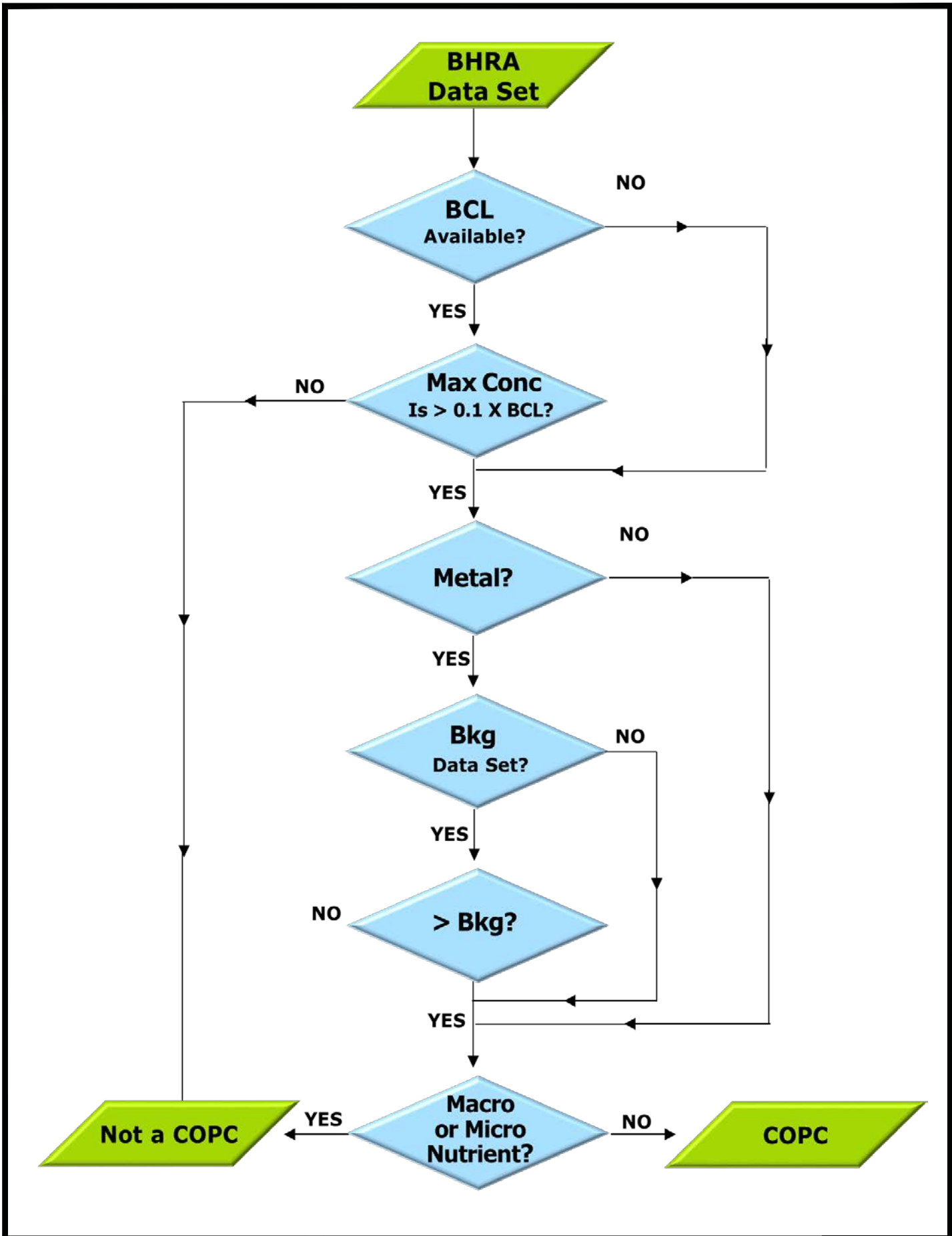


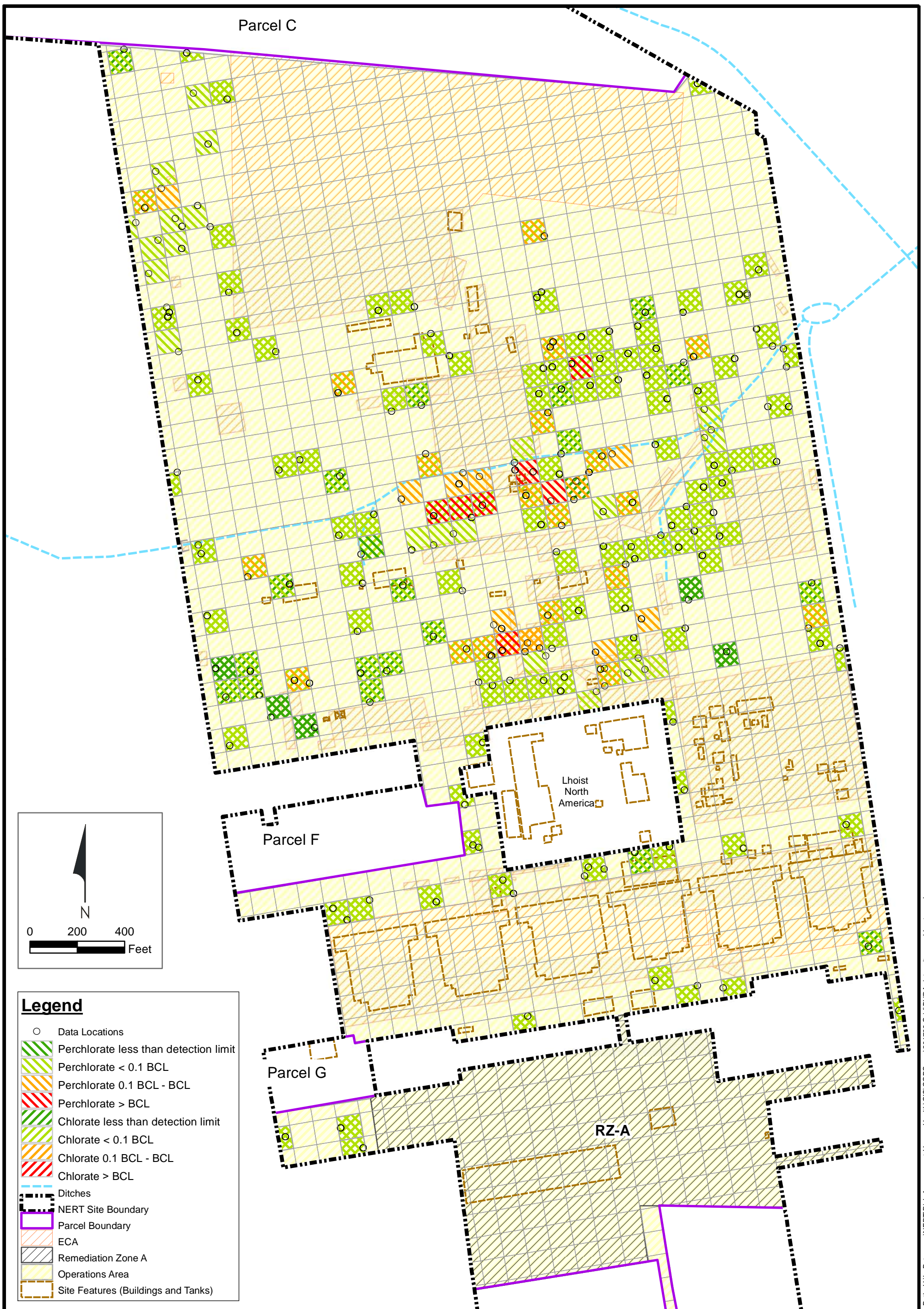
Legend

- Soil Sample Location for BHRM
- NERT Site Boundary
- Parcel Boundary
- Excavation Control Area (ECA)
- Remediation Zone A
- Operations Area

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

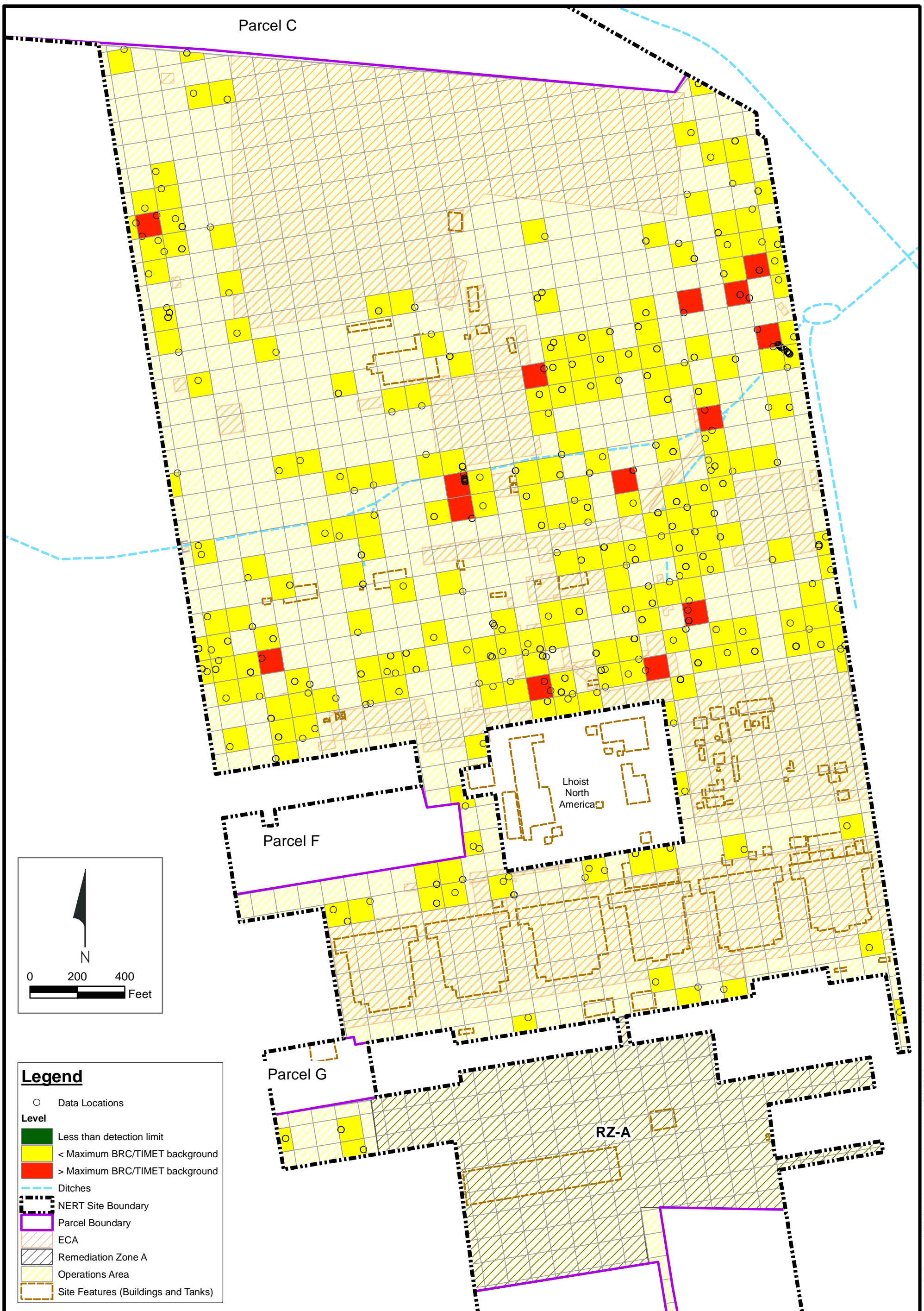
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Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
Chlorate and Perchlorate
 [Chlorate BCL = 38,900 mg/kg, Perchlorate BCL = 908 mg/kg]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
6



Path: H:\LePetomane\NERTRisk_Assessment-Human_Health\GIS\COPCmap\201709_Grid\BHR_A_COPC_intensity\201709.mxd

Legend

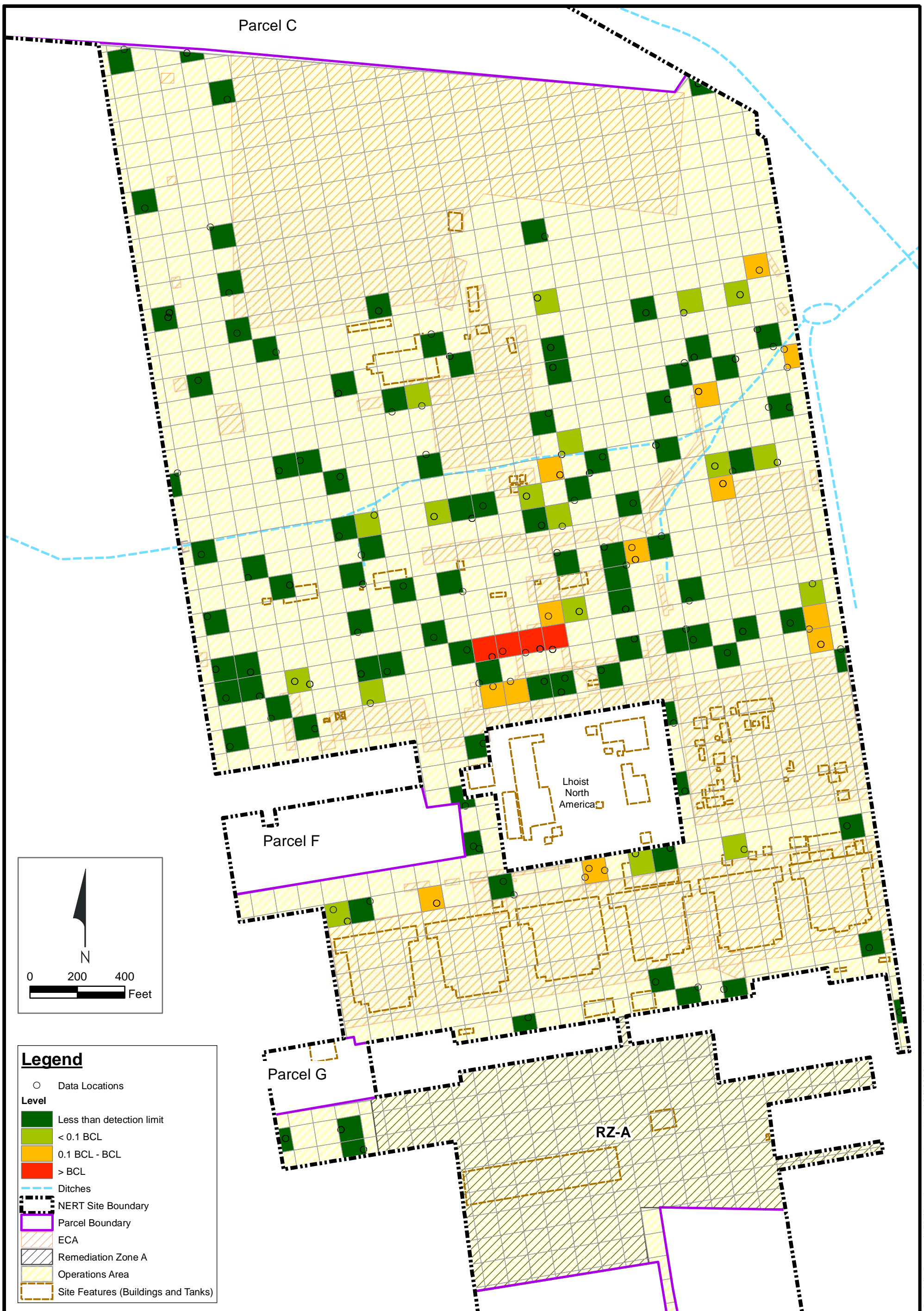
- Data Locations
- Level**
- Less than detection limit
- < Maximum BRC/TIMET background
- > Maximum BRC/TIMET background
- - - Ditches
- - - NERT Site Boundary
- Parcel Boundary
- ▨ ECA
- ▨ Remediation Zone A
- ▨ Operations Area
- ▨ Site Features (Buildings and Tanks)

0 200 400 Feet

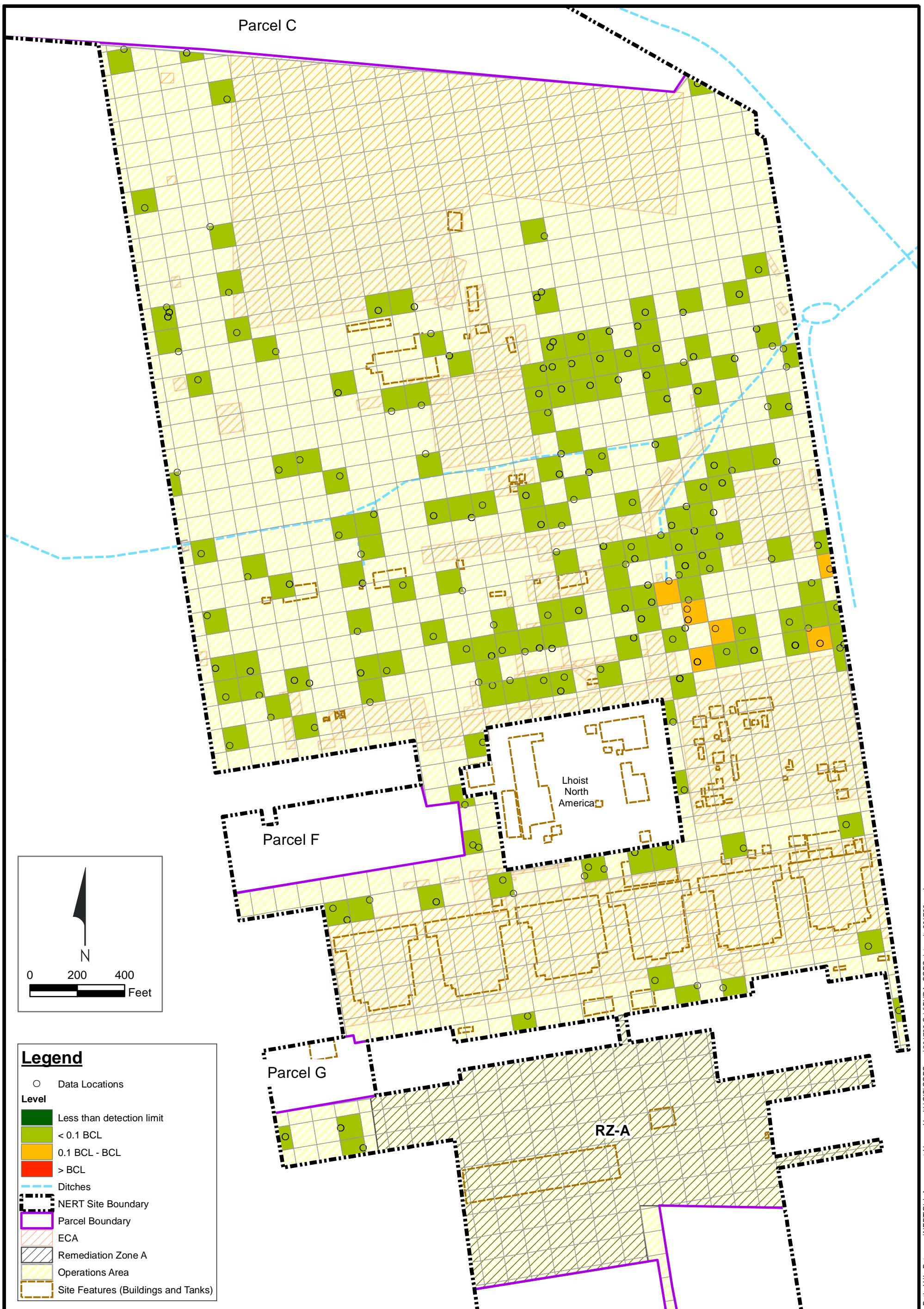
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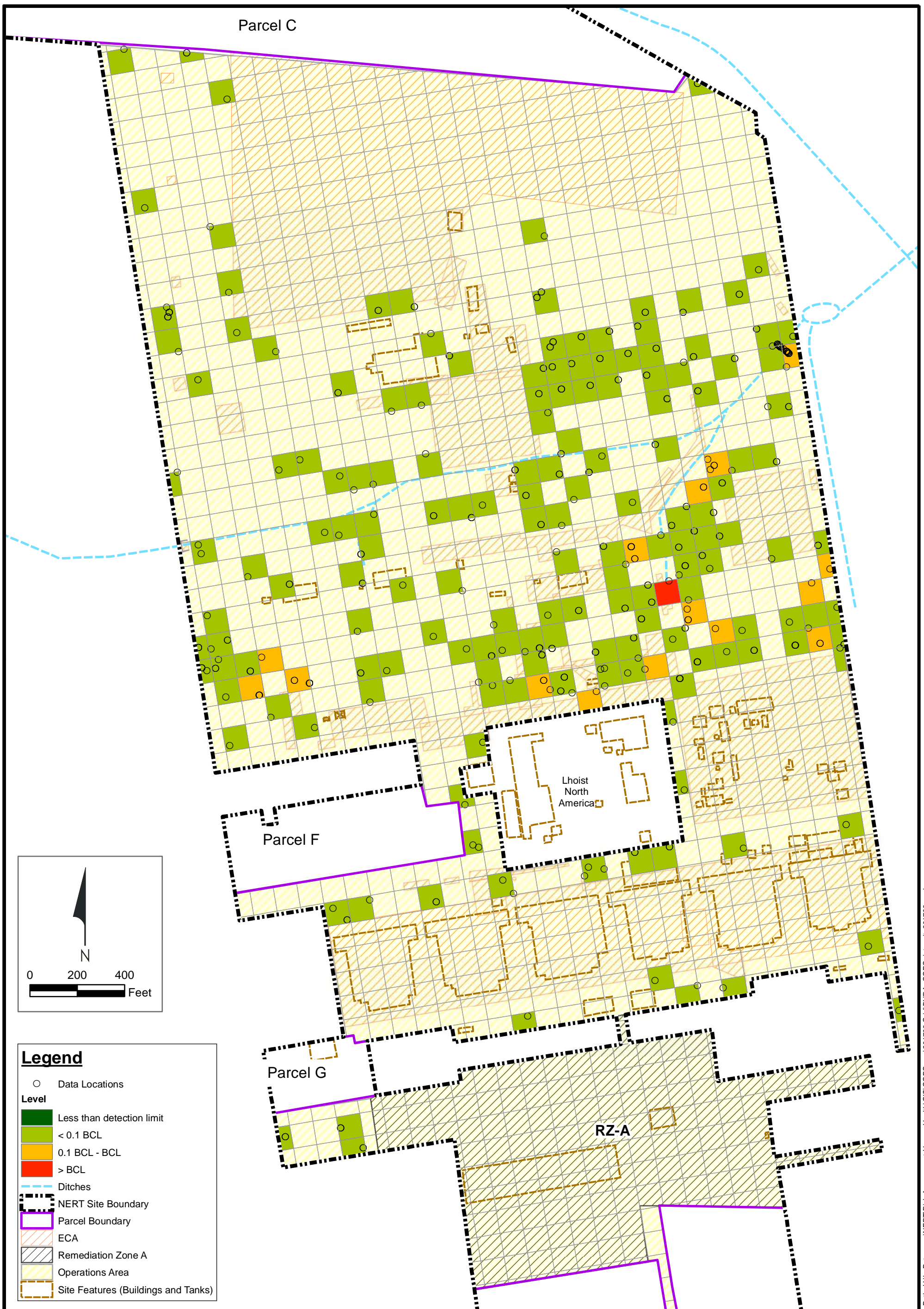
Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
Arsenic
 [Maximum BRC/TIMET background = 7.2 mg/kg]
 Nevada Environmental Response Trust Site, Henderson, Nevada

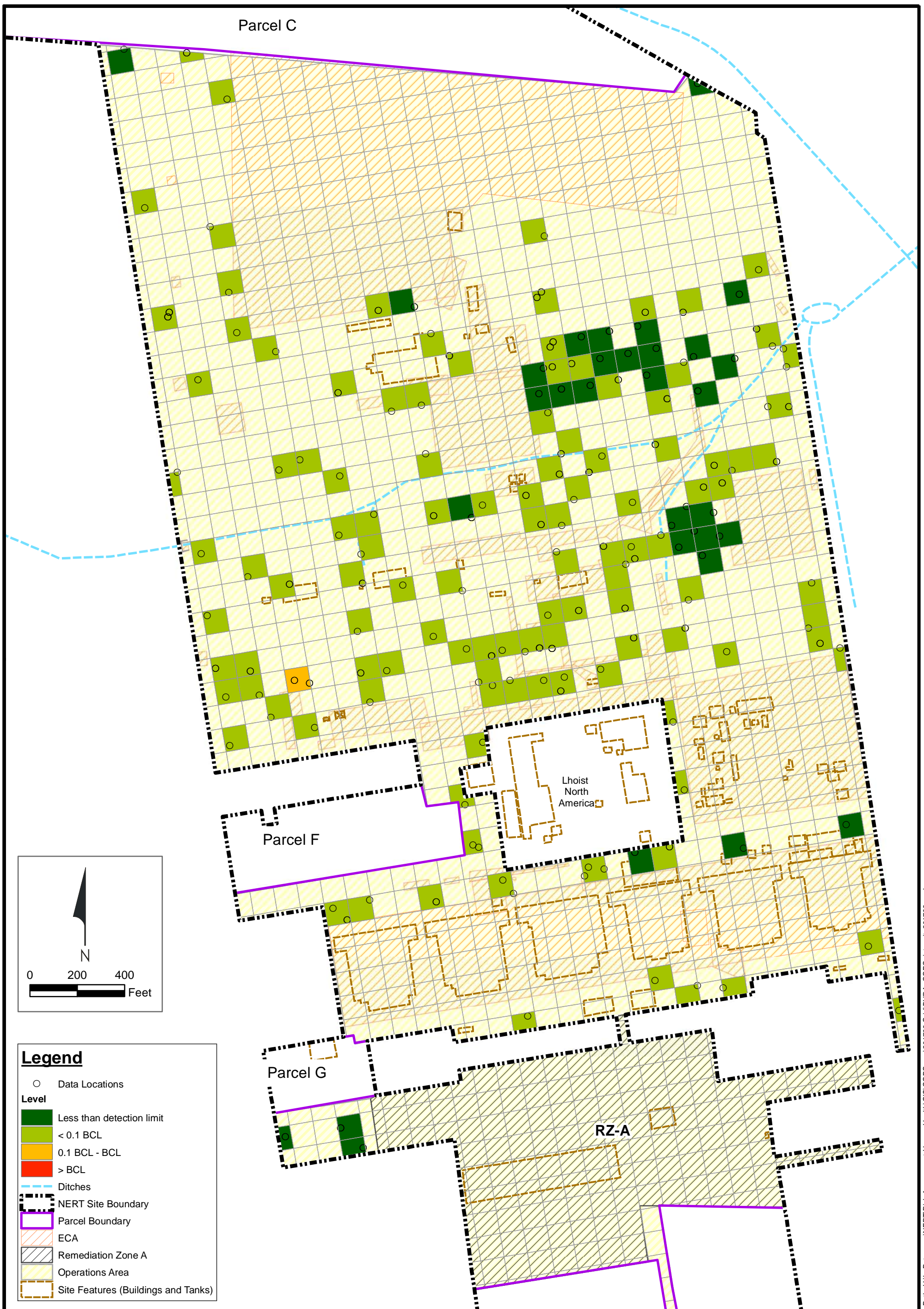
Figure
7



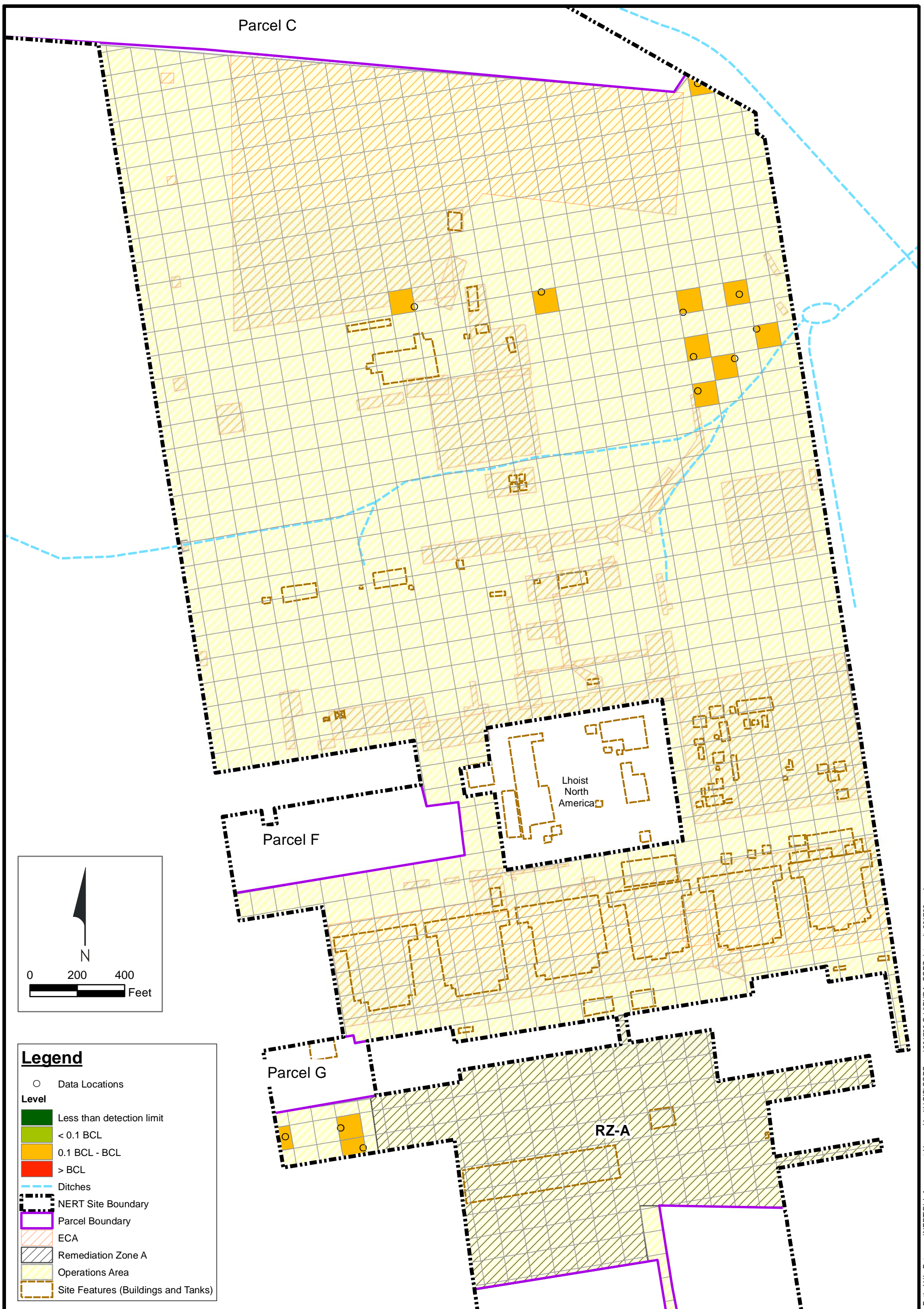
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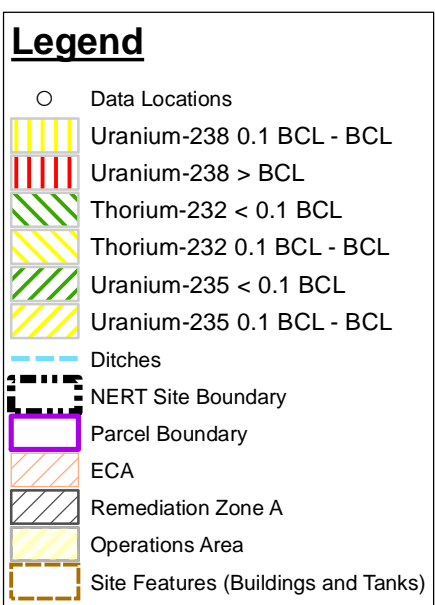
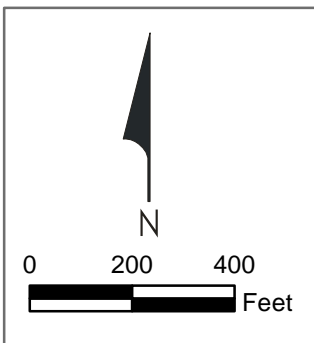
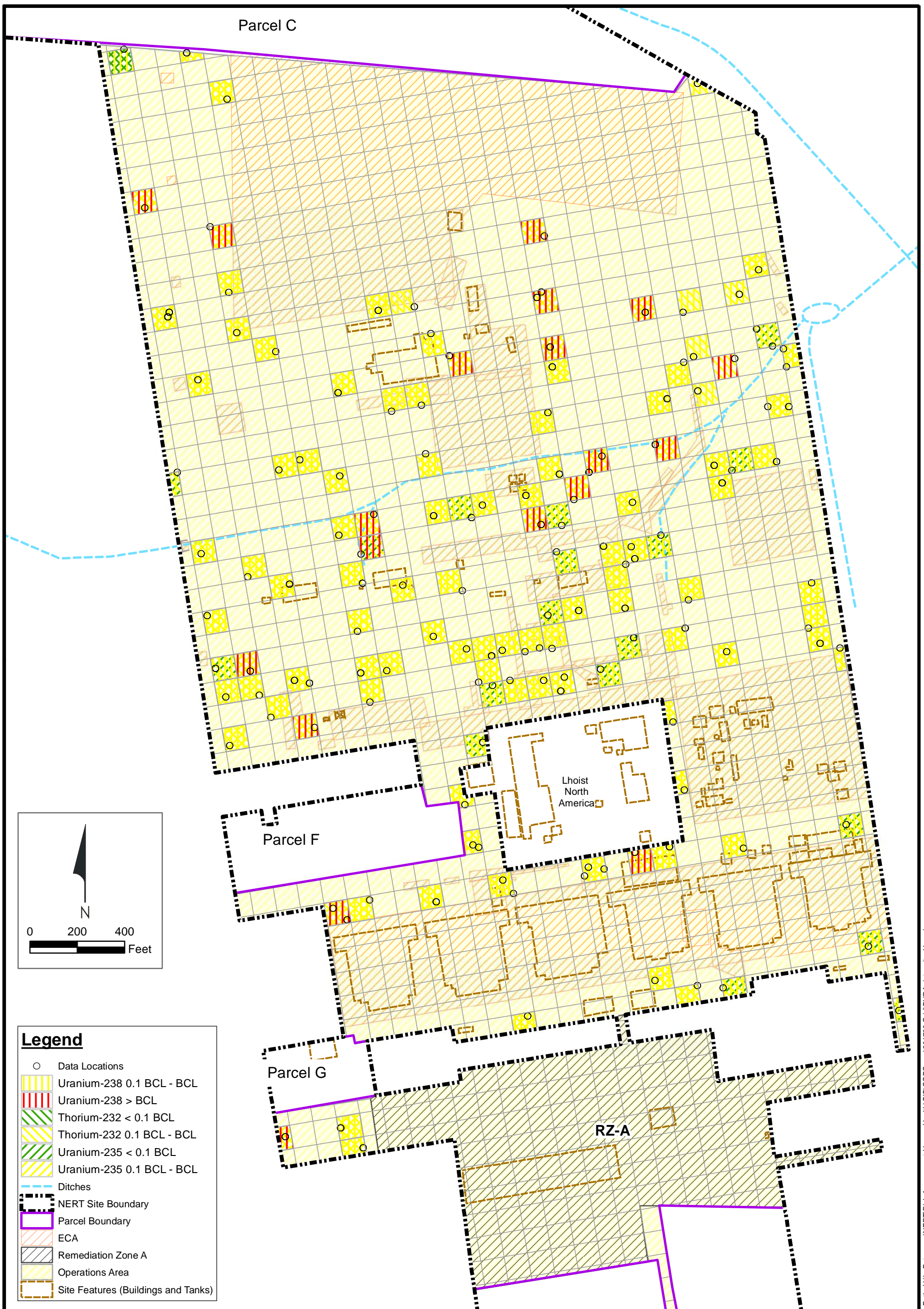




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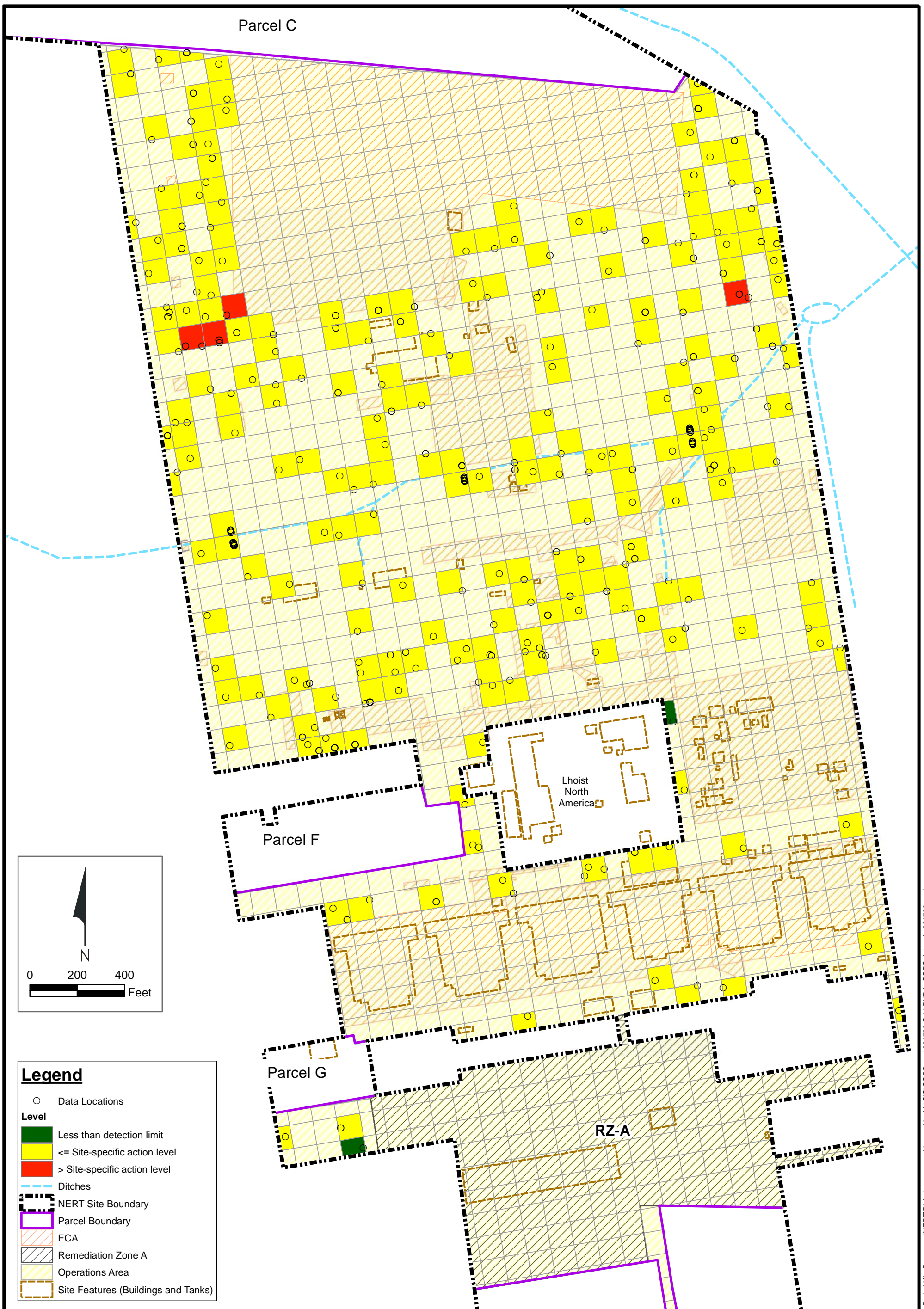


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Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
Uranium-238, Thorium-232, and Uranium-235
 [U-238 BCL = 1.4 pCi/g, Th-232 BCL = 7.4 pCi/g, U-235 BCL = 0.35 pCi/g]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
13



Path: H:\LePetomane\NERTRisk_Assessment-Human_Health\GIS\COPCmap\201709_Grid\BHRA_COPC_intensity\201709.mxd

Legend

- Data Locations
- Level**
- Less than detection limit
- ≤ Site-specific action level
- > Site-specific action level
- - - Ditches
- - - NERT Site Boundary
- ▭ Parcel Boundary
- ▨ ECA
- ▨ Remediation Zone A
- ▨ Operations Area
- ▭ Site Features (Buildings and Tanks)

Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):

Dioxin TEQs

[Site-specific action level = 0.0027 mg/kg]

Nevada Environmental Response Trust Site, Henderson, Nevada

Figure

14



2200 Powell St., Suite 700, Emeryville, CA 94608

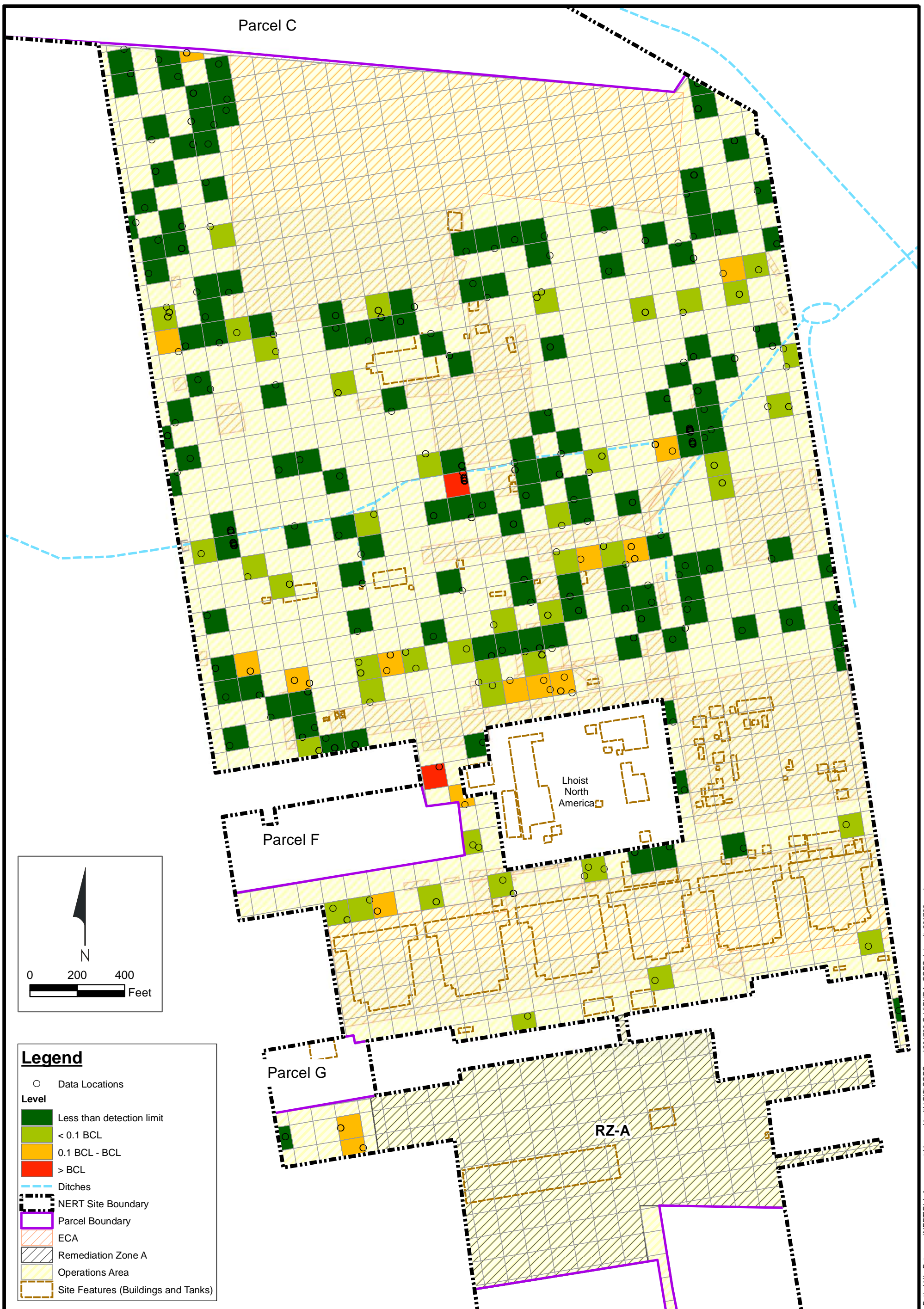
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Date: 9/25/2017

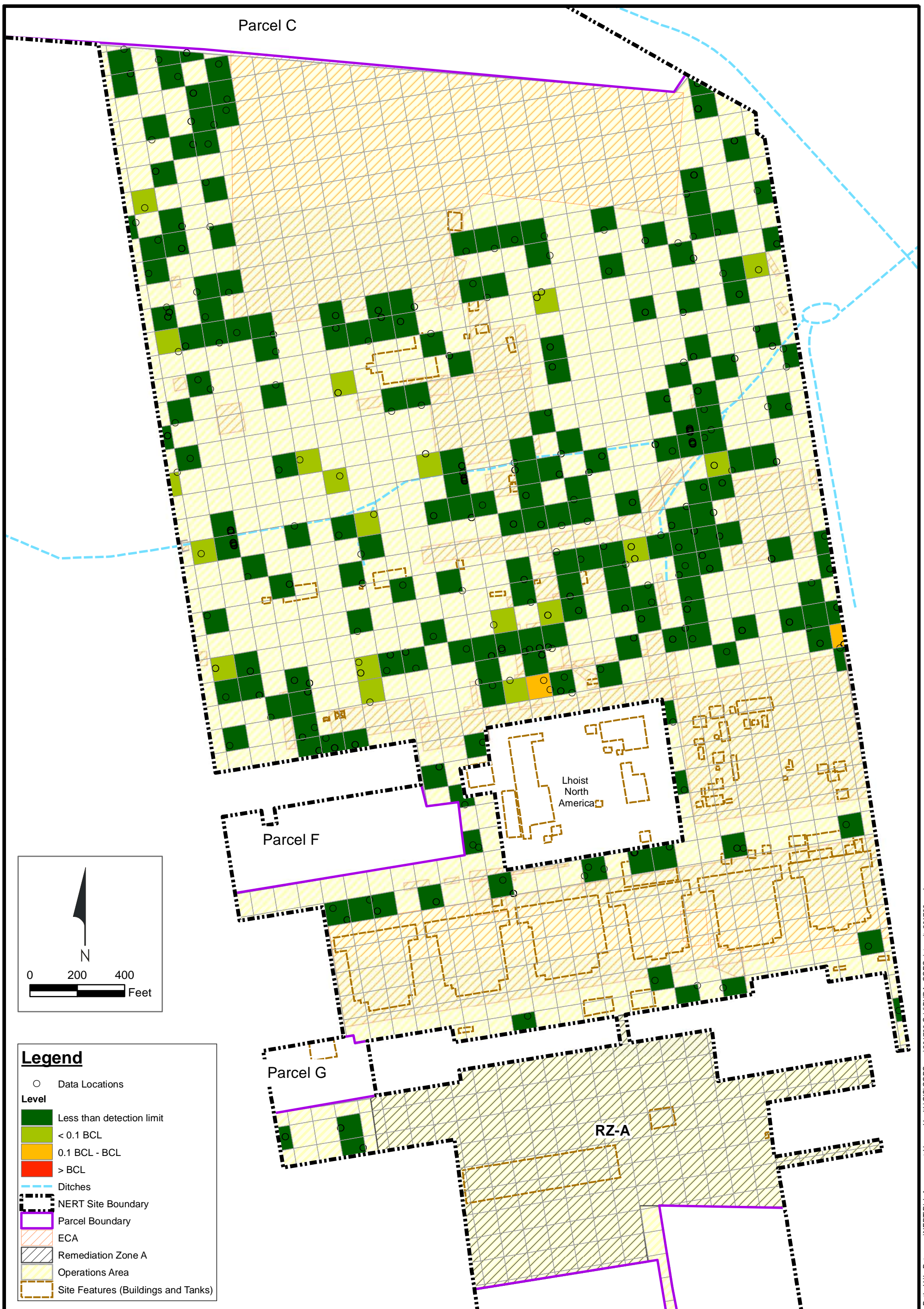
Contract Number: 21-41400C

Approved by:

Revised:

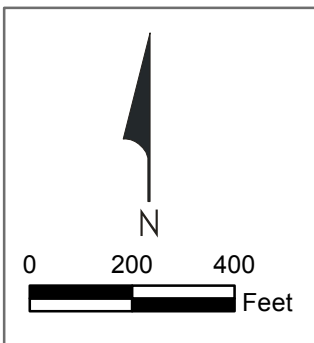
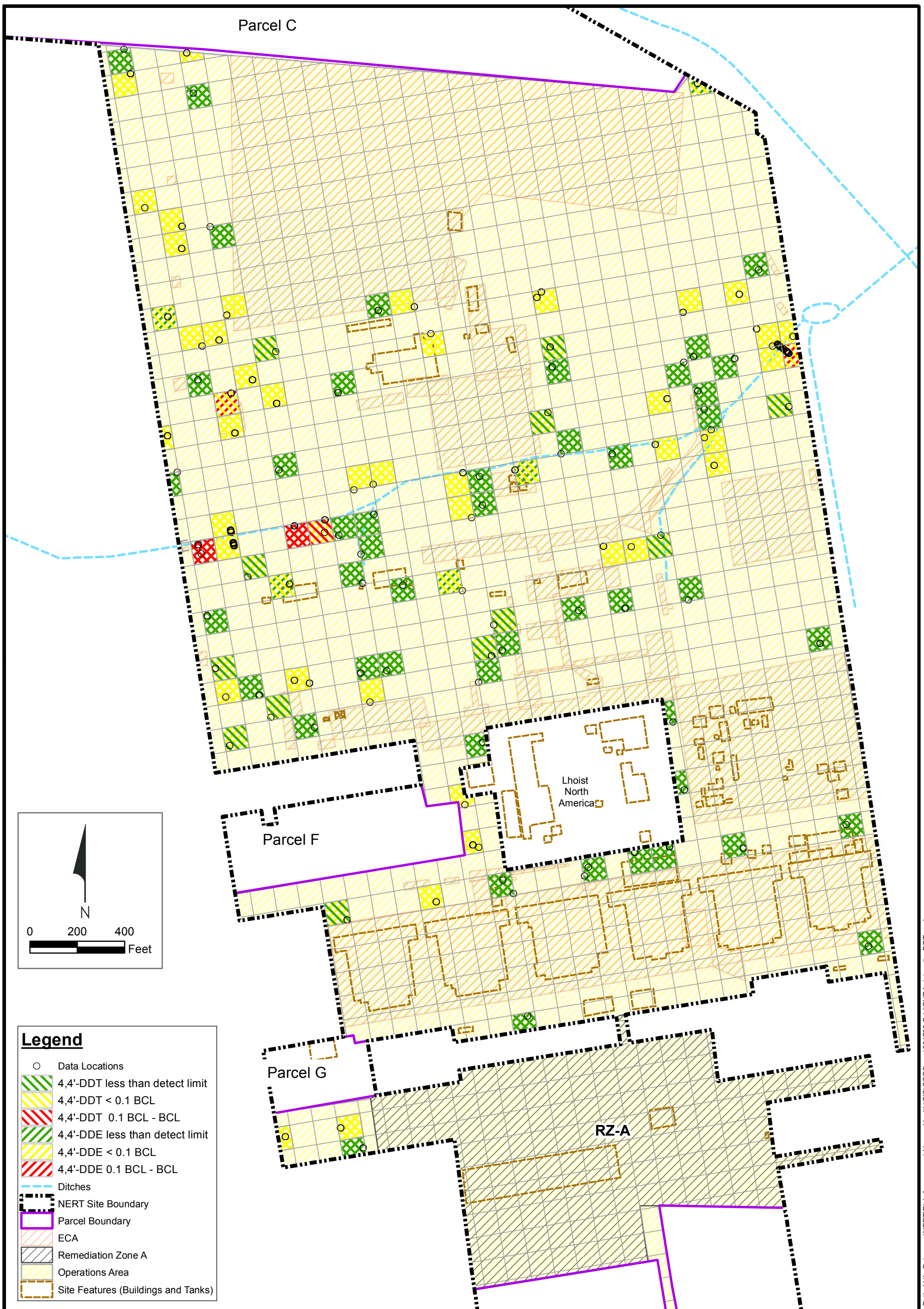


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Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
Naphthalene
 [BCL = 18 mg/kg]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
16

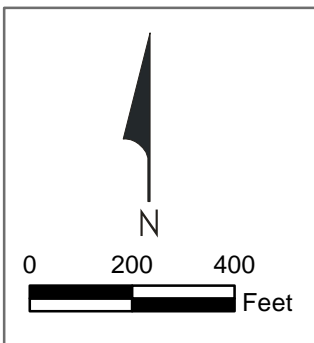
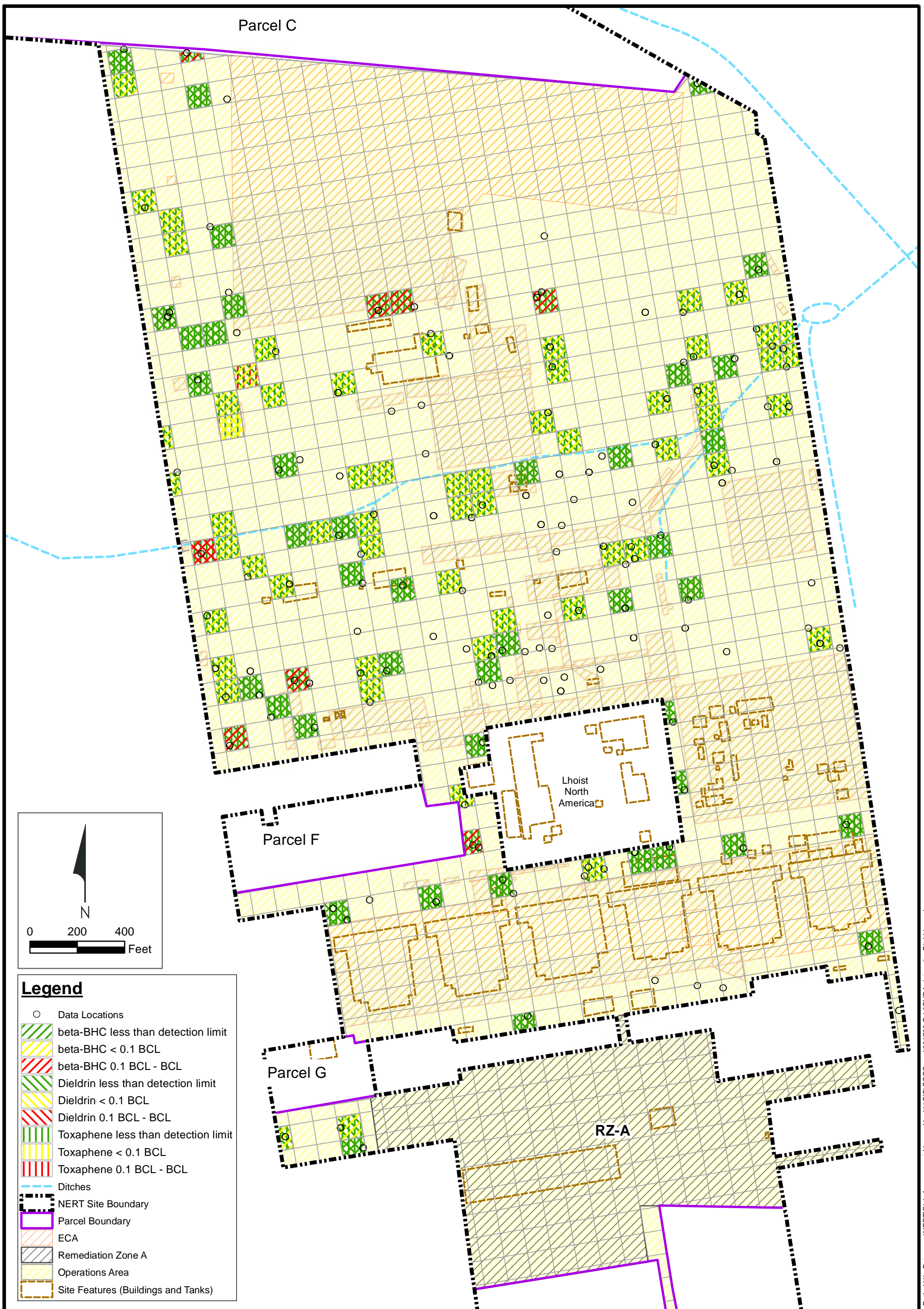


Legend

- Data Locations
- Green grid pattern: 4,4'-DDT less than detect limit
- Yellow grid pattern: 4,4'-DDT < 0.1 BCL
- Red grid pattern: 4,4'-DDT 0.1 BCL - BCL
- Green grid pattern: 4,4'-DDE less than detect limit
- Yellow grid pattern: 4,4'-DDE < 0.1 BCL
- Red grid pattern: 4,4'-DDE 0.1 BCL - BCL
- Blue dashed line: Ditches
- Black dashed line: NERT Site Boundary
- Purple solid line: Parcel Boundary
- Orange dashed line: ECA
- Diagonal hatched pattern: Remediation Zone A
- Yellow solid fill: Operations Area
- Orange dashed outline: Site Features (Buildings and Tanks)

Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
4,4'-DDE and 4,4'-DDT
 [4,4'-DDE BCL = 9.5 mg/kg, 4,4'-DDT BCL = 7.5 mg/kg]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
17

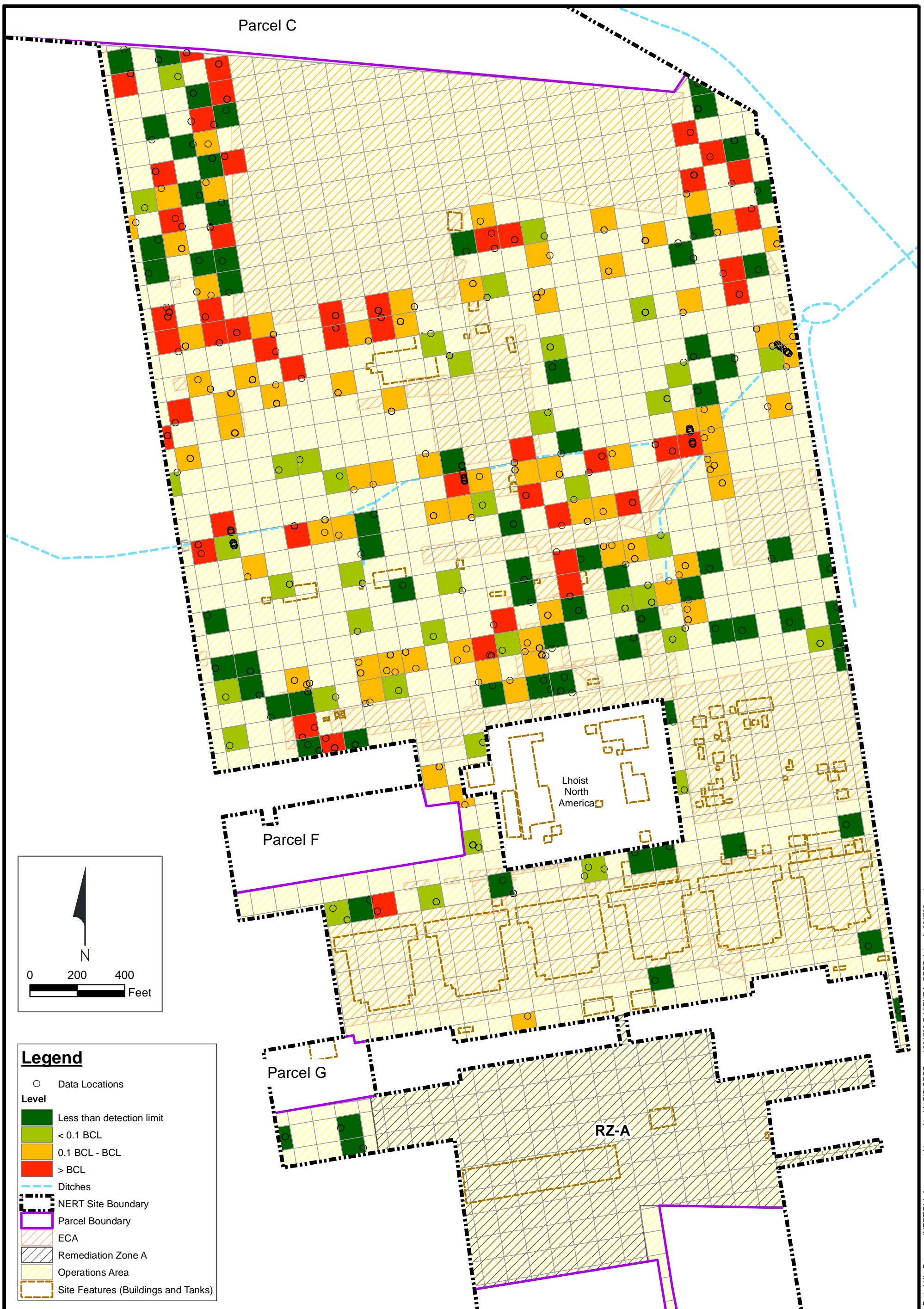


- Legend**
- Data Locations
 - beta-BHC less than detection limit
 - beta-BHC < 0.1 BCL
 - beta-BHC 0.1 BCL - BCL
 - Dieldrin less than detection limit
 - Dieldrin < 0.1 BCL
 - Dieldrin 0.1 BCL - BCL
 - Toxaphene less than detection limit
 - Toxaphene < 0.1 BCL
 - Toxaphene 0.1 BCL - BCL
 - Ditches
 - NERT Site Boundary
 - Parcel Boundary
 - ECA
 - Remediation Zone A
 - Operations Area
 - Site Features (Buildings and Tanks)

**Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
 beta-BHC [BCL = 1.7 mg/kg], Dieldrin [BCL = 0.16 mg/kg],
 and Toxaphene [BCL = 2.3 mg/kg]**
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
18

Path: H:\LePetomane\NERTRisk_Assessment-Human_Health\GIS\COPMap\201709_Grid\BHR_A_intensity_Dieldrin.mxd



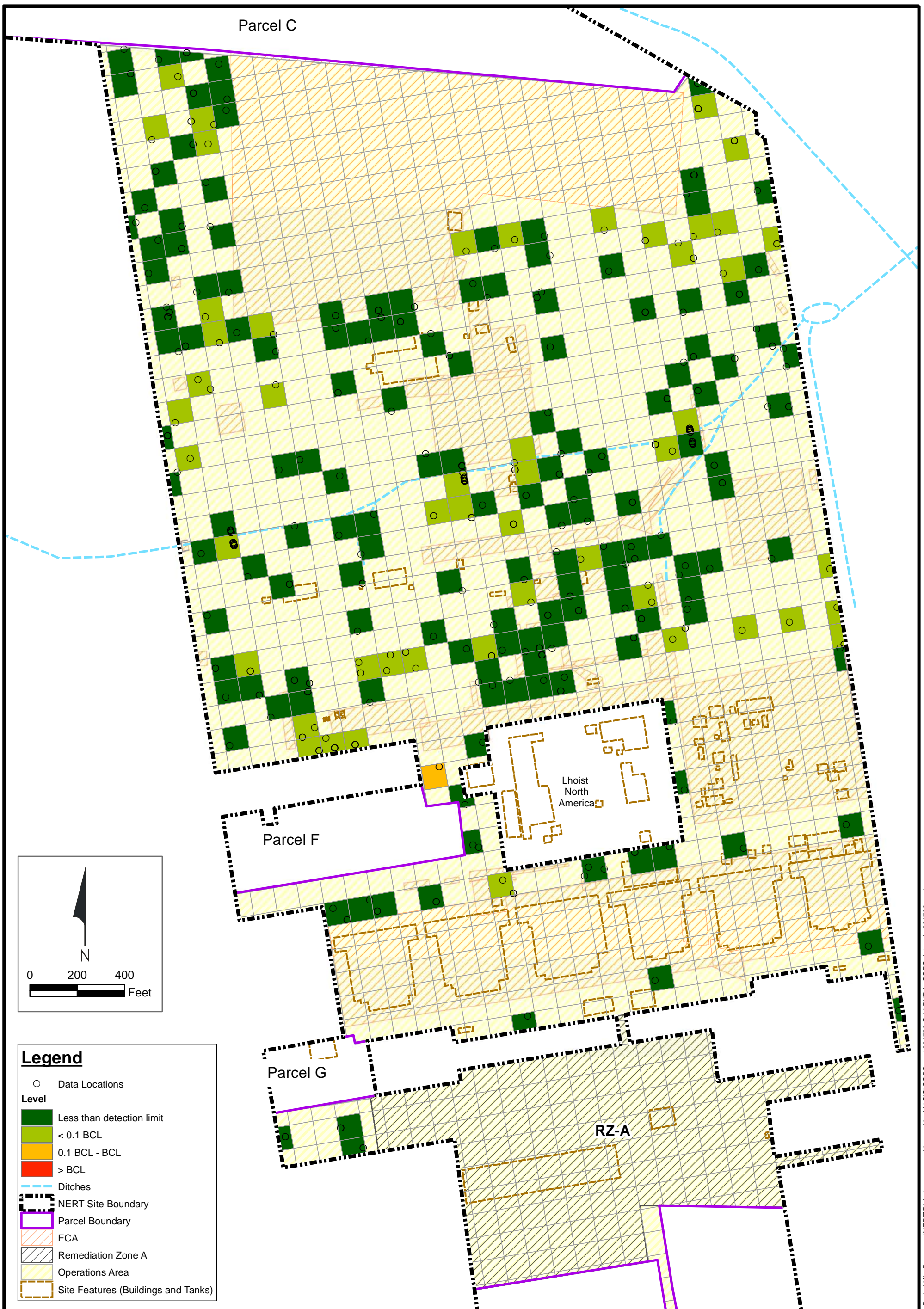
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Legend

- Data Locations
- Level**
- Less than detection limit
- < 0.1 BCL
- 0.1 BCL - BCL
- > BCL
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

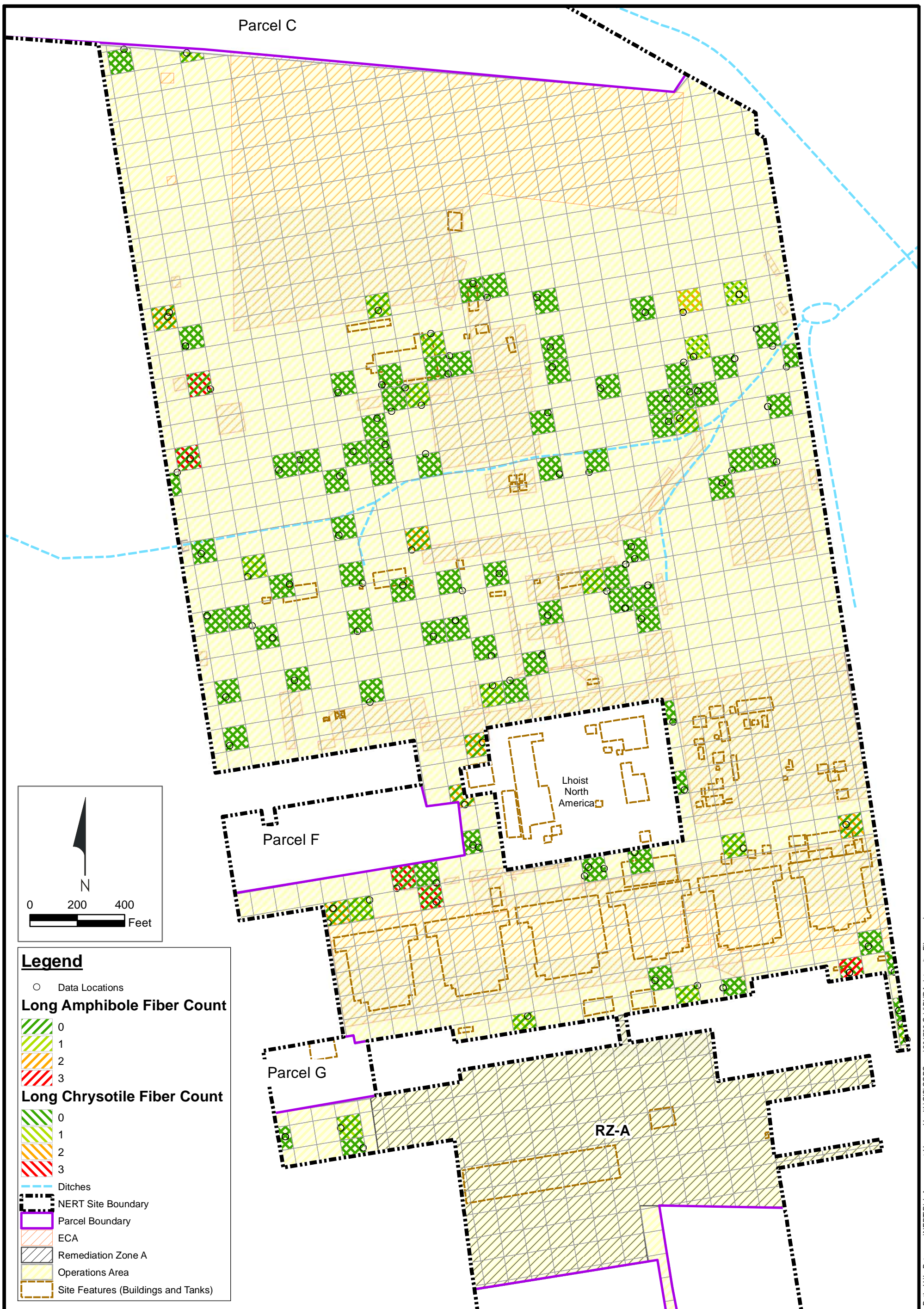
**Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
Hexachlorobenzene**
[BCL = 0.23 mg/kg]
Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
19



Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
Bis(2-Ethylhexyl)phthalate
 [BCL = 183 mg/kg]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
20



Path: H:\LePetomane\NERTRisk_Assessment-Human_Health\GIS\COPMap\201709_Grid\B\RA_intensity_Fiber.mxd

**Spatial Intensity Plot for Study Area Soils (0-10 ft bgs):
Asbestos (Long Amphibole and Long Chrysotile Fibers)**

Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
21



2200 Powell St., Suite 700, Emeryville, CA 94608

Drafter: YZ

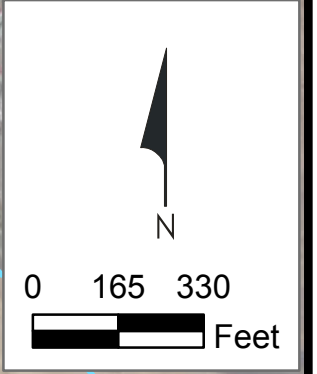
Date: 9/26/2017

Contract Number: 21-41400C

Approved by:

Revised:

Parcel C



RISB-52 (0.0043)

RISB-50 (0.019)

RISB-51 (0.004)

SSAK3-05 (0.011)

RISB-14 (0.0047)

Parcel F

Parcel G

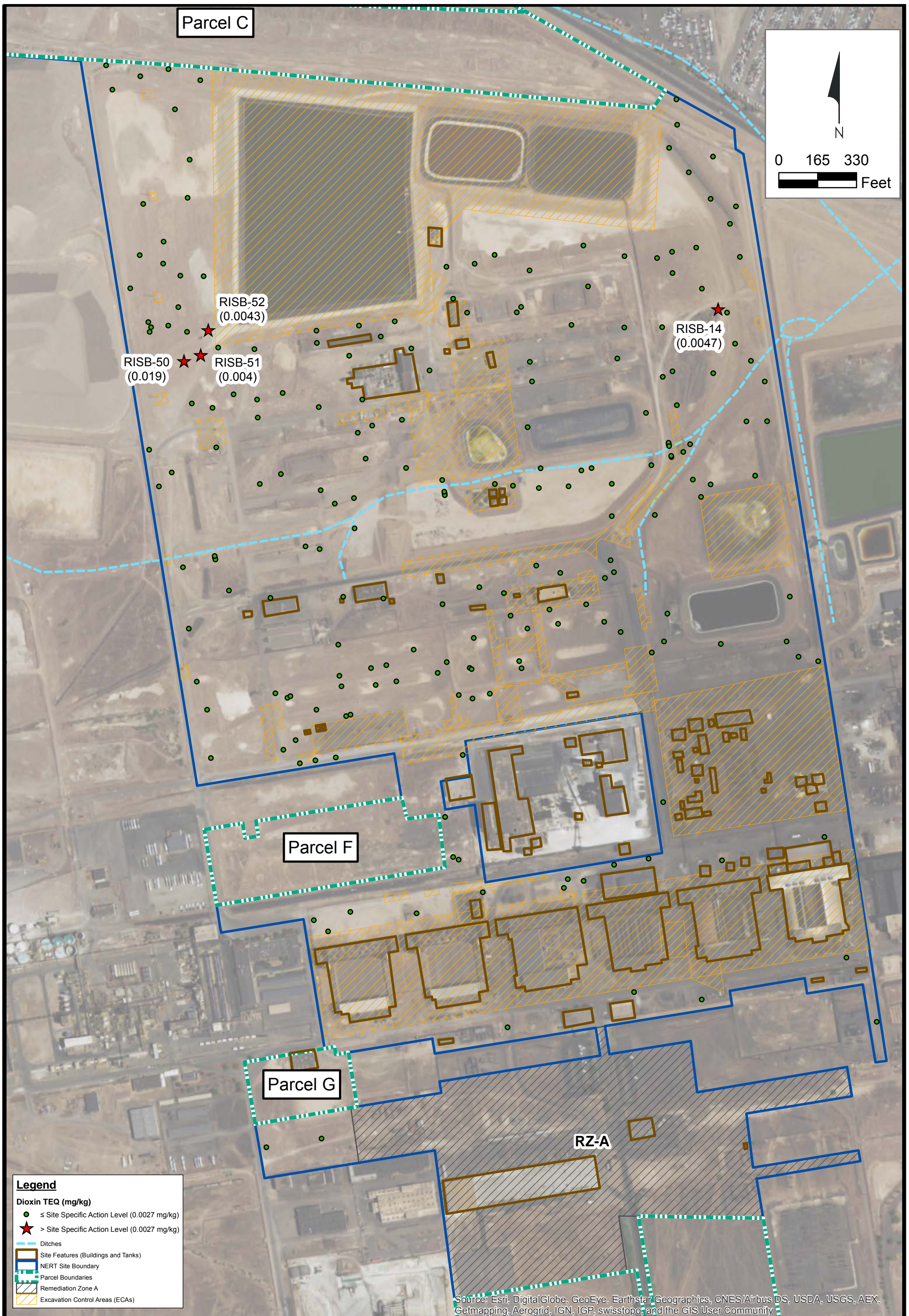
RZ-A

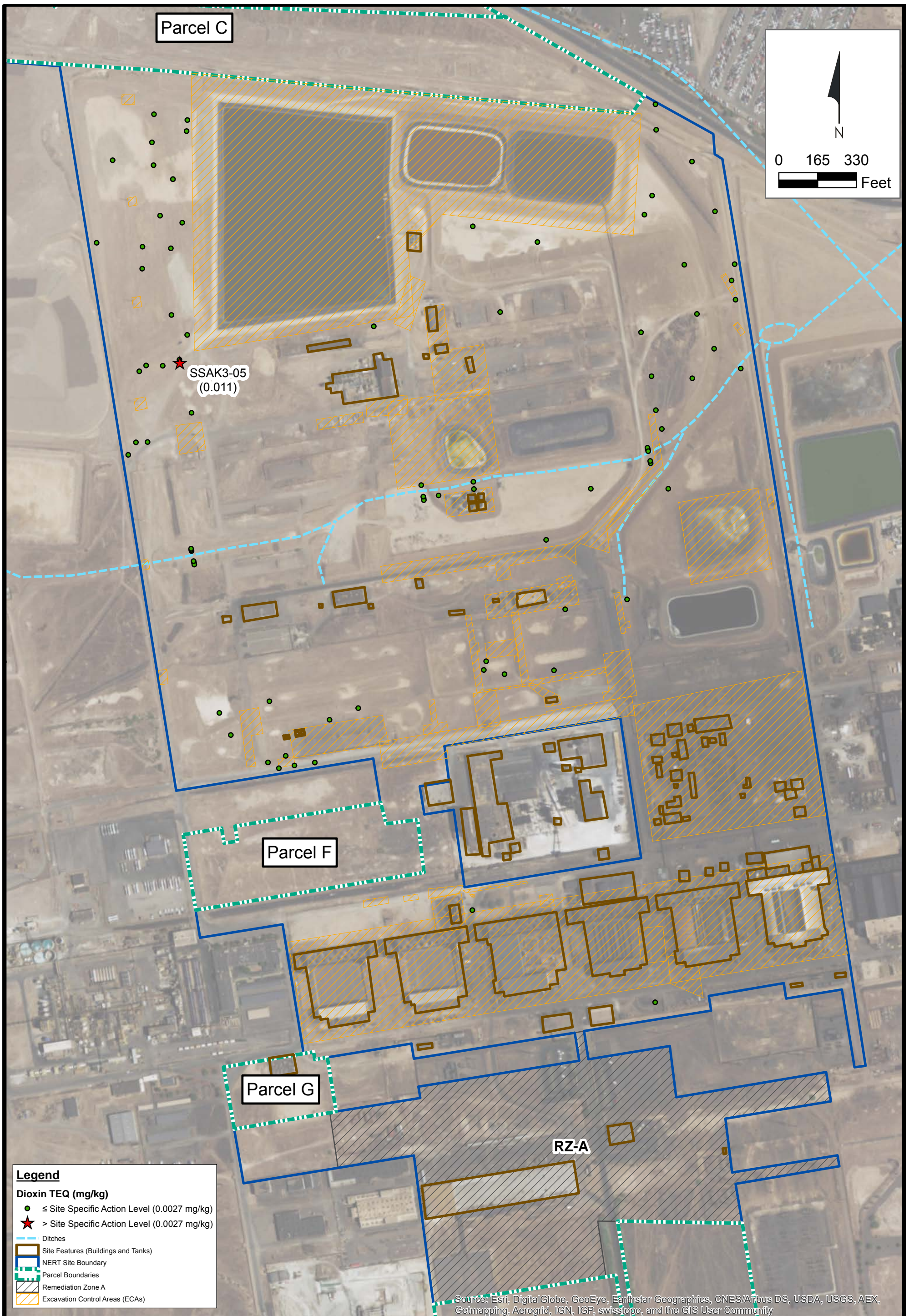
Legend

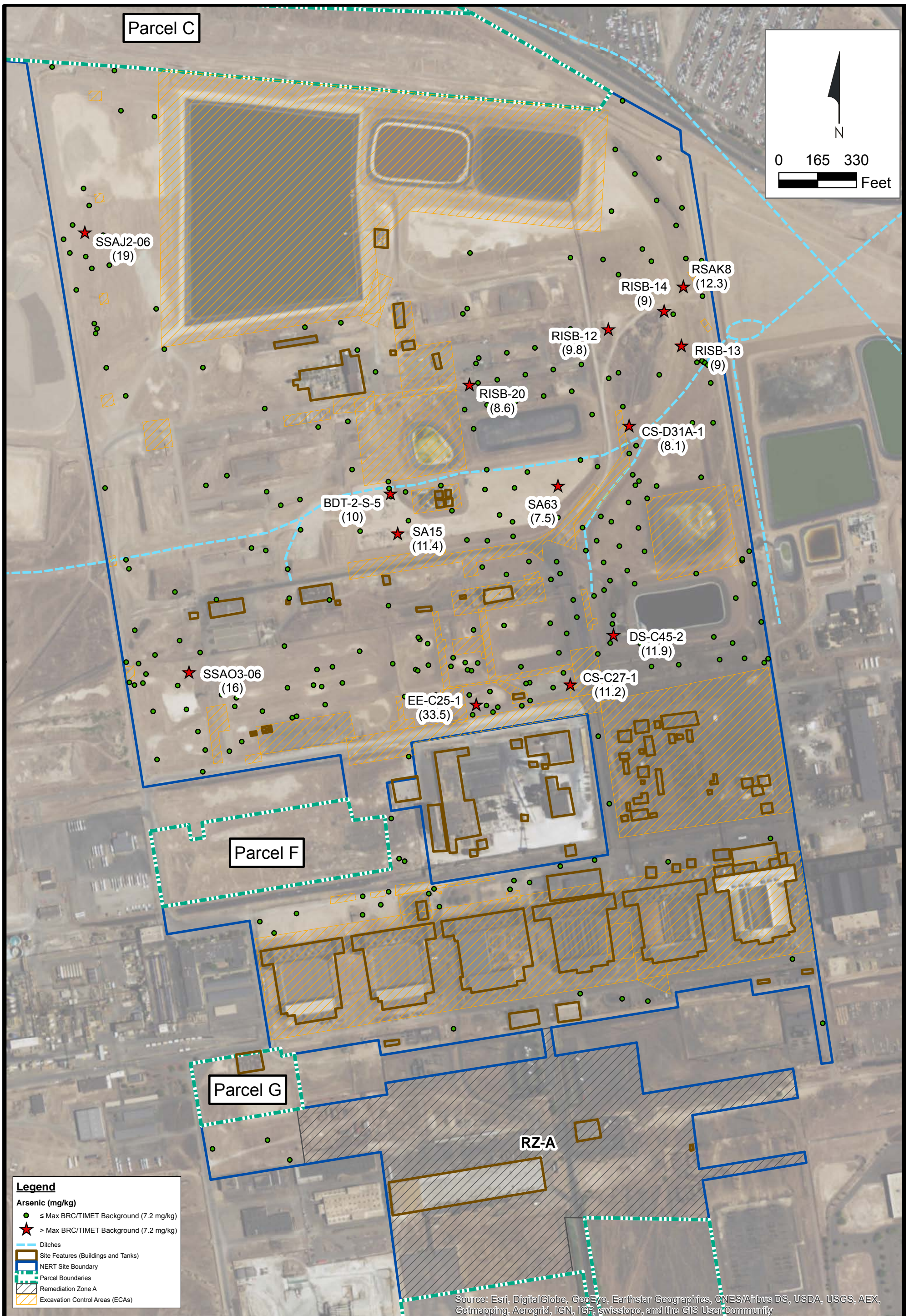
- Dioxin TEQ (mg/kg)**
- ≤ Site Specific Action Level (0.0027 mg/kg)
 - ★ > Site Specific Action Level (0.0027 mg/kg)
- Ditches
 - Site Features (Buildings and Tanks)
 - NERT Site Boundary
 - Parcel Boundaries
 - Remediation Zone A
 - Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

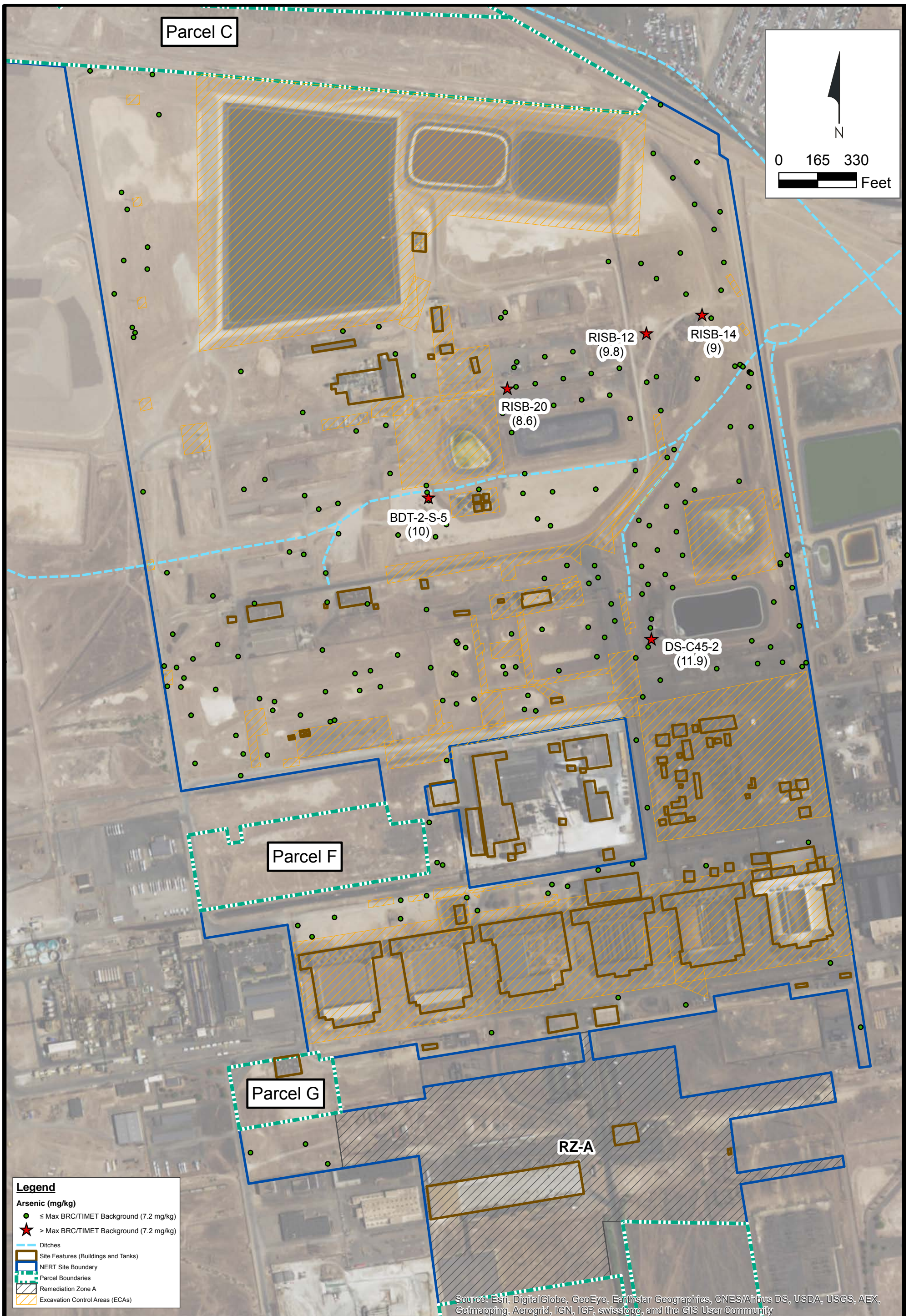
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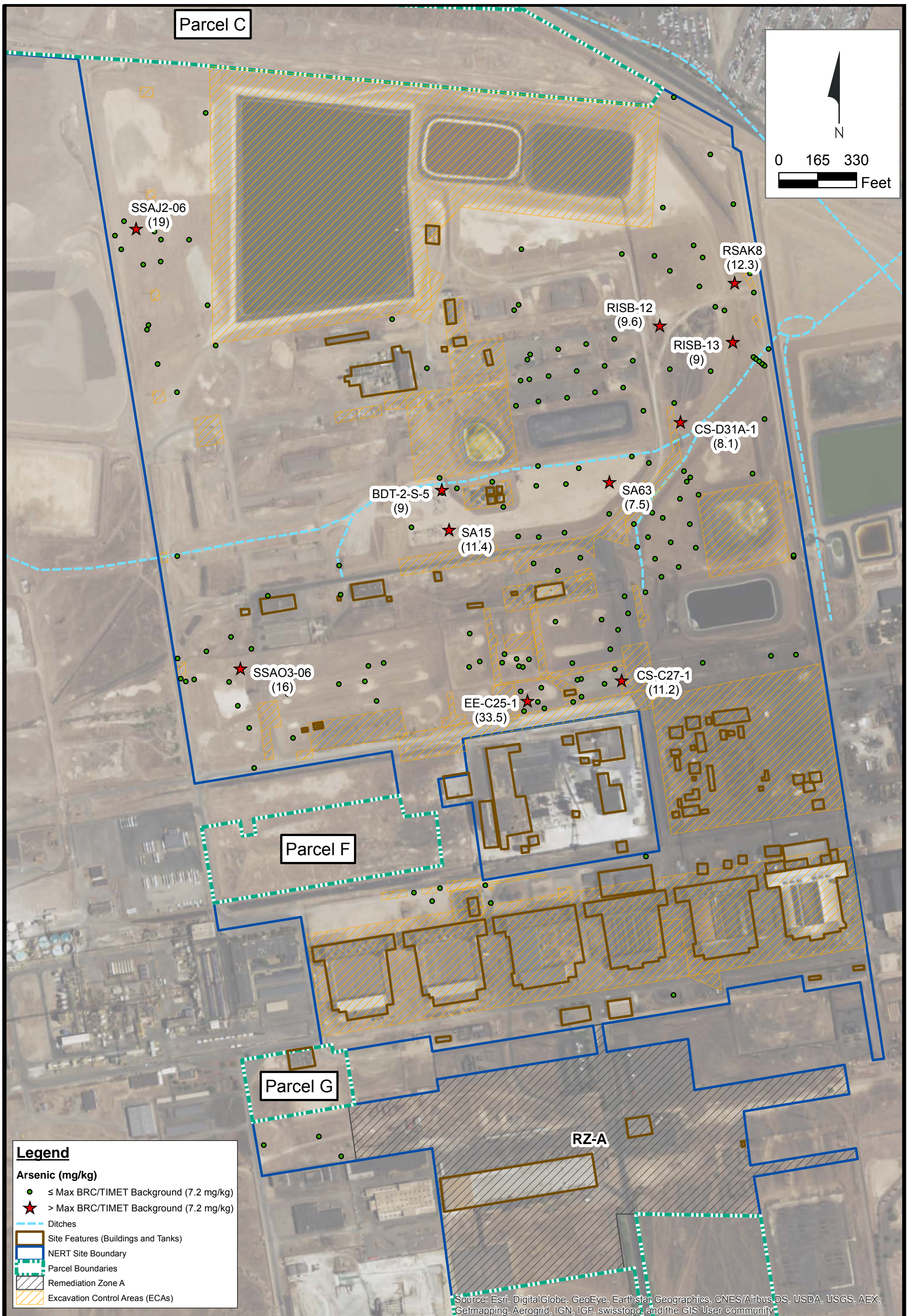




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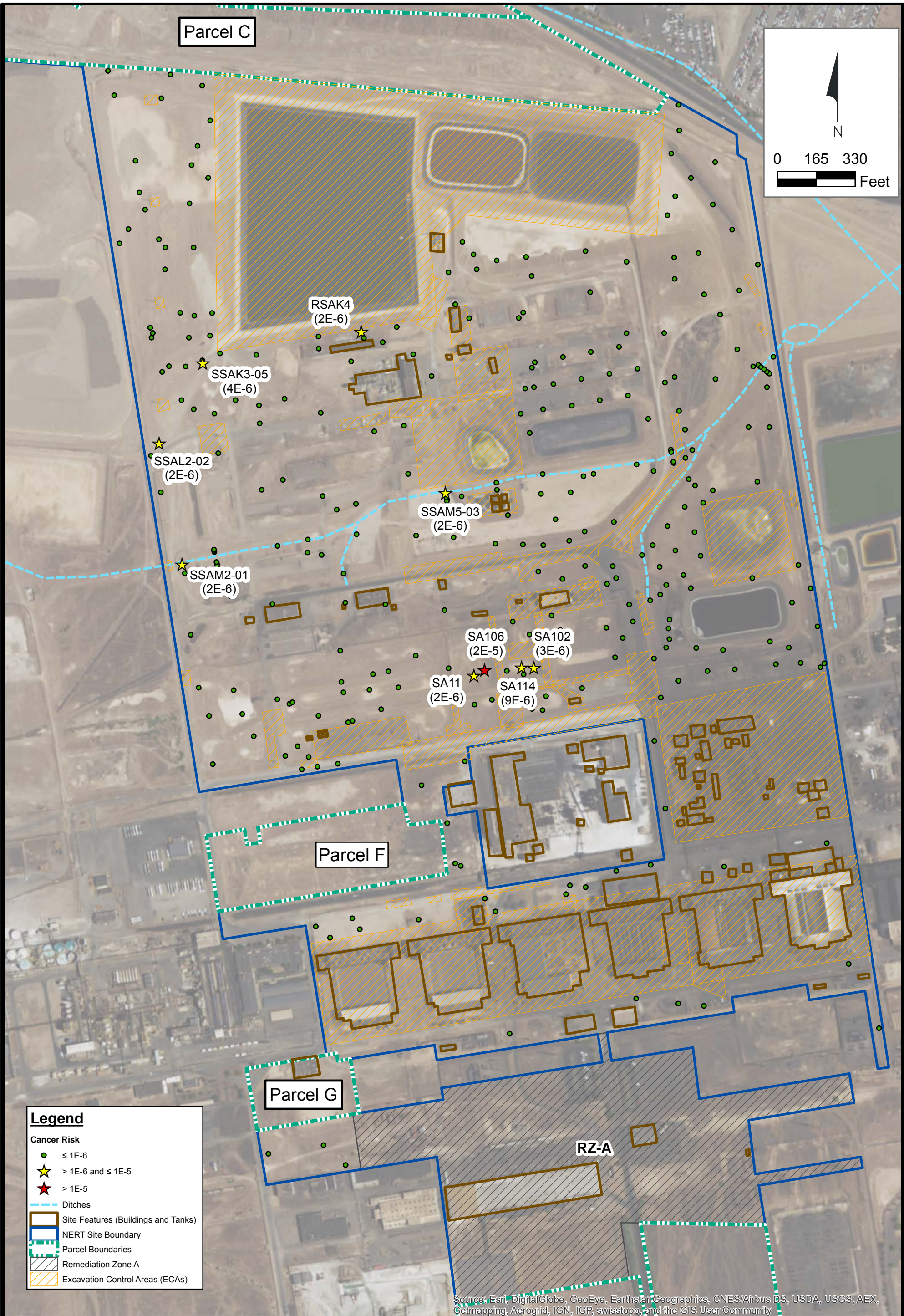
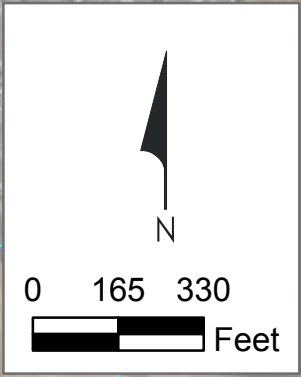


Path: H:\LePetomane\NERT\Risk_Assessment\Human Health\2017 COPC-EU Update\Map Files\Basemap_Live\Figure 2c_Risk_Arsenic_2-10.mxd

Spatial Concentration/Risk Plot for Arsenic (Soil Samples 2-10 ft bgs)
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
23c

Parcel C



Legend

- Cancer Risk**
- $\leq 1E-6$
 - ★ $> 1E-6$ and $\leq 1E-5$
 - ★ $> 1E-5$
- - - Ditches
 - ▭ Site Features (Buildings and Tanks)
 - ▭ NERT Site Boundary
 - ▭ Parcel Boundaries
 - ▨ Remediation Zone A
 - ▨ Excavation Control Areas (ECAs)

Parcel F

Parcel G

RZ-A

RSAK4
(2E-6)

SSAK3-05
(4E-6)

SSAL2-02
(2E-6)

SSAM2-01
(2E-6)

SSAM5-03
(2E-6)

SA106
(2E-5)

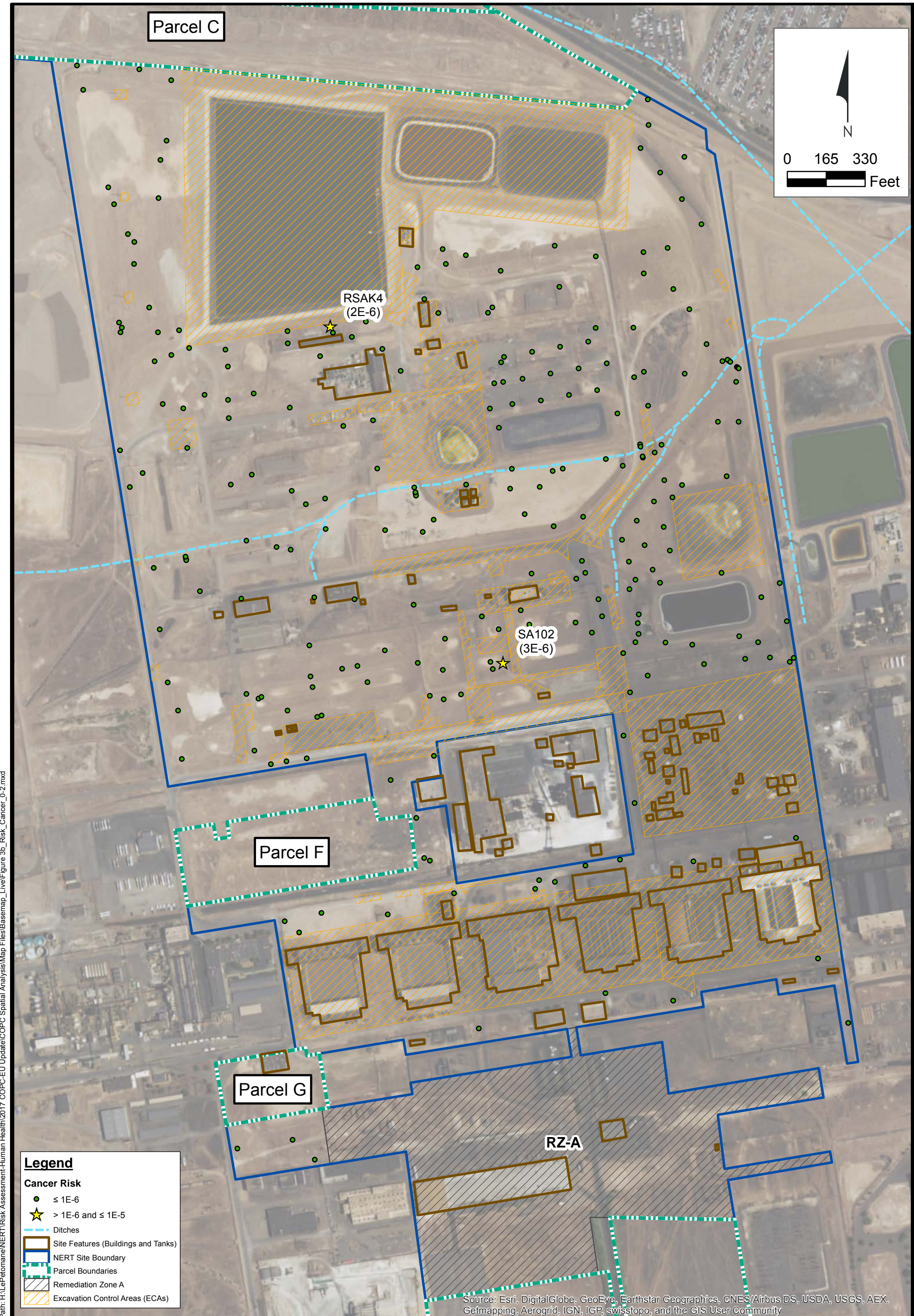
SA102
(3E-6)

SA11
(2E-6)

SA114
(9E-6)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePelomano\NERT\Risk Assessment\Human Health\2017 COPC-EU Update\COPC Spatial Analysis\Map Files\Basemap_Live\Figure 3a_Risk_Cancer.mxd



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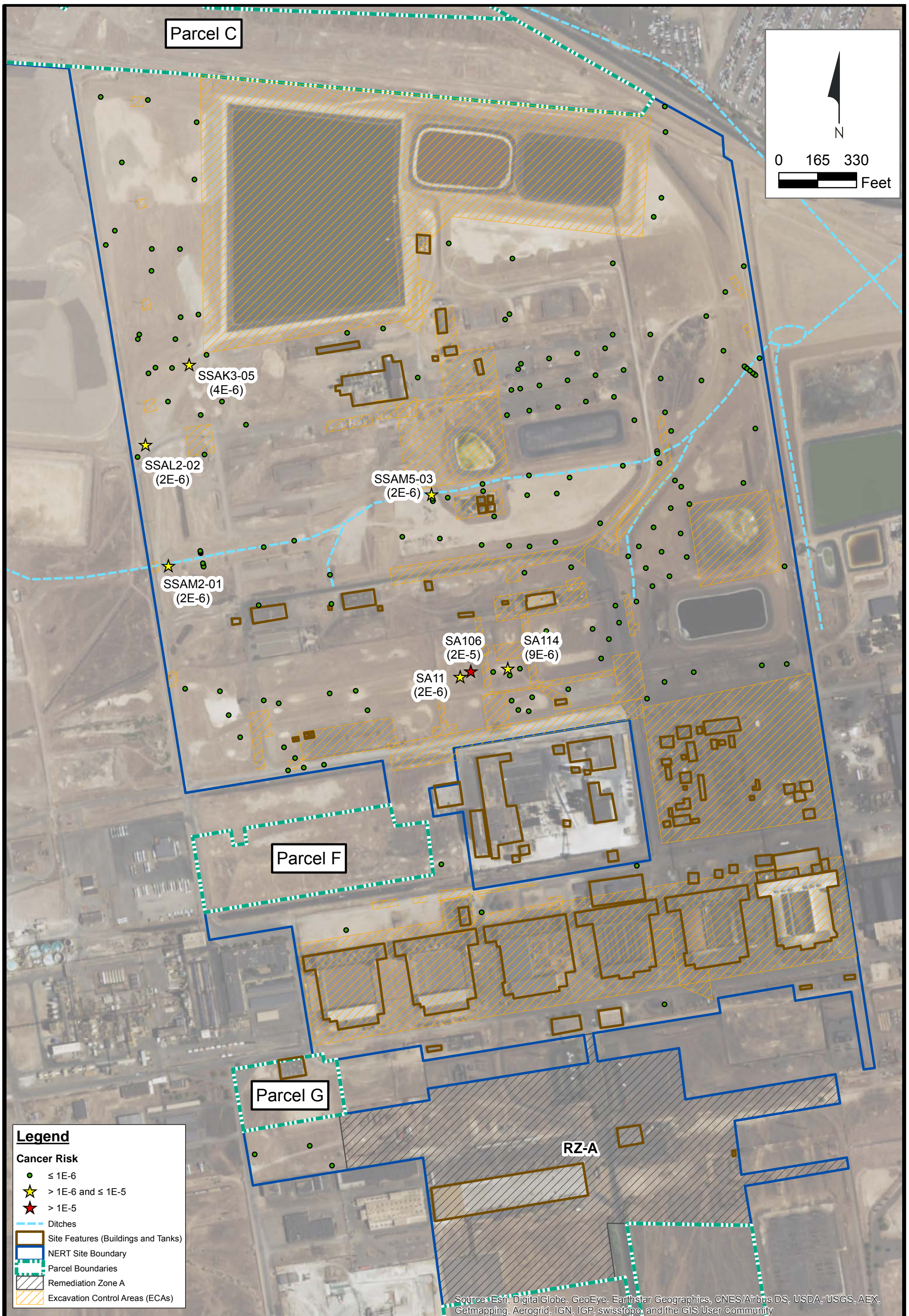
Legend

Cancer Risk

- $\leq 1E-6$
- ★ $> 1E-6$ and $\leq 1E-5$

- Ditches
- Site Features (Buildings and Tanks)
- NERT Site Boundary
- Parcel Boundaries
- ▨ Remediation Zone A
- ▨ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Legend

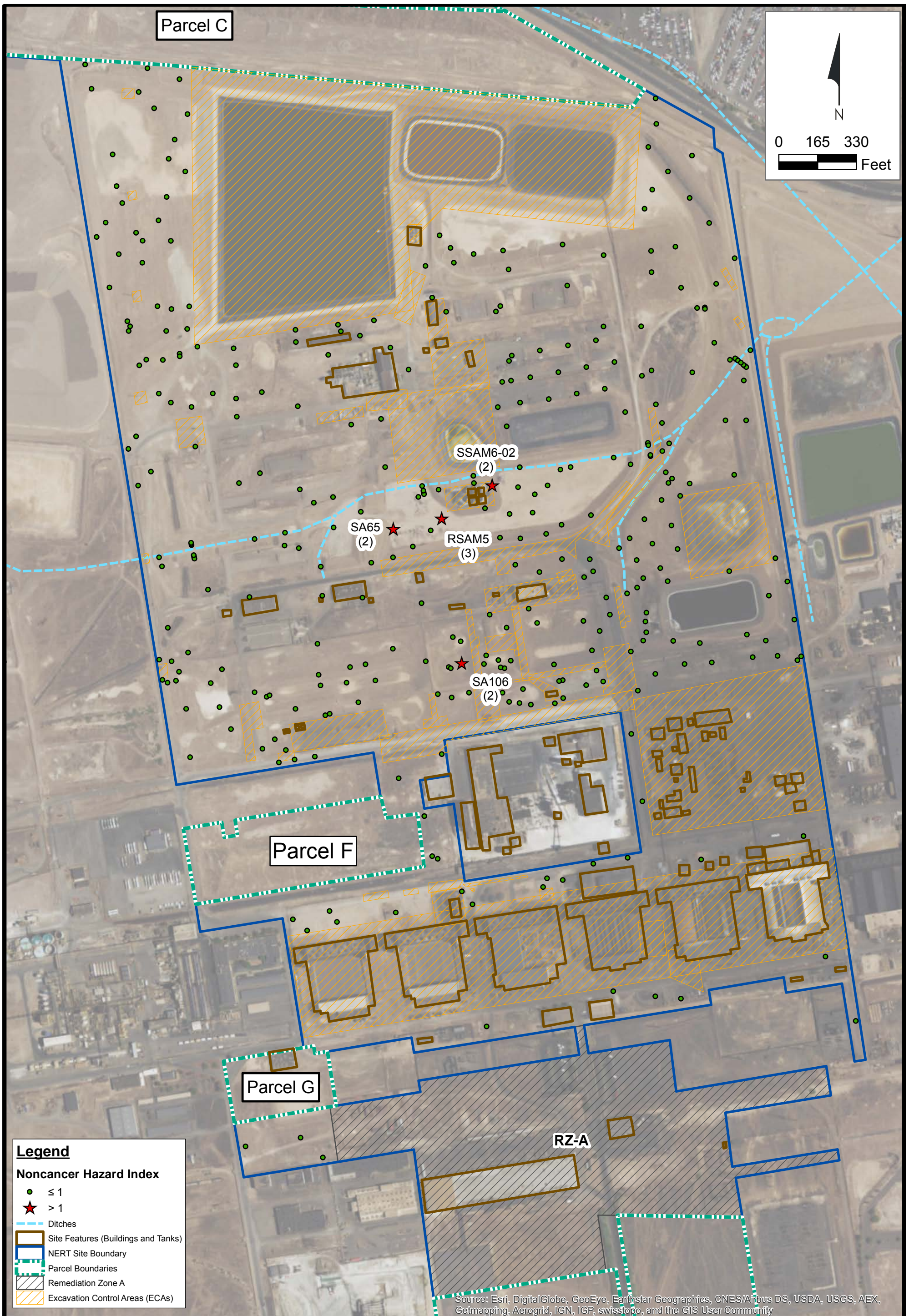
Cancer Risk

- $\leq 1E-6$
- ★ $> 1E-6$ and $\leq 1E-5$
- ★ $> 1E-5$

- - - Ditches
- ▭ Site Features (Buildings and Tanks)
- ▭ NERT Site Boundary
- ▭ Parcel Boundaries
- ▭ Remediation Zone A
- ▭ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePetomane\NERT\Risk_Assessment\Human_Health\2017 COPC-EU Update\COPC Spatial Analysis\Map_Files\Basemap_Live\Figure 3c_Risk_Cancer_2-10.mxd



Legend

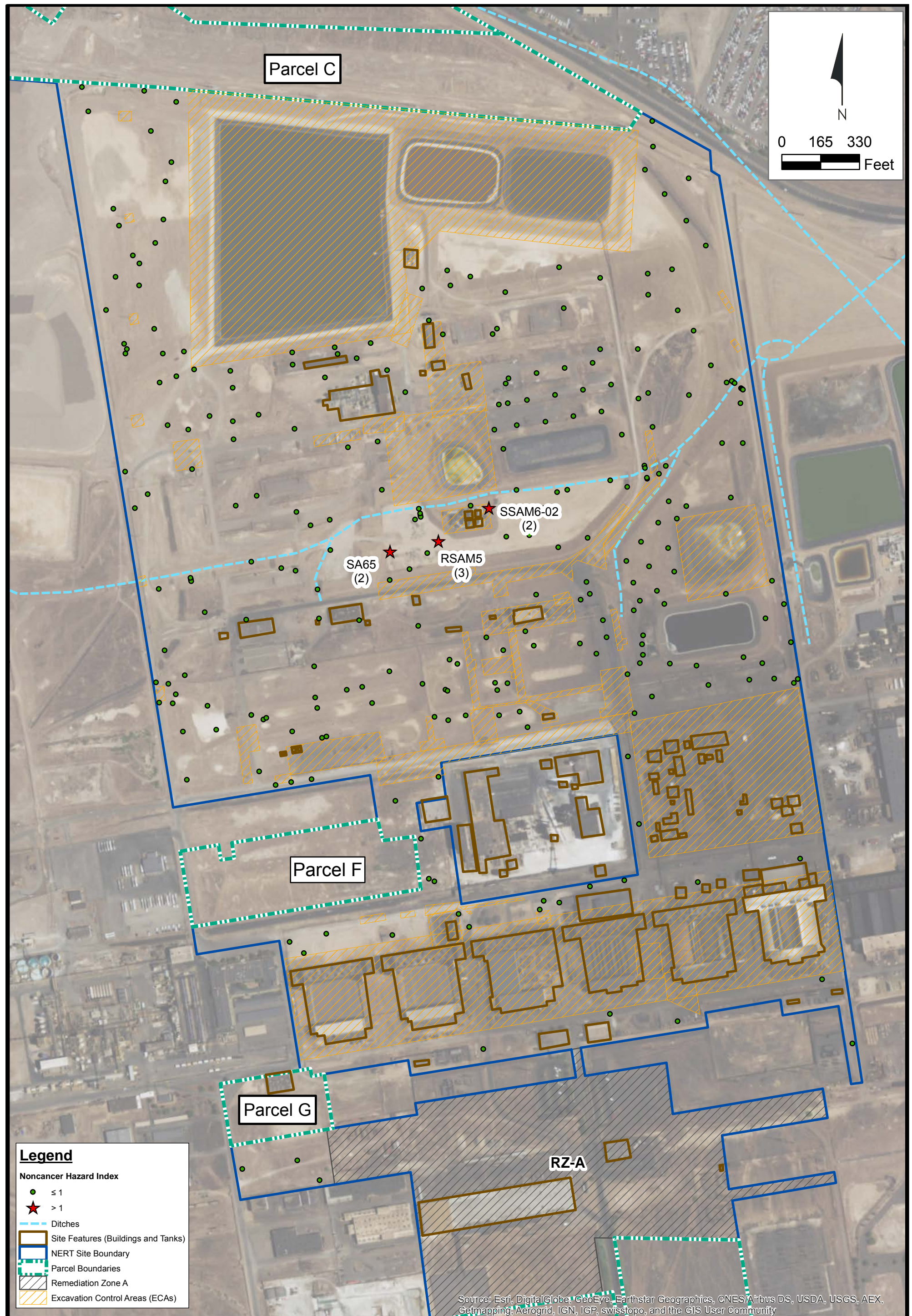
Noncancer Hazard Index

- ≤ 1
- ★ > 1

- - - Ditches
- ▭ Site Features (Buildings and Tanks)
- ▭ NERT Site Boundary
- ▭ Parcel Boundaries
- ▨ Remediation Zone A
- ▨ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePetomane\NERT\Risk_Assessment\Human_Health\2017 COPC-EU Update\COPC Spatial Analysis\Map_Files\Basemap_Live\Figure 4a_Risk_Noncancer.mxd



Legend

- Noncancer Hazard Index**
- ≤ 1
 - ★ > 1
- - - Ditches
 - ▭ Site Features (Buildings and Tanks)
 - ▭ NERT Site Boundary
 - ▭ Parcel Boundaries
 - ▭ Remediation Zone A
 - ▭ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePetomane\NERT\Risk_Assessment\Human_Health\2017 COPC-EU Update\Map_Files\Basemap_Live\Figure 4b_Risk_Noncancer_0-2.mxd

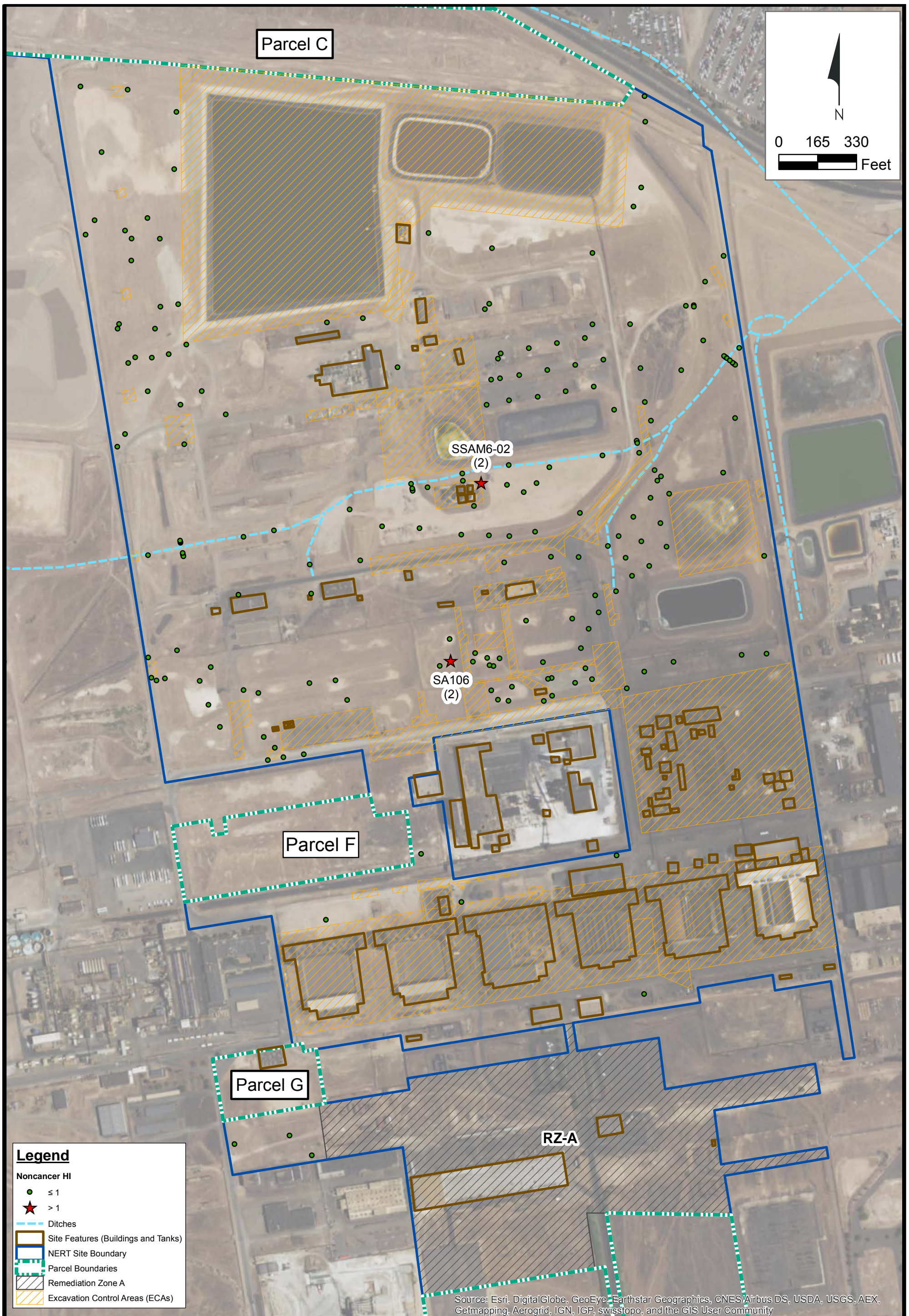
**Spatial Concentration/Risk Plot for Noncancer Hazard Indices
(Soil Samples 0-2 ft bgs)**
Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
25b



2200 Powell St., Suite 700, Emeryville, CA 94608

Drafter: RS Date: 10/17/2017 Contract Number: 21-41400C Approved by: Revised:



Legend

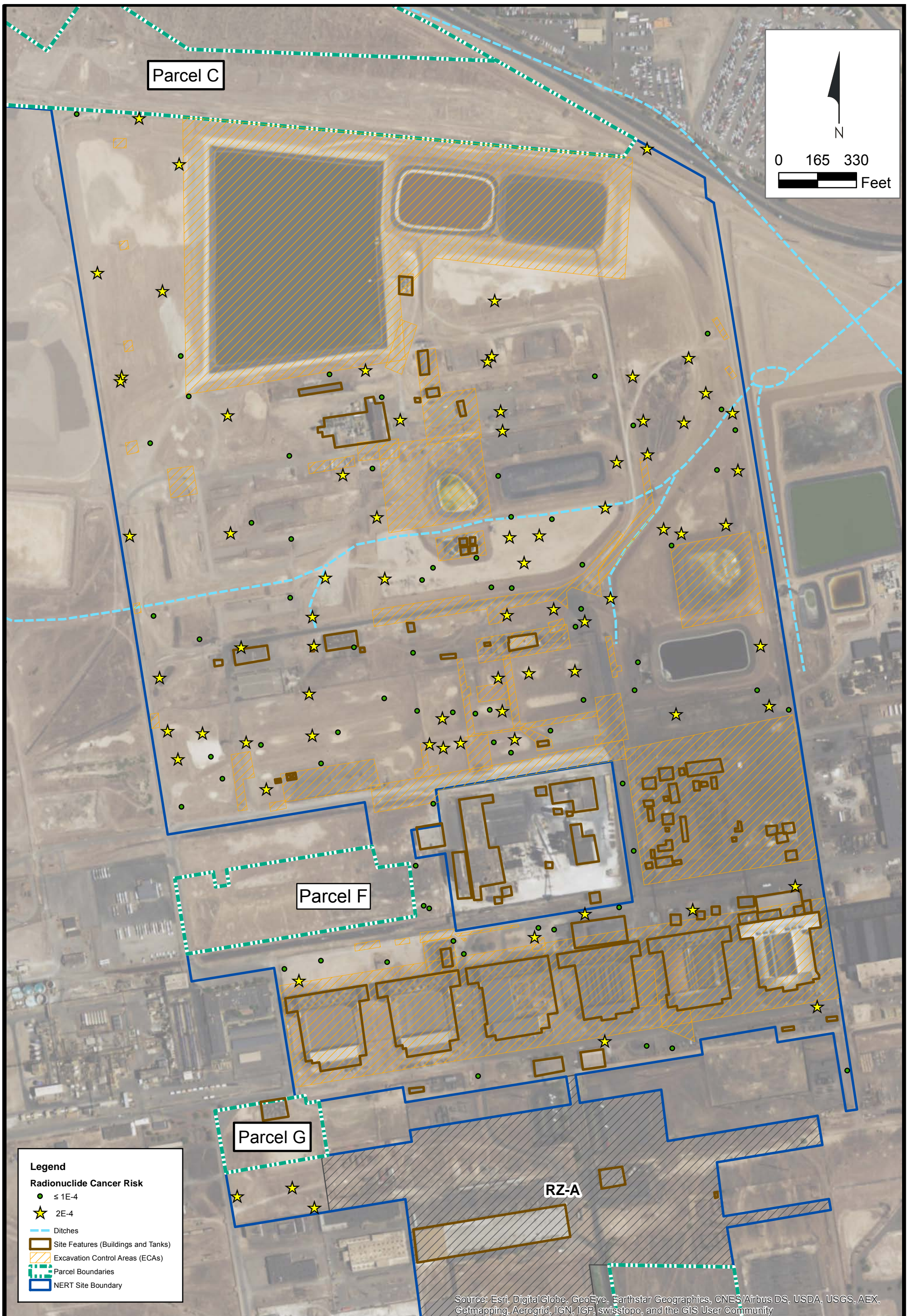
Noncancer HI

- ≤ 1
- ★ > 1

- - - Ditches
- ▭ Site Features (Buildings and Tanks)
- ▭ NERT Site Boundary
- ▭ Parcel Boundaries
- ▨ Remediation Zone A
- ▨ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePetomane\NERT\Risk_Assessment\Human_Health\2017 COPC-EU Update\Map_Files\Basemap_Live\Figure 4c_Risk_Noncancer_2-10.mxd

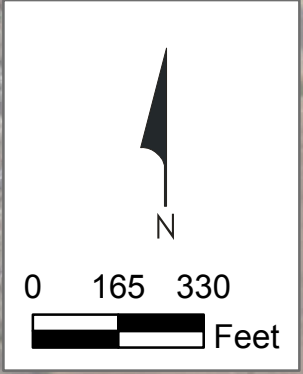


Parcel C

Parcel F

Parcel G

RZ-A



Legend

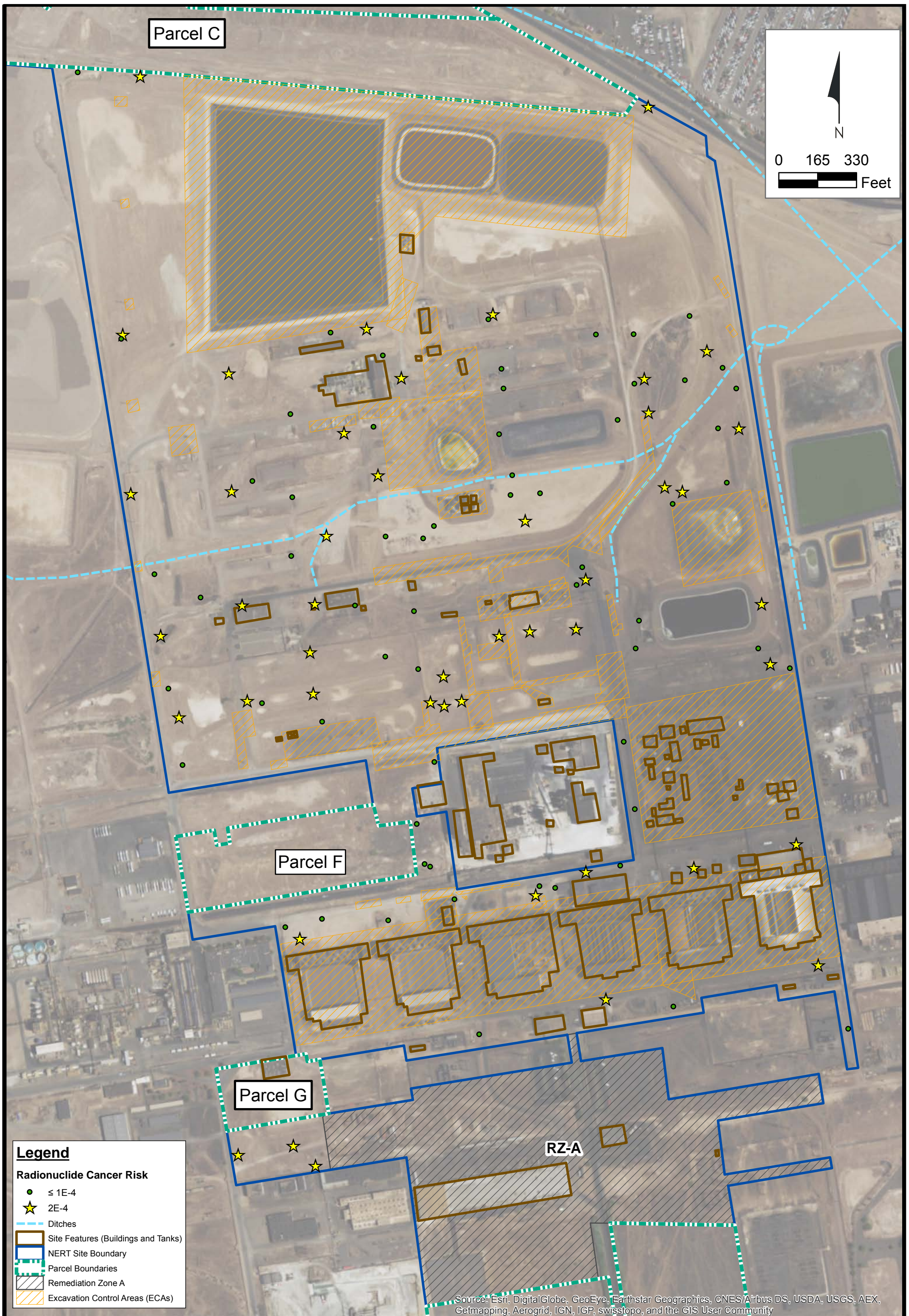
Radionuclide Cancer Risk

- ≤ 1E-4
- ★ 2E-4

- - - Ditches
- ▭ Site Features (Buildings and Tanks)
- ▨ Excavation Control Areas (ECAs)
- ▤ Parcel Boundaries
- ▭ NERT Site Boundary

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePetomane\NERT\Risk_Assessment\Human_Health\2017 COPC-EU Update\COPC Spatial Analysis\Map_Files\Basemap_Live\Figure 6a_Risk_Radionuc-2.mxd

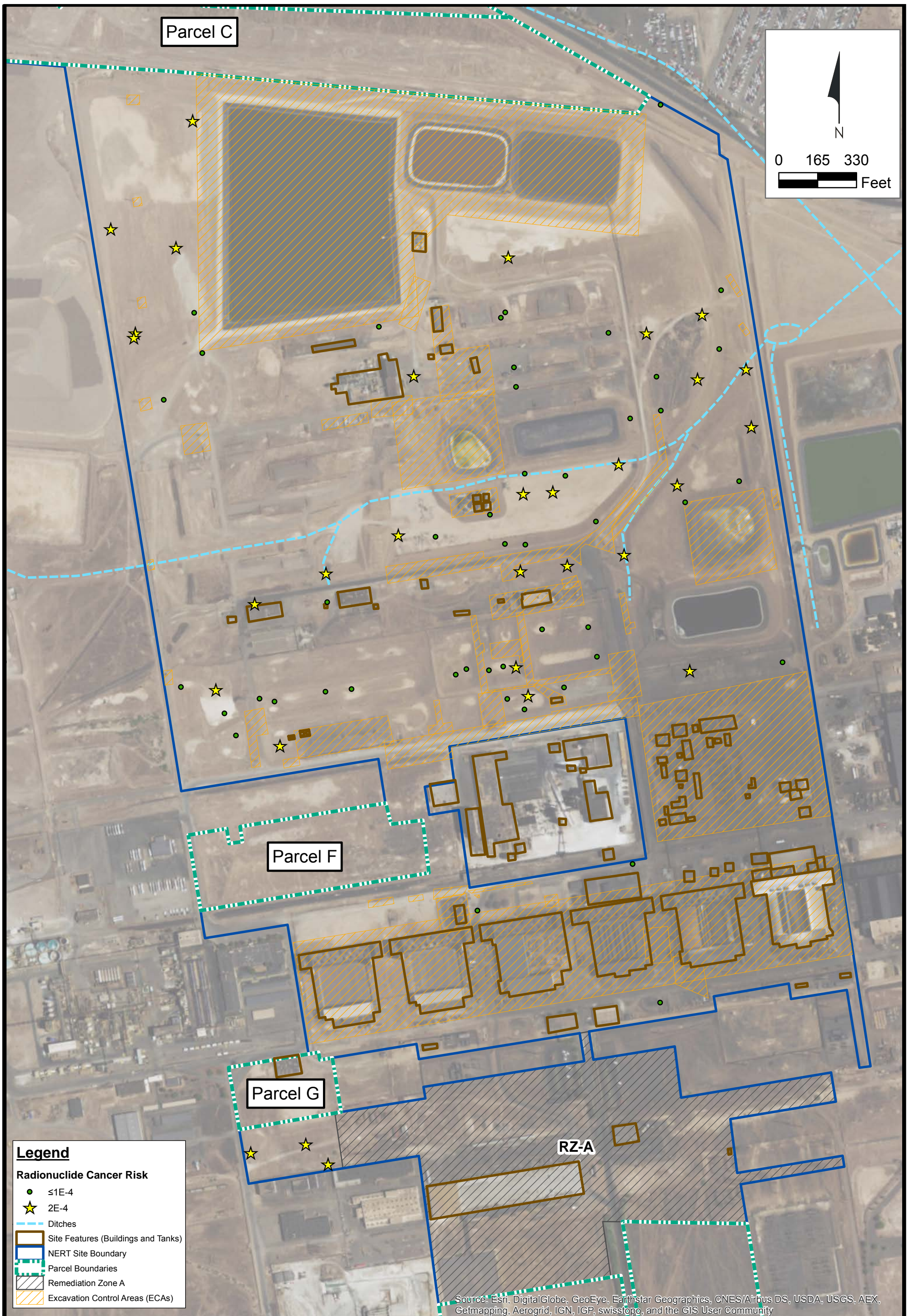


Legend

Radionuclide Cancer Risk

- $\leq 1E-4$
- ★ $2E-4$
- - - Ditches
- ▭ Site Features (Buildings and Tanks)
- ▭ NERT Site Boundary
- ▭ Parcel Boundaries
- ▨ Remediation Zone A
- ▨ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Legend

Radionuclide Cancer Risk

- ≤1E-4
- ★ 2E-4

--- Ditches

▭ Site Features (Buildings and Tanks)

▭ NERT Site Boundary

▭ Parcel Boundaries

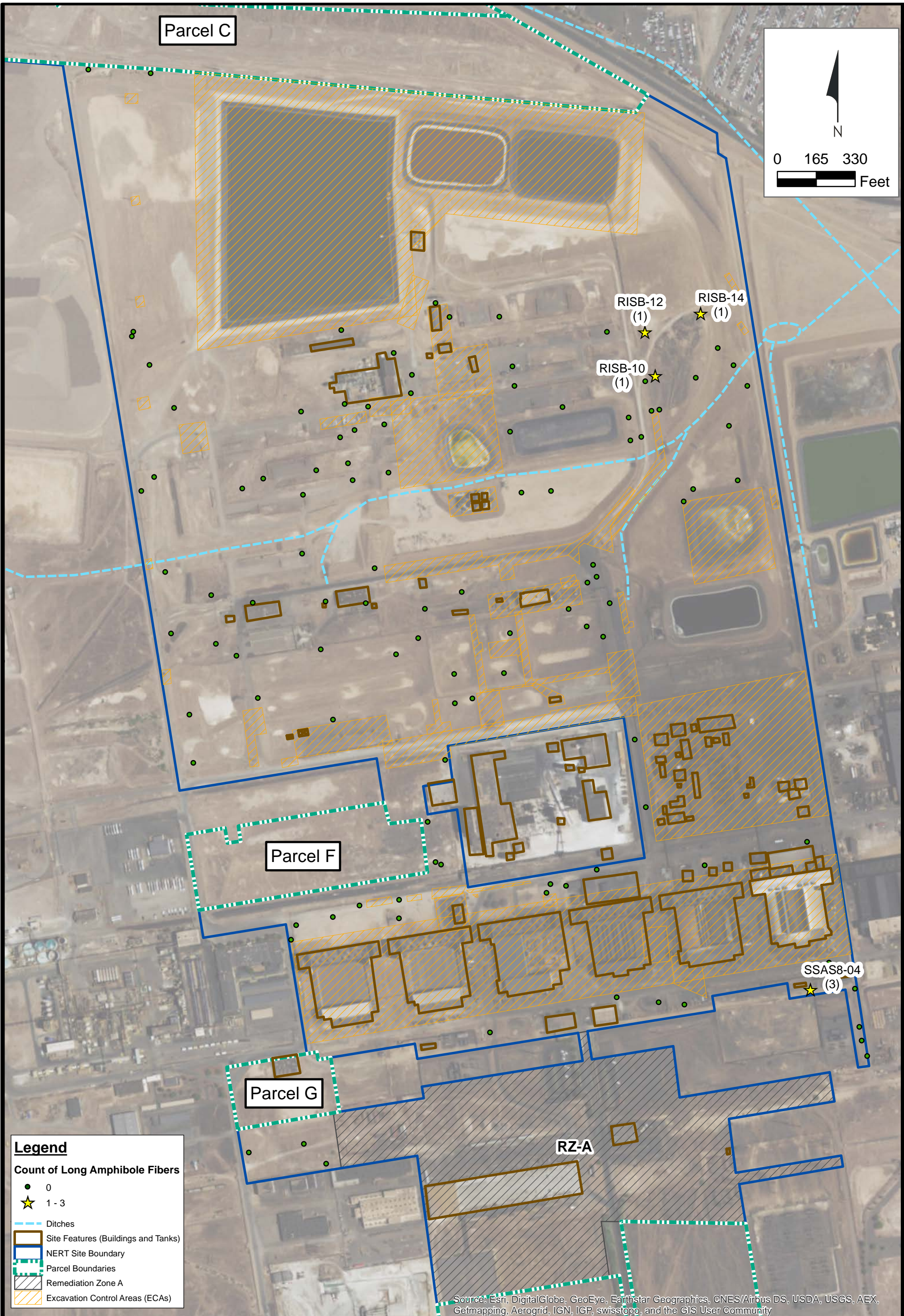
▭ Remediation Zone A

▭ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePetomane\NERT\Risk_Assessment\Human_Health\2017 COPC-EU Update\Map_Files\Basemap_Live\Figure 6c_Risk_Radionuc_2-10.mxd

Path: H:\LePelomane\NERT\Risk Assessment\Human Health\2017 COPC-EU Update\COPC Spatial Analysis\Map Files\Basemap_Live\Figure 6_Asbestos_Amphibole.mxd



Legend

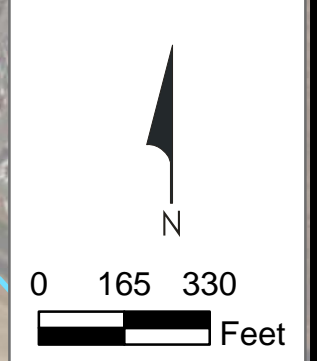
Count of Long Amphibole Fibers

- 0
- ★ 1 - 3

- - - Ditches
- ▭ Site Features (Buildings and Tanks)
- ▭ NERT Site Boundary
- - - Parcel Boundaries
- ▨ Remediation Zone A
- ▨ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Parcel C



Legend

- Long Chrysotile Fiber**
- 0
- ★ 1 - 3
- - - Ditches
- ▭ Site Features (Buildings and Tanks)
- ▭ NERT Site Boundary
- ▭ Parcel Boundaries
- ▭ Remediation Zone A
- ▭ Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



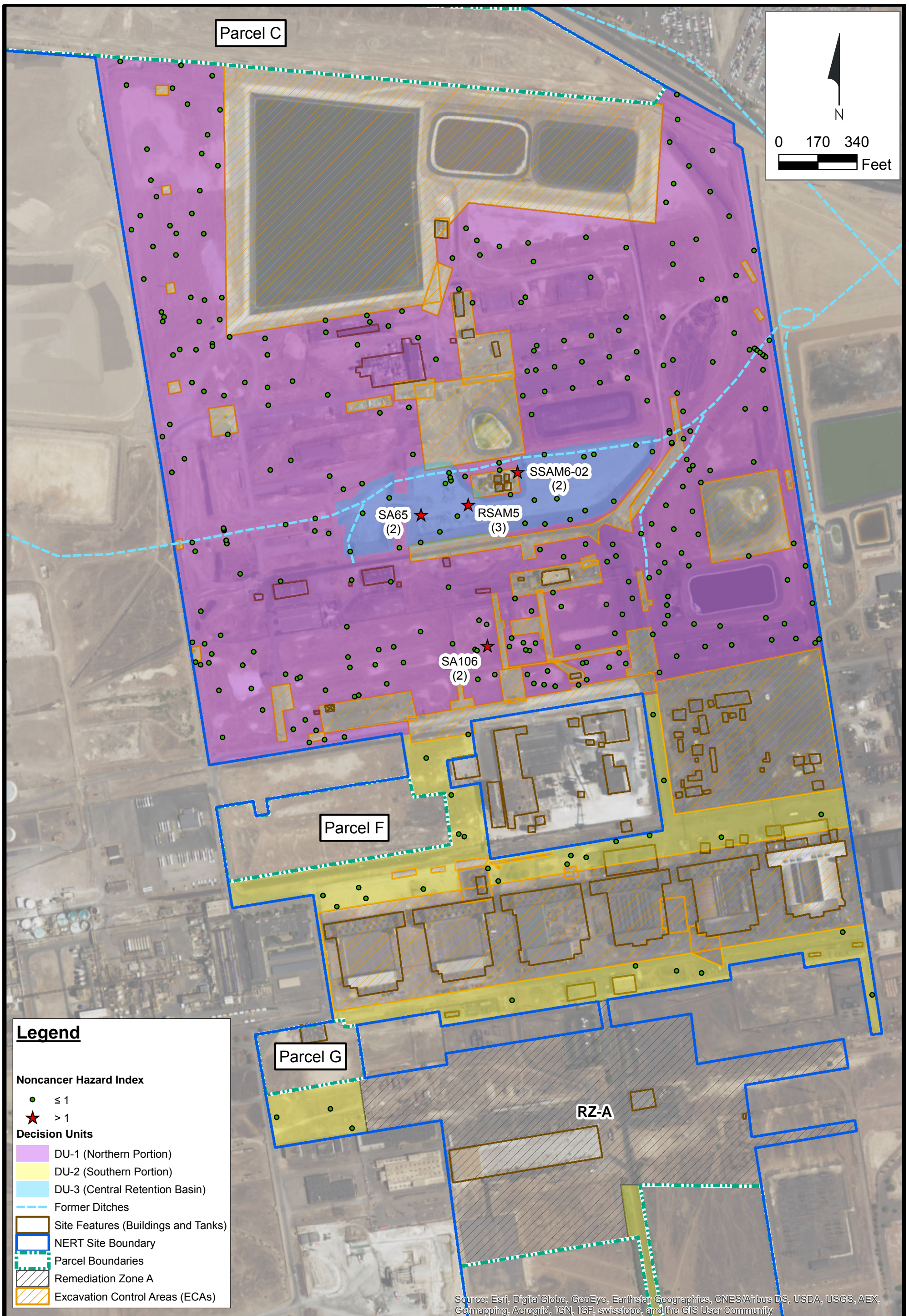
Spatial Concentration/Risk Plot for Long Chrysotile Fibers (Soil Samples)
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure 28

2200 Powell St., Suite 700, Emeryville, CA 94608

Drafter: EF Date: 10/17/2017 Contract Number: 21-41400C Approved by: Revised:

Path: H:\LePelomane\NERT\Risk Assessment\Human Health\2017 COPC-EU Update\COPC Spatial Analysis\Map Files\Basemap_Live\Figure 7_Asbestos_Chrysotile.mxd



Legend

Noncancer Hazard Index

- ≤ 1
- ★ > 1

Decision Units

- DU-1 (Northern Portion)
- DU-2 (Southern Portion)
- DU-3 (Central Retention Basin)
- Former Ditches
- Site Features (Buildings and Tanks)
- NERT Site Boundary
- Parcel Boundaries
- Remediation Zone A
- Excavation Control Areas (ECAs)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\LePetomane\NERT\Risk Assessment\Human Health\2017 COPC-EU Update\Map Files\Basemap_Live\Figure 12_Proposed DUs.mxd

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

**APPENDIX A
RESPONSES TO NDEP'S DECEMBER 22,
2016 COMMENTS ON THE AUGUST 26, 2016
INTERIM REPORT, IDENTIFICATION OF
COPCS AND EXPOSURE UNITS FOR SOILS**

NDEP Comment	Response to Comment
Fatal Flaw	
<p>1. <u>Section 5.1, first bullet, page 26.</u> The Exposure Units do not seem to have any relation to a possible chronic exposure area for some individual. Hence it does not seem appropriate to call them exposure units. They seem to relate almost wholly to current land use and infrastructure. Further substantiation is warranted otherwise alternative EUs should be considered (e.g., based upon the Conceptual Site Model and the potential exposure realm for future on-site populations).</p>	<p>As discussed at the December 19, 2016 meeting with NDEP (see Meeting Minutes in Attachment 1 to Appendix A), the term "Decision Unit" [DU] will be used in place of the term "Exposure Unit" in upcoming reports. It was proposed at the meeting that the Study Area would be considered as a whole, and a COPC-specific statistical and spatial analysis would be conducted to support the selection of DUs.</p> <p>In the revised COPC/DU report, Ramboll Environ conducted a COPC-specific, risk-based spatial analysis, and generated a series of spatial plots of concentrations, cancer risks, and noncancer hazard indices (HIs) (see Section 5.1). Three new DUs have been proposed based on these analyses (see Section 5.2). A WebEx meeting was also held on October 5, 2017 to present the results of these analyses to NDEP, and NDEP did not provide any further comments on the information presented during the meeting.</p>
Essential Corrections	

NDEP Comment	Response to Comment
<p>2. <u>Section 2.2 Remedial Investigation – Soil, Page 7, First paragraph, third line from the bottom, page 7 (Remedial Investigation Data Evaluation Technical Memorandum (Ramboll Environ 2016), which is currently under NDEP review).</u> If the memorandum is still under review, please identify the exposure units (EUs) that may be affected by the pending review and how this might affect the selection of COPCs in soil.</p>	<p>Around the same time as the submittal of the interim COPC/EU report on August 26, 2016, NDEP completed its review of the Remedial Investigation Data Evaluation Technical Memorandum (dated July 13, 2016). NDEP did not comment on the specific investigations conducted to support the baseline health risk assessment and no additional data needs were identified for risk assessment purposes.</p> <p>Although additional data has been or will be collected (Phase 2 RI, Phase 3 RI, Unit 4 and 5 Buildings Investigation), these data are being collected primarily to evaluate fate and transport of perchlorate and other constituents in soil and groundwater. Further, NDEP agreed that comments on the Remedial Investigation Data Evaluation Technical Memorandum can be addressed in the forthcoming remedial investigation report such that a revised Remedial Investigation Data Evaluation Technical Memorandum will not be prepared. NDEP approved the memorandum on August 23, 2016.</p> <p>Because planned additional data collection efforts are being conducted primarily to evaluate fate and transport of perchlorate and other constituents in soil and groundwater, we do not anticipate that the additional soil data will impact the proposed DU(s) or the selection of COPCs. Any additional soil data collected from the 0-10 foot depth interval within the Study Area will be included in the risk assessment data set. The COPC selection steps will be repeated in the BHRA using the updated data set and the DU(s) will be reviewed to ensure that the additional soil results do not impact our current understanding of the spatial distribution of soil contamination.</p>
<p>3. <u>Section 3.1 Data Usability Evaluation, second paragraph, last line, page 8.</u> Please discuss how the review of EU-specific data relative to Criterion VI with NDEP may affect the selection of COPCs. For example, if there are potential issues with data quality indicators, then this could affect the selection of COPCs (and is there a chance that COPCs have been eliminated prematurely?).</p>	<p>Please see response to Specific Comment #1. A review of the DU-specific data relative to Criterion VI is presented in Section 5.3, and the impacts of potential issues with data quality indicators on the COPC selection and DU identification are also further discussed in the same section. The results indicated that no COPCs have been eliminated prematurely.</p>

NDEP Comment	Response to Comment
<p>4. <u>Section 3.1.4 Criterion III – Data Sources, 2nd paragraph, last sentence, page 11.</u> The document states that based on the review that sample coverage from the historical investigations and RI are considered adequate for the BHRA. However, there are some areas that are still undergoing investigation to fill data gaps. Therefore, this statement is misleading. Please caveat by indicating areas where sample coverage is still being investigated.</p>	<p>Please see response to Specific Comment #2. This statement has been revised to reflect the status of the data collection activities to date.</p>
<p>5. <u>Section 3.1.5, Criterion IV, first paragraph, second sentence, page 12.</u> Table 2 is Soil Sampling Results for Asbestos. Suggest correct to reference Table 3.</p>	<p>The table number has been revised.</p>
<p>6. <u>Section 3.2.1 Summary Statistics, Last paragraph, last line, page 13.</u> The text notes that limitations in the available data sets will be discussed in the BHRA. However, the purpose of a data usability section to select COPCs, is to identify the limitations. If additional data collection is ongoing, then this can be documented in the explanation.</p>	<p>This sentence has been revised as follows: "For most analytes, the summary statistics are based on the results of between 200 and 700 samples, although for some analytes (particularly those not expected to be site related) the analytical data set is much more limited (<20 samples). However, the analytes with limited sample size were never detected (e.g., chlorite, some SVOCs and VOCs) and/or were not SRCs (e.g., lithium, niobium, chlorite, fluoride, some SVOCs and VOCs). Therefore, the limited sample size for these analytes does not impact the COPC selection and DU identification.</p> <p>Considering both the data review conducted by Ramboll Environ and the data reviews conducted by NDEP prior to the removal action and the NDEP-approved RAW, the existing data set is considered adequate for risk assessment purposes. Planned additional data collection efforts are being conducted to support the evaluation of fate and transport of perchlorate and other constituents in soil and groundwater. Any additional soil data collected from the 0-10 ft depth interval within the Study Area will be included in the BHRA data set. If additional data are added, the COPC selection and DU identification will be revised using the updated complete BHRA data set in the forthcoming BHRA report."</p>

NDEP Comment	Response to Comment
<p>7. <u>Section 3.2.4 Comparison to CSM second bullet, page 18.</u> Review of Table D2 indicates boron and hexavalent chromium had low detection frequencies as indicated by "LDF" and suggests background comparison results may not be applicable. Additionally, thallium and tungsten indicate that study area samples are greater than background samples in the last column of the table but are not addressed in this section of the text. Suggest verifying and revising text/tables accordingly.</p> <p>Additionally, Table 6 data for "Study Area > Bkg?" are not in agreement with Table D2 for boron, chromium VI, and iron. Please revise accordingly.</p>	<p>In the revised report, the background evaluation has been performed using the updated BHRA data set. The tables have been revised accordingly. Also, clarifying text has been added to Section 3.2.4 to discuss the background comparison results of boron, hexavalent chromium, thallium and tungsten.</p>
<p>8. <u>Section 4.1 Step 1 – Concentration/Toxicity Screen, Second paragraph, third line, page 21.</u> The text states that "...with the exception of the analytical results excluded based on the DUE (see Section 3)." However, the DUE section does not discuss the excluded data. In addition, Table 1 does not explicitly list the data that are excluded. Please provide.</p>	<p>The data excluded during data processing are discussed in Section 3.1.1. A list of the data that are excluded are provided in Appendix B, Table B-2. The text has been revised to lead the reader to the location of the appropriate table.</p>
<p>9. <u>Section 4.1.4, Page 23</u> There are several soil samples with multiple amphibole protocol structures: 1, 2, 3, 4, 7, 9, and 11 fibers. The "intensity plot" for asbestos only shows grids where fibers were detected, so in fact no intensity at all, just 0/1. Please revise such that intensity is indicated in some manner (e.g., color coding).</p>	<p>The intensity plot for asbestos has been revised by using color coding to indicate different ranges of fiber counts (see Figure 21). Most of the asbestos samples with high fiber counts (> 4) are no longer in the current BHRA data set because several samples included in the 2016 BHRA data set were confirmed as having been removed during the interim soil removal actions conducted in 2010 and 2011.</p>

NDEP Comment	Response to Comment
<p>10. <u>Section 4.4 Study Area Preliminary COPCs last bullet, page 25.</u> This radionuclide did not pass the background evaluation. The investigator's note to interpret "with caution" the U-235 results yet the DUE found the data usable for risk assessment. Suggest U-235 be continued into the risk assessment where its overall contribution to risk can be further evaluated.</p>	<p>As discussed in the DUE in Section 3, radionuclide data are usable for risk assessment. The results of the background evaluation for radionuclides are discussed in Section 4.2 for the entire Study Area and Section 5.4.2 for individual DUs. Given that the validity of the statistical testing is complicated by several issues associated with sample preparation and analytical methods, it is difficult to interpret the results of the background evaluation for radionuclides and consider them as a reliable basis for the COPC selection. To provide a point of comparison from a health risk perspective, the total radionuclide cancer risk at each sampling location was compared to the total radionuclide cancer risks for the RZ-A background soils and BRC/TIMET regional background soils. As indicated in Figures 26a through 26c, the estimated total radionuclide cancer risks were either below or at 2×10^{-4} throughout the Study Area, which were consistent with the estimated total radionuclide cancer risks for the RZ-A background and BRC/TIMET regional background (Table 12). Radionuclides are not known to be associated with any of the former operations at the Site. Therefore, radionuclides were not identified as COPCs for any DU.</p>
<p>11. <u>Section 4.1.4, first full paragraph, first sentence, page 26.</u> It is stated that Th-232 is within background yet Figure D1-30 shows total uranium results that clearly have a tail extending well outside the range of background results. This warrants further discussion.</p>	<p>Ramboll Environ has assumed this comment is related to uranium (total) versus U-238 decay series (instead of Th-232 decay series). These two terms refer to different groups of constituents, were reported in different units (mg/kg for uranium [total] and pCi/g for U-238 decay series), and were evaluated against different background data sets. As indicated in Table F-4, for the U-238 decay series, all radionuclide activities were consistent with background levels. Statistical testing results in Table F-2 indicate that the uranium (total) concentration was consistent with the background level, although Figure F1-30 shows a tail extending well outside the range of background results. This issue will not affect the COPC selection, because uranium (total) passed the toxicity screen (Table 8) and would not be identified as a COPC regardless of the results of background evaluation.</p>

NDEP Comment	Response to Comment
<p>12. <u>Section 5.1, Page 26.</u> The size of the six EUs range from about 12 to 45 acres. There is some narrative of which COPCs are elevated in each EU, but no indication that spatial patterns of contamination were used to define these areas. Please expand this discussion accordingly by elaborating on how and why they were defined in this manner.</p>	<p>Please see the response to Specific Comment #1. A COPC-specific, risk-based spatial analysis was conducted and a series of spatial plots of concentrations, cancer risks, and noncancer HIs were reviewed (see Section 5.1). Three new DUs have been proposed based on these analyses (see Section 5.2).</p>
<p>13. <u>Section 5.1, last paragraph, page 26.</u> The plots showing the spatial distribution of COPCs don't assist with the visualization of whether the outliers in the boxplots of many COPCs occur in common areas or independently. Please see Specific Comment #19, fourth paragraph for additional recommendations.</p>	<p>In the spatial quartile plots presented in Appendix G, the concentrations bins are tied to those used for the box plots (i.e., <Q1, Q1-Q3, Q3 + [1.5 x IQR] and > Q3 + [1.5 x IQR]). These plots provided the visualization of whether the outliers in the boxplots of many chemicals occur in common areas or independently.</p>
<p>14. <u>Section 5.2, Page 27.</u> Figure 19 shows that these areas are not all spatially contiguous and as such they are not plausible exposure units. Please see Fatal Flaw #1 and Specific Comment #12.</p>	<p>Please see the responses to Specific Comments #1 and #12.</p>
<p>15. <u>Section 5.2, footnote 18, page 27.</u> There should be some basis in an exposure model for how big a "localized area" might be. The 1-acre grid could be a localized area, or 10 grids, or...? Please provide a more definitive discussion.</p>	<p>Please see the response to Specific Comment #1.</p>

NDEP Comment	Response to Comment
<p>16. <u>Page 5 of Table 1.</u> This table lists DOE EML HASL 300 as a standard analytical method on historical investigations for thorium and uranium. Review of Table 3, Evaluation of Sample Quantitation Limits, only summarizes U-235 and U-238. In addition, Table 1 lists PCB Congeners by EPA Method 1558A as a standard analytical method on historical investigations. However, review of Table 3, Evaluation of Sample Quantitation Limits, does not include any samples associated with this method; same for herbicides by EPA Method 8151 and for formaldehyde by EPA Method 8315A. Suggest clarification/revision.</p> <p>In addition, Criterion IV Analytical Methods and Detection Limits (last set of bullets on page 7 of Table 1): For the analytes where the SQL exceeded the 0.1 x BCL, it would be helpful to have some additional information about these analytes and samples. For example, are these samples with elevated SQLs co-located in one EU? If so, how would this affect the COPC selection process (e.g., is a chemical eliminated because it is non-detect due to elevated SQLs?). Please provide additional information here or in the text (or table).</p>	<p>For analytes for which the detection frequency was less than 100%, the SQLs from the BHRA data set were compared to 0.1 times the BCL as shown in Table 3 (as discussed in Section 3.1.5, second paragraph). As indicated in Table 4, the detection frequency of all radionuclides was 100%, so the evaluation of their SQLs was not needed. Dioxin-like PCB congeners were evaluated through the calculation of dioxin TEQs, and the evaluation of the SQL for dioxin TEQ is shown in Table 3. Other PCB congeners were not evaluated in the report due to the lack of BCLs (or appropriate surrogates) needed for the concentration/toxicity screen. Only one herbicide (2,4,5-TP) was analyzed by EPA Method 8151. It was included in the chemical group of Pesticides – OCPs, and the evaluation of its SQL is shown in Table 3. Formaldehyde by EPA Method 8315A was included in the chemical group of VOCs, and the evaluation of its SQL is shown in Table 3.</p> <p>Additional discussion about the effects of samples with elevated SQLs on the COPC selection and DU identification is provided in Section 5.3.2.</p>
<p>17. <u>Page 4 of Table 6.</u> The data for “Study Area > Bkg?” are not in agreement with Table D4 for U-234, is missing a “no” for U-238, and indicates “TBD” for Th-232 whereas Table D4 indicates “no”. Suggest clarification/revision.</p>	<p>The background evaluation has been performed using the updated BHRA data set. The tables were checked for consistency and revised accordingly. Table 6 has been updated with the “Fail Statistical Testing for Background?” column indicating “no” for U-234, U-238, and Th-232, consistent with Table F-4.</p>
<p>18. <u>Page 2 of Table 8.</u> Zirconium is highlighted in blue color to indicate the chemical “failed” the toxicity screen. However, the maximum detection reported of 31 mg/kg and a screening level of 104 mg/kg appears to contradict the “fail” status. Please revise as appropriate.</p>	<p>In this table, the screening criteria is whether the maximum concentration for zirconium (31 mg/kg) is greater than 0.1 x BCL (0.1 x 104 = 10.4 mg/kg), so this chemical fails the toxicity screen.</p>

19. Figure 5 and all other spatial intensity plots. The spatial intensity plots are not useful for characterizing the spatial pattern of the data, which is an essential component of the development of a narrative that allows for the defensible delineation of exposure units, or combinations of exposure units over such large areas. The proposed exposure units are larger than a typical industrial receptor's exposure area at this site, and the intent seems to be to combine across smaller exposure units (typical default industrial exposure units are about 0.5 – 1 acre in size) to create larger units (note in comments above that these are not really exposure units). This type of combination of exposure units is only reasonable if the spatial pattern of the data demonstrates relative homogeneity and randomness across the exposure unit. However, the spatial plots do not allow for sufficient evaluation of the potential for areas with comparatively large or small concentrations. Also, because the term exposure unit is often reserved for the size of area to which a receptor might be exposed, some consideration should be given to using another term for a larger area (such as exposure area), with definitions provided for the terms used.

In addition, the background comparisons have been performed for the entire site, and not for each exposure unit. The same statistical principle applies as for defining exposure areas. This is only appropriate if the data are relatively homogenous across the site (essentially independent and identically distributed – essentially one population). This is an assumption that underlies the background statistical tests. To the extent that the assumption is violated, the study area should be broken up into smaller units that separate area of different concentrations.

For example, the challenges that have been presented regarding radionuclides appear to be because of relatively large concentrations in the north-east quadrant of the data. It looks doubtful that this quadrant would pass background

As previously noted in our response to Specific Comment # 1, we will adopt the term "decision unit" in place of "exposure unit" in upcoming reports. In this report, Ramboll Environ conducted a COPC-specific, risk-based spatial analysis, and generated a series of spatial plots of concentrations, cancer risks, and noncancer HIs (see Section 5.1). Three new DUs have been proposed based on these analyses (see Section 5.2).

For radionuclides, please see response to Specific Comment #10.

NDEP Comment	Response to Comment
<p>comparisons, but we defer judgment on that until the statistical analysis is redone.</p> <p>Plots that are useful to support these EU and background comparison concerns should have a relatively continuous representation of the range of concentration (or counts for asbestos fibers). The current use of three ordinal categorical classes for the concentrations (defined as relative to 0.1 the respective BCL) does not allow for the necessary determination of hot spots and general spatial trends in the data. We suggest the generation of new plots (not as replacements necessarily, but in addition – the current plots might be useful to some who like to be able to distinguish concentrations at these discrete levels).</p> <p>Furthermore, it is not clear from the plots how the existence of multiple samples within a grid cell is depicted. More generally, the basic algorithm underlying the current plots is not provided, and could affect appearance – it should be provided.</p>	<p>In this report, Ramboll Environ conducted a COPC-specific, risk-based spatial analysis, and generated a series of spatial plots of concentrations, cancer risks, and noncancer HIs (see Section 5.1). Three new DUs have been proposed based on these analyses (see Section 5.2).</p> <p>As stated in Section 4.4, fourth bullet, page 29, the maximum detected concentration is displayed when multiple samples were collected within a grid cell.</p>
<p>20. <u>Appendix A-1 Data Validation Summary Reports</u>. With the exception of the Data Validation Summary Report for Phase A, tables associated with the DVSRs have not been included. As the tables compliment and complete the DVSR, they should be included in the Appendix or, at least, provided on CD.</p>	<p>The DVSR tables are provided in Appendix B.</p>

NDEP Comment	Response to Comment
<p>21. <u>Appendix A-1 Data Validation Summary Reports</u>. Per the guidance in effect at the time of validation, data in all but one DVSR were censored for blank contamination. The final DVSR included in this report for the August 2011 Soil Remediation Completion Sampling was produced after the guidance changed and the associated data were not censored for blank contamination. In order for all datasets to be treated equivalently, and to avoid the loss of data, perhaps censored results (detects qualified as non-detected), should be considered as estimated detects as they would be per current guidance. These data should be easily queried from the project database and the original result should be used.</p>	<p>The censored data for blank contamination were queried from the project database, and considered as estimated detects per current guidance (See Appendix B, Table B-5). The BHRA data set and all the related evaluation (text, tables, and figures) have been updated accordingly.</p>
<p>Minor Correction</p>	
<p>22. <u>Section 5.2, first full paragraph, page 27</u>. If the spatial plots were reviewed to identify possible hot spots then the outlines of the proposed EUs should be shown in the spatial plots. Currently they are not. In addition, it would be fairly easy to take the ratios of sample results to BCLs and create some contour plots. That could be done across COPCs for cancer risk and HI. This would provide a basis for proposing exposure units.</p>	<p>In this report, Ramboll Environ conducted a COPC-specific, risk-based spatial analysis and generated a series of spatial plots of concentrations, cancer risks, and noncancer HIs (see Section 5.1, Figures 22-28). Three new DUs have been proposed based on these analyses (see Section 5.2, Figure 29).</p>
<p>23. <u>Table 1, Data Quality Indicators, Precision</u>. Text indicates precision goals were met; however, several DVSRs note samples qualified for field duplicate precision outliers. Perhaps this should read, "Precision of the individual investigations met the goals of 50% established in the QAPPs or were qualified as estimated."</p>	<p>The text has been revised, and the data for qualified field duplicates are summarized in Appendix B, Table B-4.</p>

NDEP Comment	Response to Comment
<p>24. <u>Table 1, Data Quality Indicators, Precision.</u> The precision goal of 50% is strictly for field duplicates; laboratory precision goals are defined for specific methods and should be noted here.</p>	<p>The text has been revised as "The field precision goal established in the QAPPs is a RPD of less than or equal to 50%, except for the case in which one (or both) of the primary or duplicate results is less than five times the reporting limit. For the latter case, the acceptance criteria is the reporting limit (i.e., the absolute value of the difference between the primary and duplicate results is less than or equal to the reporting limit). Laboratory precision goals are defined for specific analytical methods, as indicated in the QAPP (see Table 2 of ENVIRON [2014d])."</p>
<p>25. <u>Table 1, Data Quality Indicators, Accuracy.</u> Text indicates surrogate and LCS percent recoveries were met; however, several DVSRs note samples qualified and rejected for these criteria. Matrix spikes are not included here as having met criteria, but should be. Perhaps this should read, "Surrogate, LCS, and matrix spike percent recoveries met the QC acceptance criteria established in the QAPPs <i>or were qualified as estimated or rejected.</i>"</p>	<p>The text has been revised as proposed by NDEP. All qualified results (i.e., U, J, J-, and J+ qualified data) for the non-asbestos analytes are presented in Appendix C, Table C-1, and the reasons for these qualified results are summarized in the DVSRs (see Appendix B).</p>
<p>26. <u>Table 1, Data Quality Indicators, Accuracy.</u> Sample preservation - may want to consider adding details regarding data rejected because the laboratory did not correctly preserve some SPLP samples (rejected data).</p>	<p>The rejected data, including the reasons for rejection are summarized in Appendix B, Table B-3.</p>
<p>27. <u>Table 1, Data Quality Indicators, Accuracy.</u> For sample integrity, at least one soil sample was noted as having been received with standing water (estimated), likely from melting ice in the cooler. And a number of holding times were missed, resulting in estimated and rejected data.</p>	<p>All qualified results (i.e., U, J, J-, and J+ qualified data) for the non-asbestos analytes are presented in Appendix C, Table C-1, and the reasons for these qualified results are summarized in the DVSRs (see Appendix B). The rejected data, including the reasons for rejection are summarized in Appendix B, Table B-3.</p>
<p>28. <u>Table 1, Data Quality Indicators, Accuracy.</u> Depending on what happens regarding specific comment #3, blank qualifications discussed here may need to be changed.</p>	<p>Discussion about the data qualified for blank contamination is presented in Table 1 for the entire Study Area and in Section 5.3.5 for the individual DUs.</p>
<p>29. <u>Appendix A-1, Acronyms and abbreviations.</u> The correlation coefficient is not r^2, it is simply r.</p>	<p>This comment has been made on a DVSR prepared by ENSR in 2007. Therefore, Ramboll Environ is not able to revise the DVSR.</p>

NDEP Comment	Response to Comment
<p>30. <u>Spatial plots</u>. Note that the plots have a legend that has lowest concentrations first, then middle, then high (greater than BCLs for the most part), and the NDs. However, NDs are really the lowest concentrations, so it would make more sense to change the order so that it is monotonic). Also the color scheme is awkward for the NDs (grey) – they clearly are not from the same color palette, and given that their concentrations are usually small, it is not clear why this has been done this way.</p>	<p>The order of the concentrations in the legend has been revised such that the NDs are listed first. We chose a grey color for the NDs to more clearly distinguish samples reported as ND from samples with detected concentrations. In addition, we note that for organic compounds in particular, NDs often represent a range of concentrations and concentrations reported at the higher end of the range may be greater than some of the detected concentrations. However, in response to this comment, a color from the same color palette was selected for the NDs to facilitate interpretation of the plots.</p>
<p>31. <u>Arsenic spatial plot</u>. The arsenic plot indicates that background is 7.2 mg/kg. This is not a correct statement. Clarification is needed on what 7.2 mg/kg actually represents. (That is, it represents the maximum background values from the BRC/TIMET background data set – it does not represent NERT site conditions, and it does not represent average background (for example)).</p>	<p>Relevant text, tables, and figures have been revised to indicate that 7.2 mg/kg is not a site-specific background, but represents the maximum background value from the BRC/TIMET background data set.</p>
<p>32. <u>Table D4 Shapiro-Wilk tests</u>. The Shapiro-Wilk test results are not useful. Given the amount of data, these tests are very likely to reject a hypothesis of normality or of any other distribution. In addition, t-tests are very robust to deviations from underlying normality assumptions, in large part because large number of data points causes the mean to be approximately normal. There are large numbers of data points here. The non-parametric tests are reasonable, and presenting t-tests for the actual data and the log data is ok, but the results should now be interpreted for every test that is run, without picking one or the other t-test based on a Shapiro-Wilk test that is likely to reject.</p>	<p>Ramboll Environ has understood that the all tests included in Gilbert's Tool box should be presented. However, as requested, for analytes with large sample size (>100), the results of the background comparison were updated in the related tables and text based on the non-parametric tests only.</p>

NDEP Comment	Response to Comment
<p>33. <u>Missing information.</u> Although the box plots and quantile plots show the background data, it would also be helpful if the background data summaries were included in the summary statistics tables. A numerical comparison can then be made, as well as the graphical comparisons that are provided.</p>	<p>Per discussion with NDEP at the December 19, 2016 meeting, this comment is disregarded.</p>
<p>Editorial Changes</p>	
<p>34. <u>Section 5.1.1, Last paragraph, 5th line, page 35.</u> This sentence should be removed. The fact that there is a less than 10-fold difference between min and max does not provide evidence that the data are background. This might be even more the case with such a low coefficient of variation, which could imply a large mean (compared to the standard deviation). Chemical data tend to get noisier at low concentrations, not more stable. In addition, the coefficient of variation is not a sufficient statistic, and, as such should not be used for this type of conclusion.</p>	<p>This sentence has been deleted in the revised report.</p>

ATTACHMENT 1

December 19, 2016 NERT Meeting Minutes

NERT Meeting Minutes

December 19, 2016

Allan DeLorme, Ramboll Environ
Liz Miesner, Ramboll Environ
Lynne Haroun, Ramboll Environ
Steve Clough, NERT
Weiquan Dong, NDEP
Carlton Parker, NDEP
Kirk Stowers, Broadbent & Associates, Inc.
Paul Black, Neptune & Company, Inc.
Paul Hackenberry, Hackenberry Associates, LLC (via phone)
Kurt Fehling, The Fehling Group, LLC

Meeting Agenda

Discuss preliminary NDEP comments on the following reports:

1. *Interim Report, Identification of COPCs and Exposure Units for Soils*, dated August 26, 2016
2. *Soil Gas Investigation and Health Risk Assessment for Parcels C, D, F, G, and H, Revision 1*, dated September 23, 2016

COPC Selection and Decision Units for the NERT Operations Area

- The term Decision Unit (DU) will be used in place of Exposure Unit
- Intent was to create a preliminary list of COPCs; not definitive; may be revised per the ongoing RI (which is focused on groundwater and not soils); Phase I RI data are in the Deliverable. Depending on timing, Phase II (which will not be available until summer 2017), may or may not be included in the revised COPC.DU report, but will be included in the BHRA report¹. This data, which is not being collected for risk assessment purposes, is not expected to impact COPC selection or the identification of the DU.
- Specific Comments #1, 12, 14, and 15: Right now, it appears the site will remain industrial and there are no plans for redevelopment. NDEP suggested working backwards by determining what the Trust is willing to do and ensure—such as deed restricting it to commercial/industrial. If something changes in the future, then reassess and address as appropriate. **Decision: May consider the site one decision unit for the baseline health risk assessment.**
- Specific Comments #7, 10, and 19: Background may be used as needed but if used, make sure it is properly justified and that the background populations and decision units are of one population if combined. For arsenic, present a comparison of risks for site concentrations to risks for background concentration.
- Specific Comments #13, and 19: The spatial plots provided may be sufficient, but Neptune prefers continuous concentration plots while Ramboll Environ prefers the grid

¹ Post-meeting note: Additional soil samples are being collected as part of the Phase II RI to support background evaluations. While it is not anticipated that this data set will impact the metals identified as preliminary COPCs (most metals were deleted based on the concentration/toxicity screen), it is possible that the background evaluation of radionuclide concentrations will be impacted.

plots provided in the report; Neptune indicated that they may plot the data (which is provided on CD in the report binders) for their own internal review.

- Radionuclides: NERT understands more is to be done with respect to these for the Study Area. **Neptune is evaluating the radionuclide background issues for Parcel H².**
- Specific Comment #33: Disregard this comment per NDEP.

Soil Gas HRA for Parcels C, D, F, G, and H

- Trust goal is an NFA; 0-10 foot soils with land use restrictions.
- May have a potential buyer(s) in place for these parcels.
- Cumulative risk for soil-related pathways and soil gas (vapor intrusion and outdoor air) will be presented in either the soil HRA or soil gas HRA.
- Soil gas: **NDEP will provide more direction on whether or not a trench model will be evaluated.**
- For benzene in groundwater, consider using a vapor intrusion model specific to petroleum hydrocarbons.
- Soil gas: use multiple lines of evidence including soil gas data and groundwater modeling; include evaluation of outdoor air and hypothetical future indoor.
 - Groundwater evaluation will be presented in main report (not in an appendix).
 - J&E modeling will use EPA's current version (using some site-specific parameters as discussed).
 - May look at temporal trends on a sample by sample (well by well) basis.
 - May look at averaging across well groups but this would likely be a more appropriate discussion for the Uncertainty Section.
 - For off-site scenarios, NERT will bolster the existing discussion.
 - Specific Comment #6: NERT will note in the text why samples outside of Parcel H are not used.
 - Specific Comment #7: NERT will no longer try to correlate soil gas and groundwater but will use multiple lines of evidence and delete this discussion.
 - Specific Comment #8: NDEP has removed this comment.
 - Specific Comment #9: The building height of 8 ft was approved in the work plan and therefore, NDEP will accept it here.
 - Specific Comment #18: NERT will evaluate whether or not the soil property indicators are applicable to the shallow soil (~5 ft) depth.
 - Specific Comment #2: will be revised based upon the temporal study.
- The Trust may want to consider removing Parcel F from the risk assessment (or evaluating Parcel F separately) considering the encroaching DNAPL plume and associated uncertainties.
- Presentation of risk results
 - Present risk results separately for chemicals, radionuclides, and asbestos.
 - For chemicals, cumulative risk is presented for soil-related pathways and soil gas pathways (vapor intrusion, outdoor air).

² Parcel H is outside the Operations Area and is being evaluated separately as part of the risk assessment for Parcels C, D, F, G, and H.

- Also, present the background risk for arsenic (soil-related pathways), the estimated site risk for arsenic, and cumulative risk (all chemicals)±arsenic risk.

Other Notes

- **NDEP will send final comments to the Trust;** responses to the comments will be included as Attachment A to the soil gas HRA and the COPC Selection/Decision Unit report.

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

**APPENDIX B
DATA VALIDATION SUMMARY REPORTS
(CD) AND TABLES**

**TABLE B-1. Summary of Soil Samples Changed in the BHRA Data Set
Nevada Environmental Response Trust Site
Henderson, Nevada**

Action	Sample ID	Start Depth (ft bgs)	End Depth (ft bgs)	Sample Type	Reason
Remove	BDT-1-N-20-10BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-1-N-20-10BPC_FD	10	11	FD	End depth exceeds 10 ft
Remove	BDT-1-S-10-10BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-1-S-15-10BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-1-S-20-10BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-1-S-5-10BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-3-N-20-10BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-4-N-15-14.0BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-4-N-20-14.0BPC	10	11	N	End depth exceeds 10 ft
Remove	BDT-4-S-15-12BPC	10	11	N	End depth exceeds 10 ft
Remove	BERM-J7-01-1BPC	1.5	2.5	N	Change of ECA D3 Northern Boundary
Remove	BERM-J7-01-2BPC	2.5	3.5	N	Change of ECA D3 Northern Boundary
Remove	BERM-J7-01-3BPC	3.5	4.5	N	Change of ECA D3 Northern Boundary
Remove	CS-E08B-1	0	0	N	Already removed during remediation
Remove	CS-E11-2	0	0	N	Already removed during remediation
Remove	EE-D02-1	0	0	N	Sample within ECA
Remove	M-161D-10.0-20141203	10	10.5	N	End depth exceeds 10 ft
Remove	M-161D-10.0-20141203-FD	10	10.5	FD	End depth exceeds 10 ft
Remove	M-162D-10.0-20141209	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-09-10.0-20141211	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-10-10.0-20141215	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-11-10.0-20141217	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-11-10.0-20141217-FD	10	10.5	FD	End depth exceeds 10 ft
Remove	RISB-12-10.0-20141216	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-13-10.0-20141218	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-14-10.0-20141216	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-15-10.0-20141103	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-16-10.0-20141029	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-17-10.0-20141028	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-18-10.0-20141028	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-19-10.0-20141027	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-20-10.0-20141030	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-21-10.0-20141031	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-21-10.0-20141031-FD	10	10.5	FD	End depth exceeds 10 ft
Remove	RISB-22-10.0-20141029	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-22-10.0-20141029-FD	10	10.5	FD	End depth exceeds 10 ft
Remove	RISB-23-10.0-20141029	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-24-10.0-20141027	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-26-10.0-20141023	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-27-10.0-20141024	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-27-10.0-20141024-FD	10	10.5	FD	End depth exceeds 10 ft
Remove	RISB-28-10.0-20141027	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-29-10.0-20141027	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-30-10.0-20141118	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-31-10.0-20141119	10	10.5	N	End depth exceeds 10 ft

**TABLE B-1. Summary of Soil Samples Changed in the BHRA Data Set
Nevada Environmental Response Trust Site
Henderson, Nevada**

Action	Sample ID	Start Depth (ft bgs)	End Depth (ft bgs)	Sample Type	Reason
Remove	RISB-32-10.0-20141120	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-33-10.0-20141119	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-34-10.0-20141119	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-35-10.0-20141119	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-36-10.0-20141118	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-37-10.0-20141118	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-39-0.5-20141121	0.5	1	N	Change of ECA D3 Northern Boundary
Remove	RISB-39-0.5-20141202	0.5	1	N	Change of ECA D3 Northern Boundary
Remove	RISB-39-5.0-20141121	5	5.5	N	Change of ECA D3 Northern Boundary
Remove	RISB-39-5.0-20141121-FD	5	5.5	FD	Change of ECA D3 Northern Boundary
Remove	RISB-39-5.0-20141202	5	5.5	N	Change of ECA D3 Northern Boundary
Remove	RISB-39-5.0-20141202-FD	5	5.5	FD	Change of ECA D3 Northern Boundary
Remove	RISB-40-0.5-20141121	0.5	1	N	Change of ECA D3 Northern Boundary
Remove	RISB-40-0.5-20141202	0.5	1	N	Change of ECA D3 Northern Boundary
Remove	RISB-40-5.0-20141121	5	5.5	N	Change of ECA D3 Northern Boundary
Remove	RISB-40-5.0-20141202	5	5.5	N	Change of ECA D3 Northern Boundary
Remove	RISB-41-0.5-20141121	0.5	1	N	Change of ECA D3 Northern Boundary
Remove	RISB-41-0.5-20141121-FD	0.5	1	FD	Change of ECA D3 Northern Boundary
Remove	RISB-41-0.5-20141202	0.5	1	N	Change of ECA D3 Northern Boundary
Remove	RISB-41-0.5-20141202-FD	0.5	1	FD	Change of ECA D3 Northern Boundary
Remove	RISB-41-5.0-20141121	5	5.5	N	Change of ECA D3 Northern Boundary
Remove	RISB-41-5.0-20141202	5	5.5	N	Change of ECA D3 Northern Boundary
Remove	RISB-48-0.5-20141120	0.5	1	N	Change of Nothern Site Boundary
Remove	RISB-48-0.5-20141202	0.5	1	N	Change of Nothern Site Boundary
Remove	RISB-48-5.0-20141121	5	5.5	N	Change of Nothern Site Boundary
Remove	RISB-48-5.0-20141202	5	5.5	N	Change of Nothern Site Boundary
Remove	RISB-50-10.0-20141029	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-51-10.0-20141030	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-52-10.0-20141030	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-53-10.0-20141107	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-54-10.0-20141117	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-55-10.0-20141114	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-55-10.0-20141114-FD	10	10.5	FD	End depth exceeds 10 ft
Remove	RISB-56-10.0-20141104	10	10.5	N	End depth exceeds 10 ft
Remove	RISB-57-10-20141103	10	10.5	N	End depth exceeds 10 ft
Remove	RSI3-14BPC	10	10.5	N	Already removed during remediation
Remove	RSI4-0.0	0	0.5	N	Change of ECA D3 Northern Boundary
Remove	RSI4-0.5B	0.5	2	N	Change of ECA D3 Northern Boundary
Remove	RSI4-10B	10	11.5	N	Change of ECA D3 Northern Boundary
Remove	RSI5-0.0	0	0.5	N	Change of ECA D3 Northern Boundary
Remove	RSI5-0.5B	0.5	2	N	Change of ECA D3 Northern Boundary
Remove	RSI5009-10B	10	11.5	FD	Change of ECA D3 Northern Boundary
Remove	RSI5-10B	10	11.5	N	Change of ECA D3 Northern Boundary
Remove	RSI7-0.0	0	0	N	Change of ECA D3 Northern Boundary
Remove	RSI7-0.5B	0	0.5	N	Change of ECA D3 Northern Boundary

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Nevada Environmental Response Trust Site
Henderson, Nevada**

Action	Sample ID	Start Depth (ft bgs)	End Depth (ft bgs)	Sample Type	Reason
Remove	RSAI7009-1.5BR	1	1.5	FD	Change of ECA D3 Northern Boundary
Remove	RSAI7-1.5BR	1	1.5	N	Change of ECA D3 Northern Boundary
Remove	RSAI7-10B	9.5	11	N	Change of ECA D3 Northern Boundary
Remove	RSAI7-1BR	0.5	1	N	Change of ECA D3 Northern Boundary
Remove	RSAK2-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAK2-10BPC	10	11	N	End depth exceeds 10 ft
Remove	RSAK4-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAL3-9BPC	10	11	N	End depth exceeds 10 ft
Remove	RSAL4-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAL5-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAL7-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAL8-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAM2-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAM4-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAM6-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAM7-0.33BPC	0	0	N	Already removed during remediation
Remove	RSAN5-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAO2-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAO5-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAO7-19B	0	0	N	Correct depth at 10-11.5 ft
Remove	RSAO7-29B	8.5	10	N	Correct depth at 20 ft
Remove	RSAQ5-0.0B	0.5	1	N	Sample within ECA
Remove	RSAQ5-0.5B	1	2.5	N	Sample within ECA
Remove	RSAQ5-1BPC	1.5	2.5	N	Sample within ECA
Remove	RSAQ5-2BPC	2.5	3.5	N	Sample within ECA
Remove	RSAQ5-3BPC	3.5	4.5	N	Sample within ECA
Remove	RSAQ7-10B	10	11.5	N	End depth exceeds 10 ft
Remove	RSAS8-0.0B	1	1.5	N	Already removed during remediation
Remove	SA103009-10B	10	12	FD	End depth exceeds 10 ft
Remove	SA103-10B	10	12	N	End depth exceeds 10 ft
Remove	SA121-0.0B	0	0.5	N	Already removed during remediation
Remove	SA121-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA136-0.0B	1	1.5	N	Already removed during remediation
Remove	SA138009-10B	10	12	FD	End depth exceeds 10 ft
Remove	SA138-10B	10	12	N	End depth exceeds 10 ft
Remove	SA139-10B	6.5	8	N	Change of ECA C17 Southern Boundary
Remove	SA139-4BPC	0.5	1.5	N	Change of ECA C17 Southern Boundary
Remove	SA139-5BPC	1.5	2.5	N	Change of ECA C17 Southern Boundary
Remove	SA141-30B	1.5	3	N	Correct depth at 16 ft bgs
Remove	SA142-30.5B	3	4.5	N	Correct depth at 10 ft bgs, beneath Pond Mn-2
Remove	SA149009-45B	2	3.5	FD	Correct depth at 17 ft bgs
Remove	SA149-45B	2	3.5	N	Correct depth at 17 ft bgs
Remove	SA151-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA157-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA166-10B	10	11.5	N	End depth exceeds 10 ft

**TABLE B-1. Summary of Soil Samples Changed in the BHRA Data Set
Nevada Environmental Response Trust Site
Henderson, Nevada**

Action	Sample ID	Start Depth (ft bgs)	End Depth (ft bgs)	Sample Type	Reason
Remove	SA171-15B	10	11.5	N	End depth exceeds 10 ft
Remove	SA182-4BPC	0	0.5	N	Already removed during remediation
Remove	SA182-5BPC	0.5	1.5	N	Already removed during remediation
Remove	SA182-6BPC	1.5	2.5	N	Already removed during remediation
Remove	SA185-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA186-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA189-0.0	0	0	N	Already removed during remediation
Remove	SA189-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA204009-10B	10	11.5	FD	End depth exceeds 10 ft
Remove	SA204-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA21-10	10	11.5	N	End depth exceeds 10 ft
Remove	SA23	0.5	0.5	N	Change of ECA D3 Northern Boundary
Remove	SA23-0.5	1	2.5	N	Change of ECA D3 Northern Boundary
Remove	SA31-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA50009-12B	10	11.5	FD	End depth exceeds 10 ft
Remove	SA50-12B	10	11.5	N	End depth exceeds 10 ft
Remove	SA52-28B	0	0	N	Correct depth at 12.5 ft bgs
Remove	SA55-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA62-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA67-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA69-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA7-10	10	11.5	N	End depth exceeds 10 ft
Remove	SA7-10D	10	11.5	FD	End depth exceeds 10 ft
Remove	SA71-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA77-0.0B	0.5	1	N	Already removed during remediation
Remove	SA85-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SA87-10B	10	11.5	N	End depth exceeds 10 ft
Remove	SSAI2-03-10BPC	8	9	N	Change of Western Site Boundary
Remove	SSAI3-02-25BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAJ3-06-10BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAJ8-02-10BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAJ8-03-10BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAK6-02-4BPC	4	4.5	N	Already removed during remediation
Remove	SSAK6-02-5BPC	4.5	5.5	N	Already removed during remediation
Remove	SSAK8-03-10BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAM4-01-0.00BPC	0.5	0.5	N	Already removed during remediation
Remove	SSAM4-01-0.33BPC	0.5	0.5	N	Already removed during remediation
Remove	SSAM5-05-0.00_01_BPC	0	0.17	N	Sample within ECA
Remove	SSAM5-05-0_01_BPC	0	0.5	N	Sample within ECA
Remove	SSAM5-05-1_01_BPC	1	2	N	Sample within ECA
Remove	SSAM5-05-1_01_BPC_FD	1	2	FD	Sample within ECA
Remove	SSAM5-05-10_01_BPC	10	11	N	Sample within ECA
Remove	SSAM5-05-4_01_BPC	4	5	N	Sample within ECA
Remove	SSAM5-05-5_01_BPC	5	6	N	Sample within ECA
Remove	SSAM6-06-0.00_01_BPC	0	0.17	N	Sample within ECA

**TABLE B-1. Summary of Soil Samples Changed in the BHRA Data Set
Nevada Environmental Response Trust Site
Henderson, Nevada**

Action	Sample ID	Start Depth (ft bgs)	End Depth (ft bgs)	Sample Type	Reason
Remove	SSAM6-06-0_01_BPC	0	0.5	N	Sample within ECA
Remove	SSAM6-06-1_01_BPC	1	2	N	Sample within ECA
Remove	SSAM6-06-10_01_BPC	10	11	N	Sample within ECA
Remove	SSAM6-06-4_01_BPC	4	5	N	Sample within ECA
Remove	SSAM6-06-5_01_BPC	5	6	N	Sample within ECA
Remove	SSAM7-02-0.00BPC	0	0	N	Already removed during remediation
Remove	SSAM7-02-0.00BPC_FD	0	0	FD	Already removed during remediation
Remove	SSAM7-03-3BPC	2.5	3.5	N	Already removed during remediation
Remove	SSAM7-03-4BPC	3.5	4.5	N	Already removed during remediation
Remove	SSAM7-03-5BPC	4.5	5.5	N	Already removed during remediation
Remove	SSAM7-03-5BPC_FD	4.5	5.5	FD	Already removed during remediation
Remove	SSAN4-01-8BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAN8-03-0.5BPC	2.5	3	N	Change of ECA C17 Southern Boundary
Remove	SSAN8-03-0BPC	2	2.5	N	Change of ECA C17 Southern Boundary
Remove	SSAN8-05-0.5BPC	1	1.5	N	Change of ECA C17 Southern Boundary
Remove	SSAO8-04-0BPC	1.5	2	N	Beneath Pond Mn-2
Remove	SSAO8-04-0.5BPC	2	2.5	N	Beneath Pond Mn-2
Remove	SSAO8-07-0BPC	2.5	3	N	Beneath Pond Mn-2
Remove	SSAO8-07-0.5BPC	3	3.5	N	Beneath Pond Mn-2
Remove	SSAO8-13-1_01_BPC	8.5	9.5	N	Beneath Pond Mn-2
Remove	SSAO8-13-2_01_BPC	9.5	10.5	N	Beneath Pond Mn-2
Remove	SSAO8-14-3_01_BPC	0	1	N	Beneath Pond Mn-2
Remove	SSAO8-14-3_01_BPC_FD	0	1	FD	Beneath Pond Mn-2
Remove	SSAO8-14-4_01_BPC	1	2	N	Beneath Pond Mn-2
Remove	SSAO8-14-5_01_BPC	2	3	N	Beneath Pond Mn-2
Remove	SSAP3-03-10BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAP4-01-10BPC	10	11	N	End depth exceeds 10 ft
Remove	SSAP4-01-10BPC_FD	10	11	FD	End depth exceeds 10 ft
Remove	SSAP8-02-0.00_01_BPC	4	4.5	N	Change of ECA C18 Eastern Boundary
Remove	SSAQ5-06-1BPC	0	1	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ5-06-2BPC	1	2	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ5-06-3BPC	2	3	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ5-06-3BPC_FD	2	3	FD	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ5-07-10BPC	8.5	9.5	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ5-07-1BPC	0	0.5	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ5-07-2BPC	0.5	1.5	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ5-07-5BPC	3.5	4.5	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ6-01-1BPC	0	0.5	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ6-01-2BPC	0.5	1.5	N	Change of Site Boundary (Southern Property Line of Lhoist North America)
Remove	SSAQ6-02-0.3_01_BPC	0.5	0.5	N	Sample within ECA
Remove	SSAQ6-02-0.3_01_BPC_FD	0.5	0.5	FD	Sample within ECA
Remove	SSAS8-03-0.00BPC	0	0	N	Already removed during remediation
Remove	TSB-GJ-02-0_11/19/2007	0	1.5	N	Change of Parcel G Southern Boundary
Remove	TSB-GJ-02-05_11/19/2007	5	6.5	N	Change of Parcel G Southern Boundary
Remove	TSB-GJ-02-0-FD_11/19/2007	0	1.5	FD	Change of Parcel G Southern Boundary

**TABLE B-1. Summary of Soil Samples Changed in the BHRA Data Set
Nevada Environmental Response Trust Site
Henderson, Nevada**

Action	Sample ID	Start Depth (ft bgs)	End Depth (ft bgs)	Sample Type	Reason
Remove	TSB-GJ-04-0_11/19/2007	0	1.5	N	Already removed during remediation
Remove	TSB-GJ-05-0_11/19/2007	0	1.5	N	Change of RZ-A Western Boundary
Remove	TSB-GJ-05-5_11/19/2007	5	6.5	N	Change of RZ-A Western Boundary
Remove	TSB-GJ-07-0_11/19/2007	0	1.5	N	Change of Parcel G Southern Boundary
Remove	TSB-GJ-07-5_11/19/2007	5	6.5	N	Change of Parcel G Southern Boundary
Add	RISB-54-0.5-20141117	0.5	1	N	Correction of ECA C9 Boundary
Add	RISB-54-10.0-20141117	10	10.5	N	Correction of ECA C9 Boundary
Add	RISB-54-5.0-20141117	5	5.5	N	Correction of ECA C9 Boundary
Add	RSAO7-9B	0	1.5	N	Correct depth at 0 ft bgs
Add	RSAO8-11.5B	0	1	N	Correct depth at 0 ft bgs
Add	SA141009-14B	0.5	2	FD	Correct depth at 0.5 ft bgs
Add	SA141-14B	0.5	2	N	Correct depth at 0.5 ft bgs
Add	SA149-32B	4	5.5	N	Correct depth at 4 ft bgs
Add	SSAN7-06-0BPC	0	0.5	N	Correct depth at 0 ft bgs
Add	SSAN7-06-0.5BPC	0.5	1	N	Correct depth at 0.5 ft bgs
Add	SSAO7-04-0BPC	0	0.5	N	Correct depth at 0 ft bgs
Add	SSAO7-04-0.5BPC	0.5	1	N	Correct depth at 0.5 ft bgs
Add	SSAO7-07-1_01_BPC	0	1	N	Correct depth at 0 ft bgs
Add	SSAO7-07-2_01_BPC	1	2	N	Correct depth at 1 ft bgs
Add	SSAO7-07-3_01_BPC	2	3	N	Correct depth at 2 ft bgs
Add	SSAO7-07-4_01_BPC	3	4	N	Correct depth at 3 ft bgs
Add	SSAO7-07-5_01_BPC	4	4	N	Correct depth at 4 ft bgs
Add	SSAO8-05-9.5BPC	9.5	10.5	N	Correct depth at 9.5 ft bgs
Add	SSAO8-05-9.5BPC_FD	9.5	10.5	FD	Correct depth at 9.5 ft bgs
Add	SSAO8-08-9.5BPC	9.5	10.5	N	Correct depth at 9.5 ft bgs

Notes:

bgs = below ground surface

ft = feet

ECA = Excavation Control Area

FD = Field duplicate

ID = Identification

N = Normal

TABLE B-2. Summary of Soil Data Excluded During Data Processing
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample Location	Sample ID	Sample Type	Start Depth (ft)	Chemical	Result	Unit	Detection Flag	Qualifier	Reason for Exclusion
SA05	SA5-0.5	N	1	Naphthalene	0.0065	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
SA11	SA11-0.5D	FD	0	Naphthalene	0.0057	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA11	SA11-10	N	8	Naphthalene	0.0054	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA16	SA16-10	N	8	Naphthalene	0.0056	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA16	SA16-0.5	N	0	Naphthalene	0.0053	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA08	SA8-0.5	N	1	Naphthalene	0.00079	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
SA18	SA18-10	N	9.5	Naphthalene	0.0054	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA18	SA18-0.5D	FD	0	Naphthalene	0.0053	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA06	SA6-0.5D	FD	1	Naphthalene	0.0058	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
SA18	SA18-0.5	N	0	Naphthalene	0.0055	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA15	SA15-10D	FD	0	Naphthalene	0.0055	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA15	SA15-20	N	9	Naphthalene	0.0055	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA06	SA6-0.5	N	1	Naphthalene	0.0053	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
SA15	SA15-10	N	0	Naphthalene	0.0059	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA12	SA12-10	N	8	Naphthalene	0.0054	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA12	SA12-0.5	N	0	Naphthalene	0.0056	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA03	SA3-0.5	N	1.5	Naphthalene	0.0053	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
SA03	SA3-0.5D	FD	1.5	Naphthalene	0.0053	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
CS-C10B-1	CS-C10B-1	N	0	Naphthalene	0.00063	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
M-161D	M-161D-5.0-20141203	N	5	Naphthalene	0.001	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
RISB-12	RISB-12-2.5-20141216	N	2.5	Naphthalene	0.0011	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
M-161D	M-161D-0.5-20141203	N	0.5	Naphthalene	0.00095	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
M-162D	M-162D-5.0-20141209	N	5	Naphthalene	0.0011	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
M-162D	M-162D-0.5-20141209	N	0.5	Naphthalene	0.00099	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
SA07	SA7-0.5	N	0.5	Naphthalene	0.0053	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
SA09	SA9-10	N	5	Naphthalene	0.006	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAK8-02	SSAK8-02-1BPC	N	0.5	Hexachlorobenzene	0.12	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO7-02	SSAO7-02-1BPC	N	0.5	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA92	SA92-10B	N	7.5	Hexachlorobenzene	0.0051	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL8	RSAL8-0.5B	N	0.5	Hexachlorobenzene	0.38	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA182	SA182-10B	N	5.5	Hexachlorobenzene	0.0073	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM5	RSAM5-10B	N	1	Hexachlorobenzene	0.011	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA129	SA129-3BPC	N	6	Hexachlorobenzene	0.41	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM3-01	SSAM3-01-2BPC	N	0	Hexachlorobenzene	0.83	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAL3-03	SSAL3-03-1BPC	N	1	Hexachlorobenzene	0.032	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RISB-47	RISB-47-5.0-20141120	N	5	Naphthalene	0.001	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
RISB-47	RISB-47-0.5-20141120	N	0.5	Naphthalene	0.00094	mg/kg	N	U	Analyzed by both EPA Method 8260 and 8270 SIM. The data from EPA Method 8260 was excluded
RSAM4	RSAM4-0.5B	N	0.5	Hexachlorobenzene	0.058	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSO3	RSO3-10B	N	8	Hexachlorobenzene	0.029	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL6	RSAL6-10B	N	9.5	Hexachlorobenzene	0.0073	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL6	RSAL6-0.5B	N	0	Hexachlorobenzene	0.0067	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN3	RSAN3-10B	N	9.5	Hexachlorobenzene	0.0073	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN3	RSAN3-0.5B	N	0	Hexachlorobenzene	0.0018	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO6-04	SSAO6-04-5BPC	N	5	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAN7-03	SSAN7-03-1BPC	N	1.5	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN4	RSAN4-10B	N	9.5	Hexachlorobenzene	0.0073	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN4	RSAN4-0.5B	N	0	Hexachlorobenzene	0.0033	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL5	RSAL5-0.5B	N	0.5	Hexachlorobenzene	0.013	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAJ3	RSAJ3-10B	N	5	Hexachlorobenzene	0.3	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM7	RSAM7-10B	N	9.5	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAK6	RSAK6-10B	N	9.5	Hexachlorobenzene	0.0073	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAK8	RSAK8-10B	N	7	Hexachlorobenzene	0.2	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA180	SA180-10B	N	8.5	Hexachlorobenzene	0.0072	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL7	RSAL7-0.5B	N	0.5	Hexachlorobenzene	0.0068	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK7-03	SSAK7-03-1BPC	N	0.5	Hexachlorobenzene	0.068	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA86	SA86-10B	N	5.5	Hexachlorobenzene	0.3	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM8	RSAM8-10B	N	9	Hexachlorobenzene	0.023	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAN6-02	SSAN6-02-3BPC	N	3.5	Hexachlorobenzene	0.16	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM8	RSAM8-0.5B	N	0	Hexachlorobenzene	0.04	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA86	SA86009-10B	FD	5.5	Hexachlorobenzene	0.097	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM2	RSAM2-0.5B	N	0.5	Hexachlorobenzene	0.0097	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM7	RSAM7009-10B	FD	9.5	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL4	RSAL4-0.5B	N	0.5	Hexachlorobenzene	0.087	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA180	SA180-0.5B	N	0	Hexachlorobenzene	0.02	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSO5	RSO5-0.5B	N	0.5	Hexachlorobenzene	0.076	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded

TABLE B-2. Summary of Soil Data Excluded During Data Processing
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample Location	Sample ID	Sample Type	Start Depth (ft)	Chemical	Result	Unit	Detection Flag	Qualifier	Reason for Exclusion
RSAO6	RSAO6-0.5B	N	0	Hexachlorobenzene	0.0069	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA57	SA57-10BD	FD	5	Hexachlorobenzene	0.036	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA131	SA131-10B	N	9.5	Hexachlorobenzene	0.12	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN4	RSAN4009-10B	FD	9.5	Hexachlorobenzene	0.0073	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK8-01	SSAK8-01-1BPC	N	1	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA48	SA48-10B	N	7.5	Hexachlorobenzene	0.0073	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAL2-05	SSAL2-05-3_01_BPC	N	3	Hexachlorobenzene	0.2	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAL2-05	SSAL2-05-4_01_BPC	N	4	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAL2-05	SSAL2-05-2_01_BPC	N	2	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAL2-05	SSAL2-05-1_01_BPC	N	1	Hexachlorobenzene	0.17	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAQ7	RSAQ7-0.5B	N	0.5	Hexachlorobenzene	0.0072	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA138	SA138-0.5B	N	0.5	Hexachlorobenzene	0.0071	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAP5	RSAP5-0.5B	N	1	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAP7	RSAP7-0.5B	N	0.5	Hexachlorobenzene	0.0072	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA156	SA156-10B	N	9.5	Hexachlorobenzene	0.007	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAQ4	RSAQ4-0.5B	N	1	Hexachlorobenzene	0.025	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAQ6	RSAQ6-10B	N	7	Hexachlorobenzene	0.0072	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA121	SA121009-0.5B	FD	0.5	Hexachlorobenzene	0.0072	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA121	SA121-0.5B	N	0.5	Hexachlorobenzene	0.0062	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA103	SA103-0.5B	N	0.5	Hexachlorobenzene	0.045	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAS5	RSAS5-0.5B	N	1	Hexachlorobenzene	0.04	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA214	SA214-0.5B	N	1	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA136	SA136-0.5B	N	1.5	Hexachlorobenzene	0.022	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAN7-01	SSAN7-01-1BPC	N	1	Hexachlorobenzene	0.061	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAI2-01	SSAI2-01-1BPC	N	1	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAI2-01	SSAI2-01-1BPC_FD	FD	1	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL2	RSAL2-10B	N	9.5	Hexachlorobenzene	0.007	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA180	SA180-0.5BD	FD	0	Hexachlorobenzene	0.019	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM7	RSAM7-0.5B	N	0	Hexachlorobenzene	0.0068	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA67	SA67-0.5B	N	0.5	Hexachlorobenzene	0.01	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAK6	RSAK6-0.5B	N	0	Hexachlorobenzene	0.0055	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAL4	RSAL4009-0.5B	FD	0.5	Hexachlorobenzene	0.086	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAQ6	RSAQ6-0.5B	N	0	Hexachlorobenzene	0.0072	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA82	SA82-0.5B	N	1	Hexachlorobenzene	0.97	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAO2	RSAO2-0.5B	N	0.5	Hexachlorobenzene	0.0017	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA176	SA176-0.5B	N	0	Hexachlorobenzene	0.0069	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM6	RSAM6-0.5B	N	0.5	Hexachlorobenzene	0.021	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA176	SA176-10B	N	9.5	Hexachlorobenzene	0.007	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA166	SA166-0.5B	N	0.5	Hexachlorobenzene	0.016	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA128	SA128-10B	N	0	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN2	RSAN2-0.5B	N	1.5	Hexachlorobenzene	0.007	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA207	SA207-20B	N	6	Hexachlorobenzene	0.008	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA85	SA85-0.5B	N	0.5	Hexachlorobenzene	0.094	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA35	SA35-0.5B	N	0	Hexachlorobenzene	0.007	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA35	SA35-10B	N	7	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAM3	RSAM3-0.5B	N	1	Hexachlorobenzene	0.0069	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA165	SA165-10B	N	8.5	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA57	SA57-10B	N	5	Hexachlorobenzene	0.022	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA47	SA47-0.5B	N	1	Hexachlorobenzene	0.057	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA92	SA92-0.5B	N	0	Hexachlorobenzene	0.062	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAJ2	RSAJ2-10B	N	2.5	Hexachlorobenzene	0.014	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN5	RSAN5-0.5B	N	0.5	Hexachlorobenzene	0.0068	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-15	BDT-1-S-15-2BPC	N	2	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-15	BDT-1-S-15-2BPC_FD	FD	2	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-15	BDT-1-N-15-10BPC	N	8.5	Hexachlorobenzene	0.22	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-15	BDT-1-S-15-4BPC	N	4	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-15	BDT-1-S-15-6BPC	N	6	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK7-06	SSAK7-06-1BPC	N	1	Hexachlorobenzene	0.032	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-20	BDT-1-S-20-4BPC	N	4	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-20	BDT-1-S-20-6BPC	N	6	Hexachlorobenzene	0.028	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-20	BDT-1-S-20-2BPC	N	2	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO4-05	SSAO4-05-1BPC	N	0	Hexachlorobenzene	0.046	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK6-03	SSAK6-03-3BPC	N	0	Hexachlorobenzene	0.32	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAK4	RSAK4009-0.5B	FD	0.5	Hexachlorobenzene	0.24	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAO3	RSAO3-0.5B	N	0	Hexachlorobenzene	0.13	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded

TABLE B-2. Summary of Soil Data Excluded During Data Processing
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample Location	Sample ID	Sample Type	Start Depth (ft)	Chemical	Result	Unit	Detection Flag	Qualifier	Reason for Exclusion
RSAK4	RSAK4-0.5B	N	0.5	Hexachlorobenzene	0.25	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-10	BDT-1-S-10-2BPC	N	2	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-10	BDT-1-S-10-4BPC	N	4	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-10	BDT-1-S-10-6BPC	N	6	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK5-03	SSAK5-03-1BPC	N	0.5	Hexachlorobenzene	0.087	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-15	BDT-1-S-15-8BPC	N	8	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-5	BDT-1-S-5-8BPC	N	8	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-15	BDT-1-N-15-8BPC	N	6.5	Hexachlorobenzene	0.47	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-10	BDT-1-N-10-8BPC_FD	FD	6.5	Hexachlorobenzene	0.18	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-10	BDT-1-N-10-12BPC	N	9.5	Hexachlorobenzene	0.25	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-10	BDT-1-N-10-8BPC	N	6.5	Hexachlorobenzene	0.13	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-10	BDT-1-N-10-10BPC	N	8.5	Hexachlorobenzene	0.42	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-5	BDT-1-S-5-4BPC	N	4	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-5	BDT-1-S-5-6BPC	N	6	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-5	BDT-1-S-5-2BPC	N	2	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAI3-06	SSAI3-06-4BPC	N	5	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAL4-01	SSAL4-01-1BPC	N	1	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-20	BDT-1-N-20-8BPC	N	8	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-20	BDT-1-N-20-6BPC	N	6	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAI3-01	SSAI3-01-3BPC	N	0	Hexachlorobenzene	0.033	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK3-05	SSAK3-05-1BPC	N	3.5	Hexachlorobenzene	0.3	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-20	BDT-1-S-20-8BPC	N	8	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAI3-02	SSAI3-02-14BPC	N	0	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK8-04	SSAK8-04-5BPC	N	3	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ3-05	SSAJ3-05-12BPC	N	4	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM5-03	SSAM5-03-10BPC	N	5.5	Hexachlorobenzene	0.49	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM5-03	SSAM5-03-6BPC	N	1.5	Hexachlorobenzene	0.57	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM5-03	SSAM5-03-8BPC	N	3.5	Hexachlorobenzene	0.38	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-S-10	BDT-1-S-10-8BPC	N	8	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ2-02	SSAJ2-02-4BPC	N	0	Hexachlorobenzene	0.76	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK5-02	SSAK5-02-1BPC	N	1	Hexachlorobenzene	0.032	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAK4	RSAK4-3BPC	N	3	Hexachlorobenzene	0.87	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK3-02	SSAK3-02-1BPC	N	0	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ2-02	SSAJ2-02-5BPC	N	0	Hexachlorobenzene	0.092	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ3-05	SSAJ3-05-16BPC	N	8	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ3-05	SSAJ3-05-8BPC	N	0	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO4-02	SSAO4-02-3BPC	N	0	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO3-03	SSAO3-03-9BPC	N	4	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA106	SA106-12B	N	8.5	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK7-05	SSAK7-05-1BPC	N	1	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK4-02	SSAK4-02-1BPC	N	0.5	Hexachlorobenzene	0.11	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO4-01	SSAO4-01-1BPC	N	0	Hexachlorobenzene	0.083	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN6	RSAN6009-10B	FD	9.5	Hexachlorobenzene	0.0073	mg/kg	N	UJ	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN6	RSAN6-10B	N	9.5	Hexachlorobenzene	0.037	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAP3-01	SSAP3-01-1BPC	N	0	Hexachlorobenzene	0.7	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO7-01	SSAO7-01-1BPC	N	0	Hexachlorobenzene	0.032	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-20	BDT-1-N-20-2BPC	N	2.5	Hexachlorobenzene	0.13	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
BDT-1-N-20	BDT-1-N-20-4BPC	N	4	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ3-07	SSAJ3-07-5BPC	N	0	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ3-07	SSAJ3-07-12BPC	N	6	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAH3-01	SSAH3-01-1BPC	N	1	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM7-04	SSAM7-04-1BPC	N	0	Hexachlorobenzene	0.09	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK5-01	SSAK5-01-1BPC	N	0.5	Hexachlorobenzene	0.31	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO6-04	SSAO6-04-1BPC	N	1	Hexachlorobenzene	0.16	mg/kg	N	UJ	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ3-07	SSAJ3-07-8BPC	N	2	Hexachlorobenzene	0.029	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK4-01	SSAK4-01-1BPC	N	1	Hexachlorobenzene	1.2	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAN6-04	SSAN6-04-1BPC	N	1	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAS8	RSAS8-0.5B	N	1.5	Hexachlorobenzene	0.0072	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA154	SA154-10B	N	2.5	Hexachlorobenzene	0.0058	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK8-05	SSAK8-05-1BPC	N	0.5	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK3-04	SSAK3-04-1BPC	N	1.5	Hexachlorobenzene	0.072	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAI3-05	SSAI3-05-10BPC	N	1	Hexachlorobenzene	0.41	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAJ8-02	SSAJ8-02-1BPC	N	1	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAO6	SSAO6-10B	N	8.5	Hexachlorobenzene	0.0071	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAL2-03	SSAL2-03-1BPC	N	1	Hexachlorobenzene	0.2	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded

TABLE B-2. Summary of Soil Data Excluded During Data Processing
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample Location	Sample ID	Sample Type	Start Depth (ft)	Chemical	Result	Unit	Detection Flag	Qualifier	Reason for Exclusion
SSAL2-02	SSAL2-02-4BPC	N	4.5	Hexachlorobenzene	0.65	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK6-01	SSAK6-01-1BPC	N	1	Hexachlorobenzene	0.11	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM5-04	SSAM5-04-5BPC	N	1	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM5-04	SSAM5-04-5BPC FD	FD	1	Hexachlorobenzene	0.05	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAM5-04	SSAM5-04-10BPC	N	6	Hexachlorobenzene	0.032	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK2-01	SSAK2-01-1BPC	N	3.5	Hexachlorobenzene	0.031	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SSAK3-03	SSAK3-03-1BPC	N	2	Hexachlorobenzene	0.03	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAN7	RSAN7-0.5B	N	1	Hexachlorobenzene	0.29	mg/kg	Y		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Fluoranthene	0.096	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	Fluoranthene	0.097	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Anthracene	0.087	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	Anthracene	0.088	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Acenaphthylene	0.086	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	Acenaphthylene	0.087	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Pyrene	0.11	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Benzo(g,h,i)perylene	0.11	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	Pyrene	0.096	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	Benzo(g,h,i)perylene	0.11	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	2-Methylnaphthalene	0.086	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	2-Methylnaphthalene	0.087	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Acenaphthene	0.084	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	Acenaphthene	0.085	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Phenanthrene	0.095	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-1	CS-DC-1	N	0	Phenanthrene	0.096	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
CS-DC-2	CS-DC-2	N	4	Fluorene	0.093	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
SA42	SA42009-10B	FD	5.5	Naphthalene	0.0057	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA42	SA42-10B	N	5.5	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA212	SA212-0.5B	N	0.5	Naphthalene	0.0057	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAQ4	RSAQ4-0.5B	N	1	Naphthalene	0.0057	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAP7	RSAP7-0.5B	N	0.5	Naphthalene	0.0062	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA156	SA156-10B	N	9.5	Naphthalene	0.0054	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
CS-DC-1	CS-DC-1	N	0	Fluorene	0.094	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
SA211	SA211-0.5B	N	1	Naphthalene	0.0049	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA51	SA51009-10B	FD	7	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA136	SA136-0.5B	N	1.5	Naphthalene	0.0064	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA51	SA51-10B	N	7	Naphthalene	0.005	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAK4	RSAK4009-0.5B	FD	0.5	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA74	SA74009-0.5B	FD	0	Naphthalene	0.0036	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA74	SA74-10B	N	9.5	Naphthalene	0.0072	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA185	SA185-0.5B	N	0.5	Naphthalene	0.0048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA131	SA131-10B	N	9.5	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL6	RSAL6-10B	N	9.5	Naphthalene	0.0045	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL6	RSAL6-0.5B	N	0	Naphthalene	0.0033	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA49	SA49-10B	N	8.5	Naphthalene	0.0043	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN3	RSAN3-10B	N	9.5	Naphthalene	0.004	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN3	RSAN3-0.5B	N	0	Naphthalene	0.0051	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA74	SA74-0.5B	N	0	Naphthalene	0.004	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAO3	RSAO3-0.5B	N	0	Naphthalene	0.005	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM4	RSAM4-0.5B	N	0.5	Naphthalene	0.0037	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA171	SA171-5B	N	0	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA103	SA103-0.5B	N	0.5	Naphthalene	0.0071	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA114	SA114-10B	N	8	Naphthalene	0.0052	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA175	SA175-10B	N	2.5	Naphthalene	0.0041	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL4	RSAL4-0.5B	N	0.5	Naphthalene	0.0033	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA109	SA109-0.5B	N	2.5	Naphthalene	0.0051	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA67	SA67-0.5B	N	0.5	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA180	SA180-0.5B	N	0	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA180	SA180-10B	N	8.5	Naphthalene	0.0048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM7	RSAM7009-10B	FD	9.5	Naphthalene	0.0041	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM7	RSAM7-10B	N	9.5	Naphthalene	0.0039	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM7	RSAM7-0.5B	N	0	Naphthalene	0.0055	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAJ3	RSAJ3-10B	N	5	Naphthalene	0.0045	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAK8	RSAK8-10B	N	7	Naphthalene	0.006	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL4	RSAL4009-0.5B	FD	0.5	Naphthalene	0.0033	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAK6	RSAK6-10B	N	9.5	Naphthalene	0.0039	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded

TABLE B-2. Summary of Soil Data Excluded During Data Processing
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample Location	Sample ID	Sample Type	Start Depth (ft)	Chemical	Result	Unit	Detection Flag	Qualifier	Reason for Exclusion
RSAK6	RSAK6-0.5B	N	0	Naphthalene	0.0045	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAJ2	RSAJ2-10B	N	2.5	Naphthalene	0.0073	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA64	SA64-0.5B	N	0	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA121	SA121-0.5B	N	0.5	Naphthalene	0.0044	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA121	SA121009-0.5B	FD	0.5	Naphthalene	0.0056	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAQ6	RSAQ6-0.5B	N	0	Naphthalene	0.0057	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAQ6	RSAQ6-10B	N	7	Naphthalene	0.0054	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA157	SA157-0.5B	N	0.5	Naphthalene	0.01	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA157	SA157009-0.5B	FD	0.5	Naphthalene	0.0052	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAS5	RSAS5-0.5B	N	1	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA214	SA214-0.5B	N	1	Naphthalene	0.0051	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA43	SA43-10B	N	5.5	Naphthalene	0.0049	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA151	SA151-0.5B	N	0.5	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA128	SA128-10B	N	0	Naphthalene	0.0054	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL5	RSAL5-0.5B	N	0.5	Naphthalene	0.0032	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM6	RSAM6-0.5B	N	0.5	Naphthalene	0.0056	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA197	SA197009-10B	FD	9.5	Naphthalene	0.0042	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA197	SA197-10B	N	9.5	Naphthalene	0.0037	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA104	SA104009-10B	FD	9	Naphthalene	0.0046	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL7	RSAL7-0.5B	N	0.5	Naphthalene	0.0048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA197	SA197-0.5B	N	0	Naphthalene	0.0058	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAO2	RSAO2-0.5B	N	0.5	Naphthalene	0.006	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA158	SA158-0.5B	N	0	Naphthalene	0.0044	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA158	SA158-10B	N	9.5	Naphthalene	0.0055	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN4	RSAN4009-10B	FD	9.5	Naphthalene	0.0046	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA35	SA35-0.5B	N	0	Naphthalene	0.0054	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA35	SA35-10B	N	7	Naphthalene	0.0036	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN4	RSAN4-0.5B	N	0	Naphthalene	0.0041	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN4	RSAN4-10B	N	9.5	Naphthalene	0.0039	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA69	SA69-0.5B	N	0.5	Naphthalene	0.004	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA85	SA85-0.5B	N	0.5	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM3	RSAM3-0.5B	N	1	Naphthalene	0.0054	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN2	RSAN2-0.5B	N	1.5	Naphthalene	0.0054	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA207	SA207-20B	N	6	Naphthalene	0.0057	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA138	SA138-0.5B	N	0.5	Naphthalene	0.0055	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAQ7	RSAQ7-0.5B	N	0.5	Naphthalene	0.0059	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAP5	RSAP5-0.5B	N	1	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA44	SA44-10B	N	5	Naphthalene	0.005	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM5	RSAM5-10B	N	1	Naphthalene	0.0046	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA76	SA76-10B	N	4	Naphthalene	0.0032	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL8	RSAL8-0.5B	N	0.5	Naphthalene	0.005	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA182	SA182-10B	N	5.5	Naphthalene	0.0036	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA77	SA77-0.5B	N	1	Naphthalene	0.0061	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA126	SA126-0.5B	N	1	Naphthalene	0.0048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA70	SA70-0.5B	N	1	Naphthalene	0.0055	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA92	SA92-10B	N	7.5	Naphthalene	0.0037	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA152	SA152-10B	N	9.5	Naphthalene	0.005	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA88	SA88-10B	N	7	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA201	SA201-10B	N	5.5	Naphthalene	0.0062	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA48	SA48-10B	N	7.5	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA92	SA92-0.5B	N	0	Naphthalene	0.0046	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA100	SA100-0.5B	N	1	Naphthalene	0.0049	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA152	SA152-0.5B	N	0	Naphthalene	0.0049	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA152	SA152009-0.5B	FD	0	Naphthalene	0.0046	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA200	SA200-0.5B	N	1	Naphthalene	0.0051	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA55	SA55-0.5B	N	0.5	Naphthalene	0.0046	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA144	SA144-0.5B	N	1	Naphthalene	0.0054	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA104	SA104-10B	N	9	Naphthalene	0.0045	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM8	RSAM8-10B	N	9	Naphthalene	0.0041	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA86	SA86-10B	N	5.5	Naphthalene	0.0034	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA86	SA86009-10B	FD	5.5	Naphthalene	0.0039	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM8	RSAM8-0.5B	N	0	Naphthalene	0.0068	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN5	RSAN5-0.5B	N	0.5	Naphthalene	0.0054	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAM2	RSAM2-0.5B	N	0.5	Naphthalene	0.0047	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA166	SA166-0.5B	N	0.5	Naphthalene	0.0052	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded

TABLE B-2. Summary of Soil Data Excluded During Data Processing
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample Location	Sample ID	Sample Type	Start Depth (ft)	Chemical	Result	Unit	Detection Flag	Qualifier	Reason for Exclusion
SA75	SA75-0.5B	N	0	Naphthalene	0.0049	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA176	SA176-10B	N	9.5	Naphthalene	0.0036	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA75	SA75-10B	N	9.5	Naphthalene	0.0044	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA50	SA50-0.5B	N	0	Naphthalene	0.0051	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA82	SA82-0.5B	N	1	Naphthalene	0.0078	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA176	SA176-0.5B	N	0	Naphthalene	0.0048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC4	RSAC4-0.5B	N	0.5	Naphthalene	0.0052	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAL2	RSAL2-10B	N	9.5	Naphthalene	0.0048	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA180	SA180-0.5BD	FD	0	Naphthalene	0.0058	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO8-10	SSAO8-10-0BPC	N	0	Naphthalene	0.0004	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO7-06	SSAO7-06-0BPC	N	0	Naphthalene	0.00048	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAN7-07	SSAN7-07-0BPC	N	0	Naphthalene	0.00047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO8-05	SSAO8-05-0BPC	N	0	Naphthalene	0.00036	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO8-12	SSAO8-12-0BPC	N	0	Naphthalene	0.0075	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO8-12	SSAO8-12-0BPC_FD	FD	0	Naphthalene	0.0039	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC3	RSAC3-10B	N	8	Naphthalene	0.0036	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA189	SA189-0.5B	N	0.5	Naphthalene	0.0045	mg/kg	N	UJ	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO8-11	SSAO8-11-0BPC	N	0	Naphthalene	0.00067	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO8-08	SSAO8-08-0BPC	N	0	Naphthalene	0.00051	mg/kg	Y	J	Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAN8-04	SSAN8-04-0BPC	N	0	Naphthalene	0.00048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
CS-DC-1	CS-DC-1	N	0	Naphthalene	0.084	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
SA60	SA60-10B	N	9.5	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA106	SA106-12B	N	8.5	Naphthalene	0.0057	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA198	SA198-10B	N	2	Naphthalene	0.0044	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN6	RSAN6009-10B	FD	9.5	Naphthalene	0.004	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN6	RSAN6-10B	N	9.5	Naphthalene	0.0048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA165	SA165-10B	N	8.5	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA150	SA150-10B	N	9.5	Naphthalene	0.0059	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
CS-DC-2	CS-DC-2	N	4	Naphthalene	0.083	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
SA186	SA186-0.5B	N	0.5	Naphthalene	0.0052	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC5	RSAC5-0.5B	N	0.5	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA71	SA71-0.5B	N	0.5	Naphthalene	0.0061	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA54	SA54-0.5B	N	1.5	Naphthalene	0.0048	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA57	SA57-10B	N	5	Naphthalene	0.0056	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA47	SA47-0.5B	N	1	Naphthalene	0.0051	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC6	RSAC6-0.5B	N	0	Naphthalene	0.0047	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA102	SA102-10B	N	8.5	Naphthalene	0.0056	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA57	SA57-10BD	FD	5	Naphthalene	0.0059	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAS8	RSAS8-0.5B	N	1.5	Naphthalene	0.0053	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA154	SA154-10B	N	2.5	Naphthalene	0.0055	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA64	SA64-10B	N	9.5	Naphthalene	0.0044	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAN7	RSAN7-0.5B	N	1	Naphthalene	0.0057	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA134	SA134-10B	N	8.5	Naphthalene	0.0041	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA65	SA65-20B	N	8.5	Naphthalene	0.0055	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA65	SA65-10B	N	0	Naphthalene	0.0091	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA31	SA31-0.5B	N	0.5	Naphthalene	0.0052	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC6	RSAC6-10B	N	8.5	Naphthalene	0.0034	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC3	RSAC3009-0.5B	FD	1	Naphthalene	0.0024	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC3	RSAC3-0.5B	N	1	Naphthalene	0.0029	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC3	RSAC3-0.5B	N	1	Hexachlorobenzene	0.22	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAC3	RSAC3009-0.5B	FD	1	Hexachlorobenzene	0.031	mg/kg	Y	J	Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
RSAC7	RSAC7-9B	N	0	Naphthalene	0.00088	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RSAC7	RSAC7-9B	N	0	Hexachlorobenzene	0.00088	mg/kg	N		Analyzed by both EPA Method 8270 and 8081. The data from EPA Method 8270 was excluded
SA141	SA141-14B	N	0.5	Naphthalene	0.00095	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SA141	SA141009-14B	FD	0.5	Naphthalene	0.0011	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAN7-06	SSAN7-06-0BPC	N	0	Naphthalene	0.00036	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
SSAO7-04	SSAO7-04-0BPC	N	0	Naphthalene	0.00034	mg/kg	N		Analyzed by both EPA Method 8260 and 8270. The data from EPA Method 8260 was excluded
RISB-09	RISB-09-5.0-20141211	N	5	Benzo(a)anthracene	0.072	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
RISB-09	RISB-09-0.5-20141211	N	0.5	Benzo(a)anthracene	0.071	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
RISB-09	RISB-09-0.5-20141211	N	0.5	Chrysene	0.076	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
RISB-09	RISB-09-5.0-20141211	N	5	Chrysene	0.078	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
RISB-09	RISB-09-0.5-20141211	N	0.5	Benzo(k)fluoranthene	0.071	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
RISB-09	RISB-09-5.0-20141211	N	5	Benzo(k)fluoranthene	0.072	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
RISB-09	RISB-09-0.5-20141211	N	0.5	Benzo(b)fluoranthene	0.071	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
RISB-09	RISB-09-5.0-20141211	N	5	Benzo(b)fluoranthene	0.072	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded

TABLE B-2. Summary of Soil Data Excluded During Data Processing
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample Location	Sample ID	Sample Type	Start Depth (ft)	Chemical	Result	Unit	Detection Flag	Qualifier	Reason for Exclusion
SA67	SA67-0.5B	N	0.5	2,3,7,8-Tetrachlorodibenzofuran	0.000138	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA08	SA8-0.5	N	1	Benzo(b)fluoranthene	0.35	mg/kg	N	U	Analyzed by both EPA Method 8270 and 8270 SIM. The data from EPA Method 8270 was excluded
SA87	SA87-0.5B	N	0.5	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.0000166	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.00005	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.000603	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,6,7,8-Hexachlorodibenzofuran	0.000383	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.0000539	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.000236	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,4,5,6,7,8-Octachlorodibenzofuran	0.00438	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0000359	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	2,3,4,6,7,8-Hexachlorodibenzofuran	0.000195	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin	0.000519	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.00111	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	2,3,4,7,8-Pentachlorodibenzofuran	0.000177	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,4,7,8-Hexachlorodibenzofuran	0.000909	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,7,8-Pentachlorodibenzofuran	0.000445	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	2,3,7,8-Tetrachlorodibenzofuran	0.000603	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.0000405	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA87	SA87-0.5B	N	0.5	1,2,3,7,8,9-Hexachlorodibenzofuran	0.0000514	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.0001407	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	2,3,7,8-Tetrachlorodibenzo-p-dioxin	2.371E-05	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.0004437	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.0001227	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	4.939E-05	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.0029508	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,6,7,8-Hexachlorodibenzofuran	0.001626	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.0060334	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	2,3,4,7,8-Pentachlorodibenzofuran	0.0005924	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	2,3,4,6,7,8-Hexachlorodibenzofuran	0.0008592	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,7,8-Pentachlorodibenzofuran	0.0012874	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,4,7,8-Hexachlorodibenzofuran	0.0026503	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	8.789E-05	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,7,8,9-Hexachlorodibenzofuran	0.0002463	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	2,3,7,8-Tetrachlorodibenzofuran	0.0015187	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin	0.0004427	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA16	SA16-0.5	N	0	1,2,3,4,5,6,7,8-Octachlorodibenzofuran	0.016112	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	2,3,7,8-Tetrachlorodibenzo-p-dioxin	2.9E-08	mg/kg	N	U	Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1.17E-07	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	5.16E-07	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,6,7,8-Hexachlorodibenzofuran	1.45E-06	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,4,7,8,9-Heptachlorodibenzofuran	2.093E-06	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	6.3E-08	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	1.3E-07	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,7,8-Pentachlorodibenzofuran	9.85E-07	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,4,7,8-Hexachlorodibenzofuran	2.577E-06	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	2,3,4,6,7,8-Hexachlorodibenzofuran	4.88E-07	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,4,6,7,8-Heptachlorodibenzofuran	6.645E-06	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	2,3,4,7,8-Pentachlorodibenzofuran	2.65E-07	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	2,3,7,8-Tetrachlorodibenzofuran	1.36E-06	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,7,8,9-Hexachlorodibenzofuran	1.85E-07	mg/kg	N	U	Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	7E-08	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin	1.964E-06	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded
SA18	SA18-0.5	N	0	1,2,3,4,5,6,7,8-Octachlorodibenzofuran	1.441E-05	mg/kg	Y		Analyzed by both EPA Method 8290 and 8290 SCREEN. The data from EPA Method 8290 SCREEN was excluded

Notes:

ft = feet

mg/kg = milligram per kilogram

pCi/g = picocurie per gram

EPA = Environmental Protection Agency

FD = Field duplicate

J = The result is an estimated quantity. the associated numerical value is the approximate concentration of the analyte in the sample.

K = Qualified as estimated maximum possible concentration (dioxin congeners)

U = Not detected

UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.

N = Normal (Sample Type)

N = Not detected (Detection Flag)

SIM = Selective ion monitoring

Y = Detected (Detection Flag)

**TABLE B-3. Summary of Rejected Parcel Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada**

Phase A Investigation DVSR, September 2007

Sample ID	Decision Unit	Method	Analyte	Result	Unit	Validation Qualifier	Reason Code
SA15-10	DU-3	EPA 350.1	Ammonia (as N)	< 0.64	mg/kg	R	m
SA18-0.5	DU-1	EPA 9012A	Cyanide	< 0.55	mg/kg	R	h
SA18-0.5D	DU-1	EPA 9012A	Cyanide	< 0.53	mg/kg	R	h
SA18-10	DU-1	EPA 9012A	Cyanide	< 0.54	mg/kg	R	h
SA21-0.5	DU-1	EPA 9012A	Cyanide	< 0.52	mg/kg	R	h
SA3-0.5	DU-2	EPA 9012A	Cyanide	< 0.53	mg/kg	R	h
SA3-0.5D	DU-2	EPA 9012A	Cyanide	< 0.53	mg/kg	R	h
SA5-0.5	DU-2	EPA 9012A	Cyanide	< 0.65	mg/kg	R	h, m
SA6-0.5	DU-2	EPA 9012A	Cyanide	< 0.53	mg/kg	R	h
SA6-0.5D	DU-2	EPA 9012A	Cyanide	< 0.58	mg/kg	R	h
SA6-0.5D	DU-2	SW 846 8081	Heptachlor	< 0.0020	mg/kg	R	m
SA7-0.5	DU-2	EPA 9012A	Cyanide	< 0.53	mg/kg	R	h
SA7-0.5	DU-2	SW 846 9056	Nitrite	< 0.042	mg/kg	R	m
SA8-0.5	DU-2	EPA 9012A	Cyanide	< 0.53	mg/kg	R	h

Phase B Investigation Area I DVSR, January 2010

Sample ID	Decision Unit	Method	Analyte	Result	Unit	Validation Qualifier	Reason Code
RSO2-0.5B	DU-1	SW 846 9056	Chloride	222	mg/kg	R	o
RSAL2-10B	DU-1	SW 846 9056	Bromide	11	mg/kg	R	m
RSAL4-0.5B	DU-1	SW6010	Antimony	< 0.50	mg/kg	R	m
RSAL4009-0.5B	DU-1	SW6010	Antimony	< 0.50	mg/kg	R	m
SA69-0.5B	DU-1	SW6010	Antimony	< 0.50	mg/kg	R	m

Phase B Investigation Area II DVSR, February 2010

Sample ID	Decision Unit	Method	Analyte	Result	Unit	Validation Qualifier	Reason Code
RSAL6-0.5B	DU-1	EPA 350.1	Ammonia (as N)	< 0.080	mg/kg	R	m
RSAL6-10B	DU-1	EPA 350.1	Ammonia (as N)	< 0.080	mg/kg	R	m
RSO5-0.5B	DU-1	SW 846 9012A	Cyanide	< 0.50	mg/kg	R	m
SA109-0.5B	DU-1	SW 846 9012A	Cyanide	< 0.50	mg/kg	R	m
SA185-0.5B	DU-1	SW 846 9012A	Cyanide	< 0.42	mg/kg	R	m
SA186-0.5B	DU-1	SW 846 9012A	Cyanide	< 0.50	mg/kg	R	m
SA42009-10B	DU-1	SW 846 9012A	Cyanide	< 0.50	mg/kg	R	m
SA42-10B	DU-1	SW 846 9012A	Cyanide	< 0.42	mg/kg	R	m
SA44-10B	DU-1	SW 846 9012A	Cyanide	< 0.50	mg/kg	R	m
SA50-0.5B	DU-1	SW 846 9012A	Cyanide	< 0.42	mg/kg	R	m
SA54-0.5B	DU-1	SW 846 9012A	Cyanide	< 0.42	mg/kg	R	m
SA73-0.5B	DU-1	EPA 350.1	Ammonia (as N)	< 0.10	mg/kg	R	m

Additional Pre-Confirmation Sampling DVSR, April 2011

Sample ID	Decision Unit	Method	Analyte	Result	Unit	Validation Qualifier	Reason Code
SSAO8-05-0BPC	DU-1	SW 846 8270C	Benzo[a]pyrene	< 20	ug/kg	R	i
SSAO8-05-0BPC	DU-1	SW 846 8270C	Benzo[b]fluoranthene	< 27	ug/kg	R	i
SSAO8-05-0BPC	DU-1	SW 846 8270C	Benzo[g,h,i]perylene	< 16	ug/kg	R	i
SSAO8-05-0BPC	DU-1	SW 846 8270C	Benzo[k]fluoranthene	< 41	ug/kg	R	i
SSAO8-05-0BPC	DU-1	SW 846 8270C	Dibenzo(a,h)-anthracene	< 19	ug/kg	R	i
SSAO8-05-0BPC	DU-1	SW 846 8270C	Indeno[1,2,3-cd]pyrene	< 22	ug/kg	R	i

**TABLE B-3. Summary of Rejected Parcel Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada**

Phase I Remedial Investigation DVSR (ongoing, not submitted yet)

Sample ID	Decision Unit	Method	Analyte	Result	Unit	Validation Qualifier	Reason Code
RISB-10-0.5-20141215	DU-1	EPA 8270C	Benzidine	< 0.66	mg/kg	R	m
RISB-11-0.5-20141217	DU-1	EPA 8270C	Benzidine	< 0.69	mg/kg	R	m
RISB-11-0.5-20141217	DU-1	EPA 6020	Niobium	< 1.9	mg/kg	R	m
RISB-11-5.0-20141217	DU-1	EPA 6020	Niobium	< 1.8	mg/kg	R	m
RISB-13-0.5-20141217	DU-1	EPA 6020	Niobium	< 1.9	mg/kg	R	m
RISB-13-5.0-20141218	DU-1	EPA 8270C	Benzoic acid	< 0.37	mg/kg	R	m
RISB-13-5.0-20141218	DU-1	EPA 6020	Niobium	< 2.0	mg/kg	R	m
RISB-47-0.5-20141120	DU-1	EPA 8270C	Benzidine	< 0.67	mg/kg	R	m
RISB-47-0.5-20141120	DU-1	EPA 6020	Niobium	< 1.9	mg/kg	R	m
RISB-47-5.0-20141120	DU-1	EPA 8270C	Benzidine	< 0.70	mg/kg	R	m
RISB-47-5.0-20141120	DU-1	EPA 6020	Niobium	< 1.9	mg/kg	R	m
RISB-51-0.5-20141030	DU-1	EPA 8081A	4,4'-DDD	< 0.0077	mg/kg	R	m
RISB-51-0.5-20141030	DU-1	EPA 8081A	gamma-Chlordane	< 0.0077	mg/kg	R	m
RISB-51-0.5-20141030	DU-1	EPA 8081A	Heptachlor	< 0.010	mg/kg	R	m
RISB-51-0.5-20141030	DU-1	EPA 8081A	Heptachlor epoxide	< 0.010	mg/kg	R	m

Tronox Parcels C, D, F, and G Investigation DVSR, February 2008

Sample ID	Decision Unit	Method	Analyte	Result	Unit	Validation Qualifier	Reason Code
TSB-GJ-03-0	DU-2	EPA 300	Nitrite (as N)	< 0.20	mg/kg	R	m
TSB-GJ-03-5	DU-2	EPA 300	Nitrite (as N)	< 0.21	mg/kg	R	m
TSB-GJ-04-0	DU-2	EPA 300	Nitrite (as N)	< 0.22	mg/kg	R	m
TSB-GJ-04-5	DU-2	EPA 300	Nitrite (as N)	< 0.22	mg/kg	R	m
TSB-GR-02-0	DU-2	EPA 300	Nitrite (as N)	< 0.21	mg/kg	R	m
TSB-GR-02-0 FD	DU-2	EPA 300	Nitrite (as N)	< 0.21	mg/kg	R	m
TSB-GR-02-5	DU-2	EPA 300	Nitrite (as N)	< 0.21	mg/kg	R	m

Notes:

DDD = Dichlorodiphenyldichloroethane
 DU = Decision unit
 DVSR = Data Validation Summary Report
 EPA = Environmental Protection Agency
 FD = Field duplicate
 h = Qualified due to holding time exceedance
 i = Qualified due to internal standard areas
 m = Qualified due to matrix spike recoveries
 mg/kg = milligram per kilogram
 o = Other
 R = Rejected value
 µg/kg = microgram per kilogram

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

Phase A Investigation DVSR, September 2007

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
SA3-0.5	DU-2	Calcium	40,900	mg/kg	70	≤50		J
SA3-0.5D	DU-2	Calcium	19,800	mg/kg	70	≤50		J
SA6-0.5	DU-2	Titanium	361	mg/kg	52	≤50		J
SA6-0.5D	DU-2	Titanium	616	mg/kg	52	≤50		J
SA9-10	DU-1	Perchlorate	696	ug/kg	52	≤50		J
SA9-10D	DU-1	Perchlorate	408	ug/kg	52	≤50		J
SA11-0.5	DU-1	4,4-DDE	0.012	mg/kg	0.010	≤0.0019		J+
SA11-0.5D	DU-1	4,4-DDE	< 0.0019	mg/kg	0.010	≤0.0019	0.0019	UJ
SA11-0.5	DU-1	Beta-BHC	0.030	mg/kg	0.028	≤0.0019		J+
SA11-0.5D	DU-1	Beta-BHC	< 0.0019	mg/kg	0.028	≤0.0019	0.0019	UJ
SA11-0.5	DU-1	Sulfate	94	mg/kg	72	≤50		J
SA11-0.5D	DU-1	Sulfate	199	mg/kg	72	≤50		J
SA15-10	DU-3	Chloride	746	mg/kg	95	≤50		J
SA15-10D	DU-3	Chloride	266	mg/kg	95	≤50		J
SA15-10	DU-3	Nitrate	515	mg/kg	169	≤50		J
SA15-10D	DU-3	Nitrate	43	mg/kg	169	≤50		J
SA18-0.5	DU-1	Calcium	32,300	mg/kg	64	≤50		J
SA18-0.5D	DU-1	Calcium	16,600	mg/kg	64	≤50		J
SA18-0.5	DU-1	Chloride	543	mg/kg	62	≤50		J
SA18-0.5D	DU-1	Chloride	287	mg/kg	62	≤50		J
SA18-0.5	DU-1	Perchlorate	3,850	ug/kg	83	≤50		J
SA18-0.5D	DU-1	Perchlorate	1,590	ug/kg	83	≤50		J
SA18-0.5	DU-1	Sodium	800	mg/kg	60	≤50		J-
SA18-0.5D	DU-1	Sodium	433	mg/kg	60	≤50		J-

Phase B Investigation Area I DVSR, January 2010

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
SA152-0.5B	DU-1	1,2,3,4,5,6,7,8-Octachlorodibenzofuran	518	ng/kg	512	≤9.5		J
SA152009-0.5B	DU-1	1,2,3,4,5,6,7,8-Octachlorodibenzofuran	6.5	ng/kg	512	≤9.5	9.5	J
SA152-0.5B	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	187	ng/kg	184	≤4.8		J
SA152009-0.5B	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	2.5	ng/kg	184	≤4.8	4.8	J
SA152-0.5B	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	14	ng/kg	12	≤4.8	4.8	J
SA152009-0.5B	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1.5	ng/kg	12	≤4.8	4.8	J
SA152-0.5B	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	92	ng/kg	91	≤4.8		J
SA152009-0.5B	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.94	ng/kg	91	≤4.8	4.8	JK
SA152-0.5B	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	107	ng/kg	106	≤4.8		J
SA152009-0.5B	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	0.95	ng/kg	106	≤4.8	4.8	J
SA152-0.5B	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	63	ng/kg	62	≤4.8		J
SA152009-0.5B	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	0.63	ng/kg	62	≤4.8	4.8	JK
SA152-0.5B	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	10	ng/kg	9.7	≤4.8	4.8	J
SA152009-0.5B	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	< 0.31	ng/kg	9.7	≤4.8	4.8	UJ
SA152-0.5B	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	5.9	ng/kg	5.3	≤4.8	4.8	J
SA152009-0.5B	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.61	ng/kg	5.3	≤4.8	4.8	J
SA152-0.5B	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	52	ng/kg	52	≤4.8		J
SA152009-0.5B	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	< 0.15	ng/kg	52	≤4.8	4.8	UJ
SA152-0.5B	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	16	ng/kg	16	≤4.8	4.8	JK
SA152009-0.5B	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	< 0.27	ng/kg	16	≤4.8	4.8	UJ
SA152-0.5B	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	28	ng/kg	28	≤4.8		J
SA152009-0.5B	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	< 0.15	ng/kg	28	≤4.8	4.8	UJ
SA180-0.5B	DU-1	4,4'-DDD	< 76	ug/kg	68	≤3.8	76	UJ
SA180-0.5BD	DU-1	4,4'-DDD	7.9	ug/kg	68	≤3.8	3.8	J
RSAH3-0.5B	DU-1	4,4-DDE	73	ug/kg	39	≤34	34	J
RSAH3009-0.5B	DU-1	4,4-DDE	< 34	ug/kg	39	≤34	34	
RSAH3-0.5B	DU-1	4,4-DDT	69	ug/kg	35	≤34	34	J
RSAH3009-0.5B	DU-1	4,4-DDT	< 34	ug/kg	35	≤34	34	
SA57-10B	DU-1	Acetone	17	ug/kg	23	≤22	22	J
SA57-10BD	DU-1	Acetone	40	ug/kg	23	≤22	22	J
RSAH3-0.5B	DU-1	Ammonia (as N)	< 0.070	mg/kg	2.0	≤0.52	0.52	UJ
RSAH3009-0.5B	DU-1	Ammonia (as N)	2.1	mg/kg	2.0	≤0.52	0.52	J
SA180-0.5B	DU-1	Benz(a)anthracene	160	ug/kg	131	≤40	40	J
SA180-0.5BD	DU-1	Benz(a)anthracene	29	ug/kg	131	≤40	40	J
SA180-0.5B	DU-1	Benzo(a)pyrene	110	ug/kg	78	≤40	40	J
SA180-0.5BD	DU-1	Benzo(a)pyrene	32	ug/kg	78	≤40	40	J
SA180-0.5B	DU-1	Benzo(b)fluoranthene	110	ug/kg	78	≤40	40	J
SA180-0.5BD	DU-1	Benzo(b)fluoranthene	32	ug/kg	78	≤40	40	J
SA180-0.5B	DU-1	Benzo(g,h,i)perylene	74	ug/kg	47	≤40	40	J
SA180-0.5BD	DU-1	Benzo(g,h,i)perylene	27	ug/kg	47	≤40	40	J

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

SA180-0.5B	DU-1	Benzo(k)fluoranthene	110	ug/kg	77	≤40	40	J
SA180-0.5BD	DU-1	Benzo(k)fluoranthene	33	ug/kg	77	≤40	40	J
RSAH3-0.5B	DU-1	Beta-BHC	230	ug/kg	165	≤18		J
RSAH3009-0.5B	DU-1	Beta-BHC	65	ug/kg	165	≤18	18	J
RSAK4-0.5B	DU-1	Beta-BHC	330	ug/kg	53	≤50		J
RSAK4009-0.5B	DU-1	Beta-BHC	570	ug/kg	53	≤50		J
RSAH3-0.5B	DU-1	Calcium	19,700	mg/kg	57	≤50		J
RSAH3009-0.5B	DU-1	Calcium	35,300	mg/kg	57	≤50		J
SA180-0.5B	DU-1	Chrysene	190	ug/kg	144	≤40	40	J
SA180-0.5BD	DU-1	Chrysene	46	ug/kg	144	≤40	40	J
SA180-0.5B	DU-1	Fluoranthene	350	ug/kg	279	≤40		J
SA180-0.5BD	DU-1	Fluoranthene	71	ug/kg	279	≤40	40	J
RSAH3-0.5B	DU-1	Hexachlorobenzene	180	ug/kg	156	≤18		J
RSAH3009-0.5B	DU-1	Hexachlorobenzene	24	ug/kg	156	≤18	18	J
SA180-0.5B	DU-1	Indeno(1,2,3-cd)pyrene	69	ug/kg	46	≤40	40	J
SA180-0.5BD	DU-1	Indeno(1,2,3-cd)pyrene	23	ug/kg	46	≤40	40	J
RSAH3-0.5B	DU-1	Octachlorostyrene	79	ug/kg	67	≤6.8		J
RSAH3009-0.5B	DU-1	Octachlorostyrene	12	ug/kg	67	≤6.8	6.8	J
SA180-0.5B	DU-1	Phenanthrene	190	ug/kg	149	≤40	40	J
SA180-0.5BD	DU-1	Phenanthrene	41	ug/kg	149	≤40	40	J
SA180-0.5B	DU-1	Pyrene	270	ug/kg	219	≤40		J
SA180-0.5BD	DU-1	Pyrene	51	ug/kg	219	≤40	40	J
SA74-0.5B	DU-1	Radium-226	0.84	pCi/g	0.55	≤0.50	0.50	J
SA74009-0.5B	DU-1	Radium-226	0.29	pCi/g	0.55	≤0.50	0.50	J
RSAH3-0.5B	DU-1	Radium-228	1.5	pCi/g	1.25	≤0.50	0.50	J
RSAH3009-0.5B	DU-1	Radium-228	2.7	pCi/g	1.25	≤0.50		J
RSAK4-0.5B	DU-1	Radium-228	1.5	pCi/g	0.75	≤0.50	0.50	J
RSAK4009-0.5B	DU-1	Radium-228	0.79	pCi/g	0.75	≤0.50	0.50	J
SA74-0.5B	DU-1	Total Phosphorus-P	731	mg/kg	51	≤50		J
SA74009-0.5B	DU-1	Total Phosphorus-P	1,230	mg/kg	51	≤50		J
RSAH3-0.5B	DU-1	Tungsten	0.43	mg/kg	0.30	≤0.10	0.10	J
RSAH3009-0.5B	DU-1	Tungsten	0.13	mg/kg	0.30	≤0.10	0.10	J
RSAN4-10B	DU-1	Tungsten	0.70	mg/kg	0.47	≤0.10		J
RSAN4009-10B	DU-1	Tungsten	0.23	mg/kg	0.47	≤0.10	0.10	J

Phase B Investigation Area II DVSR, February 2010

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
SA86-10B	DU-3	4,4-DDE	18	ug/kg	13	≤3.8	3.8	J
SA86009-10B	DU-3	4,4-DDE	4.6	ug/kg	13	≤3.8	3.8	J
SA86-10B	DU-3	4,4-DDT	11	ug/kg	6.8	≤3.8	3.8	J
SA86009-10B	DU-3	4,4-DDT	4.2	ug/kg	6.8	≤3.8	3.8	J
SA104-10B	DU-3	Acetone	52	ug/kg	36	≤19	19	J
SA104009-10B	DU-3	Acetone	16	ug/kg	36	≤19	19	J
RSAN6-10B	DU-1	Acetone	33	ug/kg	26	≤19	19	J
RSAN6009-10B	DU-1	Acetone	< 7.4	ug/kg	26	≤19	19	UJ
SA104-10B	DU-3	Ammonia (as N)	1.8	mg/kg	0.86	≤0.55	0.55	J
SA104009-10B	DU-3	Ammonia (as N)	0.93	mg/kg	0.86	≤0.55	0.55	J
SA86-10B	DU-3	Arsenic	2.4	mg/kg	54	≤50		J
SA86009-10B	DU-3	Arsenic	4.1	mg/kg	54	≤50		J
SA86-10B	DU-3	Beta-BHC	< 0.94	ug/kg	25	≤1.9	1.9	UJ
SA86009-10B	DU-3	Beta-BHC	26	ug/kg	25	≤1.9		J
RSAN6-10B	DU-1	Beta-BHC	5.8	ug/kg	4.9	≤1.9	1.9	J
RSAN6009-10B	DU-1	Beta-BHC	< 0.93	ug/kg	4.9	≤1.9	1.9	UJ
SA104-10B	DU-3	Chromium-hexavalent	0.66	mg/kg	0.47	≤0.44	0.44	J
SA104009-10B	DU-3	Chromium-hexavalent	< 0.19	mg/kg	0.47	≤0.44	0.44	UJ
SA86-10B	DU-3	Endrin Ketone	20	ug/kg	17	≤3.8		J
SA86009-10B	DU-3	Endrin Ketone	3.0	ug/kg	17	≤3.8	3.8	J
SA86-10B	DU-3	Hexachlorobenzene	290	ug/kg	192	≤20		J
SA86009-10B	DU-3	Hexachlorobenzene	98	ug/kg	192	≤20	20	J
RSAN6-10B	DU-1	Hexachlorobenzene	24	ug/kg	23	≤1.9		J
RSAN6009-10B	DU-1	Hexachlorobenzene	< 0.93	ug/kg	23	≤1.9	1.9	UJ
SA104-10B	DU-3	Molybdenum	0.74	mg/kg	0.35	≤0.33	0.33	J
SA104009-10B	DU-3	Molybdenum	0.39	mg/kg	0.35	≤0.33	0.33	J
SA86-10B	DU-3	Octachlorostyrene	68	ug/kg	46	≤7.6		J
SA86009-10B	DU-3	Octachlorostyrene	22	ug/kg	46	≤7.6	7.6	J
SA104-10B	DU-3	Octachlorostyrene	34	ug/kg	30	≤7.3		J
SA104009-10B	DU-3	Octachlorostyrene	64	ug/kg	30	≤7.3		J
SA86-10B	DU-3	PCB-105	< 165	ng/kg	135	≤40	40	UJ
SA86009-10B	DU-3	PCB-105	<30	ng/kg	135	≤40	40	UJ

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

SA86-10B	DU-3	PCB-118	< 353	ng/kg	274	≤101	101	UJ
SA86009-10B	DU-3	PCB-118	< 79	ng/kg	274	≤101	101	UJ
SA42-10B	DU-1	Phenanthrene	< 29	ug/kg	971	≤110	110	UJ
SA42009-10B	DU-1	Phenanthrene	1,000	ug/kg	971	≤110		J
SA86-10B	DU-3	Radium-226	1.0	pCi/g	0.55	≤0.50	0.50	J
SA86009-10B	DU-3	Radium-226	1.6	pCi/g	0.55	≤0.50	0.50	J
SA105-10B	DU-3	Radium-228	1.6	pCi/g	0.53	≤0.50	0.50	J
SA105009-10B	DU-3	Radium-228	1.0	pCi/g	0.53	≤0.50	0.50	J
RSAM7-10B	DU-1	Radium-228	1.2	pCi/g	0.76	≤0.50	0.50	J
RSAM7009-10B	DU-1	Radium-228	0.42	pCi/g	0.76	≤0.50	0.50	J
RSAM7-10B	DU-1	Uranium-235	0.055	pCi/g	0.049	≤0.040	0.040	J
RSAM7009-10B	DU-1	Uranium-235	0.10	pCi/g	0.049	≤0.040	0.040	J
SA86-10B	DU-3	Uranium (total)	1.6	mg/kg	76	≤50		J
SA86009-10B	DU-3	Uranium (total)	3.6	mg/kg	76	≤50		J

Phase B Investigation Area III DVSR, February 2010

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
SA141-14B	DU-1	Calcium	51,300	mg/kg	110	≤50		J
SA141009-14B	DU-1	Calcium	15,000	mg/kg	110	≤50		J
SA157-0.5B	DU-1	Chromium-hexavalent	< 0.19	mg/kg	1.8	≤0.43	0.43	UJ
SA157009-0.5B	DU-1	Chromium-hexavalent	2.0	mg/kg	1.8	≤0.43	0.43	J
SA157-0.5B	DU-1	Manganese	1,550	mg/kg	101	≤50		J
SA157009-0.5B	DU-1	Manganese	508	mg/kg	101	≤50		J
SA141-14B	DU-1	Octachlorodibenzofuran	13	pg/g	7.6	≤5.4	5.4	J
SA141009-14B	DU-1	Octachlorodibenzofuran	5.4	pg/g	7.6	≤5.4	5.4	J
SA157-0.5B	DU-1	Radium-228	1.8	pCi/g	0.98	≤0.50	0.50	J
SA157009-0.5B	DU-1	Radium-228	0.78	pCi/g	0.98	≤0.50	0.50	J
SA157-0.5B	DU-1	Uranium-235	0.090	pCi/g	0.047	≤0.040	0.040	J
SA157009-0.5B	DU-1	Uranium-235	0.044	pCi/g	0.047	≤0.040	0.040	J

Phase B Investigation Area IV DVSR, March 2010

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
SA121-0.5B	DU-2	Chromium-hexavalent	1.6	mg/kg	1.4	≤0.42	0.42	J
SA121009-0.5B	DU-2	Chromium-hexavalent	< 0.19	mg/kg	1.4	≤0.42	0.42	UJ
SA121-0.5B	DU-2	Hexachlorobenzene	3.5	ug/kg	2.3	≤1.9	1.9	J
SA121009-0.5B	DU-2	Hexachlorobenzene	5.8	ug/kg	2.3	≤1.9	1.9	J
SA121-0.5B	DU-2	Radium-228	0.86	pCi/g	0.54	≤0.50	0.50	J
SA121009-0.5B	DU-2	Radium-228	< 0.32	pCi/g	0.54	≤0.50	0.50	UJ

Phase B Supplemental Sampling DVSR, July 2010

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
SA114-1BR	DU-1	Mercury	0.012	mg/kg	158	≤50		J
SA114009-1BR	DU-1	Mercury	0.10	mg/kg	158	≤50		J

Additional Pre-Confirmation Sampling DVSR, April 2011

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
BDT-2-S-5-12BPC	DU-3	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	110	pg/g	114	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	400	pg/g	114	≤50		J
BDT-3-N-20-8BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	8.5	pg/g	4.7	≤2.7	2.7	J
BDT-3-N-20-8BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	3.8	pg/g	4.7	≤2.7	2.7	J
SSAK7-05-1BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	160	pg/g	76	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	72	pg/g	76	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	250	pg/g	126	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	57	pg/g	126	≤50		J
SSAM5-04-5BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	4.9	pg/g	4.7	≤2.7	2.7	J
SSAM5-04-5BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	9.6	pg/g	4.7	≤2.7	2.7	J
BDT-2-N-5-12BPC	DU-3	1,2,3,4,6,7,8-Heptachlorodibenzofuran	17	pg/g	11	≤2.7		J
BDT-2-N-5-12BPC_FD	DU-3	1,2,3,4,6,7,8-Heptachlorodibenzofuran	6.2	pg/g	11	≤2.7	2.7	J

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

BDT-2-S-5-12BPC	DU-3	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,300	pg/g	110	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,4,6,7,8-Heptachlorodibenzofuran	4,500	pg/g	110	≤50		J
BDT-3-N-20-8BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	110	pg/g	80	≤50		J
BDT-3-N-20-8BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	47	pg/g	80	≤50		J
SSAJ8-03-3BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	51	pg/g	41	≤2.8		J
SSAJ8-03-3BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	10	pg/g	41	≤2.8	2.8	J
SSAK7-05-1BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,900	pg/g	77	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	840	pg/g	77	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	2,700	pg/g	125	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	620	pg/g	125	≤50		J
SSAM5-04-5BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	60	pg/g	67	≤50		J
SSAM5-04-5BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	120	pg/g	67	≤50		J
SSAP3-04-1_01_BPC	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	6.7	pg/g	18	≤2.6	2.6	J
SSAP3-04-1_01_BPC_FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	25	pg/g	18	≤2.6		J
BDT-2-N-5-12BPC	DU-3	1,2,3,4,7,8,9-Heptachlorodibenzofuran	9.6	pg/g	6.1	≤2.7	2.7	J
BDT-2-N-5-12BPC_FD	DU-3	1,2,3,4,7,8,9-Heptachlorodibenzofuran	3.5	pg/g	6.1	≤2.7	2.7	J
BDT-2-S-5-12BPC	DU-3	1,2,3,4,7,8,9-Heptachlorodibenzofuran	620	pg/g	105	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,4,7,8,9-Heptachlorodibenzofuran	2,000	pg/g	105	≤50		J
BDT-3-N-20-8BPC	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	50	pg/g	90	≤50		J
BDT-3-N-20-8BPC_FD	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	19	pg/g	90	≤50		J
SSAJ8-03-3BPC	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	21	pg/g	16	≤2.8		J
SSAJ8-03-3BPC_FD	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	4.6	pg/g	16	≤2.8	2.8	J
SSAK7-05-1BPC	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	880	pg/g	75	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	400	pg/g	75	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,100	pg/g	124	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	260	pg/g	124	≤50		J
SSAM5-04-5BPC	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	27	pg/g	71	≤50		J
SSAM5-04-5BPC_FD	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	57	pg/g	71	≤50		JK
SSAP3-04-1_01_BPC	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	3.1	pg/g	8.9	≤2.6	2.6	J
SSAP3-04-1_01_BPC_FD	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	12	pg/g	8.9	≤2.6	2.6	J
BDT-2-S-5-12BPC	DU-3	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	19	pg/g	106	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	62	pg/g	106	≤50		J
BDT-3-S-10-4BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	15	pg/g	4.0	≤2.6		J
BDT-3-S-10-4BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	11	pg/g	4.0	≤2.6	2.6	J
SSAK7-05-1BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	17	pg/g	7.3	≤2.6		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	9.7	pg/g	7.3	≤2.6	2.6	J
SSAK8-08-3BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	40	pg/g	32	≤2.7		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	7.9	pg/g	32	≤2.7	2.7	J
BDT-2-N-5-12BPC	DU-3	1,2,3,4,7,8-Hexachlorodibenzofuran	5.8	pg/g	3.4	≤2.7	2.7	J
BDT-2-N-5-12BPC_FD	DU-3	1,2,3,4,7,8-Hexachlorodibenzofuran	2.4	pg/g	3.4	≤2.7	2.7	J
BDT-2-S-5-12BPC	DU-3	1,2,3,4,7,8-Hexachlorodibenzofuran	410	pg/g	91	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,4,7,8-Hexachlorodibenzofuran	1,100	pg/g	91	≤50		J
BDT-3-N-20-8BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	33	pg/g	64	≤50		J
BDT-3-N-20-8BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	17	pg/g	64	≤50		J
SSAJ8-03-3BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	16	pg/g	13	≤2.8		J
SSAJ8-03-3BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	3.0	pg/g	13	≤2.8	2.8	J
SSAK7-05-1BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	800	pg/g	58	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	440	pg/g	58	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	820	pg/g	128	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	180	pg/g	128	≤50		J
SSAM5-04-5BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	16	pg/g	69	≤50		J
SSAM5-04-5BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	33	pg/g	69	≤50		J
SSAP3-04-1_01_BPC	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	2.3	pg/g	5.0	≤2.6	2.6	J
SSAP3-04-1_01_BPC_FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	7.3	pg/g	5.0	≤2.6	2.6	J
BDT-2-S-5-12BPC	DU-3	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	33	pg/g	108	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	110	pg/g	108	≤50		J
SSAK7-05-1BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	39	pg/g	52	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	23	pg/g	52	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	78	pg/g	125	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	18	pg/g	125	≤50		J
BDT-2-N-5-12BPC	DU-3	1,2,3,6,7,8-Hexachlorodibenzofuran	5.2	pg/g	3.1	≤2.7	2.7	J

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

BDT-2-N-5-12BPC_FD	DU-3	1,2,3,6,7,8-Hexachlorodibenzofuran	2.1	pg/g	3.1	≤2.7	2.7	JK
BDT-2-S-5-12BPC	DU-3	1,2,3,6,7,8-Hexachlorodibenzofuran	320	pg/g	103	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,6,7,8-Hexachlorodibenzofuran	1,000	pg/g	103	≤50		J
BDT-3-N-20-8BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	29	pg/g	16	≤2.7		J
BDT-3-N-20-8BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	13	pg/g	16	≤2.7	2.7	J
SSAJ8-03-3BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	13	pg/g	10	≤2.8	2.8	J
SSAJ8-03-3BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	2.7	pg/g	10	≤2.8	2.8	J
SSAK7-05-1BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	580	pg/g	61	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	310	pg/g	61	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	720	pg/g	120	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	180	pg/g	120	≤50		J
SSAM5-04-5BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	14	pg/g	67	≤50		J
SSAM5-04-5BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	28	pg/g	67	≤50		J
SSAP3-04-1_01_BPC	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	1.8	pg/g	3.3	≤2.6	2.6	J
SSAP3-04-1_01_BPC_FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	5.1	pg/g	3.3	≤2.6	2.6	J
BDT-2-S-5-12BPC	DU-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19	pg/g	114	≤50		JK
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	69	pg/g	114	≤50		J
SSAK7-05-1BPC	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	37	pg/g	64	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19	pg/g	64	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	56	pg/g	43	≤2.7		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	13	pg/g	43	≤2.7	2.7	J
BDT-2-S-5-12BPC	DU-3	1,2,3,7,8,9-Hexachlorodibenzofuran	82	pg/g	91	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,7,8,9-Hexachlorodibenzofuran	220	pg/g	91	≤50		J
BDT-3-N-15-6BPC	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	11	pg/g	4.4	≤2.7	2.7	J
BDT-3-N-15-6BPC_FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	6.6	pg/g	4.4	≤2.7	2.7	J
SSAK7-05-1BPC	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	84	pg/g	60	≤50		J
SSAK7-05-1BPC_FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	45	pg/g	60	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	110	pg/g	128	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	24	pg/g	128	≤50		J
SSAM5-04-5BPC	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	2.6	pg/g	3.1	≤2.7	2.7	JK
SSAM5-04-5BPC_FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	5.7	pg/g	3.1	≤2.7	2.7	J
BDT-2-S-5-12BPC	DU-3	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	27	pg/g	100	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	81	pg/g	100	≤50		J
SSAK8-08-3BPC	DU-1	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	52	pg/g	39	≤2.7		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	13	pg/g	39	≤2.7	2.7	J
BDT-2-S-5-12BPC	DU-3	1,2,3,7,8-Pentachlorodibenzofuran	290	pg/g	100	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	1,2,3,7,8-Pentachlorodibenzofuran	870	pg/g	100	≤50		J
BDT-3-N-15-6BPC	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	56	pg/g	67	≤50		J
BDT-3-N-15-6BPC_FD	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	28	pg/g	67	≤50		J
BDT-3-N-20-8BPC	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	20	pg/g	11	≤2.7		J
BDT-3-N-20-8BPC_FD	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	8.6	pg/g	11	≤2.7	2.7	J
SSAJ8-03-3BPC	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	11	pg/g	8.8	≤2.8	2.8	J
SSAJ8-03-3BPC_FD	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	2.2	pg/g	8.8	≤2.8	2.8	J
SSAK8-08-3BPC	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	540	pg/g	122	≤50		J
SSAK8-08-3BPC_FD	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	130	pg/g	122	≤50		J
SSAM5-04-5BPC	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	11	pg/g	11	≤2.7	2.7	J
SSAM5-04-5BPC_FD	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	22	pg/g	11	≤2.7		J
BDT-2-S-5-12BPC	DU-3	2,3,4,6,7,8-Hexachlorodibenzofuran	66	pg/g	104	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	2,3,4,6,7,8-Hexachlorodibenzofuran	210	pg/g	104	≤50		J
BDT-3-N-15-6BPC	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	10	pg/g	3.1	≤2.7	2.7	J
BDT-3-N-15-6BPC_FD	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	6.9	pg/g	3.1	≤2.7	2.7	J
BDT-3-N-20-8BPC	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	5.7	pg/g	2.9	≤2.7	2.7	J
BDT-3-N-20-8BPC_FD	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	2.8	pg/g	2.9	≤2.7	2.7	J
SSAK7-05-1BPC	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	150	pg/g	56	≤50		J
SSAK7-05-1BPC_FD	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	84	pg/g	56	≤50		J
SSAK8-08-3BPC	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	150	pg/g	105	≤50		J
SSAK8-08-3BPC_FD	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	47	pg/g	105	≤50		J
SSAM5-04-5BPC	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	3.4	pg/g	3.7	≤2.7	2.7	J
SSAM5-04-5BPC_FD	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	7.1	pg/g	3.7	≤2.7	2.7	J
BDT-2-S-5-12BPC	DU-3	2,3,4,7,8-Pentachlorodibenzofuran	130	pg/g	102	≤50		J
BDT-2-S-5-12BPC_FD	DU-3	2,3,4,7,8-Pentachlorodibenzofuran	400	pg/g	102	≤50		J

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

BDT-3-N-15-6BPC	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	30	pg/g	67	≤50			J
BDT-3-N-15-6BPC_FD	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	15	pg/g	67	≤50			J
BDT-3-N-20-8BPC	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	11	pg/g	6.5	≤2.7	2.7		J
BDT-3-N-20-8BPC_FD	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	4.5	pg/g	6.5	≤2.7	2.7		J
SSAJ8-03-3BPC	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	6.0	pg/g	4.9	≤2.8	2.8		J
SSAJ8-03-3BPC_FD	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	1.1	pg/g	4.9	≤2.8	2.8		J
SSAK8-08-3BPC	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	300	pg/g	126	≤50			J
SSAK8-08-3BPC_FD	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	68	pg/g	126	≤50			J
SSAM5-04-5BPC	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	5.1	pg/g	6.9	≤2.7	2.7		JK
SSAM5-04-5BPC_FD	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	12	pg/g	6.9	≤2.7	2.7		J
BDT-2-S-5-12BPC	DU-3	2,3,7,8-Tetrachlorodibenzo-p-dioxin	8.2	pg/g	98	≤50			J
BDT-2-S-5-12BPC_FD	DU-3	2,3,7,8-Tetrachlorodibenzo-p-dioxin	24	pg/g	98	≤50			J
BDT-3-N-15-6BPC	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.5	pg/g	0.68	≤0.55	0.55		J
BDT-3-N-15-6BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.82	pg/g	0.68	≤0.55	0.55		J
BDT-3-N-5-8BPC	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.1	pg/g	0.80	≤0.52	0.52		J
BDT-3-N-5-8BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.9	pg/g	0.80	≤0.52	0.52		J
SSAK8-08-3BPC	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	13	pg/g	95	≤50			J
SSAK8-08-3BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	4.6	pg/g	95	≤50			J
BDT-2-S-5-12BPC	DU-3	2,3,7,8-Tetrachlorodibenzofuran	150	pg/g	93	≤50			J
BDT-2-S-5-12BPC_FD	DU-3	2,3,7,8-Tetrachlorodibenzofuran	410	pg/g	93	≤50			J
BDT-3-N-15-6BPC	DU-1	2,3,7,8-Tetrachlorodibenzofuran	41	pg/g	88	≤50			J
BDT-3-N-15-6BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzofuran	16	pg/g	88	≤50			J
BDT-3-N-20-8BPC	DU-1	2,3,7,8-Tetrachlorodibenzofuran	12	pg/g	93	≤50			J
BDT-3-N-20-8BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzofuran	4.4	pg/g	93	≤50			J
BDT-3-N-5-8BPC	DU-1	2,3,7,8-Tetrachlorodibenzofuran	24	pg/g	95	≤50			J
BDT-3-N-5-8BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzofuran	67	pg/g	95	≤50			J
SSAJ8-03-3BPC	DU-1	2,3,7,8-Tetrachlorodibenzofuran	6.0	pg/g	4.8	≤0.55			J
SSAJ8-03-3BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzofuran	1.2	pg/g	4.8	≤0.55	0.55		J
SSAK8-08-3BPC	DU-1	2,3,7,8-Tetrachlorodibenzofuran	290	pg/g	116	≤50			J
SSAK8-08-3BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzofuran	77	pg/g	116	≤50			J
SSAM5-04-5BPC	DU-1	2,3,7,8-Tetrachlorodibenzofuran	6.2	pg/g	64	≤50			J
SSAM5-04-5BPC_FD	DU-1	2,3,7,8-Tetrachlorodibenzofuran	12	pg/g	64	≤50			J
BDT-4-S-20-8BPC	DU-1	4,4'-DDE	4.4	ug/kg	2.9	≤1.8	1.8		J
BDT-4-S-20-8BPC_FD	DU-1	4,4'-DDE	1.5	ug/kg	2.9	≤1.8	1.8		J
BDT-1-S-15-2BPC	DU-1	beta-BHC	4.3	ug/kg	23	≤1.8	1.8		J
BDT-1-S-15-2BPC_FD	DU-1	beta-BHC	27	ug/kg	23	≤1.8			J
BDT-4-N-15-2BPC	DU-1	Hexachlorobenzene	21	ug/kg	78	≤50			J
BDT-4-N-15-2BPC_FD	DU-1	Hexachlorobenzene	9.2	ug/kg	78	≤50			J
SSAM5-04-5BPC	DU-1	Hexachlorobenzene	51	ug/kg	99	≤50			J
SSAM5-04-5BPC_FD	DU-1	Hexachlorobenzene	150	ug/kg	99	≤50			J
SSAO8-12-0BPC	DU-1	Naphthalene	7.5	ug/kg	3.6	≤3.1	3.1		J
SSAO8-12-0BPC_FD	DU-1	Naphthalene	3.9	ug/kg	3.6	≤3.1	3.1		J
BDT-2-S-5-12BPC	DU-3	Octachlorodibenzodioxin	440	pg/g	93	≤50			J
BDT-2-S-5-12BPC_FD	DU-3	Octachlorodibenzodioxin	1,200	pg/g	93	≤50			J
BDT-3-N-20-8BPC	DU-1	Octachlorodibenzodioxin	11	pg/g	6.0	≤5.4	5.4		J
BDT-3-N-20-8BPC_FD	DU-1	Octachlorodibenzodioxin	< 5.0	pg/g	6.0	≤5.4	5.4		UJ
SSAK7-05-1BPC	DU-1	Octachlorodibenzodioxin	150	pg/g	88	≤50			J
SSAK7-05-1BPC_FD	DU-1	Octachlorodibenzodioxin	58	pg/g	88	≤50			J
SSAK8-08-3BPC	DU-1	Octachlorodibenzodioxin	270	pg/g	125	≤50			J
SSAK8-08-3BPC_FD	DU-1	Octachlorodibenzodioxin	62	pg/g	125	≤50			J
SSAM5-04-5BPC	DU-1	Octachlorodibenzodioxin	6.9	pg/g	8.1	≤5.4	5.4		J
SSAM5-04-5BPC_FD	DU-1	Octachlorodibenzodioxin	15	pg/g	8.1	≤5.4	5.4		J
BDT-2-N-5-12BPC	DU-3	Octachlorodibenzofuran	41	pg/g	25	≤5.4			J
BDT-2-N-5-12BPC_FD	DU-3	Octachlorodibenzofuran	16	pg/g	25	≤5.4	5.4		J
BDT-2-S-5-12BPC	DU-3	Octachlorodibenzofuran	3,900	pg/g	113	≤50			J
BDT-2-S-5-12BPC_FD	DU-3	Octachlorodibenzofuran	14,000	pg/g	113	≤50			J
BDT-3-N-20-8BPC	DU-1	Octachlorodibenzofuran	260	pg/g	90	≤50			J
BDT-3-N-20-8BPC_FD	DU-1	Octachlorodibenzofuran	99	pg/g	90	≤50			J
SSAJ8-03-3BPC	DU-1	Octachlorodibenzofuran	110	pg/g	90	≤5.5			J
SSAJ8-03-3BPC_FD	DU-1	Octachlorodibenzofuran	20	pg/g	90	≤5.5	5.5		J
SSAK7-05-1BPC	DU-1	Octachlorodibenzofuran	7,000	pg/g	111	≤50			J

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

SSAK7-05-1BPC_FD	DU-1	Octachlorodibenzofuran	2,000	pg/g	111	≤50		J
SSAK8-04-5BPC	DU-1	Octachlorodibenzofuran	340	pg/g	51	≤50		J
SSAK8-04-5BPC_FD	DU-1	Octachlorodibenzofuran	570	pg/g	51	≤50		J
SSAK8-08-3BPC	DU-1	Octachlorodibenzofuran	6,000	pg/g	120	≤50		J
SSAK8-08-3BPC_FD	DU-1	Octachlorodibenzofuran	1,500	pg/g	120	≤50		J
SSAM5-04-5BPC	DU-1	Octachlorodibenzofuran	140	pg/g	70	≤50		J
SSAM5-04-5BPC_FD	DU-1	Octachlorodibenzofuran	290	pg/g	70	≤50		J
SSAP3-04-1_01_BPC	DU-1	Octachlorodibenzofuran	24	pg/g	106	≤5.2	5.2	J
SSAP3-04-1_01_BPC_FD	DU-1	Octachlorodibenzofuran	130	pg/g	106	≤5.2		J

Phase I Remedial Investigation DVSR (ongoing, not submitted yet)

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
RISB-33-5.0-20141119	DU-1	Chlorate	1.1	mg/kg	58	≤50		J
RISB-33-5.0-20141119-FD	DU-1	Chlorate	2.0	mg/kg	58	≤50		J
RISB-51-5.0-20141030	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	240	pg/g	240	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.26	pg/g	240	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	2,700	pg/g	2,699	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.5	pg/g	2,699	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,100	pg/g	1,099	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.72	pg/g	1,099	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	28	pg/g	28	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	< 0.041	pg/g	28	≤5.4	5.4	UJ
RISB-51-5.0-20141030	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	1,200	pg/g	1,199	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,4,7,8-Hexachlorodibenzofuran	0.75	pg/g	1,199	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	60	pg/g	60	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.19	pg/g	60	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	660	pg/g	660	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,6,7,8-Hexachlorodibenzofuran	0.43	pg/g	660	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	59	pg/g	59	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.27	pg/g	59	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	110	pg/g	110	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,7,8,9-Hexachlorodibenzofuran	0.11	pg/g	110	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	35	pg/g	35	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	< 0.068	pg/g	35	≤5.4	5.4	UJ
RISB-51-5.0-20141030	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	500	pg/g	500	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	1,2,3,7,8-Pentachlorodibenzofuran	0.38	pg/g	500	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	140	pg/g	140	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	2,3,4,6,7,8-Hexachlorodibenzofuran	0.13	pg/g	140	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	260	pg/g	260	≤5.4		J
RISB-51-5.0-20141030-FD	DU-1	2,3,4,7,8-Pentachlorodibenzofuran	0.14	pg/g	260	≤5.4	5.4	J
RISB-51-5.0-20141030	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	11	pg/g	11	≤1.1		J
RISB-51-5.0-20141030-FD	DU-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	< 0.051	pg/g	11	≤1.1	1.1	UJ
RISB-51-5.0-20141030	DU-1	2,3,7,8-Tetrachlorodibenzofuran	300	pg/g	300	≤1.1		J
RISB-51-5.0-20141030-FD	DU-1	2,3,7,8-Tetrachlorodibenzofuran	0.44	pg/g	300	≤1.1	1.1	J
RISB-51-5.0-20141030	DU-1	Octachlorodibenzodioxin	250	pg/g	249	≤11		J
RISB-51-5.0-20141030-FD	DU-1	Octachlorodibenzodioxin	1.0	pg/g	249	≤11	11	J
RISB-51-5.0-20141030	DU-1	Octachlorodibenzofuran	8,200	pg/g	8,195	≤11		J
RISB-51-5.0-20141030-FD	DU-1	Octachlorodibenzofuran	5.0	pg/g	8,195	≤11	11	J

Tronox Parcels C, D, F, and G Investigation DVSR, February 2008

Sample ID	Decision Unit	Analyte	Result	Unit	RPD or Difference	Limit	Quantitation Limit	Final Qualifier
TSB-GR-02-0	DU-2	1,2,3,4,6,7,8-Heptachlorodibenzofuran	< 2.2	pg/g	2.5	≤2.2	2.2	UJ
TSB-GR-02-0 FD	DU-2	1,2,3,4,6,7,8-Heptachlorodibenzofuran	4.7	pg/g	2.5	≤2.2	2.2	J
TSB-GR-02-0	DU-2	1,2,3,4,7,8-Hexachlorodibenzofuran	< 1.9	pg/g	2.3	≤1.9	1.9	UJ
TSB-GR-02-0 FD	DU-2	1,2,3,4,7,8-Hexachlorodibenzofuran	4.2	pg/g	2.3	≤1.9	1.9	J
TSB-GR-02-0	DU-2	2,3,7,8-Tetrachlorodibenzofuran	1.5	pg/g	70	≤50		J
TSB-GR-02-0 FD	DU-2	2,3,7,8-Tetrachlorodibenzofuran	3.1	pg/g	70	≤50		J
TSB-GR-02-0	DU-2	4,4-DDE	2.3	ug/kg	23	≤1.8	1.8	J

TABLE B-4. Summary of Qualified Soil Field Duplicates
Nevada Environmental Response Trust Site
Henderson, Nevada

TSB-GR-02-0 FD	DU-2	4,4-DDE	25	ug/kg	23	≤1.8		J
TSB-GR-02-0	DU-2	4,4-DDT	3.4	ug/kg	61	≤1.8	1.8	J
TSB-GR-02-0 FD	DU-2	4,4-DDT	69	ug/kg	66	≤1.7		J
TSB-GR-02-0	DU-2	beta-BHC	5.1	ug/kg	13	≤1.8	1.8	J
TSB-GR-02-0 FD	DU-2	beta-BHC	18	ug/kg	13	≤1.8		J
TSB-GR-02-0	DU-2	Octachlorodibenzodioxin	< 1.7	pg/g	8.3	≤1.7	1.7	UJ
TSB-GR-02-0 FD	DU-2	Octachlorodibenzodioxin	10	pg/g	8.3	≤1.7		J
TSB-GR-02-0	DU-2	Octachlorodibenzofuran	5.5	pg/g	74	≤50		J
TSB-GR-02-0 FD	DU-2	Octachlorodibenzofuran	12	pg/g	74	≤50		J
TSB-GR-02-0	DU-2	Perchlorate	3,760	ug/kg	110	≤50		J
TSB-GR-02-0 FD	DU-2	Perchlorate	13,000	ug/kg	110	≤50		J

Notes:

mg/kg = milligram per kilogram
 ng/kg = nanogram per kilogram
 pCi/g = picocurie per gram

pg/g = picogram per gram
 ug/kg = microgram per kilogram
 BHC = Hexachlorocyclohexane

DDE = Dichlorodiphenyldichloroethylene
 DDT = Dichlorodiphenyltrichloroethane

DU = Decision unit
 FD = Field duplicate

J = Estimated value

K = Qualified as estimated maximum possible concentration (dioxin congeners)

PCB = Polychlorinated biphenyl

RPD = Relative percent difference

UJ = Non-detect estimated quantitation limit

**TABLE B-5. Revisions of Censored Data for Blank Contamination
Nevada Environmental Response Trust Site
Henderson, Nevada**

Sample ID	Decision Unit	Analyte	Unit	Original Result	Corrected Result	Original Detection Flag	Corrected Detection Flag	Original Qualifier	Corrected Qualifier
RSAJ2-10B	DU-1	Tin	mg/kg	10.7	4.3	N	Y		J
RSAJ3-10B	DU-1	Boron	mg/kg	10.6	9	N	Y		J
RSAJ3-10B	DU-1	Selenium	mg/kg	4.2	1.5	N	Y		J
RSAJ3-10B	DU-1	Tin	mg/kg	10.6	4.2	N	Y		J
RS AK4-0.5B	DU-1	Boron	mg/kg	10.2	5.5	N	Y		J
RS AK4-0.5B	DU-1	Tin	mg/kg	10.2	4.2	N	Y		J
RS AK4009-0.5B	DU-1	Boron	mg/kg	10.1	5.3	N	Y		J
RS AK4009-0.5B	DU-1	Tin	mg/kg	10.1	4	N	Y		J
RS AK6-0.5B	DU-1	Boron	mg/kg	10.4	8.3	N	Y		J
RS AK6-0.5B	DU-1	Tin	mg/kg	10.4	4.1	N	Y		J
RS AK6-10B	DU-1	Boron	mg/kg	11	7.5	N	Y	UJ	J
RS AK6-10B	DU-1	Tin	mg/kg	11	4.5	N	Y		J
RS AK8-10B	DU-1	Boron	mg/kg	11	9.9	N	Y	UJ	J
RS AL4-0.5B	DU-1	Boron	mg/kg	10.3	5.1	N	Y	UJ	J
RS AL4-0.5B	DU-1	Tin	mg/kg	10.3	3.9	N	Y		J
RS AL4009-0.5B	DU-1	Boron	mg/kg	10.2	4.6	N	Y	UJ	J
RS AL4009-0.5B	DU-1	Tin	mg/kg	10.2	4	N	Y		J
RS AL5-0.5B	DU-1	Boron	mg/kg	10.8	7	N	Y		J
RS AL5-0.5B	DU-1	Tin	mg/kg	10.8	5	N	Y		J
RS AL6-0.5B	DU-1	Boron	mg/kg	10.5	4.3	N	Y		J
RS AL6-0.5B	DU-1	Chloride	mg/kg	2.1	1.9	N	Y		J
RS AL6-0.5B	DU-1	Tin	mg/kg	10.5	4.4	N	Y		J
RS AL6-10B	DU-1	Boron	mg/kg	10.9	10	N	Y		J
RS AL6-10B	DU-1	Tin	mg/kg	10.9	4.7	N	Y		J
RS AL7-0.5B	DU-1	Boron	mg/kg	10.2	4.5	N	Y		J
RS AL7-0.5B	DU-1	Tin	mg/kg	10.2	3.7	N	Y		J
RS AL8-0.5B	DU-1	Tin	mg/kg	10.3	4.3	N	Y		J
RS AM2-0.5B	DU-1	Boron	mg/kg	10.3	3.8	N	Y		J
RS AM2-0.5B	DU-1	Tin	mg/kg	10.2	3.4	N	Y		J
RS AM3-0.5B	DU-1	Boron	mg/kg	10.4	4.2	N	Y		J
RS AM3-0.5B	DU-1	Tin	mg/kg	10.3	3.7	N	Y		J
RS AM4-0.5B	DU-1	Boron	mg/kg	10.4	8	N	Y		J
RS AM4-0.5B	DU-1	Tin	mg/kg	10.4	4.3	N	Y		J
RS AM5-10B	DU-3	Boron	mg/kg	10.9	5.6	N	Y		J
RS AM5-10B	DU-3	Tin	mg/kg	10.9	4.4	N	Y		J
RS AM6-0.5B	DU-1	Boron	mg/kg	10.2	6.7	N	Y		J
RS AM6-0.5B	DU-1	Tin	mg/kg	10.2	4.5	N	Y		J
RS AM7-0.5B	DU-1	Boron	mg/kg	10.2	5	N	Y		J
RS AM7-0.5B	DU-1	Tin	mg/kg	10.2	4.3	N	Y		J
RS AM7009-10B	DU-1	Boron	mg/kg	10.7	9.4	N	Y		J
RS AM7009-10B	DU-1	Tin	mg/kg	10.7	4.5	N	Y		J
RS AM7-10B	DU-1	Boron	mg/kg	10.6	8	N	Y		J
RS AM7-10B	DU-1	Tin	mg/kg	10.6	4.1	N	Y		J
RS AM8-0.5B	DU-1	Tin	mg/kg	10.2	4.5	N	Y		J
RS AM8-10B	DU-1	Boron	mg/kg	10.7	7.2	N	Y		J
RS AM8-10B	DU-1	Tin	mg/kg	10.7	4.4	N	Y		J
RS AN3-0.5B	DU-1	Antimony	mg/kg	2.1	0.6	N	Y	UJ	J
RS AN3-0.5B	DU-1	Boron	mg/kg	10.7	8.7	N	Y		J
RS AN3-0.5B	DU-1	Tin	mg/kg	10.7	4.8	N	Y		J
RS AN3-10B	DU-1	Tin	mg/kg	10.4	4.4	N	Y		J
RS AN4-0.5B	DU-1	Boron	mg/kg	10.8	5.9	N	Y		J
RS AN4-0.5B	DU-1	Tin	mg/kg	10.8	4.2	N	Y		J
RS AN4009-10B	DU-1	Boron	mg/kg	10.8	8.7	N	Y		J
RS AN4009-10B	DU-1	Tin	mg/kg	10.8	4.3	N	Y		J
RS AN4-10B	DU-1	Boron	mg/kg	10.6	7.3	N	Y		J
RS AN4-10B	DU-1	Selenium	mg/kg	4.2	1.1	N	Y		J
RS AN4-10B	DU-1	Tin	mg/kg	10.6	4.4	N	Y		J
RS AN5-0.5B	DU-1	Boron	mg/kg	10.3	7.3	N	Y		J
RS AN5-0.5B	DU-1	Tin	mg/kg	10.3	4.2	N	Y		J
RS AN6009-10B	DU-1	Boron	mg/kg	10.8	6.3	N	Y		J
RS AN6009-10B	DU-1	Platinum	mg/kg	0.11	0.012	N	Y		J
RS AN6009-10B	DU-1	Tin	mg/kg	10.8	4.1	N	Y		J
RS AN6-10B	DU-1	Boron	mg/kg	11	7.9	N	Y		J
RS AN6-10B	DU-1	Platinum	mg/kg	0.11	0.011	N	Y		J
RS AN6-10B	DU-1	Selenium	mg/kg	4.4	0.8	N	Y		J
RS AN6-10B	DU-1	Tin	mg/kg	11	4.1	N	Y		J
RS AN7-0.5B	DU-1	Antimony	mg/kg	2	1.1	N	Y	UJ	J
RS AN7-0.5B	DU-1	Platinum	mg/kg	0.1	0.023	N	Y		J

**TABLE B-5. Revisions of Censored Data for Blank Contamination
Nevada Environmental Response Trust Site
Henderson, Nevada**

Sample ID	Decision Unit	Analyte	Unit	Original Result	Corrected Result	Original Detection Flag	Corrected Detection Flag	Original Qualifier	Corrected Qualifier
RSAN7-0.5B	DU-1	Tin	mg/kg	10.1	3.8	N	Y		J
RSOA3-0.5B	DU-1	Boron	mg/kg	10.1	5.6	N	Y		J
RSOA3-0.5B	DU-1	Tin	mg/kg	10.1	4	N	Y		J
RSOA3-10B	DU-1	Boron	mg/kg	11	7.9	N	Y		J
RSOA3-10B	DU-1	Mercury	mg/kg	0.019	0.01	N	Y		J
RSOA3-10B	DU-1	Tin	mg/kg	11	4.4	N	Y		J
RSOA5-0.5B	DU-1	Boron	mg/kg	10.3	10.2	N	Y		J
RSOA5-0.5B	DU-1	Tin	mg/kg	10.3	4	N	Y		J
RSOA6-0.5B	DU-1	Selenium	mg/kg	4.1	1.1	N	Y		J
RSOA6-0.5B	DU-1	Tin	mg/kg	10.2	4.2	N	Y		J
RSOA6-10B	DU-1	Boron	mg/kg	10.7	8	N	Y		J
RSOA6-10B	DU-1	Mercury	mg/kg	0.018	0.008	N	Y		J
RSOA6-10B	DU-1	Platinum	mg/kg	0.11	0.011	N	Y		J
RSOA6-10B	DU-1	Tin	mg/kg	10.7	3.4	N	Y		J
RSOA8-21.5B	DU-1	Ammonia	mg/kg	0.54	0.13	N	Y		J
RSOA8-21.5B	DU-1	Tin	mg/kg	10.7	5.2	N	Y		J
RSAP5-0.5B	DU-2	Boron	mg/kg	10.8	7.9	N	Y		J
RSAP5-0.5B	DU-2	Tin	mg/kg	10.8	4	N	Y		J
RSAP7-0.5B	DU-2	Antimony	mg/kg	2.1	1.6	N	Y	UJ	J
RSAP7-0.5B	DU-2	Boron	mg/kg	10.5	6.7	N	Y		J
RSAP7-0.5B	DU-2	Platinum	mg/kg	0.1	0.032	N	Y		J
RSAP7-0.5B	DU-2	Tin	mg/kg	10.5	3.7	N	Y		J
RSAQ4-0.5B	DU-2	Antimony	mg/kg	2.1	1.3	N	Y	UJ	J
RSAQ4-0.5B	DU-2	Tin	mg/kg	10.3	4.4	N	Y		J
RSAQ6-0.5B	DU-2	Boron	mg/kg	10.7	4.8	N	Y		J
RSAQ6-0.5B	DU-2	Tin	mg/kg	10.7	2.8	N	Y		J
RSAQ6-10B	DU-2	Boron	mg/kg	10.8	4.7	N	Y		J
RSAQ6-10B	DU-2	Tin	mg/kg	10.8	2.8	N	Y		J
RSAQ7-0.5B	DU-2	Antimony	mg/kg	2.1	1.2	N	Y	UJ	J
RSAQ7-0.5B	DU-2	Boron	mg/kg	10.6	6.6	N	Y		J
RSAQ7-0.5B	DU-2	Tin	mg/kg	10.6	3.6	N	Y		J
RSAS5-0.5B	DU-2	Platinum	mg/kg	0.1	0.011	N	Y		J
RSAS5-0.5B	DU-2	Tin	mg/kg	10.5	4.6	N	Y		J
RSAS8-0.5B	DU-2	Boron	mg/kg	10.3	6.4	N	Y		J
RSAS8-0.5B	DU-2	Tin	mg/kg	10.3	4.1	N	Y		J
SA100-0.5B	DU-1	Boron	mg/kg	10.1	3.7	N	Y		J
SA100-0.5B	DU-1	Tin	mg/kg	10.1	3.5	N	Y		J
SA102-10B	DU-1	Ammonia	mg/kg	0.54	0.18	N	Y		J
SA102-10B	DU-1	Platinum	mg/kg	0.09	0.02	N	Y		J
SA102-10B	DU-1	Tin	mg/kg	8.7	3.7	N	Y		J
SA103-0.5B	DU-2	Platinum	mg/kg	0.11	0.015	N	Y		J
SA103-0.5B	DU-2	Tin	mg/kg	10.6	5.4	N	Y		J
SA104009-10B	DU-3	Boron	mg/kg	10.7	7.1	N	Y		J
SA104009-10B	DU-3	Tin	mg/kg	10.7	4.7	N	Y		J
SA104-10B	DU-3	Boron	mg/kg	10.8	6.9	N	Y		J
SA104-10B	DU-3	Tin	mg/kg	10.8	4.8	N	Y		J
SA105009-10B	DU-3	Boron	mg/kg	10.8	5.9	N	Y		J
SA105009-10B	DU-3	Tin	mg/kg	10.8	5	N	Y		J
SA105-10B	DU-3	Boron	mg/kg	11	5.5	N	Y		J
SA105-10B	DU-3	Tin	mg/kg	11	5.1	N	Y		J
SA106-12B	DU-1	Mercury	mg/kg	0.018	0.008	N	Y		J
SA106-12B	DU-1	Tin	mg/kg	10.4	4.9	N	Y		J
SA108-20B	DU-1	Antimony	mg/kg	2.1	1.5	N	Y	UJ	J
SA108-20B	DU-1	Tin	mg/kg	10.6	4.5	N	Y		J
SA109-0.5B	DU-1	Boron	mg/kg	10.5	8.7	N	Y		J
SA109-0.5B	DU-1	Tin	mg/kg	10.5	3.8	N	Y		J
SA114-10B	DU-1	Ammonia	mg/kg	0.54	0.33	N	Y		J
SA114-10B	DU-1	Boron	mg/kg	10.6	4.8	N	Y		J
SA114-10B	DU-1	Molybdenum	mg/kg	0.32	0.15	N	Y		J
SA114-10B	DU-1	Tin	mg/kg	10.6	4.4	N	Y		J
SA121-0.5B	DU-2	Antimony	mg/kg	2.1	1.9	N	Y	UJ	J
SA121-0.5B	DU-2	Boron	mg/kg	10.7	8	N	Y		J
SA121-0.5B	DU-2	Tin	mg/kg	10.7	4.1	N	Y		J
SA121009-0.5B	DU-2	Boron	mg/kg	10.8	8.4	N	Y		J
SA121009-0.5B	DU-2	Tin	mg/kg	10.8	4.7	N	Y		J
SA122-0.5B	DU-2	Molybdenum	mg/kg	0.31	0.29	N	Y		J
SA122-0.5B	DU-2	Platinum	mg/kg	0.1	0.006	N	Y		J
SA122-0.5B	DU-2	Tin	mg/kg	10.4	5.6	N	Y		J

**TABLE B-5. Revisions of Censored Data for Blank Contamination
Nevada Environmental Response Trust Site
Henderson, Nevada**

Sample ID	Decision Unit	Analyte	Unit	Original Result	Corrected Result	Original Detection Flag	Corrected Detection Flag	Original Qualifier	Corrected Qualifier
SA123-0.5B	DU-1	Boron	mg/kg	10.4	4.4	N	Y		J
SA123-0.5B	DU-1	Selenium	mg/kg	4.2	0.9	N	Y		J
SA123-0.5B	DU-1	Tin	mg/kg	10.4	4.5	N	Y		J
SA126-0.5B	DU-2	Boron	mg/kg	10	7.5	N	Y		J
SA126-0.5B	DU-2	Platinum	mg/kg	0.1	0.011	N	Y		J
SA126-0.5B	DU-2	Tin	mg/kg	10	4	N	Y		J
SA128-10B	DU-3	Boron	mg/kg	10.8	6.1	N	Y		J
SA128-10B	DU-3	Selenium	mg/kg	4.3	1	N	Y		J
SA128-10B	DU-3	Tin	mg/kg	10.8	5	N	Y		J
SA131-10B	DU-1	Boron	mg/kg	10.9	7.2	N	Y		J
SA131-10B	DU-1	Tin	mg/kg	10.9	4.8	N	Y		J
SA134-10B	DU-1	Tin	mg/kg	10.9	4.4	N	Y		J
SA136-0.5B	DU-2	Tin	mg/kg	11	4.5	N	Y		J
SA138-0.5B	DU-2	Boron	mg/kg	10.6	9.8	N	Y		J
SA138-0.5B	DU-2	Platinum	mg/kg	0.1	0.028	N	Y		J
SA138-0.5B	DU-2	Tin	mg/kg	10.6	4	N	Y		J
SA143-24B	DU-1	Boron	mg/kg	10.9	5.9	N	Y		J
SA143-24B	DU-1	Platinum	mg/kg	0.11	0.008	N	Y		J
SA143-24B	DU-1	Tin	mg/kg	10.9	3.9	N	Y		J
SA144-0.5B	DU-1	Tin	mg/kg	10.4	4.3	N	Y		J
SA145-0.5B	DU-1	Tin	mg/kg	10.2	4.1	N	Y		J
SA145-10B	DU-1	Boron	mg/kg	10.8	10.7	N	Y		J
SA145-10B	DU-1	Tin	mg/kg	10.8	4.1	N	Y		J
SA150-10B	DU-1	Antimony	mg/kg	2.4	2.1	N	Y	UJ	J
SA150-10B	DU-1	Boron	mg/kg	11.9	7.2	N	Y		J
SA150-10B	DU-1	Platinum	mg/kg	0.12	0.012	N	Y		J
SA150-10B	DU-1	Tin	mg/kg	11.9	4.3	N	Y		J
SA151-0.5B	DU-1	Tin	mg/kg	10.4	4.5	N	Y		J
SA152-0.5B	DU-1	Boron	mg/kg	10.5	4.4	N	Y		J
SA152-0.5B	DU-1	Tin	mg/kg	10.3	3.6	N	Y		J
SA152009-0.5B	DU-1	Boron	mg/kg	10.3	4.1	N	Y		J
SA152009-0.5B	DU-1	Tin	mg/kg	10.2	3.8	N	Y		J
SA152-10B	DU-1	Boron	mg/kg	10.7	6.4	N	Y		J
SA152-10B	DU-1	Tin	mg/kg	10.7	3.9	N	Y		J
SA154-10B	DU-1	Antimony	mg/kg	2.1	1.1	N	Y	UJ	J
SA154-10B	DU-1	Boron	mg/kg	10.7	7.7	N	Y		J
SA154-10B	DU-1	Platinum	mg/kg	0.11	0.01	N	Y		J
SA154-10B	DU-1	Tin	mg/kg	10.7	4.1	N	Y		J
SA156-10B	DU-2	Boron	mg/kg	10.5	9.4	N	Y		J
SA156-10B	DU-2	Selenium	mg/kg	4.2	1.5	N	Y		J
SA156-10B	DU-2	Tin	mg/kg	10.5	4.4	N	Y		J
SA157-0.5B	DU-1	Boron	mg/kg	10.8	4.4	N	Y		J
SA157-0.5B	DU-1	Tin	mg/kg	10.8	4.5	N	Y		J
SA157009-0.5B	DU-1	Boron	mg/kg	10.7	3.7	N	Y		J
SA157009-0.5B	DU-1	Selenium	mg/kg	4.3	1.3	N	Y	UJ	J
SA157009-0.5B	DU-1	Tin	mg/kg	10.7	4.1	N	Y		J
SA158-0.5B	DU-1	Tin	mg/kg	10.3	4.6	N	Y		J
SA158-10B	DU-1	Boron	mg/kg	10.7	8.2	N	Y		J
SA158-10B	DU-1	Tin	mg/kg	10.7	4	N	Y		J
SA165-10B	DU-3	Selenium	mg/kg	4.2	0.7	N	Y		J
SA165-10B	DU-3	Tin	mg/kg	10.6	4.8	N	Y		J
SA166-0.5B	DU-1	Boron	mg/kg	10.4	6.7	N	Y		J
SA166-0.5B	DU-1	Tin	mg/kg	10.4	4.5	N	Y		J
SA170-0.5B	DU-2	Tin	mg/kg	10.5	4.6	N	Y		J
SA171-5B	DU-1	Antimony	mg/kg	2.1	1	N	Y	UJ	J
SA171-5B	DU-1	Boron	mg/kg	10.6	8.4	N	Y		J
SA171-5B	DU-1	Tin	mg/kg	10.6	4	N	Y		J
SA175-10B	DU-3	Tin	mg/kg	11	4.8	N	Y		J
SA176-0.5B	DU-1	Tin	mg/kg	10.4	4.3	N	Y		J
SA176-10B	DU-1	Boron	mg/kg	10	7.2	N	Y		J
SA176-10B	DU-1	Tin	mg/kg	10	4.2	N	Y		J
SA182-10B	DU-1	Boron	mg/kg	10.9	6.8	N	Y		J
SA182-10B	DU-1	Tin	mg/kg	10.9	4.1	N	Y		J
SA185-0.5B	DU-1	Boron	mg/kg	10.5	5.6	N	Y		J
SA185-0.5B	DU-1	Tin	mg/kg	10.5	3.9	N	Y		J
SA186-0.5B	DU-1	Boron	mg/kg	10.3	9.7	N	Y		J
SA186-0.5B	DU-1	Tin	mg/kg	10.3	4.1	N	Y		J
SA189-0.5B	DU-1	Boron	mg/kg	10.4	6	N	Y		J

**TABLE B-5. Revisions of Censored Data for Blank Contamination
Nevada Environmental Response Trust Site
Henderson, Nevada**

Sample ID	Decision Unit	Analyte	Unit	Original Result	Corrected Result	Original Detection Flag	Corrected Detection Flag	Original Qualifier	Corrected Qualifier
SA189-0.5B	DU-1	Tin	mg/kg	10.5	3.9	N	Y		J
SA197-0.5B	DU-3	Boron	mg/kg	10.7	4.5	N	Y		J
SA197-0.5B	DU-3	Molybdenum	mg/kg	0.32	0.3	N	Y		J
SA197-0.5B	DU-3	Tin	mg/kg	10.7	4.6	N	Y		J
SA197009-10B	DU-3	Boron	mg/kg	10.5	6.7	N	Y		J
SA197009-10B	DU-3	Tin	mg/kg	10.5	4.5	N	Y		J
SA197-10B	DU-3	Boron	mg/kg	10.4	6.4	N	Y		J
SA197-10B	DU-3	Chloride	mg/kg	2.1	1.7	N	Y	UJ	J
SA197-10B	DU-3	Tin	mg/kg	10.4	4.3	N	Y		J
SA198-10B	DU-3	Boron	mg/kg	10.4	6.7	N	Y		J
SA198-10B	DU-3	Tin	mg/kg	10.4	4.4	N	Y		J
SA200-0.5B	DU-1	Tin	mg/kg	10.6	4.4	N	Y		J
SA201-10B	DU-1	Tin	mg/kg	10.7	4.7	N	Y		J
SA211-0.5B	DU-2	Antimony	mg/kg	2.1	1.5	N	Y	UJ	J
SA211-0.5B	DU-2	Boron	mg/kg	10.5	8	N	Y		J
SA211-0.5B	DU-2	Tin	mg/kg	10.5	4.2	N	Y		J
SA212-0.5B	DU-2	Antimony	mg/kg	2	1.1	N	Y	UJ	J
SA212-0.5B	DU-2	Boron	mg/kg	9.8	5.9	N	Y		J
SA212-0.5B	DU-2	Tin	mg/kg	9.8	3.7	N	Y		J
SA214-0.5B	DU-2	Antimony	mg/kg	2.1	1	N	Y	UJ	J
SA214-0.5B	DU-2	Boron	mg/kg	10.7	7.8	N	Y		J
SA214-0.5B	DU-2	Tin	mg/kg	10.7	4.1	N	Y		J
SA31-0.5B	DU-2	Boron	mg/kg	10.4	7.4	N	Y		J
SA31-0.5B	DU-2	Tin	mg/kg	10.4	5.8	N	Y		J
SA35-0.5B	DU-1	Boron	mg/kg	10.4	3.9	N	Y		J
SA35-0.5B	DU-1	Tin	mg/kg	10.4	3.9	N	Y		J
SA35-10B	DU-1	Boron	mg/kg	10.6	5.5	N	Y		J
SA35-10B	DU-1	Selenium	mg/kg	4.2	0.8	N	Y		J
SA35-10B	DU-1	Tin	mg/kg	10.6	4.5	N	Y		J
SA39-10B	DU-1	Boron	mg/kg	10.4	6.2	N	Y		J
SA39-10B	DU-1	Tin	mg/kg	10.4	3.8	N	Y		J
SA42009-10B	DU-1	Boron	mg/kg	10.9	7.7	N	Y		J
SA42009-10B	DU-1	Molybdenum	mg/kg	0.33	0.28	N	Y		J
SA42009-10B	DU-1	Platinum	mg/kg	0.11	0.011	N	Y		J
SA42009-10B	DU-1	Tin	mg/kg	10.9	4.9	N	Y		J
SA42-10B	DU-1	Boron	mg/kg	10.9	7.3	N	Y		J
SA42-10B	DU-1	Molybdenum	mg/kg	0.33	0.22	N	Y		J
SA42-10B	DU-1	Platinum	mg/kg	0.1	0.011	N	Y		J
SA42-10B	DU-1	Tin	mg/kg	10.9	4.4	N	Y		J
SA42-10B	DU-1	Tungsten	mg/kg	0.1	0.091	N	Y	UJ	J
SA43-10B	DU-1	Boron	mg/kg	10.7	8.6	N	Y		J
SA43-10B	DU-1	Molybdenum	mg/kg	0.32	0.17	N	Y		J
SA43-10B	DU-1	Tin	mg/kg	10.7	4.9	N	Y		J
SA44-10B	DU-1	Boron	mg/kg	10.7	6.4	N	Y		J
SA44-10B	DU-1	Molybdenum	mg/kg	0.32	0.24	N	Y		J
SA44-10B	DU-1	Tin	mg/kg	10.7	4.6	N	Y		J
SA49-10B	DU-3	Boron	mg/kg	10.7	8.9	N	Y		J
SA49-10B	DU-3	Tin	mg/kg	10.7	4.9	N	Y		J
SA50-0.5B	DU-1	Boron	mg/kg	10.2	9.7	N	Y		J
SA50-0.5B	DU-1	Tin	mg/kg	10.2	5.3	N	Y		J
SA51009-10B	DU-1	Tin	mg/kg	10.6	5.2	N	Y		J
SA51-10B	DU-1	Tin	mg/kg	10.8	4.8	N	Y		J
SA54-0.5B	DU-1	Boron	mg/kg	9.9	5.7	N	Y		J
SA54-0.5B	DU-1	Tin	mg/kg	9.9	3.9	N	Y		J
SA55-0.5B	DU-1	Boron	mg/kg	10.3	5.8	N	Y		J
SA55-0.5B	DU-1	Tin	mg/kg	10.3	4	N	Y		J
SA60-10B	DU-3	Antimony	mg/kg	2.2	2.1	N	Y	UJ	J
SA60-10B	DU-3	Boron	mg/kg	11	10.6	N	Y		J
SA60-10B	DU-3	Platinum	mg/kg	0.11	0.014	N	Y		J
SA60-10B	DU-3	Tin	mg/kg	11	4.2	N	Y		J
SA62-0.5B	DU-1	Tin	mg/kg	10.3	4.7	N	Y		J
SA64-0.5B	DU-3	Boron	mg/kg	10.7	5.9	N	Y		J
SA64-0.5B	DU-3	Tin	mg/kg	10.7	4.7	N	Y		J
SA64-10B	DU-3	Boron	mg/kg	10.8	6.9	N	Y		J
SA64-10B	DU-3	Platinum	mg/kg	0.11	0.085	N	Y		J
SA64-10B	DU-3	Tin	mg/kg	10.8	4.2	N	Y		J
SA65-10B	DU-3	Boron	mg/kg	10.7	6.1	N	Y		J
SA65-10B	DU-3	Platinum	mg/kg	0.11	0.014	N	Y		J

**TABLE B-5. Revisions of Censored Data for Blank Contamination
Nevada Environmental Response Trust Site
Henderson, Nevada**

Sample ID	Decision Unit	Analyte	Unit	Original Result	Corrected Result	Original Detection Flag	Corrected Detection Flag	Original Qualifier	Corrected Qualifier
SA65-10B	DU-3	Tin	mg/kg	10.7	4	N	Y		J
SA65-20B	DU-3	Boron	mg/kg	10.6	7	N	Y		J
SA65-20B	DU-3	Platinum	mg/kg	0.11	0.007	N	Y		J
SA65-20B	DU-3	Tin	mg/kg	10.6	4.1	N	Y		J
SA69-0.5B	DU-1	Boron	mg/kg	10.5	4.5	N	Y	UJ	J
SA69-0.5B	DU-1	Tin	mg/kg	10.5	4.2	N	Y		J
SA70-0.5B	DU-1	Tin	mg/kg	10.5	4.5	N	Y		J
SA71-0.5B	DU-1	Tin	mg/kg	10.2	4.6	N	Y		J
SA73-0.5B	DU-1	Boron	mg/kg	10.8	5	N	Y		J
SA73-0.5B	DU-1	Tin	mg/kg	10.8	4.5	N	Y		J
SA73-10B	DU-1	Ammonia	mg/kg	0.56	0.11	N	Y	UJ	J
SA73-10B	DU-1	Boron	mg/kg	10.9	6.8	N	Y		J
SA73-10B	DU-1	Tin	mg/kg	10.9	4.8	N	Y		J
SA74-0.5B	DU-1	Boron	mg/kg	10.8	4.8	N	Y		J
SA74-0.5B	DU-1	Tin	mg/kg	10.8	4.5	N	Y		J
SA74009-0.5B	DU-1	Boron	mg/kg	11	5.5	N	Y		J
SA74009-0.5B	DU-1	Tin	mg/kg	11	5.2	N	Y		J
SA74-10B	DU-1	Boron	mg/kg	11	8.6	N	Y		J
SA74-10B	DU-1	Tin	mg/kg	11	4.5	N	Y		J
SA75-0.5B	DU-1	Boron	mg/kg	10.6	2.5	N	Y	UJ	J
SA75-0.5B	DU-1	Tin	mg/kg	10.6	4.3	N	Y		J
SA75-10B	DU-1	Boron	mg/kg	10.9	6.3	N	Y	UJ	J
SA75-10B	DU-1	Tin	mg/kg	10.9	4	N	Y		J
SA76-10B	DU-1	Boron	mg/kg	10.7	9	N	Y	UJ	J
SA76-10B	DU-1	Tin	mg/kg	10.7	4.2	N	Y		J
SA77-0.5B	DU-2	Boron	mg/kg	10	4.6	N	Y		J
SA77-0.5B	DU-2	Tin	mg/kg	10	4.9	N	Y		J
SA82-0.5B	DU-1	Ammonia	mg/kg	0.51	0.22	N	Y		J
SA82-0.5B	DU-1	Boron	mg/kg	9.8	9.1	N	Y		J
SA82-0.5B	DU-1	Tin	mg/kg	9.8	4	N	Y		J
SA85-0.5B	DU-1	Boron	mg/kg	10.3	8	N	Y		J
SA85-0.5B	DU-1	Tin	mg/kg	10.3	4.9	N	Y		J
SA86009-10B	DU-3	Boron	mg/kg	11.4	5	N	Y		J
SA86009-10B	DU-3	Molybdenum	mg/kg	0.34	0.3	N	Y		J
SA86009-10B	DU-3	Tin	mg/kg	11.4	6.2	N	Y		J
SA86-10B	DU-3	Boron	mg/kg	11.1	4.9	N	Y		J
SA86-10B	DU-3	Molybdenum	mg/kg	0.33	0.27	N	Y		J
SA86-10B	DU-3	Tin	mg/kg	11.1	6	N	Y		J
SA86-10B	DU-3	Tungsten	mg/kg	0.11	0.08	N	Y	UJ	J
SA88-10B	DU-1	Ammonia	mg/kg	0.55	0.33	N	Y		J
SA88-10B	DU-1	Boron	mg/kg	10.5	10.3	N	Y		J
SA88-10B	DU-1	Tin	mg/kg	10.5	5.6	N	Y		J
SA92-0.5B	DU-1	Tin	mg/kg	10.3	4.3	N	Y		J
SA92-10B	DU-1	Boron	mg/kg	11	6.8	N	Y		J
SA92-10B	DU-1	Tin	mg/kg	11	4.4	N	Y		J
RSAH3-0.5B	DU-1	Boron	mg/kg	10.2	6.4	N	Y		J
RSAH3009-0.5B	DU-1	Boron	mg/kg	10.2	5.6	N	Y		J
RSAH3-0.5B	DU-1	Tin	mg/kg	10.2	4.5	N	Y		J
RSAH3009-0.5B	DU-1	Tin	mg/kg	10.2	4.3	N	Y		J

Notes:

mg/kg = milligram per kilogram

DU = Decision unit

N = Not detected

Y = Detected

J = The result is an estimated quantity. the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.

TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-1	1,1-Dichloroethene	0.0012	J	0.0012	1,100	mg/kg
DU-1	1,2,3-Trichlorobenzene	0.0013	J	0.0013	151	mg/kg
DU-1	1,2,4-Trichlorobenzene	0.0037	J	0.0037	125	mg/kg
DU-1	1,2,4-Trimethylbenzene	0.0014	J	0.0014	218	mg/kg
DU-1	1,2-Dichlorobenzene	0.00039	J	0.00039	376	mg/kg
DU-1	1,3,5-Trimethylbenzene	0.00050	J	0.00050	182	mg/kg
DU-1	1,4-Dichlorobenzene	0.0017	J	0.0017	475	mg/kg
DU-1	1-Methylnaphthalene	0.0033	J	5.6	81	mg/kg
DU-1	2,3,7,8-TCDD TEQ	0.019	J	0.019	0.0027	mg/kg
DU-1	2,4'-DDE	0.088	J	0.088	9.5	mg/kg
DU-1	2-Butanone	0.0043	J	0.027	28,400	mg/kg
DU-1	2-Methylnaphthalene	0.10	J	7.9	368	mg/kg
DU-1	4,4'-DDD	0.032	J	0.032	15	mg/kg
DU-1	4,4'-DDE	0.18	J	6.0	9.5	mg/kg
DU-1	4,4'-DDT	0.069	J	2.3	7.5	mg/kg
DU-1	Acenaphthene	0.057	J	0.70	118	mg/kg
DU-1	Acenaphthylene	0.22	J	0.22	118	mg/kg
DU-1	Acetone	0.040	J	0.15	1,040,000	mg/kg
DU-1	alpha-BHC	0.00080	J	0.0013	0.49	mg/kg
DU-1	Aluminum	9,640	J	12,200	1,240,000	mg/kg
DU-1	Ammonia	3.5	J	3.5	6,140	mg/kg
DU-1	Anthracene	0.30	J	0.30	4.3	mg/kg
DU-1	Antimony	2.1	J	2.4	519	mg/kg
DU-1	Arsenic	5.4	J	34	7.2	mg/kg
DU-1	Barium	440	J	1,780	238,000	mg/kg
DU-1	Benzo(g,h,i)perylene	0.16	J	0.38	25,300	mg/kg
DU-1	Beryllium	0.56	J	0.70	2,540	mg/kg
DU-1	beta-BHC	0.57	J	0.87	1.7	mg/kg
DU-1	bis(2-Ethylhexyl)phthalate	0.38	J	0.82	183	mg/kg
DU-1	Boron	11	J	1,510	259,000	mg/kg
DU-1	Bromide	4.6	J	4.6	441,000	mg/kg
DU-1	Bromodichloromethane	0.00069	J	0.00069	1.4	mg/kg
DU-1	Bromoform	0.0017	J	0.0017	104	mg/kg
DU-1	Butylbenzylphthalate	0.053	J	0.053	1,350	mg/kg
DU-1	Cadmium	0.90	J	1.8	1,260	mg/kg
DU-1	Calcium	56,600	J	62,500	NA	mg/kg
DU-1	Carbon tetrachloride	0.00063	J	0.00063	3.2	mg/kg
DU-1	Chlorate	48	J	20,900	38,900	mg/kg
DU-1	Chlordane (total)	0.0030	J	0.0030	7.3	mg/kg
DU-1	Chloride	735	J	6,670	113,000	mg/kg
DU-1	Chlorobenzene	0.0012	J	0.0012	18,300	mg/kg
DU-1	Chloroform	0.0044	J	0.15	1.5	mg/kg
DU-1	Chromium (total)	35	J	102	1,950,000	mg/kg
DU-1	Chromium VI	2.0	J	106	7.0	mg/kg
DU-1	Cobalt	71	J	284	385	mg/kg
DU-1	Copper	25	J	160	36,700	mg/kg
DU-1	Cyanide (total)	0.48	J	1.3	179	mg/kg
DU-1	delta-BHC	0.0011	J	0.0011	334	mg/kg
DU-1	Dieldrin	0.059	J	0.059	0.16	mg/kg
DU-1	Diethylphthalate	0.065	J	0.065	733,000	mg/kg
DU-1	Dimethylphthalate	0.22	J	0.79	9,160,000	mg/kg
DU-1	Di-n-butylphthalate	1.0	J	3.0	91,600	mg/kg
DU-1	Di-n-octylphthalate	0.088	J	0.088	9,160	mg/kg
DU-1	Endosulfan I	0.0015	J	0.0015	5,500	mg/kg
DU-1	Endrin	0.00070	J	0.0054	30	mg/kg
DU-1	Endrin ketone	0.0018	J	0.0045	30	mg/kg

TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-1	Ethyl tert-butyl ether	0.00038	J	0.00038	70,900	mg/kg
DU-1	Fluoranthene	0.35	J	0.35	33,700	mg/kg
DU-1	Fluorene	0.0010	J	1.1	93	mg/kg
DU-1	gamma-BHC	0.0013	J	0.0013	2.8	mg/kg
DU-1	gamma-Chlordane	0.0014	J	0.0014	7.3	mg/kg
DU-1	Hexachlorobenzene	0.33	J	4.7	0.23	mg/kg
DU-1	Hexachlorobutadiene	0.0045	J	0.0045	6.1	mg/kg
DU-1	Iron	20,300	J	24,000	908,000	mg/kg
DU-1	Lead	62	J	267	800	mg/kg
DU-1	m,p-Xylene	0.0015	J	0.0023	387	mg/kg
DU-1	Magnesium	18,000	J	71,000	5,200,000	mg/kg
DU-1	Manganese	9,100	J	29,200	28,100	mg/kg
DU-1	Mercury	0.10	J	1.9	389	mg/kg
DU-1	Methoxychlor	0.31	J	0.38	4,580	mg/kg
DU-1	Methylene Chloride	0.0048	J	0.0082	1,550	mg/kg
DU-1	Molybdenum	2.3	J	55	6,490	mg/kg
DU-1	Naphthalene	0.25	J	3.1	18	mg/kg
DU-1	Nickel	26	J	164	24,700	mg/kg
DU-1	Nitrate	57	J	173	2,080,000	mg/kg
DU-1	Nitrite	2.0	J	4.2	130,000	mg/kg
DU-1	Octachlorostyrene	0.27	J	2.1	NA	mg/kg
DU-1	ortho-Phosphate	2,900	J	2,900	30,400,000	mg/kg
DU-1	o-Xylene	0.00074	J	0.00074	434	mg/kg
DU-1	p-Cymene	0.00055	J	0.00055	647	mg/kg
DU-1	Perchlorate	156	J	1,500	908	mg/kg
DU-1	Phenanthrene	1.0	J	1.5	25	mg/kg
DU-1	Phosphorus (total)	1,230	J	1,600	9,630,000	mg/kg
DU-1	Platinum	0.054	J	0.054	649	mg/kg
DU-1	Potassium	3,280	J	6,120	NA	mg/kg
DU-1	Pyrene	0.46	J	1.3	44	mg/kg
DU-1	Radium-226	2.0	J	2.5	0.023	pCi/g
DU-1	Radium-228	3.3	J	3.3	0.041	pCi/g
DU-1	Selenium	1.5	J	1.5	6,490	mg/kg
DU-1	Silicon	250	J	250	NA	mg/kg
DU-1	Silver	0.40	J	7.6	6,490	mg/kg
DU-1	Sodium	7,000	J	11,700	NA	mg/kg
DU-1	Strontium	440	J	750	779,000	mg/kg
DU-1	Styrene	0.00028	J	0.00028	867	mg/kg
DU-1	Sulfate	645	J	14,600	NA	mg/kg
DU-1	Sulfur	1,900	J	14,000	NA	mg/kg
DU-1	tert Butyl alcohol	0.0076	J	0.0076	21,300	mg/kg
DU-1	Thallium	0.98	J	8.4	13	mg/kg
DU-1	Thorium-228	2.8	J	2.8	0.025	pCi/g
DU-1	Thorium-230	1.5	J	4.3	8.4	pCi/g
DU-1	Thorium-232	2.5	J	2.5	7.4	pCi/g
DU-1	Tin	5.9	J	12	779,000	mg/kg
DU-1	Titanium	926	J	1,270	5,190,000	mg/kg
DU-1	Toluene	0.0022	J	0.0022	817	mg/kg
DU-1	Toxaphene	0.62	J	0.62	2.3	mg/kg
DU-1	Trichlorofluoromethane	0.0017	J	0.0017	1,210	mg/kg
DU-1	Tungsten	0.97	J	8.5	1,040	mg/kg
DU-1	Uranium (total)	1.0	J	3.1	3,830	mg/kg
DU-1	Uranium-234	2.0	J	2.8	11	pCi/g
DU-1	Uranium-235	0.12	J	0.25	0.35	pCi/g
DU-1	Uranium-238	2.2	J	2.5	1.4	pCi/g
DU-1	Vanadium	49	J	78	6,420	mg/kg

**TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada**

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-1	Vinyl chloride	0.00028	J	0.00028	2.2	mg/kg
DU-1	Zinc	73	J	300	389,000	mg/kg
DU-1	1,1-Dichloroethene	0.00055	J-	0.0012	1,100	mg/kg
DU-1	1,2,4-Trichlorobenzene	0.0024	J-	0.0037	125	mg/kg
DU-1	1,2,4-Trimethylbenzene	0.00064	J-	0.0014	218	mg/kg
DU-1	2-Butanone	0.0032	J-	0.027	28,400	mg/kg
DU-1	4,4'-DDE	0.74	J-	6.0	9.5	mg/kg
DU-1	4,4'-DDT	0.16	J-	2.3	7.5	mg/kg
DU-1	Acetone	0.023	J-	0.15	1,040,000	mg/kg
DU-1	Antimony	1.0	J-	2.4	519	mg/kg
DU-1	Arsenic	4.1	J-	34	7.2	mg/kg
DU-1	Benzo(g,h,i)perylene	0.38	J-	0.38	25,300	mg/kg
DU-1	beta-BHC	0.27	J-	0.87	1.7	mg/kg
DU-1	Boron	15	J-	1,510	259,000	mg/kg
DU-1	Chlorate	11	J-	20,900	38,900	mg/kg
DU-1	Chloroform	0.0011	J-	0.15	1.5	mg/kg
DU-1	Chromium (total)	23	J-	102	1,950,000	mg/kg
DU-1	Cobalt	131	J-	284	385	mg/kg
DU-1	Copper	10	J-	160	36,700	mg/kg
DU-1	Hexachlorobenzene	0.22	J-	4.7	0.23	mg/kg
DU-1	Lead	9.9	J-	267	800	mg/kg
DU-1	Magnesium	10,200	J-	71,000	5,200,000	mg/kg
DU-1	Manganese	471	J-	29,200	28,100	mg/kg
DU-1	Naphthalene	2.0	J-	3.1	18	mg/kg
DU-1	Nickel	18	J-	164	24,700	mg/kg
DU-1	Perchlorate	3.7	J-	1,500	908	mg/kg
DU-1	Phosphorus (total)	959	J-	1,600	9,630,000	mg/kg
DU-1	Radium-226	1.8	J-	2.5	0.023	pCi/g
DU-1	Radium-228	1.1	J-	3.3	0.041	pCi/g
DU-1	Sodium	3,730	J-	11,700	NA	mg/kg
DU-1	Sulfate	927	J-	14,600	NA	mg/kg
DU-1	Thorium-230	0.67	J-	4.3	8.4	pCi/g
DU-1	Titanium	1,160	J-	1,270	5,190,000	mg/kg
DU-1	Trichloroethene	0.00042	J-	0.00042	6.9	mg/kg
DU-1	Tungsten	8.5	J-	8.5	1,040	mg/kg
DU-1	Uranium-238	1.7	J-	2.5	1.4	pCi/g
DU-1	Vanadium	50	J-	78	6,420	mg/kg
DU-1	Zinc	34	J-	300	389,000	mg/kg
DU-1	4,4'-DDD	0.0027	J+	0.032	15	mg/kg
DU-1	4,4'-DDE	0.085	J+	6.0	9.5	mg/kg
DU-1	4,4'-DDT	0.033	J+	2.3	7.5	mg/kg
DU-1	Acetone	0.15	J+	0.15	1,040,000	mg/kg
DU-1	Aldrin	0.00052	J+	0.00052	0.21	mg/kg
DU-1	alpha-BHC	0.0013	J+	0.0013	0.49	mg/kg
DU-1	Ammonia	1.8	J+	3.5	6,140	mg/kg
DU-1	Beryllium	0.60	J+	0.70	2,540	mg/kg
DU-1	beta-BHC	0.059	J+	0.87	1.7	mg/kg
DU-1	bis(2-Ethylhexyl)phthalate	0.46	J+	0.82	183	mg/kg
DU-1	Bromide	0.70	J+	4.6	441,000	mg/kg
DU-1	Chlorate	31	J+	20,900	38,900	mg/kg
DU-1	Chloride	2,070	J+	6,670	113,000	mg/kg
DU-1	Copper	21	J+	160	36,700	mg/kg
DU-1	delta-BHC	0.00080	J+	0.0011	334	mg/kg
DU-1	Di-n-butylphthalate	1.7	J+	3.0	91,600	mg/kg
DU-1	Endosulfan I	0.00024	J+	0.0015	5,500	mg/kg
DU-1	Endosulfan sulfate	0.016	J+	0.016	5,500	mg/kg

TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-1	Endrin ketone	0.0045	J+	0.0045	30	mg/kg
DU-1	gamma-BHC	0.00083	J+	0.0013	2.8	mg/kg
DU-1	Hexachlorobenzene	0.098	J+	4.7	0.23	mg/kg
DU-1	Lead	75	J+	267	800	mg/kg
DU-1	Manganese	943	J+	29,200	28,100	mg/kg
DU-1	Methoxychlor	0.011	J+	0.38	4,580	mg/kg
DU-1	Nickel	17	J+	164	24,700	mg/kg
DU-1	Nitrate	173	J+	173	2,080,000	mg/kg
DU-1	Perchlorate	170	J+	1,500	908	mg/kg
DU-1	Pyrene	0.14	J+	1.3	44	mg/kg
DU-1	Radium-226	1.7	J+	2.5	0.023	pCi/g
DU-1	Radium-228	2.0	J+	3.3	0.041	pCi/g
DU-1	Sulfate	990	J+	14,600	NA	mg/kg
DU-1	Titanium	441	J+	1,270	5,190,000	mg/kg
DU-1	Uranium (total)	0.86	J+	3.1	3,830	mg/kg
DU-1	Uranium-235	0.021	J+	0.25	0.35	pCi/g
DU-1	Vanadium	44	J+	78	6,420	mg/kg
DU-1	Zinc	269	J+	300	389,000	mg/kg
DU-2	1,1,1-Trichloroethane	0.00095	J	0.00095	638	mg/kg
DU-2	1,1-Dichloroethane	0.0030	J	0.0030	17	mg/kg
DU-2	1,2,4-Trimethylbenzene	0.00082	J	0.00082	218	mg/kg
DU-2	1,4-Dichlorobenzene	0.016	J	0.016	475	mg/kg
DU-2	2,3,7,8-TCDD TEQ	0.0016	J	0.0016	0.0027	mg/kg
DU-2	2-Butanone	0.014	J	0.014	28,400	mg/kg
DU-2	4,4'-DDE	0.025	J	0.91	9.5	mg/kg
DU-2	4,4'-DDT	0.069	J	0.61	7.5	mg/kg
DU-2	Acenaphthylene	0.0015	J	0.0015	118	mg/kg
DU-2	Acetone	0.090	J	0.090	1,040,000	mg/kg
DU-2	alpha-BHC	0.0066	J	0.012	0.49	mg/kg
DU-2	Anthracene	0.021	J	0.021	4.3	mg/kg
DU-2	Antimony	1.9	J	2.2	519	mg/kg
DU-2	Aroclor-1248	0.091	J	0.091	1.1	mg/kg
DU-2	Aroclor-1260	0.034	J	0.034	1.1	mg/kg
DU-2	Arsenic	6.3	J	6.3	7.2	mg/kg
DU-2	Barium	191	J	217	238,000	mg/kg
DU-2	Benzo(g,h,i)perylene	0.075	J	0.075	25,300	mg/kg
DU-2	Beryllium	0.56	J	0.60	2,540	mg/kg
DU-2	beta-BHC	0.057	J	0.29	1.7	mg/kg
DU-2	bis(2-Ethylhexyl)phthalate	0.097	J	61	183	mg/kg
DU-2	Boron	9.8	J	49	259,000	mg/kg
DU-2	Bromide	1.1	J	1.1	441,000	mg/kg
DU-2	Cadmium	0.080	J	8.9	1,260	mg/kg
DU-2	Calcium	40,900	J	43,900	NA	mg/kg
DU-2	Chlorate	0.54	J	1,510	38,900	mg/kg
DU-2	Chloride	5.0	J	2,470	113,000	mg/kg
DU-2	Chromium (total)	9.4	J	19	1,950,000	mg/kg
DU-2	Chromium VI	1.6	J	2.4	7.0	mg/kg
DU-2	Copper	19	J	32	36,700	mg/kg
DU-2	Dimethoate	0.013	J	0.013	183	mg/kg
DU-2	Dimethylphthalate	0.033	J	0.033	9,160,000	mg/kg
DU-2	Di-n-butylphthalate	0.077	J	7.5	91,600	mg/kg
DU-2	Fluoranthene	0.28	J	0.28	33,700	mg/kg
DU-2	Fluoride	0.52	J	0.52	51,900	mg/kg
DU-2	Hexachlorobenzene	0.075	J	0.52	0.23	mg/kg
DU-2	Iron	15,700	J	18,400	908,000	mg/kg
DU-2	Lead	14	J	51	800	mg/kg

TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-2	Lithium	10	J	14	2,600	mg/kg
DU-2	m,p-Xylene	0.0015	J	0.0015	387	mg/kg
DU-2	Manganese	483	J	1,290	28,100	mg/kg
DU-2	Mercury	0.017	J	0.056	389	mg/kg
DU-2	Methylene Chloride	0.00034	J	0.00034	1,550	mg/kg
DU-2	Molybdenum	0.49	J	0.92	6,490	mg/kg
DU-2	Nickel	18	J	18	24,700	mg/kg
DU-2	Nitrite	0.21	J	4.7	130,000	mg/kg
DU-2	Octachlorostyrene	0.21	J	0.21	NA	mg/kg
DU-2	ortho-Phosphate	2.4	J	7.2	30,400,000	mg/kg
DU-2	Perchlorate	34	J	34	908	mg/kg
DU-2	Phenanthrene	0.15	J	0.15	25	mg/kg
DU-2	Phosphorus (total)	727	J	1,110	9,630,000	mg/kg
DU-2	Platinum	0.077	J	0.077	649	mg/kg
DU-2	Pyrene	0.26	J	0.26	44	mg/kg
DU-2	Radium-226	1.3	J	1.3	0.023	pCi/g
DU-2	Radium-228	1.3	J	2.4	0.041	pCi/g
DU-2	Selenium	1.5	J	1.5	6,490	mg/kg
DU-2	Silver	0.22	J	0.22	6,490	mg/kg
DU-2	Sodium	1,730	J	1,920	NA	mg/kg
DU-2	Strontium	202	J	309	779,000	mg/kg
DU-2	Sulfate	1,060	J	2,260	NA	mg/kg
DU-2	Sulfur	785	J	1,290	NA	mg/kg
DU-2	Thallium	0.15	J	0.15	13	mg/kg
DU-2	Thorium-228	1.7	J	2.2	0.025	pCi/g
DU-2	Thorium-230	0.99	J	2.0	8.4	pCi/g
DU-2	Thorium-232	1.5	J	2.3	7.4	pCi/g
DU-2	Tin	5.8	J	5.8	779,000	mg/kg
DU-2	Titanium	744	J	1,140	5,190,000	mg/kg
DU-2	Toluene	0.0011	J	0.0011	817	mg/kg
DU-2	Trichlorofluoromethane	0.0017	J	0.0017	1,210	mg/kg
DU-2	Tungsten	0.58	J	1.4	1,040	mg/kg
DU-2	Uranium (total)	1.5	J	1.7	3,830	mg/kg
DU-2	Uranium-234	1.4	J	1.9	11	pCi/g
DU-2	Uranium-235	0.096	J	0.21	0.35	pCi/g
DU-2	Uranium-238	0.98	J	1.7	1.4	pCi/g
DU-2	Zirconium	22	J	25	104	mg/kg
DU-2	4,4'-DDE	0.0056	J-	0.91	9.5	mg/kg
DU-2	4,4'-DDT	0.0047	J-	0.61	7.5	mg/kg
DU-2	Acetone	0.020	J-	0.090	1,040,000	mg/kg
DU-2	Antimony	2.2	J-	2.2	519	mg/kg
DU-2	Beryllium	0.40	J-	0.60	2,540	mg/kg
DU-2	Boron	49	J-	49	259,000	mg/kg
DU-2	Calcium	29,700	J-	43,900	NA	mg/kg
DU-2	Chlorate	18	J-	1,510	38,900	mg/kg
DU-2	Chloride	5.4	J-	2,470	113,000	mg/kg
DU-2	Chromium (total)	19	J-	19	1,950,000	mg/kg
DU-2	Cobalt	8.8	J-	8.8	385	mg/kg
DU-2	Copper	17	J-	32	36,700	mg/kg
DU-2	Iron	12,000	J-	18,400	908,000	mg/kg
DU-2	Magnesium	8,360	J-	28,800	5,200,000	mg/kg
DU-2	Manganese	532	J-	1,290	28,100	mg/kg
DU-2	Mercury	0.019	J-	0.056	389	mg/kg
DU-2	Nickel	14	J-	18	24,700	mg/kg
DU-2	Nitrite	4.7	J-	4.7	130,000	mg/kg
DU-2	Perchlorate	2.6	J-	34	908	mg/kg
DU-2	Potassium	2,200	J-	2,480	NA	mg/kg

TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-2	Radium-226	1.1	J-	1.3	0.023	pCi/g
DU-2	Radium-228	1.8	J-	2.4	0.041	pCi/g
DU-2	Sodium	1,790	J-	1,920	NA	mg/kg
DU-2	Tungsten	1.4	J-	1.4	1,040	mg/kg
DU-2	Vanadium	43	J-	62	6,420	mg/kg
DU-2	Zinc	39	J-	68	389,000	mg/kg
DU-2	Acetone	0.026	J+	0.090	1,040,000	mg/kg
DU-2	Barium	201	J+	217	238,000	mg/kg
DU-2	Calcium	9,930	J+	43,900	NA	mg/kg
DU-2	Chlorate	108	J+	1,510	38,900	mg/kg
DU-2	Chloride	495	J+	2,470	113,000	mg/kg
DU-2	Manganese	378	J+	1,290	28,100	mg/kg
DU-2	Niobium	9.2	J+	9.2	130	mg/kg
DU-2	Nitrate	20	J+	52	2,080,000	mg/kg
DU-2	Perchlorate	6.7	J+	34	908	mg/kg
DU-2	Phosphorus (total)	1,010	J+	1,110	9,630,000	mg/kg
DU-2	Silicon	180	J+	180	NA	mg/kg
DU-2	Strontium	226	J+	309	779,000	mg/kg
DU-2	Sulfate	258	J+	2,260	NA	mg/kg
DU-2	Titanium	606	J+	1,140	5,190,000	mg/kg
DU-3	1,2,4-Trichlorobenzene	0.0012	J	0.0012	125	mg/kg
DU-3	1,2-Dichlorobenzene	0.00037	J	0.00037	376	mg/kg
DU-3	2,3,7,8-TCDD TEQ	0.0021	J	0.0021	0.0027	mg/kg
DU-3	2-Butanone	0.0045	J	0.0045	28,400	mg/kg
DU-3	2-Methylnaphthalene	0.030	J	0.030	368	mg/kg
DU-3	4,4'-DDE	0.065	J	0.20	9.5	mg/kg
DU-3	4,4'-DDT	0.052	J	0.33	7.5	mg/kg
DU-3	Acenaphthene	0.026	J	0.026	118	mg/kg
DU-3	Acetone	0.052	J	0.052	1,040,000	mg/kg
DU-3	alpha-BHC	0.0025	J	0.0025	0.49	mg/kg
DU-3	Aluminum	7,600	J	11,700	1,240,000	mg/kg
DU-3	Ammonia	563	J	563	6,140	mg/kg
DU-3	Antimony	2.1	J	2.1	519	mg/kg
DU-3	Arsenic	5.6	J	11	7.2	mg/kg
DU-3	Barium	191	J	221	238,000	mg/kg
DU-3	Benzo(g,h,i)perylene	0.19	J	0.19	25,300	mg/kg
DU-3	Beryllium	0.71	J	0.71	2,540	mg/kg
DU-3	beta-BHC	0.026	J	0.052	1.7	mg/kg
DU-3	bis(2-Ethylhexyl)phthalate	0.17	J	0.85	183	mg/kg
DU-3	Boron	11	J	13	259,000	mg/kg
DU-3	Butylbenzylphthalate	0.024	J	0.024	1,350	mg/kg
DU-3	Cadmium	0.11	J	0.35	1,260	mg/kg
DU-3	Calcium	40,400	J	56,500	NA	mg/kg
DU-3	Chlorate	0.15	J	107	38,900	mg/kg
DU-3	Chloride	746	J	3,140	113,000	mg/kg
DU-3	Chlorobenzene	0.0019	J	0.0019	18,300	mg/kg
DU-3	Chloroform	0.0039	J	0.0039	1.5	mg/kg
DU-3	Chromium (total)	27	J	27	1,950,000	mg/kg
DU-3	Chromium VI	0.66	J	1.3	7.0	mg/kg
DU-3	Copper	13	J	25	36,700	mg/kg
DU-3	delta-BHC	0.0015	J	0.0015	334	mg/kg
DU-3	Diethylphthalate	0.35	J	0.35	733,000	mg/kg
DU-3	Di-n-butylphthalate	0.087	J	0.65	91,600	mg/kg
DU-3	Di-n-octylphthalate	0.084	J	0.084	9,160	mg/kg
DU-3	Endrin ketone	0.020	J	0.020	30	mg/kg
DU-3	Fluoranthene	0.071	J	0.071	33,700	mg/kg

**TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada**

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-3	Hexachlorobenzene	0.29	J	1.1	0.23	mg/kg
DU-3	Hexachlorobutadiene	0.0020	J	0.0020	6.1	mg/kg
DU-3	Iron	14,600	J	17,700	908,000	mg/kg
DU-3	Magnesium	22,000	J	22,000	5,200,000	mg/kg
DU-3	Manganese	390	J	1,500	28,100	mg/kg
DU-3	Mercury	0.017	J	0.31	389	mg/kg
DU-3	Methylene Chloride	0.0018	J	0.0018	1,550	mg/kg
DU-3	Molybdenum	0.74	J	0.97	6,490	mg/kg
DU-3	Naphthalene	0.0011	J	0.0011	18	mg/kg
DU-3	Nickel	16	J	17	24,700	mg/kg
DU-3	Nitrate	515	J	515	2,080,000	mg/kg
DU-3	Nitrite	2.3	J	77	130,000	mg/kg
DU-3	Octachlorostyrene	0.16	J	0.68	NA	mg/kg
DU-3	ortho-Phosphate	21	J	21	30,400,000	mg/kg
DU-3	Phenanthrene	0.089	J	0.089	25	mg/kg
DU-3	Platinum	0.085	J	0.16	649	mg/kg
DU-3	Potassium	2,050	J	2,290	NA	mg/kg
DU-3	Pyrene	0.24	J	0.24	44	mg/kg
DU-3	Radium-226	1.6	J	2.0	0.023	pCi/g
DU-3	Radium-228	1.7	J	1.9	0.041	pCi/g
DU-3	Selenium	1.0	J	1.0	6,490	mg/kg
DU-3	Silver	0.30	J	0.30	6,490	mg/kg
DU-3	Sodium	924	J	4,020	NA	mg/kg
DU-3	Strontium	805	J	805	779,000	mg/kg
DU-3	Sulfate	748	J	15,300	NA	mg/kg
DU-3	Tetrachloroethene	0.00068	J	0.00068	117	mg/kg
DU-3	Thallium	0.18	J	0.18	13	mg/kg
DU-3	Thorium-228	0.87	J	3.0	0.025	pCi/g
DU-3	Thorium-230	1.2	J	3.3	8.4	pCi/g
DU-3	Thorium-232	0.80	J	2.4	7.4	pCi/g
DU-3	Tin	6.2	J	6.2	779,000	mg/kg
DU-3	Titanium	747	J	996	5,190,000	mg/kg
DU-3	Tungsten	0.080	J	0.37	1,040	mg/kg
DU-3	Uranium (total)	3.6	J	3.6	3,830	mg/kg
DU-3	Uranium-234	1.0	J	3.4	11	pCi/g
DU-3	Uranium-235	0.17	J	0.17	0.35	pCi/g
DU-3	Uranium-238	3.3	J	3.3	1.4	pCi/g
DU-3	Vanadium	39	J	54	6,420	mg/kg
DU-3	Zinc	44	J	45	389,000	mg/kg
DU-3	Antimony	0.16	J-	2.1	519	mg/kg
DU-3	Benzo(g,h,i)perylene	0.038	J-	0.19	25,300	mg/kg
DU-3	Boron	5.9	J-	13	259,000	mg/kg
DU-3	Chlorate	16	J-	107	38,900	mg/kg
DU-3	Chromium (total)	11	J-	27	1,950,000	mg/kg
DU-3	Cobalt	7.7	J-	8.4	385	mg/kg
DU-3	Magnesium	10,600	J-	22,000	5,200,000	mg/kg
DU-3	Manganese	154	J-	1,500	28,100	mg/kg
DU-3	Nickel	17	J-	17	24,700	mg/kg
DU-3	Nitrite	5.3	J-	77	130,000	mg/kg
DU-3	Perchlorate	1,100	J-	2,620	908	mg/kg
DU-3	Sodium	1,550	J-	4,020	NA	mg/kg
DU-3	Sulfate	15,300	J-	15,300	NA	mg/kg
DU-3	Tungsten	0.37	J-	0.37	1,040	mg/kg
DU-3	Vanadium	39	J-	54	6,420	mg/kg
DU-3	Zinc	27	J-	45	389,000	mg/kg
DU-3	4,4'-DDE	0.037	J+	0.20	9.5	mg/kg

**TABLE B-6. Summary of J Qualified Soil Data
Nevada Environmental Response Trust Site
Henderson, Nevada**

Decision Unit	Analyte	Maximum Concentration of Qualified Data	Qualifier	Maximum Detected Concentration in Soil BHRA Data Set	Screening Level	Unit
DU-3	4,4'-DDT	0.057	J+	0.33	7.5	mg/kg
DU-3	Acetone	0.036	J+	0.052	1,040,000	mg/kg
DU-3	Ammonia	3.7	J+	563	6,140	mg/kg
DU-3	Arsenic	4.5	J+	11	7.2	mg/kg
DU-3	beta-BHC	0.014	J+	0.052	1.7	mg/kg
DU-3	Chlorate	0.086	J+	107	38,900	mg/kg
DU-3	Chloride	1,660	J+	3,140	113,000	mg/kg
DU-3	Manganese	239	J+	1,500	28,100	mg/kg
DU-3	Nitrate	65	J+	515	2,080,000	mg/kg
DU-3	Perchlorate	4.7	J+	2,620	908	mg/kg
DU-3	Radium-226	1.4	J+	2.0	0.023	pCi/g
DU-3	Radium-228	1.9	J+	1.9	0.041	pCi/g
DU-3	Sulfate	254	J+	15,300	NA	mg/kg
DU-3	Thorium-228	1.9	J+	3.0	0.025	pCi/g

Notes:

mg/kg = milligram per kilogram
pCi/g = picocurie per gram
BHC = Hexachlorocyclohexane
BHRA = Baseline Health risk assessment
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
DU = Decision unit
J = Estimated value
J- = Estimate value, biased low
J+ = Estimate value, biased high
NA = Not available
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = Toxicity equivalent

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX C SOIL BHRA DATA SET

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX C-1
SOIL BHRA DATA SET - CHEMICALS AND
RADIONUCLIDES (CD)

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX C-2
SOIL BHRA DATA SET - ASBESTOS

TABLE C-2. Soil BHRA Data Set - Asbestos
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Total Long Asbestos Protocol Structures Count (s/sample)	Short Amphibole Protocol Structures Count (s/sample)	Short Chrysotile Protocol Structures Count (s/sample)	Total Short Asbestos Protocol Structures Count (s/sample)	Total Amphibole Protocol Structures Count (s/sample)	Total Chrysotile Protocol Structures Count (s/sample)	Total Asbestos Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
RISB-09-0.5-20141211	DU-1	N	12/11/2014	0.5	0	0	0	0	0	0	0	0	0	8960000	8960000
RISB-09-5.0-20141211	DU-1	N	12/11/2014	5	0	0	0	0	0	0	0	0	0	8900000	8900000
RISB-10-0.5-20141215	DU-1	N	12/15/2014	0.5	1	0	1	0	0	0	1	0	1	8970000	8970000
RISB-10-5.0-20141215	DU-1	N	12/15/2014	5	0	0	0	0	0	0	0	0	0	8860000	8860000
RISB-11-0.5-20141217	DU-1	N	12/17/2014	0.5	0	0	0	0	0	0	0	0	0	8900000	8900000
RISB-11-5.0-20141217	DU-1	N	12/17/2014	5	0	0	0	0	0	0	0	0	0	8970000	8970000
RISB-12-0.5-20141215	DU-1	N	12/15/2014	0.5	1	2	3	0	3	3	1	5	6	8900000	8900000
RISB-12-5.0-20141216	DU-1	N	12/16/2014	5	0	0	0	0	0	0	0	0	0	8900000	8900000
RISB-13-0.5-20141217	DU-1	N	12/17/2014	0.5	0	0	0	0	0	0	0	0	0	8970000	8970000
RISB-13-5.0-20141218	DU-1	N	12/18/2014	5	0	0	0	0	0	0	0	0	0	8940000	8940000
RISB-14-0.5-20141216	DU-1	N	12/16/2014	0.5	0	0	0	0	0	0	0	0	0	8970000	8970000
RISB-14-5.0-20141216	DU-1	N	12/16/2014	5	1	0	1	0	0	0	1	0	1	8920000	8920000
RSAH3-0.0	DU-1	N	6/11/2008	0.5	0	1	1	NA	NA	NA	0	1	1	2998000	2998000
RSK4-0.0	DU-1	N	6/12/2008	0	0	1	1	NA	NA	NA	0	1	1	2991000	2991000
RSK6-0.0	DU-1	N	6/17/2008	0	0	0	0	NA	NA	NA	0	0	0	2976000	2976000
RSAL4-0.0	DU-1	N	6/12/2008	0	0	0	0	NA	NA	NA	0	0	0	2999026	2999026
RSAL5-0.0	DU-1	N	6/12/2008	0	0	1	1	NA	NA	NA	0	1	1	2966000	2966000
RSAL6-0.0B	DU-1	N	9/16/2009	0	0	0	0	0	1	1	0	1	1	8860000	8860000
RSAL7-0.0	DU-1	N	6/17/2008	0	0	0	0	NA	NA	NA	0	0	0	2981000	2981000
RSAL8-0.0	DU-1	N	6/17/2008	0	0	0	0	NA	NA	NA	0	0	0	2991000	2991000
RSAM2-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2959000	2959000
RSAM3-0.0	DU-1	N	6/18/2008	0.5	0	0	0	NA	NA	NA	0	0	0	2966000	2966000
RSAM4-0.0	DU-1	N	6/18/2008	0	0	0	0	0	1	1	0	1	1	2969000	2969000
RSAM6-0.0B	DU-1	N	7/17/2009	0	0	0	0	0	0	0	0	0	0	8860000	8860000
RSAM7-1.00BPC	DU-1	N	6/16/2010	0.5	0	0	0	< 1	0	< 1	< 1	0	< 1	8224442	8224442
RSAN2-0.0	DU-1	N	6/18/2008	1	0	0	0	NA	NA	NA	0	0	0	2985000	2985000
RSAN3-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2983000	2983000
RSAN4-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2983000	2983000
RSAN5-0.0B	DU-1	N	7/28/2009	0	0	0	0	0	0	0	0	0	0	8850000	8850000
RSAN7-0.0B	DU-1	N	8/4/2009	0.5	0	0	0	0	0	0	0	0	0	8850000	8850000
RSO2-0.0	DU-1	N	6/16/2008	0	0	0	0	NA	NA	NA	0	0	0	2974627	2974627
RSO6-0.33BPC	DU-1	N	4/15/2010	0	0	0	0	0	0	0	0	0	0	8930000	8930000
RSO6-0.33BPC-FD	DU-1	FD	4/15/2010	0	0	0	0	0	0	0	0	0	0	8910000	8910000
RSAP5-0.0B	DU-2	N	8/7/2009	0.5	0	2	2	0	3	3	0	5	5	8910000	8910000
RSAP7-0.0B	DU-2	N	10/27/2009	0	0	0	0	0	0	0	0	0	0	8970000	8970000
RSAP4-0.0B	DU-2	N	8/7/2009	0.5	0	0	0	0	0	0	0	0	0	8850000	8850000
RSAP7-0.0B	DU-2	N	10/2/2009	0	0	0	0	0	1	1	0	1	1	8850000	8850000
RSAS5-0.0B	DU-2	N	9/24/2009	0.5	0	< 1	< 1	0	0	0	0	< 1	< 1	8870000	8870000
RSAS8-0.33BPC	DU-2	N	4/8/2010	1.5	0	0	0	0	1	1	0	1	1	8880000	8880000
S2-PG-1-1-0.0	DU-2	N	4/8/2010	0	0	0	0	0	0	0	0	0	0	8940000	8940000
S2-PG-1-1-0.0-FD	DU-2	FD	4/8/2010	0	0	0	0	0	0	0	0	0	0	8910000	8910000

TABLE C-2. Soil BHRA Data Set - Asbestos
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Total Long Asbestos Protocol Structures Count (s/sample)	Short Amphibole Protocol Structures Count (s/sample)	Short Chrysotile Protocol Structures Count (s/sample)	Total Short Asbestos Protocol Structures Count (s/sample)	Total Amphibole Protocol Structures Count (s/sample)	Total Chrysotile Protocol Structures Count (s/sample)	Total Asbestos Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
SA05-033BPC	DU-2	N	5/13/2010	1	0	0	0	0	0	0	0	0	0	8310000	8310000
SA100-0.0	DU-1	N	6/18/2008	0.5	0	0	0	NA	NA	NA	0	0	0	2969000	2969000
SA103-0.0B	DU-2	N	8/7/2009	0	0	2	2	0	5	5	0	7	7	8870000	8870000
SA11-0.33BPC	DU-1	N	4/12/2010	0	0	0	0	0	1	1	0	1	1	8860000	8860000
SA121-0.33BPC	DU-2	N	4/7/2010	0.5	0	3	3	0	0	0	0	3	3	2980000	2980000
SA122-0.0B	DU-2	N	9/11/2009	3.5	0	1	1	0	0	0	0	1	1	8930000	8930000
SA123-0.0B	DU-1	N	7/13/2009	1	0	1	1	0	< 1	< 1	0	2	2	8850000	8880000
SA126-0.0B	DU-2	N	8/5/2009	0.5	0	0	0	0	0	0	0	0	0	8920000	8920000
SA136-0.33BPC	DU-2	N	4/8/2010	1	0	0	0	0	0	0	0	0	0	8930000	8930000
SA138-0.0B	DU-2	N	8/7/2009	0	0	0	0	0	0	0	0	0	0	8970000	8970000
SA144-0.0B	DU-1	N	7/29/2009	0.5	0	0	0	0	0	0	0	0	0	8910000	8910000
SA144009-0.0B	DU-1	FD	7/29/2009	0.5	0	0	0	0	0	0	0	0	0	8910000	8910000
SA145-0.0B	DU-1	N	7/23/2009	0	0	0	0	0	1	1	0	1	1	8850000	8850000
SA151-0.0B	DU-1	N	7/28/2009	0	0	0	0	0	1	1	0	1	1	8910000	8910000
SA151-0.33BPC	DU-1	N	4/12/2010	0.5	0	0	0	0	0	0	0	0	0	8870000	8870000
SA151009-0.0B	DU-1	FD	7/28/2009	0	0	0	0	0	0	0	0	0	0	8910000	8910000
SA152-0.0	DU-1	N	6/16/2008	0	0	0	0	0	2	2	0	2	2	2826974	2826974
SA157-0.0B	DU-1	N	10/2/2009	0	0	0	0	0	0	0	0	0	0	8860000	8860000
SA158-0.0B	DU-1	N	8/7/2009	0	0	0	0	0	0	0	0	0	0	8910000	8910000
SA166-0.0	DU-1	N	6/18/2008	0	0	0	0	0	2	2	0	2	2	2969000	2969000
SA170-0.0B	DU-2	N	8/11/2009	1.5	0	0	0	0	0	0	0	0	0	8860000	8860000
SA170009-0.0B	DU-2	FD	8/11/2009	1.5	0	0	0	0	0	0	0	0	0	8920000	8920000
SA176-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2991000	2991000
SA18	DU-1	N	12/3/2006	0	0	2	2	NA	NA	NA	0	2	2	2995000	5990000
SA185-0.0B	DU-1	N	7/31/2009	0.5	0	1	1	0	1	1	0	2	2	8930000	8930000
SA186-0.0B	DU-1	N	7/31/2009	0	0	0	0	0	0	0	0	0	0	8920000	8920000
SA189-0.33BPC	DU-1	N	5/3/2010	0.5	0	0	0	0	0	0	0	0	0	8960000	8960000
SA197-0.0B	DU-3	N	7/13/2009	0	0	0	0	0	0	0	0	0	0	8920000	8920000
SA200-0.0B	DU-1	N	7/29/2009	0.5	0	0	0	0	0	0	0	0	0	8850000	8850000
SA21	DU-1	N	12/2/2006	0	0	0	0	NA	NA	NA	0	0	0	2935000	2935000
SA211-0.0B	DU-2	N	8/7/2009	0.5	0	0	0	0	0	0	0	0	0	8940000	8940000
SA211009-0.0B	DU-2	FD	8/7/2009	0.5	0	0	0	0	0	0	0	0	0	8940000	8940000
SA212-0.0B	DU-2	N	8/7/2009	0	0	1	1	0	0	0	0	1	1	8850000	8850000
SA31-0.0B	DU-2	N	9/15/2009	0	0	0	0	0	0	0	0	0	0	8910000	8910000
SA47-0.0	DU-1	N	6/19/2008	0.5	0	0	0	NA	NA	NA	0	0	0	2969000	2969000
SA54-0.0B	DU-1	N	7/29/2009	1	0	0	0	0	0	0	0	0	0	8870000	8870000
SA55-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2978000	2978000
SA6	DU-2	N	12/7/2006	0.5	0	0	0	NA	NA	NA	0	0	0	2846000	2846000
SA62-0.0B	DU-1	N	7/17/2009	0	0	0	0	0	0	0	0	0	0	8850000	8850000
SA64-0.0B	DU-3	N	7/13/2009	0	0	0	0	0	3	3	0	3	3	8960000	8960000
SA67-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2978000	2978000

TABLE C-2. Soil BHRA Data Set - Asbestos
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Total Long Asbestos Protocol Structures Count (s/sample)	Short Amphibole Protocol Structures Count (s/sample)	Short Chrysotile Protocol Structures Count (s/sample)	Total Short Asbestos Protocol Structures Count (s/sample)	Total Amphibole Protocol Structures Count (s/sample)	Total Chrysotile Protocol Structures Count (s/sample)	Total Asbestos Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
SA69-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2991000	2991000
SA7	DU-2	N	12/7/2006	0	0	1	1	NA	NA	NA	0	1	1	2988000	2990000
SA70-0.0B	DU-1	N	7/13/2009	0.5	0	0	0	0	0	0	0	0	0	8910000	8910000
SA71-0.0B	DU-1	N	7/17/2009	0	0	0	0	0	1	1	0	1	1	8860000	8860000
SA73-0.0B	DU-1	N	9/16/2009	0	0	0	0	0	0	0	0	0	0	8920000	8920000
SA74-0.0	DU-1	N	6/12/2008	0	0	0	0	NA	NA	NA	0	0	0	2969000	2969000
SA75-0.0	DU-1	N	6/12/2008	0	0	0	0	NA	NA	NA	0	0	0	2978000	2978000
SA77-0.33BPC	DU-2	N	4/20/2010	1	0	0	0	1	0	1	1	0	1	8930000	8930000
SA77-0.33BPC_FD	DU-2	FD	4/20/2010	1	0	0	0	0	0	0	0	0	0	8930000	8930000
SA8	DU-2	N	12/7/2006	0.5	0	2	2	NA	NA	NA	0	2	2	2997000	5990000
SA85-0.0	DU-1	N	6/18/2008	0	0	1	1	0	1	1	0	2	2	2991000	2991000
SA87-0.0	DU-1	N	6/18/2008	0	0	0	0	NA	NA	NA	0	0	0	2982000	2982000
SSAK2-01-0.00BPC	DU-1	N	4/15/2010	2.5	0	0	0	0	0	0	0	0	0	8900000	8900000
SSAK2-01-0.00BPC_FD	DU-1	FD	4/15/2010	2.5	0	0	0	0	0	0	0	0	0	8900000	8900000
SSAK5-02-0.00BPC	DU-1	N	4/21/2010	0	0	0	0	0	0	0	0	0	0	8940000	8940000
SSAK5-03-0.00BPC	DU-1	N	5/12/2010	0	0	0	0	0	< 1	< 1	0	< 1	< 1	8870000	8870000
SSAL2-03-0.00BPC	DU-1	N	4/28/2010	0	0	3	3	0	1	1	0	4	4	8940000	8940000
SSAL3-03-0.00BPC	DU-1	N	5/11/2010	0	0	3	3	0	11	11	0	14	14	7500000	7500000
SSAL4-02-0.00BPC	DU-1	N	4/15/2010	0	0	0	0	0	0	0	0	0	0	8960000	8960000
SSAL4-02-0.00BPC_FD	DU-1	FD	4/15/2010	0	0	0	0	0	0	0	0	0	0	8930000	8930000
SSAL4-03-0.00BPC	DU-1	N	4/15/2010	0	0	0	0	0	0	0	0	0	0	8940000	8940000
SSAL5-01-0.00BPC	DU-1	N	5/13/2010	0	0	0	0	0	0	0	0	0	0	8000000	8000000
SSAL5-02-0.00BPC	DU-1	N	5/13/2010	0	0	0	0	0	< 1	< 1	0	< 1	< 1	8130000	8130000
SSAL7-03-0.00BPC	DU-1	N	4/23/2010	0.5	0	0	0	0	0	0	0	0	0	8870000	8870000
SSAM4-01-0.67BPC	DU-1	N	8/3/2010	1	0	0	0	0	0	0	0	0	0	8940000	8940000
SSAM4-03-0.00BPC	DU-1	N	8/3/2010	0	0	0	0	0	0	0	0	0	0	8900000	8900000
SSAM4-04-0.00BPC	DU-1	N	6/28/2010	0.5	0	0	0	0	0	0	0	0	0	8910000	8910000
SSAM7-01-0.00BPC	DU-1	N	4/22/2010	0	0	0	0	0	0	0	0	0	0	8870000	8870000
SSAM7-02-0.33BPC	DU-1	N	4/19/2010	0.5	0	0	0	0	0	0	0	0	0	8840000	8840000
SSAM7-08-0.00BPC	DU-1	N	8/23/2010	0.5	0	< 1	< 1	0	< 2	< 2	0	3	3	8108643	8108643
SSAN3-01-0.00 BPC	DU-1	N	4/9/2010	0	0	0	0	0	0	0	0	0	0	8930000	8930000
SSAN3-02-0.00BPC	DU-1	N	4/8/2010	0	0	0	0	0	0	0	0	0	0	8930000	8930000
SSAN4-01-0.00_1_BPC	DU-1	N	10/28/2010	2	0	< 2	< 2	0	0	0	0	< 2	< 2	7516394	7516394
SSAN5-01-0.00BPC	DU-1	N	4/12/2010	0	0	0	0	0	0	0	0	0	0	8850000	8850000
SSAN6-05-0.00BPC	DU-1	N	4/12/2010	0	0	1	1	0	0	0	0	1	1	8920000	8920000
SSAN7-03-0.00BPC	DU-1	N	5/12/2010	0.5	0	0	0	0	3	3	0	3	3	7650000	7650000
SSAN7-03-0.00BPC_FD	DU-1	FD	5/12/2010	0.5	0	0	0	0	0	0	0	0	0	7380000	7380000
SSAO5-01-0.00BPC	DU-1	N	4/20/2010	0.5	0	0	0	0	0	0	0	0	0	8960000	8960000
SSAO5-01-0.00BPC_FD	DU-1	FD	4/20/2010	0.5	0	0	0	0	0	0	0	0	0	8930000	8930000
SSAO6-04-0.00BPC	DU-1	N	4/12/2010	0	0	0	0	0	0	0	0	0	0	8930000	8930000
SSAO7-01-0.00BPC	DU-1	N	4/12/2010	0	0	0	0	0	0	0	0	0	0	8930000	8930000

TABLE C-2. Soil BHRA Data Set - Asbestos
Nevada Environmental Response Trust Site
Henderson, Nevada

Sample ID	DU	Sample Type	Sample Date	Start Depth (ft bgs)	Long Amphibole Protocol Structures Count (s/sample)	Long Chrysotile Protocol Structures Count (s/sample)	Total Long Asbestos Protocol Structures Count (s/sample)	Short Amphibole Protocol Structures Count (s/sample)	Short Chrysotile Protocol Structures Count (s/sample)	Total Short Asbestos Protocol Structures Count (s/sample)	Total Amphibole Protocol Structures Count (s/sample)	Total Chrysotile Protocol Structures Count (s/sample)	Total Asbestos Protocol Structures Count (s/sample)	Long Amphibole Analytical Sensitivity (s/g PM ₁₀)	Long Chrysotile Analytical Sensitivity (s/g PM ₁₀)
SSAQ3-04-0.00_1_BPC	DU-2	N	9/24/2010	0	0	< 2	< 2	0	0	0	0	< 2	< 2	7993975	7993975
SSAQ4-01-0.00BPC	DU-2	N	4/7/2010	0	0	3	3	0	3	3	0	6	6	2990000	2990000
SSAQ4-02-0.00 BPC	DU-2	N	4/9/2010	0	0	0	0	0	2	2	0	2	2	8910000	8910000
SSAS8-01-0.00BPC	DU-2	N	5/19/2010	1	0	0	0	0	0	0	0	0	0	7910000	7910000
SSAS8-02-0.00BPC	DU-2	N	8/18/2010	0	0	1	1	1	2	3	1	3	4	8870000	8870000
SSAS8-03-0.33BPC	DU-2	N	8/18/2010	0	0	0	0	0	0	0	0	0	0	8870000	8870000
SSAS8-04-0.00BPC	DU-2	N	8/16/2010	0	3	0	3	10	0	10	13	0	13	8880000	8850000
SSAS8-04-0.33BPC	DU-2	N	8/16/2010	0.33	0	0	0	0	0	0	0	0	0	8860000	8860000
TSB-GJ-03-0	DU-2	N	11/19/2007	0	0	0	0	NA	NA	NA	0	0	0	2987831	2987831
TSB-GR-02-0	DU-2	N	11/19/2007	0	0	1	1	0	2	2	0	3	3	2968961	2968961

Notes:

bgs = below ground surface

ft = feet

s/g PM₁₀ = fiber per gram of particulate matter (< 10 micrometer)

s/sample = fiber per sample

BHRA = Baseline Health Risk Assessment

DU = Decision unit

DVSR = Data Validation Summary Report

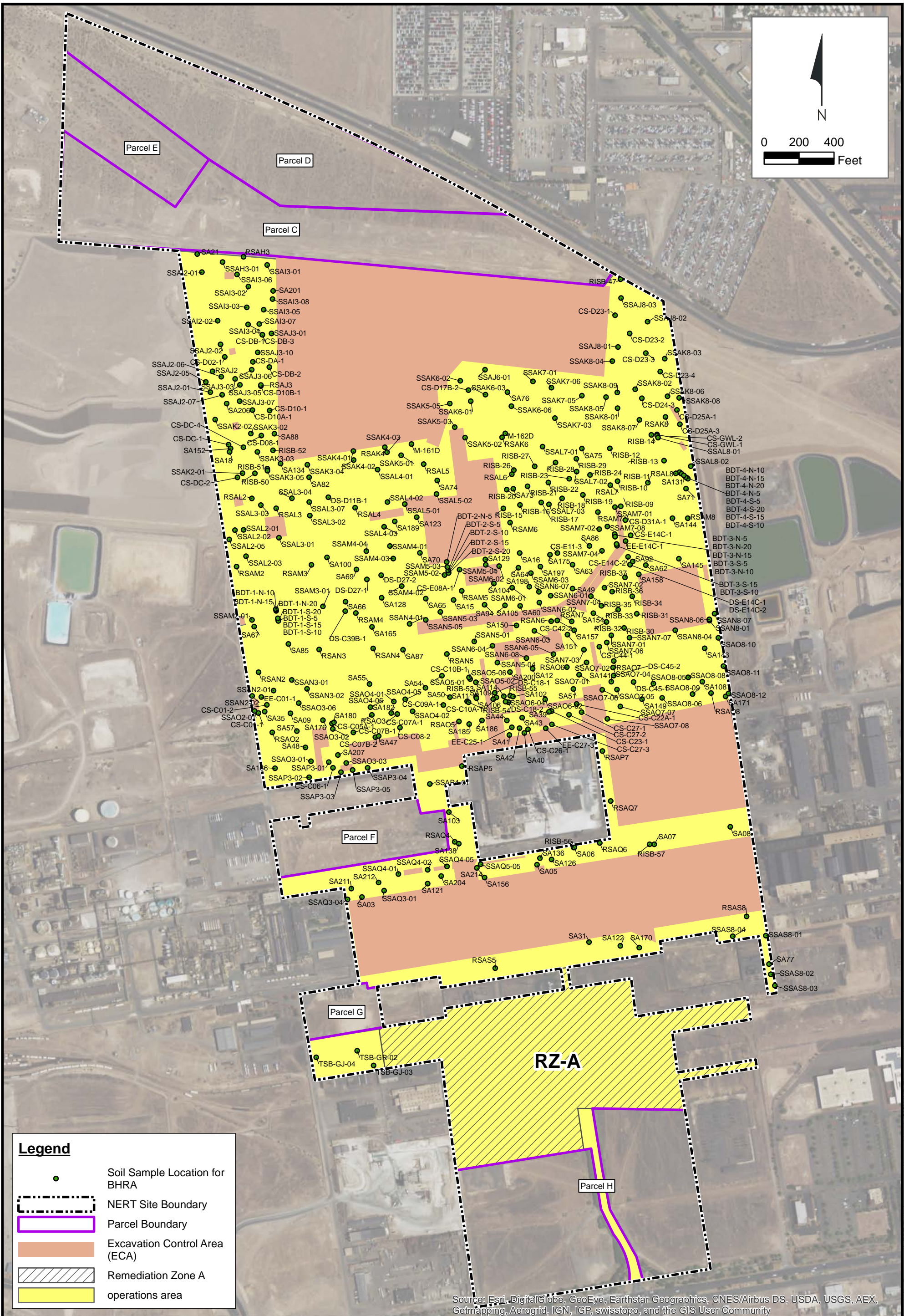
FD = Field Duplicate

N = Normal Sample

NA = Not Available

indicate values reported as "< X" in the DVSRs or analytical reports. These data will not be included in the BHRA.

indicate that analytical sensitivity is different between long amphibole and long chrysotile as reported in the DVSRs or analytical reports. The higher analytical sensitivity will be conservatively used in the risk calculation of BHRA.



Legend

- Soil Sample Location for BHR
- NERT Site Boundary
- Parcel Boundary
- Excavation Control Area (ECA)
- Remediation Zone A
- operations area

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: H:\Perfomance\NERT\Risk Assessment\Human Health\GIS\MXD\Fig1_sampling locations.mxd

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX D SOIL DATA SUMMARY STATISTICS

TABLE D-1. Summary Statistics for Chlorine Oxyanions, Metals, Other Inorganics, and Radionuclides in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Chlorine Oxyanions	Chlorate	mg/kg	254	198	78	0.044	5.8	0.045	20,900	3.0	204	1,610	7.9	SA106
	Perchlorate	mg/kg	337	321	95	0.035	0.43	0.012	2,620	8.4	100	288	2.9	RSAM5
Metals	Aluminum	mg/kg	260	260	100	--	--	3,900	12,200	9,020	8,930	1,420	0.16	SA43
	Antimony	mg/kg	257	77	30	0.50	2.3	0.11	2.4	0.32	0.70	0.70	1.0	SA114
	Arsenic	mg/kg	571	571	100	--	--	0.58	34	3.3	3.7	2.2	0.58	EE-C25-1
	Barium	mg/kg	260	260	100	--	--	65	1,780	177	190	110	0.58	SA123
	Beryllium	mg/kg	195	195	100	--	--	0.22	0.71	0.46	0.46	0.074	0.16	SA86
	Boron	mg/kg	260	236	91	1.4	13	2.5	1,510	7.3	24	135	5.6	SA62
	Cadmium	mg/kg	260	139	53	0.0050	0.51	0.040	8.9	0.13	0.26	0.77	2.9	SA103
	Calcium	mg/kg	195	195	100	--	--	9,930	62,500	26,700	27,500	9,280	0.34	RSAM2
	Chromium (total)	mg/kg	262	262	100	--	--	3.5	102	9.4	12	11	0.93	SA106
	Chromium VI	mg/kg	215	48	22	0.11	0.49	0.11	106	0.79	5.8	18	3.1	SA106
	Cobalt	mg/kg	310	310	100	--	--	3.2	284	7.6	13	29	2.3	RSAO8
	Copper	mg/kg	260	260	100	--	--	8.0	160	18	20	12	0.61	RISB-12
	Iron	mg/kg	260	260	100	--	--	7,050	24,000	15,000	14,900	2,690	0.18	RISB-12
	Lead	mg/kg	321	321	100	--	--	3.6	267	8.9	13	19	1.5	SA92
	Lithium	mg/kg	7	7	100	--	--	10	14	11	12	1.5	0.13	TSB-GR-02
	Magnesium	mg/kg	309	309	100	--	--	5,300	71,000	9,700	10,700	5,070	0.48	DS-C39B-1
	Manganese	mg/kg	410	410	100	--	--	133	29,200	390	962	2,220	2.3	CS-C44-1
	Mercury	mg/kg	262	230	88	0.0067	0.040	0.0030	1.9	0.017	0.035	0.13	3.7	M-162D
	Molybdenum	mg/kg	260	194	75	0.052	2.0	0.15	55	0.48	1.1	4.9	4.5	RISB-12
	Nickel	mg/kg	260	260	100	--	--	6.6	164	15	16	11	0.66	RSAO8
	Niobium	mg/kg	19	1	5.3	0.76	2.1	9.2	9.2	9.2	9.2	--	--	TSB-GR-02
	Palladium	mg/kg	25	7	28	0.048	0.060	0.33	0.52	0.44	0.43	0.072	0.17	TSB-GJ-03
	Phosphorus (total)	mg/kg	187	187	100	--	--	456	1,600	853	861	188	0.22	RISB-09
	Platinum	mg/kg	195	143	73	0.010	0.24	0.0050	0.16	0.011	0.015	0.017	1.1	SA64
	Potassium	mg/kg	195	195	100	--	--	1,230	6,120	2,160	2,320	649	0.28	SA141
	Selenium	mg/kg	260	16	6.2	0.16	4.7	0.70	1.5	1.0	1.0	0.24	0.24	RSAJ3
	Silicon	mg/kg	25	25	100	--	--	41	250	140	132	53	0.40	RISB-10
	Silver	mg/kg	260	49	19	0.20	1.5	0.020	7.6	0.12	0.30	1.1	3.6	SA201
	Sodium	mg/kg	195	195	100	--	--	198	11,700	756	1,160	1,290	1.1	SA106
	Strontium	mg/kg	213	213	100	--	--	73	805	186	208	98	0.47	SA15
	Sulfur	mg/kg	25	16	64	211	430	498	14,000	798	1,680	3,300	2.0	RISB-14
Thallium	mg/kg	260	176	68	0.10	0.28	0.054	8.4	0.10	0.19	0.64	3.3	SA180	
Tin	mg/kg	195	184	94	9.4	12	0.40	12	4.2	3.8	1.6	0.43	RSAK8	
Titanium	mg/kg	195	195	100	--	--	361	1,270	751	743	179	0.24	SA166	
Tungsten	mg/kg	213	173	81	0.10	5.6	0.080	8.5	0.23	0.42	0.80	1.9	RSAK8	
Uranium (total)	mg/kg	213	213	100	--	--	0.55	3.6	1.0	1.2	0.52	0.45	SA86	
Vanadium	mg/kg	195	195	100	--	--	22	78	42	42	9.0	0.21	RSAK8	

TABLE D-1. Summary Statistics for Chlorine Oxyanions, Metals, Other Inorganics, and Radionuclides in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Metals	Zinc	mg/kg	260	260	100	--	--	18	300	33	37	25	0.69	RISB-37
	Zirconium	mg/kg	25	25	100	--	--	15	31	22	22	3.9	0.18	RISB-14
Other Inorganics	Ammonia	mg/kg	199	36	18	0.080	6.5	0.11	563	1.6	39	120	3.0	RSAM5
	Bromide	mg/kg	209	24	11	0.063	28	0.20	83	1.1	4.7	17	3.6	SA15
	Chloride	mg/kg	206	196	95	2.1	85	0.90	6,670	75	402	840	2.1	RSAJ2
	Chlorite	mg/kg	7	0	0	0.040	0.040	--	--	--	--	--	--	--
	Cyanide (total)	mg/kg	132	2	1.5	0.13	1.2	0.48	1.3	0.89	0.89	0.58	0.65	RSAJ2
	Fluoride	mg/kg	7	1	14	0.25	0.25	0.52	0.52	0.52	0.52	--	--	TSB-GR-02
	Nitrate	mg/kg	210	187	89	0.048	6.1	0.27	515	5.6	20	46	2.4	SA15
	Nitrate/Nitrite	mg/kg	18	17	94	1.2	1.2	2.7	37	11	11	8.1	0.73	RISB-10
	Nitrite	mg/kg	202	40	20	0.080	22	0.090	77	0.47	3.3	12	3.7	SA64
	ortho-Phosphate	mg/kg	48	6	13	1.1	57	2.4	2,900	6.5	490	1,180	2.4	SA11
	Sulfate	mg/kg	210	208	99	2.1	22	6.7	15,300	187	839	2,350	2.8	SA65
Radionuclides	Radium-226	pCi/g	208	208	100	--	--	0.20	2.5	0.92	0.95	0.36	0.38	SA92
	Radium-228	pCi/g	208	208	100	--	--	0	3.3	1.2	1.3	0.49	0.39	SA70
	Thorium-228	pCi/g	205	205	100	--	--	0.48	3.0	1.8	1.8	0.36	0.20	SA65
	Thorium-230	pCi/g	205	205	100	--	--	0.43	4.3	1.1	1.2	0.44	0.37	SA74
	Thorium-232	pCi/g	205	205	100	--	--	0.54	2.5	1.6	1.6	0.33	0.21	SA189
	Uranium-234	pCi/g	187	187	100	--	--	0.27	3.4	1.0	1.1	0.44	0.39	SA128
	Uranium-235	pCi/g	187	187	100	--	--	-0.029	0.25	0.052	0.062	0.043	0.70	RSAK6
	Uranium-238	pCi/g	205	205	100	--	--	0.24	3.3	0.96	1.0	0.38	0.37	SA128

Notes:

- = No value
- bgs = below ground surface
- ft = feet
- mg/kg = milligram per kilogram
- pCi/g = picocurie per gram

TABLE D-2. Summary Statistics for Organic Compounds in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Dioxin/Furans	2,3,7,8-TCDD TEQ*	mg/kg	466	463	99	0.000044	0.0037	0.000000055	0.019	0.000018	0.00030	0.0012	3.8	RISB-50
Other Organics	Benzenesulfonic acid	mg/kg	27	0	0	0.50	0.50	--	--	--	--	--	--	--
	4-Chlorobenzenesulfonic acid	mg/kg	27	0	0	0.50	0.50	--	--	--	--	--	--	--
	o,o-Dimethyl Phosphorodithioate	mg/kg	27	0	0	2.5	2.5	--	--	--	--	--	--	--
	Diethylphosphorodithioate	mg/kg	27	0	0	0.50	0.50	--	--	--	--	--	--	--
	Phthalic acid	mg/kg	52	0	0	0.25	70	--	--	--	--	--	--	--
PAHs	Acenaphthene	mg/kg	474	7	1.5	0.00016	1.1	0.00062	0.70	0.026	0.12	0.26	2.2	EE-C25-1
	Acenaphthylene	mg/kg	474	6	1.3	0.00017	1.8	0.00066	0.22	0.0014	0.038	0.089	2.4	EE-C25-1
	Anthracene	mg/kg	474	14	3.0	0.00072	1.8	0.00055	0.30	0.0035	0.028	0.079	2.8	EE-C25-1
	BaPEq*	mg/kg	474	83	18	0.00090	2.4	0.0069	0.40	0.016	0.047	0.075	1.6	SSAM5-03
	Benzo(g,h,i)perylene	mg/kg	473	53	11	0.0011	1.7	0.0014	0.38	0.014	0.036	0.062	1.7	SSAO6-04
	Fluoranthene	mg/kg	474	68	14	0.0010	3.9	0.0017	0.35	0.010	0.038	0.063	1.7	SA180
	Fluorene	mg/kg	474	3	0.60	0.00047	1.9	0.00052	1.1	0.0010	0.37	0.63	1.7	EE-C25-1
	1-Methylnaphthalene	mg/kg	26	4	15	0.00026	8.3	0.00062	5.6	0.0022	1.4	2.8	2.0	EE-C25-1
	2-Methylnaphthalene	mg/kg	474	10	2.1	0.00031	3.9	0.00077	7.9	0.0092	0.81	2.5	3.1	EE-C25-1
	Naphthalene	mg/kg	536	23	4.3	0.00032	3.3	0.0010	3.1	0.0014	0.23	0.75	3.2	EE-C25-1
	Phenanthrene	mg/kg	474	64	14	0.0011	1.8	0.0017	1.5	0.0055	0.057	0.22	3.9	EE-C25-1
	Pyrene	mg/kg	474	90	19	0.0011	1.3	0.0011	1.3	0.011	0.054	0.15	2.8	EE-C25-1
PCBs	Aroclor-1016	mg/kg	48	0	0	0.034	0.37	--	--	--	--	--	--	--
	Aroclor-1221	mg/kg	48	0	0	0.034	0.74	--	--	--	--	--	--	--
	Aroclor-1232	mg/kg	48	0	0	0.034	0.37	--	--	--	--	--	--	--
	Aroclor-1242	mg/kg	48	0	0	0.034	0.37	--	--	--	--	--	--	--
	Aroclor-1248	mg/kg	48	1	2.1	0.034	0.37	0.091	0.091	0.091	0.091	--	--	RSAS5
	Aroclor-1254	mg/kg	48	0	0	0.034	0.37	--	--	--	--	--	--	--
	Aroclor-1260	mg/kg	66	2	3.0	0.017	0.37	0.034	0.061	0.048	0.048	0.019	0.40	RISB-12
Pesticides - OCPs	Aldrin	mg/kg	281	2	0.70	0.000088	0.092	0.00049	0.00052	0.00051	0.00051	0.000021	0.042	SSAL2-05
	alpha-BHC	mg/kg	281	15	5.3	0.000096	0.092	0.00024	0.012	0.00059	0.0019	0.0032	1.7	RSAQ4
	beta-BHC	mg/kg	281	161	57	0.00035	0.15	0.00072	0.87	0.011	0.044	0.10	2.3	SA67
	delta-BHC	mg/kg	281	7	2.5	0.000083	0.092	0.00048	0.0015	0.00059	0.00079	0.00038	0.48	SA86
	gamma-BHC	mg/kg	281	3	1.1	0.000083	0.11	0.00083	0.0019	0.0013	0.0013	0.00054	0.40	RSAQ4
	alpha-Chlordane	mg/kg	281	0	0	0.00010	0.092	--	--	--	--	--	--	--
	gamma-Chlordane	mg/kg	279	1	0.40	0.000086	0.092	0.0014	0.0014	0.0014	0.0014	--	--	RSAO7
	trans/gamma-Chlordane	mg/kg	1	0	0	0.00055	0.00055	--	--	--	--	--	--	--
	Chlordane (total)	mg/kg	247	1	0.40	0.00021	0.45	0.0030	0.0030	0.0030	0.0030	--	--	SA66
	2,4'-DDD	mg/kg	7	0	0	0.00011	0.00011	--	--	--	--	--	--	--
	4,4'-DDD	mg/kg	280	10	3.6	0.00016	0.18	0.0014	0.032	0.0046	0.0078	0.0093	1.2	SSAL3-04
	2,4'-DDE	mg/kg	32	9	28	0.000089	0.015	0.0018	0.088	0.0060	0.027	0.031	1.1	RISB-52
	4,4'-DDE	mg/kg	281	153	54	0.00024	0.18	0.00040	6.0	0.015	0.27	0.83	3.1	SSAM3-01

TABLE D-2. Summary Statistics for Organic Compounds in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Pesticides - OCPs	4,4'-DDT	mg/kg	281	122	43	0.00043	0.18	0.00066	2.3	0.013	0.10	0.27	2.6	SSAM2-01
	Dieldrin	mg/kg	281	4	1.4	0.000073	0.18	0.00027	0.059	0.016	0.023	0.028	1.2	SSAM2-01
	Endosulfan I	mg/kg	281	2	0.70	0.000083	0.092	0.00024	0.0015	0.00087	0.00087	0.00089	1.0	SSAL3-01
	Endosulfan II	mg/kg	281	0	0	0.00015	0.18	--	--	--	--	--	--	--
	Endosulfan sulfate	mg/kg	281	2	0.70	0.00012	0.18	0.0042	0.016	0.010	0.010	0.0083	0.83	BDT-4-S-15
	Endrin	mg/kg	281	2	0.70	0.000083	0.18	0.00070	0.0054	0.0031	0.0031	0.0033	1.1	SA180
	Endrin aldehyde	mg/kg	281	0	0	0.00011	0.18	--	--	--	--	--	--	--
	Endrin ketone	mg/kg	281	10	3.6	0.00038	0.18	0.00061	0.020	0.0012	0.0035	0.0059	1.7	SA86
	Heptachlor	mg/kg	279	0	0	0.00021	0.092	--	--	--	--	--	--	--
	Heptachlor epoxide	mg/kg	280	0	0	0.00012	0.098	--	--	--	--	--	--	--
	Hexachlorobenzene	mg/kg	674	385	57	0.00028	10	0.00032	4.7	0.053	0.19	0.37	2.0	SSAK3-05
	Methoxychlor	mg/kg	281	16	5.7	0.00043	0.92	0.00050	0.38	0.0021	0.064	0.12	1.9	SSAM2-01
	Toxaphene	mg/kg	281	1	0.40	0.0071	3.6	0.62	0.62	0.62	0.62	--	--	SSAL3-04
	2,4,5-TP	mg/kg	1	0	0	0.021	0.021	--	--	--	--	--	--	--
Pesticides - OPPs	Atrazine	mg/kg	16	0	0	0.012	0.15	--	--	--	--	--	--	--
	Chlorpyrifos	mg/kg	57	0	0	0.0062	0.082	--	--	--	--	--	--	--
	Coumaphos	mg/kg	57	0	0	0.0027	0.036	--	--	--	--	--	--	--
	Dasanit	mg/kg	57	0	0	0.0078	0.10	--	--	--	--	--	--	--
	Demeton (O + S)	mg/kg	16	0	0	0.0072	0.096	--	--	--	--	--	--	--
	Demeton-O	mg/kg	57	0	0	0.0051	0.067	--	--	--	--	--	--	--
	Demeton-S	mg/kg	57	0	0	0.0047	0.062	--	--	--	--	--	--	--
	Diazinon	mg/kg	57	0	0	0.0070	0.093	--	--	--	--	--	--	--
	Dibrom	mg/kg	57	0	0	0.022	0.29	--	--	--	--	--	--	--
	Dichlorovos	mg/kg	57	0	0	0.0071	0.094	--	--	--	--	--	--	--
	Dimethoate	mg/kg	57	3	5.3	0.0068	0.090	0.011	0.013	0.012	0.012	0.0010	0.083	SA05
	Disulfoton	mg/kg	57	0	0	0.0074	0.098	--	--	--	--	--	--	--
	Ethoprop	mg/kg	57	0	0	0.0047	0.063	--	--	--	--	--	--	--
	Ethyl p-nitrophenyl benzenethiophosphate	mg/kg	57	0	0	0.0035	0.047	--	--	--	--	--	--	--
	Famphur	mg/kg	57	0	0	0.0031	0.041	--	--	--	--	--	--	--
	Fenthion	mg/kg	57	0	0	0.0084	0.11	--	--	--	--	--	--	--
	Guthion	mg/kg	57	0	0	0.0034	0.045	--	--	--	--	--	--	--
	Malathion	mg/kg	57	0	0	0.0045	0.059	--	--	--	--	--	--	--
	Merphos	mg/kg	57	0	0	0.0049	0.065	--	--	--	--	--	--	--
	Methyl parathion	mg/kg	57	0	0	0.0061	0.081	--	--	--	--	--	--	--
	Mevinphos	mg/kg	57	0	0	0.0044	0.059	--	--	--	--	--	--	--
Parathion	mg/kg	57	0	0	0.0051	0.067	--	--	--	--	--	--	--	
Phorate	mg/kg	57	0	0	0.0055	0.073	--	--	--	--	--	--	--	
Prothiophos	mg/kg	57	0	0	0.0038	0.050	--	--	--	--	--	--	--	

TABLE D-2. Summary Statistics for Organic Compounds in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
Pesticides - OPPs	Ronnel	mg/kg	57	0	0	0.015	0.19	--	--	--	--	--	--	--
	Simazine	mg/kg	16	0	0	0.021	0.28	--	--	--	--	--	--	--
	Stirophos	mg/kg	57	1	1.8	0.0042	0.055	0.041	0.041	0.041	0.041	--	--	SA166
	Sulfotepp	mg/kg	57	0	0	0.0060	0.080	--	--	--	--	--	--	--
	Sulprofos	mg/kg	57	0	0	0.0041	0.054	--	--	--	--	--	--	--
	Thionazin	mg/kg	57	0	0	0.0054	0.071	--	--	--	--	--	--	--
	o-Ethyl o-2,4,5-trichlorophenyl ethyl-phosphonothioate	mg/kg	57	0	0	0.006	0.080	--	--	--	--	--	--	--
SVOCs	Acetophenone	mg/kg	7	0	0	0.033	0.033	--	--	--	--	--	--	--
	Aniline	mg/kg	25	0	0	0.033	4.7	--	--	--	--	--	--	--
	Azobenzene	mg/kg	7	0	0	0.033	0.033	--	--	--	--	--	--	--
	Benzenethiol	mg/kg	7	0	0	0.12	0.12	--	--	--	--	--	--	--
	Benidine	mg/kg	14	0	0	0.67	37	--	--	--	--	--	--	--
	Benzoic acid	mg/kg	24	0	0	0.033	19	--	--	--	--	--	--	--
	Benzyl alcohol	mg/kg	25	0	0	0.033	8.3	--	--	--	--	--	--	--
	bis(2-Chloro-1-methylethyl) ether	mg/kg	7	0	0	0.033	0.033	--	--	--	--	--	--	--
	bis(2-Chloroethoxy)methane	mg/kg	25	0	0	0.033	7.4	--	--	--	--	--	--	--
	bis(2-Chloroethyl) ether	mg/kg	25	0	0	0.033	3.9	--	--	--	--	--	--	--
	bis(2-Ethylhexyl)phthalate	mg/kg	469	97	21	0.033	5.0	0.058	61	0.097	0.79	6.2	7.8	SSAP4-01
	bis(4-Chlorophenyl) disulfide	mg/kg	7	0	0	0.20	0.20	--	--	--	--	--	--	--
	bis(4-Chlorophenyl) sulfone	mg/kg	7	0	0	0.33	0.33	--	--	--	--	--	--	--
	4-Bromophenyl-phenyl ether	mg/kg	25	0	0	0.033	4.2	--	--	--	--	--	--	--
	Butylbenzylphthalate	mg/kg	469	7	1.5	0.0025	4.6	0.0033	0.053	0.0056	0.017	0.018	1.1	RSAL2
	Carbazole	mg/kg	7	0	0	0.033	0.033	--	--	--	--	--	--	--
	4-Chloro-3-methylphenol	mg/kg	25	0	0	0.033	3.9	--	--	--	--	--	--	--
	4-Chloroaniline	mg/kg	25	0	0	0.033	7.4	--	--	--	--	--	--	--
	2-Chloronaphthalene	mg/kg	25	0	0	0.033	3.7	--	--	--	--	--	--	--
	2-Chlorophenol	mg/kg	25	0	0	0.033	3.9	--	--	--	--	--	--	--
	4-Chlorophenyl-phenyl ether	mg/kg	25	0	0	0.033	4.7	--	--	--	--	--	--	--
	4-Chlorothioanisole	mg/kg	7	0	0	0.0076	0.0076	--	--	--	--	--	--	--
	4-Chlorothiophenol	mg/kg	7	0	0	0.19	0.19	--	--	--	--	--	--	--
	Di-n-butylphthalate	mg/kg	469	33	7.0	0.027	5.0	0.035	7.5	0.076	0.59	1.4	2.4	SSAP4-01
	Di-n-octylphthalate	mg/kg	469	2	0.40	0.0012	5.0	0.084	0.088	0.086	0.086	0.0028	0.033	SSAO4-01
	Dibenzofuran	mg/kg	25	0	0	0.033	3.7	--	--	--	--	--	--	--
	3,3'-Dichlorobenzidine	mg/kg	25	0	0	0.033	8.3	--	--	--	--	--	--	--
	2,2'-/4,4'-Dichlorobenzil	mg/kg	7	0	0	0.070	0.70	--	--	--	--	--	--	--
	2,4-Dichlorophenol	mg/kg	25	0	0	0.033	3.7	--	--	--	--	--	--	--
	Diethylphthalate	mg/kg	469	5	1.1	0.024	5.3	0.042	0.35	0.062	0.11	0.13	1.2	SA86

TABLE D-2. Summary Statistics for Organic Compounds in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
SVOCs	2,4-Dimethylphenol	mg/kg	25	0	0	0.033	7.2	--	--	--	--	--	--	--
	Dimethylphthalate	mg/kg	469	54	12	0.00093	3.7	0.0015	0.79	0.042	0.12	0.17	1.4	BDT-1-S-10
	2,4-Dinitrophenol	mg/kg	25	0	0	0.33	18	--	--	--	--	--	--	--
	2,4-Dinitrotoluene	mg/kg	25	0	0	0.033	4.5	--	--	--	--	--	--	--
	2,6-Dinitrotoluene	mg/kg	25	0	0	0.033	5.3	--	--	--	--	--	--	--
	1,4-Dioxane	mg/kg	449	0	0	0.0052	7.1	--	--	--	--	--	--	--
	Diphenyl disulfide	mg/kg	7	0	0	0.029	0.029	--	--	--	--	--	--	--
	Diphenyl sulfide	mg/kg	7	0	0	0.0035	0.0035	--	--	--	--	--	--	--
	Diphenyl sulfone	mg/kg	7	0	0	0.0067	0.0067	--	--	--	--	--	--	--
	1,2-Diphenylhydrazine	mg/kg	7	0	0	0.033	0.033	--	--	--	--	--	--	--
	Hexachlorobutadiene	mg/kg	256	5	2.0	0.00028	0.033	0.00041	0.0045	0.00095	0.0017	0.0017	1.0	SA11
	Hexachlorocyclopentadiene	mg/kg	25	0	0	0.13	7.4	--	--	--	--	--	--	--
	Hexachloroethane	mg/kg	25	0	0	0.033	7.4	--	--	--	--	--	--	--
	Hydroxymethyl phthalimide	mg/kg	7	0	0	0.043	0.043	--	--	--	--	--	--	--
	Isophorone	mg/kg	25	0	0	0.033	3.7	--	--	--	--	--	--	--
	2-Methylphenol	mg/kg	25	0	0	0.08	4.5	--	--	--	--	--	--	--
	3&4-Methylphenol	mg/kg	25	0	0	0.067	7.4	--	--	--	--	--	--	--
	2-Nitroaniline	mg/kg	25	0	0	0.033	3.7	--	--	--	--	--	--	--
	3-Nitroaniline	mg/kg	25	0	0	0.033	7.4	--	--	--	--	--	--	--
	4-Nitroaniline	mg/kg	25	0	0	0.13	7.4	--	--	--	--	--	--	--
	Nitrobenzene	mg/kg	469	0	0	0.0019	3.9	--	--	--	--	--	--	--
	2-Nitrophenol	mg/kg	25	0	0	0.033	7.4	--	--	--	--	--	--	--
	4-Nitrophenol	mg/kg	25	0	0	0.14	7.8	--	--	--	--	--	--	--
	n-Nitroso-di-n-propylamine	mg/kg	25	0	0	0.033	3.9	--	--	--	--	--	--	--
	n-Nitrosodiphenylamine	mg/kg	25	0	0	0.033	4.5	--	--	--	--	--	--	--
	Octachlorostyrene	mg/kg	467	78	17	0.0037	130	0.0021	2.1	0.067	0.11	0.25	2.2	SSAK3-05
	Pentachlorobenzene	mg/kg	7	0	0	0.033	0.033	--	--	--	--	--	--	--
	Pentachlorophenol	mg/kg	25	0	0	0.33	19	--	--	--	--	--	--	--
	Phenol	mg/kg	25	0	0	0.033	5.0	--	--	--	--	--	--	--
	Pyridine	mg/kg	469	0	0	0.028	14	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	mg/kg	7	0	0	0.033	0.033	--	--	--	--	--	--	--	
2,4,5-Trichlorophenol	mg/kg	25	0	0	0.033	7.2	--	--	--	--	--	--	--	
2,4,6-Trichlorophenol	mg/kg	25	0	0	0.033	4.2	--	--	--	--	--	--	--	
VOCs	Acetone	mg/kg	256	102	40	0.0017	0.041	0.0027	0.15	0.012	0.022	0.027	1.2	SA106
	Acetonitrile	mg/kg	7	0	0	0.0020	0.0020	--	--	--	--	--	--	--
	t-Amyl methyl ether	mg/kg	249	0	0	0.00011	0.010	--	--	--	--	--	--	--
	Benzene	mg/kg	256	0	0	0.00017	0.010	--	--	--	--	--	--	--
	Bromobenzene	mg/kg	256	0	0	0.00023	0.010	--	--	--	--	--	--	--

TABLE D-2. Summary Statistics for Organic Compounds in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
VOCs	Bromochloromethane	mg/kg	256	0	0	0.00015	0.010	--	--	--	--	--	--	--
	Bromodichloromethane	mg/kg	256	2	0.80	0.00011	0.010	0.00040	0.00069	0.00055	0.00055	0.00021	0.38	SSAO8-10
	Bromoform	mg/kg	256	1	0.40	0.00012	0.010	0.0017	0.0017	0.0017	0.0017	--	--	SA102
	Bromomethane	mg/kg	256	0	0	0.00025	0.013	--	--	--	--	--	--	--
	2-Butanone	mg/kg	256	75	29	0.00073	0.020	0.00065	0.027	0.0016	0.0034	0.0056	1.7	SSAO7-06
	tert-Butyl alcohol	mg/kg	249	1	0.40	0.0052	0.20	0.0076	0.0076	0.0076	0.0076	--	--	RSAM4
	n-Butylbenzene	mg/kg	256	0	0	0.00028	0.010	--	--	--	--	--	--	--
	sec-Butylbenzene	mg/kg	256	0	0	0.00025	0.010	--	--	--	--	--	--	--
	tert-Butylbenzene	mg/kg	256	0	0	0.00025	0.010	--	--	--	--	--	--	--
	Carbon disulfide	mg/kg	7	0	0	0.00055	0.00055	--	--	--	--	--	--	--
	Carbon tetrachloride	mg/kg	256	1	0.40	0.00032	0.010	0.00063	0.00063	0.00063	0.00063	--	--	RSAN3
	Chlorobenzene	mg/kg	256	6	2.3	0.00012	0.010	0.00064	0.0019	0.0011	0.0011	0.00044	0.39	SA15
	Chloroethane	mg/kg	256	0	0	0.00035	0.010	--	--	--	--	--	--	--
	Chloroform	mg/kg	256	85	33	0.00014	0.0091	0.00031	0.15	0.0014	0.0064	0.022	3.4	SA11
	Chloromethane	mg/kg	256	0	0	0.00039	0.010	--	--	--	--	--	--	--
	2-Chlorotoluene	mg/kg	256	0	0	0.00026	0.010	--	--	--	--	--	--	--
	4-Chlorotoluene	mg/kg	256	0	0	0.00039	0.010	--	--	--	--	--	--	--
	Cumene	mg/kg	256	0	0	0.00018	0.010	--	--	--	--	--	--	--
	p-Cymene	mg/kg	256	1	0.40	0.00024	0.010	0.00055	0.00055	0.00055	0.00055	--	--	SSAN8-04
	1,2-Dibromo-3-chloropropane	mg/kg	256	0	0	0.00030	0.010	--	--	--	--	--	--	--
	Dibromochloromethane	mg/kg	256	0	0	0.00029	0.010	--	--	--	--	--	--	--
	1,2-Dibromoethane	mg/kg	249	0	0	0.00026	0.010	--	--	--	--	--	--	--
	Dibromomethane	mg/kg	256	0	0	0.00032	0.010	--	--	--	--	--	--	--
	1,2-Dichlorobenzene	mg/kg	256	5	2.0	0.00015	0.010	0.00026	0.00039	0.00038	0.00036	0.000055	0.15	RSAM4
	1,3-Dichlorobenzene	mg/kg	256	0	0	0.00013	0.010	--	--	--	--	--	--	--
	1,4-Dichlorobenzene	mg/kg	256	4	1.6	0.00011	0.010	0.00056	0.016	0.0012	0.0047	0.0075	1.6	SA08
	Dichlorodifluoromethane	mg/kg	256	0	0	0.00026	0.010	--	--	--	--	--	--	--
	1,1-Dichloroethane	mg/kg	256	1	0.40	0.00011	0.010	0.0030	0.0030	0.0030	0.0030	--	--	SA08
	1,2-Dichloroethane	mg/kg	256	0	0	0.00034	0.010	--	--	--	--	--	--	--
	1,1-Dichloroethene	mg/kg	256	4	1.6	0.00030	0.010	0.00055	0.0012	0.00081	0.00084	0.00027	0.32	SSAN8-04
	1,2-Dichloroethene	mg/kg	7	0	0	0.00054	0.00054	--	--	--	--	--	--	--
	cis-1,2-Dichloroethene	mg/kg	256	1	0.40	0.00028	0.010	0.0041	0.0041	0.0041	0.0041	--	--	RISB-57
	trans-1,2-Dichloroethene	mg/kg	256	0	0	0.00020	0.010	--	--	--	--	--	--	--
1,2-Dichloropropane	mg/kg	256	0	0	0.00028	0.010	--	--	--	--	--	--	--	
1,3-Dichloropropane	mg/kg	256	0	0	0.00018	0.010	--	--	--	--	--	--	--	
2,2-Dichloropropane	mg/kg	256	0	0	0.00017	0.010	--	--	--	--	--	--	--	
1,1-Dichloropropene	mg/kg	256	0	0	0.00027	0.010	--	--	--	--	--	--	--	
cis-1,3-Dichloropropene	mg/kg	256	0	0	0.00033	0.010	--	--	--	--	--	--	--	

TABLE D-2. Summary Statistics for Organic Compounds in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
VOCs	trans-1,3-Dichloropropene	mg/kg	256	0	0	0.00020	0.010	--	--	--	--	--	--	--
	Diisopropyl ether	mg/kg	249	0	0	0.00023	0.010	--	--	--	--	--	--	--
	Dimethyl disulfide	mg/kg	7	0	0	0.00021	0.00021	--	--	--	--	--	--	--
	2,2-Dimethylpentane	mg/kg	7	0	0	0.00028	0.00028	--	--	--	--	--	--	--
	2,3-Dimethylpentane	mg/kg	7	0	0	0.00022	0.00022	--	--	--	--	--	--	--
	2,4-Dimethylpentane	mg/kg	7	0	0	0.00019	0.00019	--	--	--	--	--	--	--
	3,3-Dimethylpentane	mg/kg	7	0	0	0.00020	0.00020	--	--	--	--	--	--	--
	Ethanol	mg/kg	13	0	0	0.19	60	--	--	--	--	--	--	--
	Ethyl benzene	mg/kg	228	0	0	0.00019	0.010	--	--	--	--	--	--	--
	Ethyl tert-butyl ether	mg/kg	249	1	0.40	0.00023	0.010	0.00038	0.00038	0.00038	0.00038	--	--	RSAO2
	Ethylene glycol	mg/kg	6	0	0	53	60	--	--	--	--	--	--	--
	3-Ethylpentane	mg/kg	7	0	0	0.00021	0.00021	--	--	--	--	--	--	--
	Formaldehyde	mg/kg	3	0	0	0.21	0.22	--	--	--	--	--	--	--
	n-Heptane	mg/kg	7	0	0	0.00016	0.00016	--	--	--	--	--	--	--
	2-Hexanone	mg/kg	256	0	0	0.00028	0.020	--	--	--	--	--	--	--
	Iodomethane	mg/kg	7	0	0	0.00026	0.00026	--	--	--	--	--	--	--
	Methanol	mg/kg	6	0	0	53	60	--	--	--	--	--	--	--
	Methyl tert-butyl ether	mg/kg	256	0	0	0.00017	0.010	--	--	--	--	--	--	--
	4-Methyl-2-pentanone	mg/kg	256	0	0	0.00063	0.020	--	--	--	--	--	--	--
	Methylene Chloride	mg/kg	256	68	27	0.00037	0.010	0.00034	0.0082	0.0013	0.0016	0.0012	0.75	RSAM8
	2-Methylhexane	mg/kg	7	0	0	0.00020	0.00020	--	--	--	--	--	--	--
	3-Methylhexane	mg/kg	7	0	0	0.00014	0.00014	--	--	--	--	--	--	--
	2-Nitropropane	mg/kg	7	0	0	0.0017	0.0017	--	--	--	--	--	--	--
	n-Nonyl aldehyde	mg/kg	7	0	0	0.00088	0.00088	--	--	--	--	--	--	--
	n-Propylbenzene	mg/kg	256	0	0	0.00029	0.010	--	--	--	--	--	--	--
	Styrene	mg/kg	256	1	0.40	0.00032	0.010	0.00028	0.00028	0.00028	0.00028	--	--	SA55
	1,1,1,2-Tetrachloroethane	mg/kg	256	0	0	0.00022	0.010	--	--	--	--	--	--	--
	1,1,2,2-Tetrachloroethane	mg/kg	256	0	0	0.00014	0.010	--	--	--	--	--	--	--
	Tetrachloroethene	mg/kg	256	1	0.40	0.00027	0.010	0.00068	0.00068	0.00068	0.00068	--	--	SA128
	Toluene	mg/kg	256	53	21	0.00013	0.010	0.00023	0.0022	0.00075	0.00084	0.00040	0.48	RSAM3
	1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	11	0	0	0.00054	0.0055	--	--	--	--	--	--	--
	1,2,3-Trichlorobenzene	mg/kg	256	2	0.80	0.00038	0.010	0.00081	0.0013	0.0011	0.0011	0.00035	0.33	SA11
1,2,4-Trichlorobenzene	mg/kg	256	6	2.3	0.00037	0.010	0.00065	0.0037	0.0012	0.0017	0.0012	0.71	SA11	
1,3,5-Trichlorobenzene	mg/kg	7	0	0	0.00068	0.00068	--	--	--	--	--	--	--	
1,1,1-Trichloroethane	mg/kg	256	1	0.40	0.00015	0.010	0.00095	0.00095	0.00095	0.00095	--	--	SA08	
1,1,2-Trichloroethane	mg/kg	256	0	0	0.00028	0.010	--	--	--	--	--	--	--	
Trichloroethene	mg/kg	256	2	0.80	0.00012	0.010	0.00042	0.0021	0.0013	0.0013	0.0012	0.94	RISB-57	
Trichlorofluoromethane	mg/kg	256	5	2.0	0.00032	0.010	0.00035	0.0017	0.0016	0.0013	0.00057	0.44	SA136	

TABLE D-2. Summary Statistics for Organic Compounds in Soil (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Group	Analyte	Unit	No. of Samples	No. of Detects	% Detects	Nondetects		Detects						
						Minimum	Maximum	Minimum	Maximum	Median	Mean	Standard Deviation	Coefficient of Variation	Location of Maximum
VOCs	1,2,3-Trichloropropane	mg/kg	256	0	0	0.00041	0.010	--	--	--	--	--	--	--
	1,2,4-Trimethylbenzene	mg/kg	256	6	2.3	0.00022	0.010	0.00042	0.0014	0.00084	0.00085	0.00033	0.39	SSAO8-11
	1,3,5-Trimethylbenzene	mg/kg	256	1	0.40	0.00021	0.010	0.00050	0.00050	0.00050	0.00050	--	--	SSAO8-11
	2,2,3-Trimethylbutane	mg/kg	7	0	0	0.00021	0.00021	--	--	--	--	--	--	--
	Vinyl acetate	mg/kg	7	0	0	0.00018	0.00018	--	--	--	--	--	--	--
	Vinyl chloride	mg/kg	256	1	0.40	0.00024	0.010	0.00028	0.00028	0.00028	0.00028	--	--	RSAM7
	m,p-Xylene	mg/kg	233	7	3.0	0.00053	0.010	0.00064	0.0023	0.0012	0.0013	0.00053	0.41	RISB-54
	o-Xylene	mg/kg	233	3	1.3	0.00031	0.010	0.00046	0.00074	0.00057	0.00059	0.00014	0.24	RISB-54
	Xylenes (total)	mg/kg	30	0	0	0.00086	0.013	--	--	--	--	--	--	--

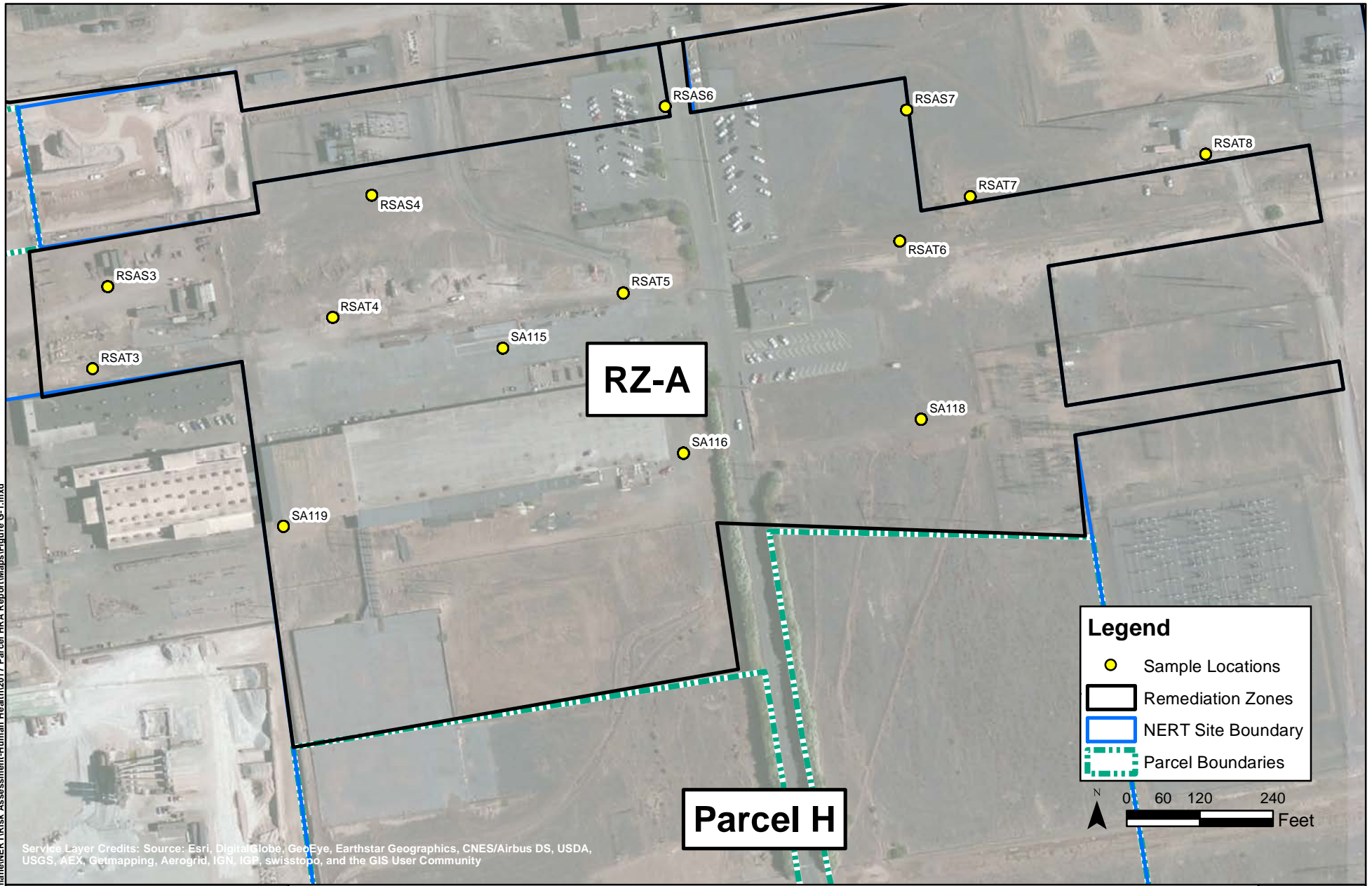
Notes:

-- = No value
bgs = below ground surface
ft = feet
mg/kg = milligram per kilogram
BaPEq = Benzo(a)pyrene equivalent
BHC = Hexachlorocyclohexane
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
OCP = Organochlorine pesticide

OPP = Organophosphorus pesticide
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
SVOC = Semivolatile organic compound
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = Toxicity equivalent
TP = Trichlorophenoxy
VOC = Volatile organic compound
* Methodology for equivalent calculations explained in text

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX E
RZ-A AND BRC/TIMET SOIL BACKGROUND
DATA SETS (CD)



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Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX F
BACKGROUND EVALUATION FOR METALS
AND RADIONUCLIDES

TABLE F-1. Summary Statistics for Metals in RZ-A Background Soils and Study Area Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Name	Location	No. of Samples	No. of Detects	% Detects	Non-Detects (mg/kg)		Detects (mg/kg)					Shapiro-Wilk Test	
					Minimum	Maximum	Minimum	Median	Mean	Maximum	Standard Deviation	Normal (p-value)	Lognormal (p-value)
Aluminum	Background	31	31	100%	NA	NA	7,340	8,970	9,020	11,400	890	0.6	0.9
	Study Area	260	260	100%	NA	NA	3,900	9,020	8,930	12,200	1,420	0.03	<0.001
Antimony	Background	31	3	9.7%	2.0	2.2	0.60	0.90	1.6	3.4	1.5	<0.001	<0.001
	Study Area	257	77	30%	0.50	2.3	0.11	0.32	0.70	2.4	0.70	<0.001	<0.001
Arsenic	Background	31	31	100%	NA	NA	1.6	2.4	2.4	4.3	0.54	0.02	0.5
	Study Area	571	571	100%	NA	NA	0.58	3.3	3.7	34	2.2	<0.001	<0.001
Barium	Background	31	31	100%	NA	NA	111	162	166	213	23	0.6	0.4
	Study Area	260	260	100%	NA	NA	65	177	190	1,780	110	<0.001	<0.001
Beryllium	Background	31	31	100%	NA	NA	0.36	0.46	0.46	0.59	0.048	0.6	0.7
	Study Area	195	195	100%	NA	NA	0.22	0.46	0.46	0.71	0.074	0.2	<0.001
Boron	Background	31	7	23%	10	11	3.6	6.2	6.7	12	2.7	<0.001	<0.001
	Study Area	260	236	91%	1.4	13	2.5	7.4	24	1,510	135	<0.001	<0.001
Cadmium	Background	31	25	81%	0.10	0.11	0.11	0.19	0.20	0.48	0.085	0.003	0.02
	Study Area	260	139	53%	0.0050	0.51	0.040	0.13	0.26	8.9	0.77	<0.001	<0.001
Calcium	Background	31	31	100%	NA	NA	19,200	28,200	29,000	43,300	6,580	0.2	0.6
	Study Area	195	195	100%	NA	NA	9,930	26,700	27,500	62,500	9,280	<0.001	0.7
Chromium (total)	Background	31	31	100%	NA	NA	5.6	7.5	7.7	11	1.2	0.4	0.7
	Study Area	262	262	100%	NA	NA	3.5	9.4	12	102	11	<0.001	<0.001
Chromium VI	Background	31	1	3.2%	0.41	0.43	0.29	0.29	0.29	0.29	NA	<0.001	<0.001
	Study Area	215	48	22%	0.11	0.49	0.11	0.79	5.8	106	18	<0.001	<0.001
Cobalt	Background	31	31	100%	NA	NA	5.4	7.3	7.3	9.1	0.76	0.5	0.4
	Study Area	310	310	100%	NA	NA	3.2	7.6	13	284	29	<0.001	<0.001
Copper	Background	31	31	100%	NA	NA	16	19	23	140	22	<0.001	<0.001
	Study Area	260	260	100%	NA	NA	8.0	18	20	160	12	<0.001	<0.001
Iron	Background	31	31	100%	NA	NA	11,300	15,700	15,500	20,600	2,140	0.5	0.3
	Study Area	260	260	100%	NA	NA	7,050	15,000	14,900	24,000	2,690	0.2	0.006
Lead	Background	31	31	100%	NA	NA	7.1	8.9	11	73	12	<0.001	<0.001
	Study Area	321	321	100%	NA	NA	3.6	8.9	13	267	19	<0.001	<0.001
Magnesium	Background	31	31	100%	NA	NA	7,700	9,810	9,990	13,000	1,320	0.8	1
	Study Area	309	309	100%	NA	NA	5,300	9,700	10,700	71,000	5,070	<0.001	<0.001
Manganese	Background	31	31	100%	NA	NA	262	360	366	537	61	0.03	0.4
	Study Area	410	410	100%	NA	NA	133	390	962	29,200	2,220	<0.001	<0.001
Mercury	Background	31	27	87%	0.017	0.019	0.0060	0.016	0.036	0.36	0.069	<0.001	<0.001
	Study Area	262	230	88%	0.0067	0.040	0.0030	0.017	0.035	1.9	0.13	<0.001	<0.001
Molybdenum	Background	31	30	97%	0.31	0.31	0.31	0.49	1.7	33	5.9	<0.001	<0.001
	Study Area	260	194	75%	0.052	2.0	0.15	0.48	1.1	55	4.9	<0.001	<0.001
Nickel	Background	31	31	100%	NA	NA	13	16	16	21	1.8	0.08	0.5
	Study Area	260	260	100%	NA	NA	6.6	15	16	164	11	<0.001	<0.001

TABLE F-1. Summary Statistics for Metals in RZ-A Background Soils and Study Area Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Name	Location	No. of Samples	No. of Detects	% Detects	Non-Detects (mg/kg)		Detects (mg/kg)					Shapiro-Wilk Test	
					Minimum	Maximum	Minimum	Median	Mean	Maximum	Standard Deviation	Normal (p-value)	Lognormal (p-value)
Platinum	Background	31	19	61%	0.10	0.11	0.0060	0.010	0.012	0.046	0.0085	<i><0.001</i>	<i><0.001</i>
	Study Area	195	143	73%	0.010	0.24	0.0050	0.011	0.015	0.16	0.017	<i><0.001</i>	<i><0.001</i>
Potassium	Background	31	31	100%	NA	NA	1,450	2,080	2,180	4,210	658	<i><0.001</i>	0.02
	Study Area	195	195	100%	NA	NA	1,230	2,160	2,320	6,120	649	<i><0.001</i>	0.02
Selenium	Background	31	3	9.7%	4.1	4.4	0.80	0.80	0.83	0.90	0.058	<i><0.001</i>	<i><0.001</i>
	Study Area	260	16	6.2%	0.16	4.7	0.70	1.0	1.0	1.5	0.24	<i><0.001</i>	<i><0.001</i>
Silver	Background	31	0	0%	0.50	0.50	NA	NA	NA	NA	NA	NA	NA
	Study Area	260	49	19%	0.20	1.5	0.020	0.12	0.30	7.6	1.1	<i><0.001</i>	<i><0.001</i>
Sodium	Background	31	31	100%	NA	NA	307	630	621	1,050	194	0.3	0.3
	Study Area	195	195	100%	NA	NA	198	756	1,160	11,700	1,290	<i><0.001</i>	<i><0.001</i>
Strontium	Background	31	31	100%	NA	NA	129	214	222	339	57	0.4	0.3
	Study Area	213	213	100%	NA	NA	73	186	208	805	98	<i><0.001</i>	0.03
Thallium	Background	31	31	100%	NA	NA	0.071	0.092	0.11	0.19	0.033	<i><0.001</i>	<i>0.003</i>
	Study Area	260	176	68%	0.10	0.28	0.054	0.10	0.19	8.4	0.64	<i><0.001</i>	<i><0.001</i>
Tin	Background	31	0	0%	10	11	NA	NA	NA	NA	NA	0.4	0.4
	Study Area	195	184	94%	9.4	12	0.40	4.2	3.8	12	1.6	<i><0.001</i>	<i><0.001</i>
Titanium	Background	31	31	100%	NA	NA	480	829	793	1,080	162	0.2	0.04
	Study Area	195	195	100%	NA	NA	361	751	743	1,270	179	0.2	<i><0.001</i>
Tungsten	Background	31	30	97%	0.11	0.11	0.12	0.17	0.21	0.62	0.11	<i><0.001</i>	0.04
	Study Area	213	173	81%	0.10	5.6	0.080	0.23	0.42	8.5	0.80	<i><0.001</i>	<i><0.001</i>
Uranium (total)	Background	31	31	100%	NA	NA	0.66	0.98	1.1	1.9	0.36	<i>0.002</i>	0.05
	Study Area	213	213	100%	NA	NA	0.55	1.0	1.2	3.6	0.52	<i><0.001</i>	<i><0.001</i>
Vanadium	Background	31	31	100%	NA	NA	28	46	44	55	7.6	0.08	0.02
	Study Area	195	195	100%	NA	NA	22	42	42	78	9.0	0.09	0.05
Zinc	Background	31	31	100%	NA	NA	26	33	40	254	40	<i><0.001</i>	<i><0.001</i>
	Study Area	260	260	100%	NA	NA	18	33	37	300	25	<i><0.001</i>	<i><0.001</i>

Notes:

bgs = below ground surface

mg/kg = milligram per kilogram

NA = value not available

p-values < 0.01 are shown in italic.

Background dataset is from RZ-A, excluding the six borings in LOU 62.

Shapiro Wilk tests use 1/2 the detection limit (DL) for non-detects.

TABLE F-2. Background Comparisons for Metals in Study Area Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Name	Distribution	t-test	t-test (logged data)	Gehan Test	Quantile Test (0.8)	Slippage Test	Fail Statistical Testing for Background Consistency?
		(p-value)	(p-value)	(p-value)	(p-value)	(p-value)	
Aluminum	N	0.7	0.8	0.5	0.2	0.3	No
Antimony	NP	1	1	1	0.3	1	LDF
Arsenic	NP	<0.001	<0.001	<0.001	<0.001	<0.001	Yes
Barium	NP	0.001	0.002	0.004	0.05	0.02	Yes
Beryllium	N	0.5	0.6	0.5	0.4	0.3	No
Boron	NP	0.02	<0.001	1	0.007	0.005	LDF
Cadmium	NP	0.4	1	0.9	1	0.3	No
Calcium	LN	0.9	1	0.9	0.7	0.2	No
Chromium (total)	NP	<0.001	<0.001	<0.001	<0.001	<0.001	Yes
Chromium VI	NP	0.02	<0.001	0.1	0.007	0.4	LDF
Cobalt	NP	<0.001	<0.001	0.09	0.008	0.002	Yes
Copper	NP	0.8	0.9	1	0.8	0.9	No
Iron	N	0.9	0.9	0.9	0.8	0.4	No
Lead	NP	0.2	0.3	0.5	0.2	0.7	No
Magnesium	NP	0.03	0.2	0.6	0.1	0.03	No
Manganese	NP	<0.001	<0.001	0.02	<0.001	<0.001	Yes
Mercury	NP	0.5	0.7	0.7	0.4	0.9	No
Molybdenum	NP	0.7	0.8	0.1	0.9	0.8	No
Nickel	NP	0.3	0.8	0.9	0.4	0.4	No
Platinum	NP	0.7	0.8	0.8	0.04	0.5	No
Potassium	LN	0.1	0.1	0.05	0.2	0.7	No
Selenium	NP	1	1	1	0.9	0.8	LDF
Silver	NP	0.06	0.8	0.2	0.001	NA	LDF
Sodium	NP	<0.001	<0.001	0.003	<0.001	<0.001	Yes

**TABLE F-2. Background Comparisons for Metals in Study Area Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chemical Name	Distribution	t-test	t-test (logged data)	Gehan Test	Quantile Test (0.8)	Slippage Test	Fail Statistical Testing for Background Consistency?
		(p-value)	(p-value)	(p-value)	(p-value)	(p-value)	
Strontium	LN	0.9	1	1	0.6	0.08	No
Thallium	NP	0.03	<i>0.004</i>	<i><0.001</i>	0.6	0.04	Yes
Tin	NP	1	1	1	<i>0.001</i>	NA	LDF
Titanium	N	0.9	1	1	1	0.5	No
Tungsten	NP	<i><0.001</i>	<i><0.001</i>	<i>0.001</i>	0.2	0.03	Yes
Uranium (total)	NP	0.1	0.2	0.3	0.8	0.09	No
Vanadium	N, LN	0.9	0.9	0.9	0.9	0.2	No
Zinc	NP	0.7	0.7	0.6	0.4	0.8	No

Notes:

bgs = below ground surface

NA = value not available

LDF = Low detection frequency (<25%) in either site or background datasets. Background comparison results may not be applicable.

p-values in italics indicate $p < 0.025$

Background comparison tests use 1/2 the detection limit (DL) for non-detects in the parametric test (t-test) and the DL for non-parametric tests (Gehan test, quantile test, and slippage test).

Background dataset is from RZ-A, excluding the six borings in LOU 62.

Final background determination is based on non-parametric tests only due to large sample size.

Distribution:

N = Study area data and background data consistent with normal distribution

LN = Study area data and background data consistent with log-normal distribution

NP = Study area data or background data is not consistent with both normal distribution and log-normal distribution.

TABLE F-3. Summary Statistics for Radionuclides in RZ-A Background Soils and Study Area Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chain	Chemical Name	Location	No. of Samples	No. of Detects	% Detects	Detects (pCi/g)					Shapiro-Wilk Test	
						Minimum	Median	Mean	Maximum	Standard Deviation	Normal (p-value)	Lognormal (p-value)
Uranium-238	Uranium-238	Background	31	31	100%	0.36	1.0	1.0	1.6	0.21	<i>0.004</i>	<0.001
		Study Area	205	205	100%	0.24	0.96	1.0	3.3	0.38	<0.001	<0.001
	Uranium-234	Background	31	31	100%	0.39	1.0	1.1	1.7	0.30	0.09	0.04
		Study Area	187	187	100%	0.27	1.0	1.1	3.4	0.44	<0.001	<0.001
	Thorium-230	Background	31	31	100%	0.51	1.1	1.1	1.7	0.28	0.7	0.7
		Study Area	205	205	100%	0.43	1.1	1.2	4.3	0.44	<0.001	<0.001
	Radium-226	Background	31	31	100%	0	0.89	0.95	1.7	0.35	0.4	<0.001
		Study Area	208	208	100%	0.20	0.92	0.95	2.5	0.36	<0.001	0.2
Thorium-232	Thorium-232	Background	31	31	100%	1.0	1.5	1.5	2.1	0.24	1	1
		Study Area	205	205	100%	0.54	1.6	1.6	2.5	0.33	0.4	<0.001
	Radium-228	Background	31	31	100%	0.46	1.2	1.3	2.5	0.54	0.3	0.8
		Study Area	208	208	100%	0	1.2	1.3	3.3	0.49	0.02	NA
	Thorium-228	Background	31	31	100%	1.2	1.7	1.7	2.9	0.36	0.03	0.5
		Study Area	205	205	100%	0.48	1.8	1.8	3.0	0.36	<0.001	<0.001
Uranium-235	Uranium-235	Background	31	31	100%	-0.077	0.049	0.051	0.20	0.044	<i>0.003</i>	NA
		Study Area	187	187	100%	-0.029	0.052	0.062	0.25	0.043	<0.001	NA

Notes:

bgs = below ground surface

pCi/g = picocurie per gram

NA = value not available

p-values < 0.01 are shown in italic.

Background dataset is from RZ-A, excluding the six borings in LOU 62.

Shapiro Wilk tests use 1/2 the detection limit (DL) for non-detects.

**TABLE F-4. Background Comparisons for Radionuclides in Study Area Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chain	Chemical Name	Distribution	t-test	t-test (logged data)	Gehan Test	Quantile Test (0.8)	Slippage Test	Fail Statistical Testing for Background Consistency?
			(p-value)	(p-value)	(p-value)	(p-value)	(p-value)	
Uranium-238	Uranium-238	NP	0.5	0.7	0.9	0.4	0.2	No
	Uranium-234	NP	0.2	0.4	0.4	0.8	0.08	No
	Thorium-230	NP	0.03	0.05	0.1	0.4	0.1	No
	Radium-226	LN	0.5	0.4	0.7	0.9	0.4	No
Thorium-232	Thorium-232	N	0.06	0.1	0.07	0.1	0.1	No
	Radium-228	N, LN	0.6	0.6	0.5	0.6	0.8	No
	Thorium-228	NP	0.2	0.2	0.1	0.2	0.9	No
Uranium-235	Uranium-235	NP	0.1	0.2	0.2	0.2	0.6	No

Notes:

bgs = below ground surface

p-values in italics indicate $p < 0.025$

Background comparison tests use 1/2 the detection limit (DL) for non-detects in the parametric test (t-test) and the DL for non-parametric tests (Gehan test, quantile test, and slippage test).

Background dataset is from RZ-A, excluding the six borings in LOU 62.

Final background determination is based on non-parametric tests only due to large sample size.

Distribution:

N = Study area data and background data consistent with normal distribution

LN = Study area data and background data consistent with log-normal distribution

NP = Study area data or background data is not consistent with both normal distribution and log-normal distribution.

**TABLE F-5A. Equivalence Test for Secular Equilibrium of Uranium Decay Series¹
Nevada Environmental Response Trust Remediation Project Site
Henderson, Nevada**

Location	p-value	Conclusion ²	Delta	Sample Size ³	Number Missing ⁴	Analyte	Mean Proportions of Radioactivity	95% Confid. Intervals		Shifts ⁵
								Lower	Upper	
All	<0.0001	in Secular Equilibrium	0.1	218	21	Ra-226	0.2215	0.2061	0.2370	0
						Th-230	0.2779	0.2670	0.2889	0
						U-234	0.2580	0.2483	0.2677	0
						U-238	0.2426	0.2331	0.2520	0
Background	<0.0001	in Secular Equilibrium	0.1	31	0	Ra-226	0.2267	0.1909	0.2625	0
						Th-230	0.2626	0.2314	0.2939	0
						U-234	0.2572	0.2283	0.2861	0
						U-238	0.2534	0.2276	0.2793	0
Study Area	<0.0001	in Secular Equilibrium	0.1	187	21	Ra-226	0.2207	0.2034	0.2379	0
						Th-230	0.2805	0.2686	0.2924	0
						U-234	0.2581	0.2476	0.2686	0
						U-238	0.2408	0.2305	0.2510	0

Notes:

1. Analyzed in top 10 feet bgs using the EnviroGISdT software tool from Neptune & Company, Inc.
2. Tool states "in Secular Equilibrium" if the computed *p*-value is less than a standard significance level of 0.05.
3. Sample dataset includes field duplicates
4. Count of samples for which one or more results are unavailable. These samples are not counted in the sample size and are not included in the secular equilibrium calculation.
5. Data Shift - Lists the values of the data shift utilized by the tool in case of negative radioactivity measurements. All measurements values for that radioisotope are shifted upwards by the shift value so that all values are non-negative. A zero shift value indicates lack of negative measurements.

TABLE F-5B. Equivalence Test for Secular Equilibrium of Thorium Decay Series¹
Nevada Environmental Response Trust Remediation Project Site
Henderson, Nevada

Location	p-value	Conclusion ²	Delta	Sample Size ³	Number Missing ⁴	Analyte	Mean Proportions of Radioactivity	95% Confid. Intervals		Shifts ⁵
								Lower	Upper	
All	0.0115	in Secular Equilibrium	0.1	236	3	Ra-228	0.2722	0.2554	0.2891	0
						Th-228	0.3831	0.3725	0.3938	0
						Th-232	0.3447	0.3356	0.3537	0
Background	0.164	Not in Secular Equilibrium	0.1	31	0	Ra-228	0.2779	0.2341	0.3218	0
						Th-228	0.3808	0.3557	0.4060	0
						Th-232	0.3413	0.3141	0.3684	0
Study Area	0.0288	in Secular Equilibrium	0.1	205	3	Ra-228	0.2714	0.2529	0.2898	0
						Th-228	0.3835	0.3717	0.3952	0
						Th-232	0.3452	0.3354	0.3549	0

Notes:

1. Analyzed in top 10 feet bgs using the EnviroGISdT software tool from Neptune & Company, Inc.
2. Tool states "in Secular Equilibrium" if the computed *p*-value is less than a standard significance level of 0.05.
3. Sample dataset includes field duplicates
4. Count of samples for which one or more results are unavailable. These samples are not counted in the sample size and are not included in the secular equilibrium calculation.
5. Data Shift - Lists the values of the data shift utilized by the tool in case of negative radioactivity measurements. All measurements values for that radioisotope are shifted upwards by the shift value so that all values are non-negative. A zero shift value indicates lack of negative measurements.

TABLE F-6. Correlation Matrices for the Uranium Decay Series and the Thorium Decay Series Nevada Environmental Response Trust Site Henderson, Nevada

i) Study Area Soils (0-10 ft bgs)

Uranium Decay Chain				
Correl.	Ra-226	Th-230	U-234	U-238
Ra-226	1	0.453	0.350	0.309
Th-230	0.453	1	0.687	0.667
U-234	0.350	0.687	1	0.894
U-238	0.309	0.667	0.894	1

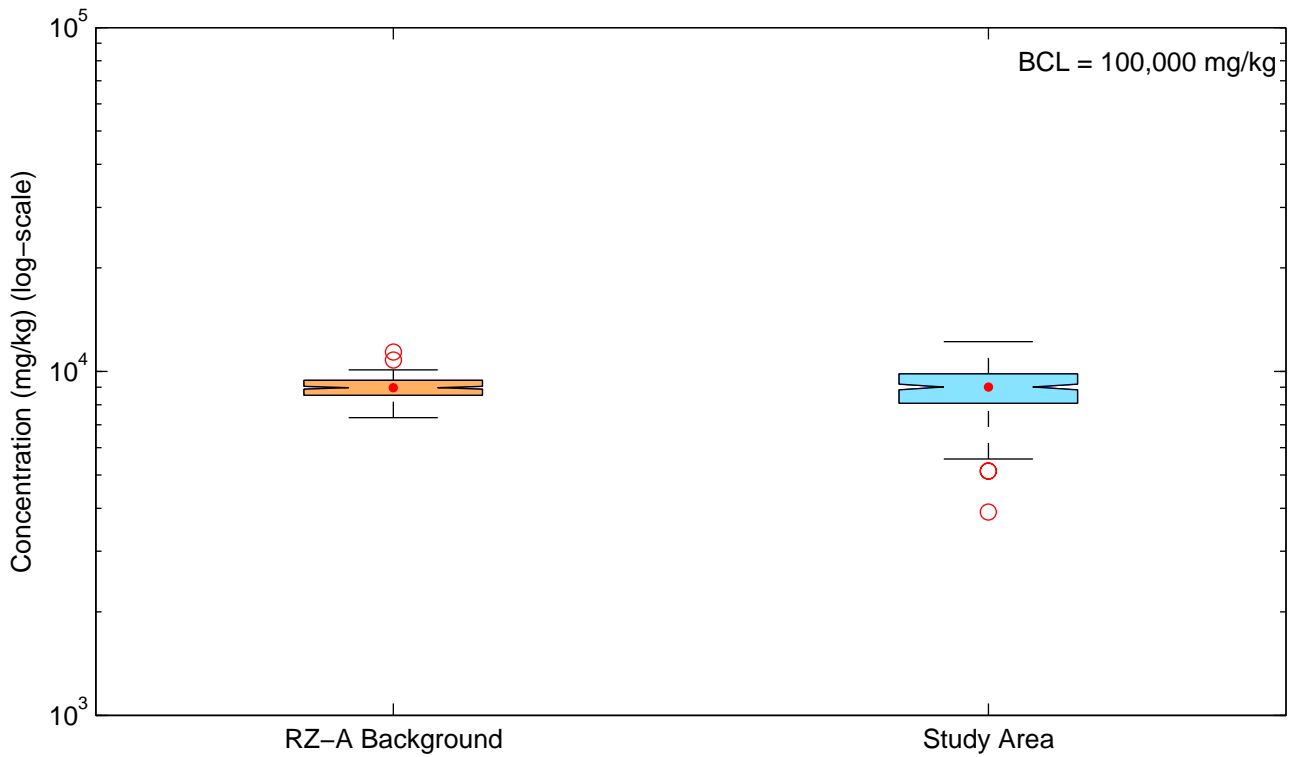
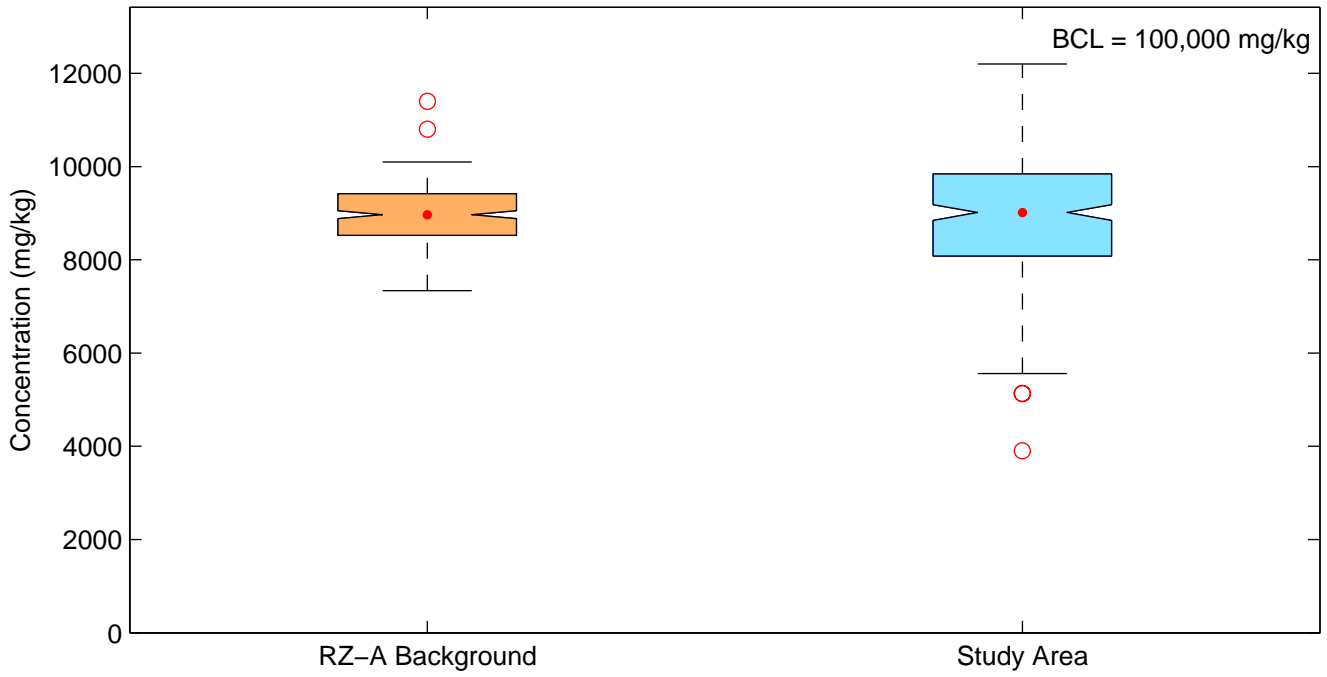
Thorium Decay Chain			
Correl.	Ra-228	Th-228	Th-232
Ra-228	1	-0.101	0.014
Th-228	-0.101	1	0.690
Th-232	0.014	0.690	1

ii) Background (RZ-A) Soils

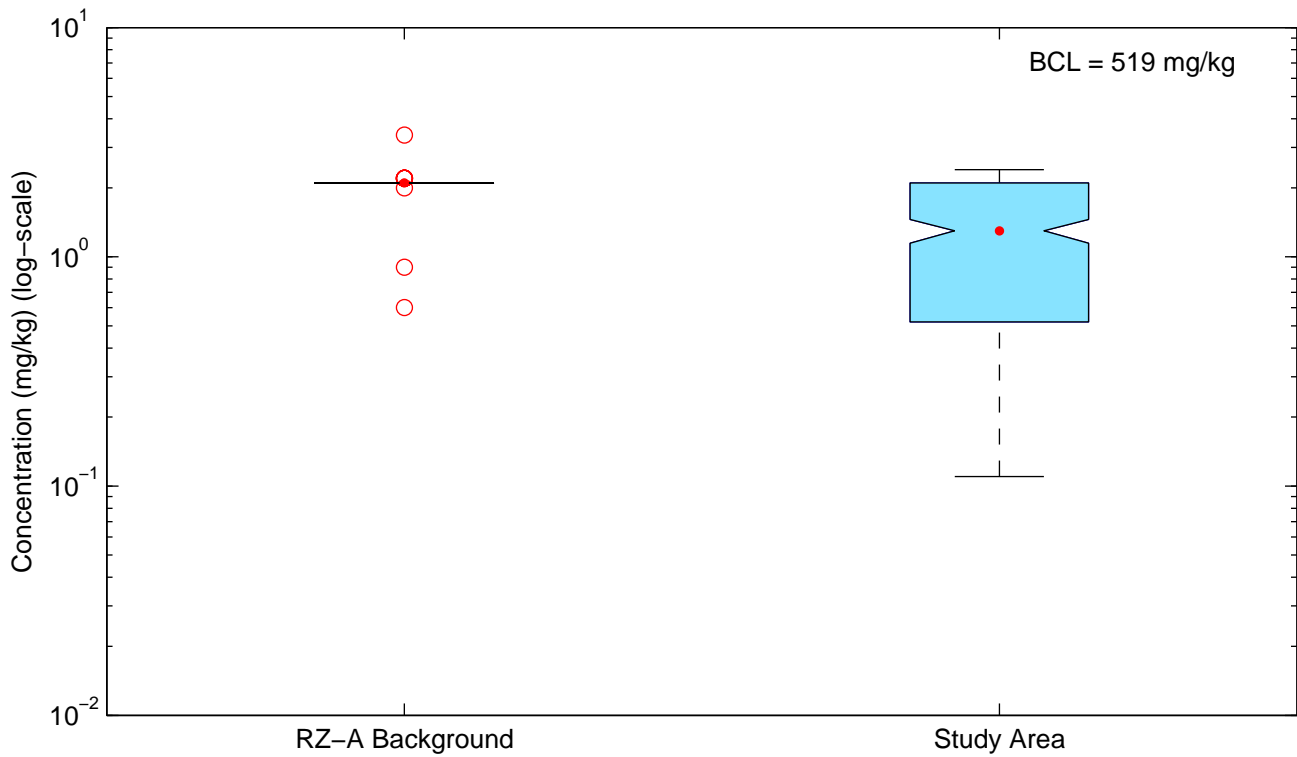
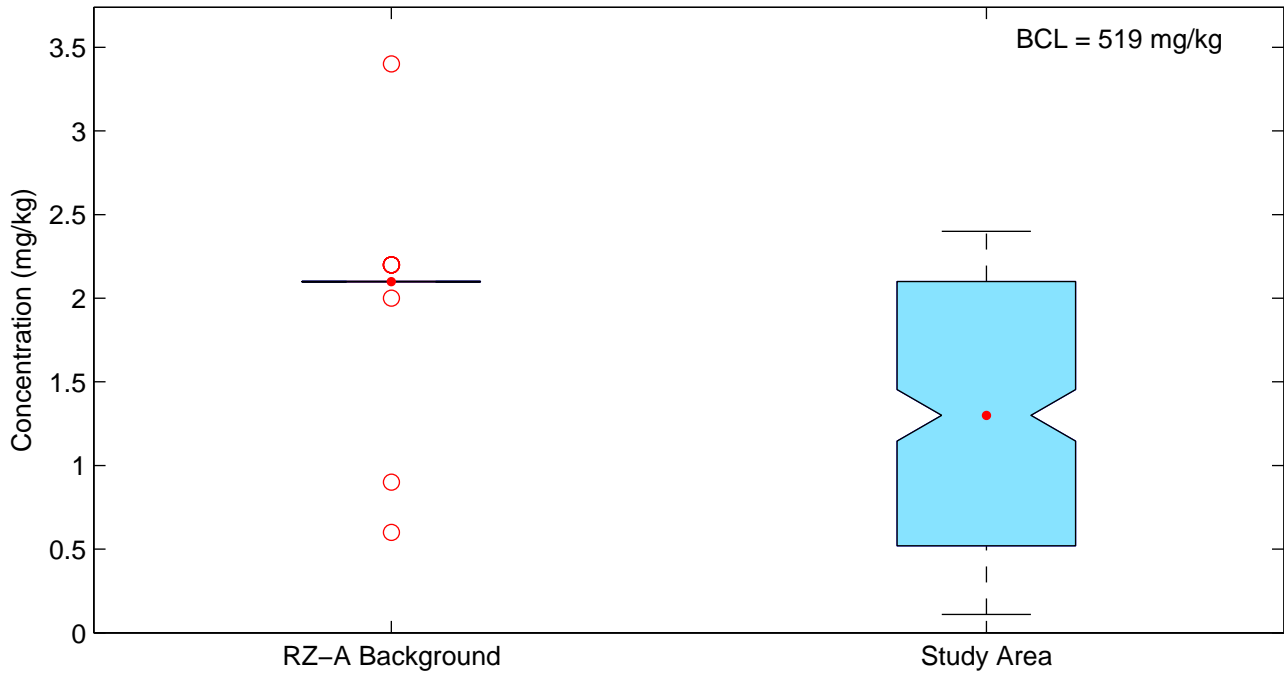
Uranium Decay Chain				
Correl.	Ra-226	Th-230	U-234	U-238
Ra-226	1	0.680	0.313	0.321
Th-230	0.680	1	0.351	0.271
U-234	0.313	0.351	1	0.886
U-238	0.321	0.271	0.886	1

Thorium Decay Chain			
Correl.	Ra-228	Th-228	Th-232
Ra-228	1	0.297	0.119
Th-228	0.297	1	0.627
Th-232	0.119	0.627	1

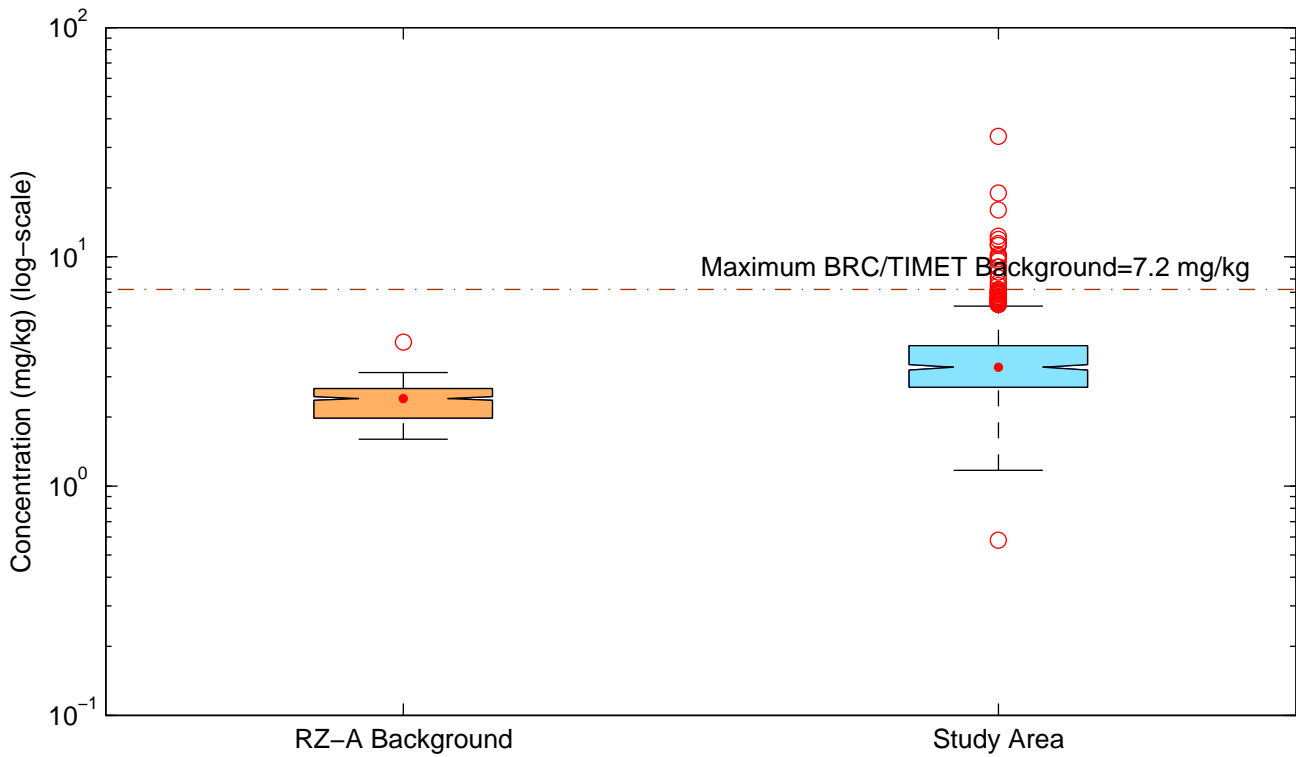
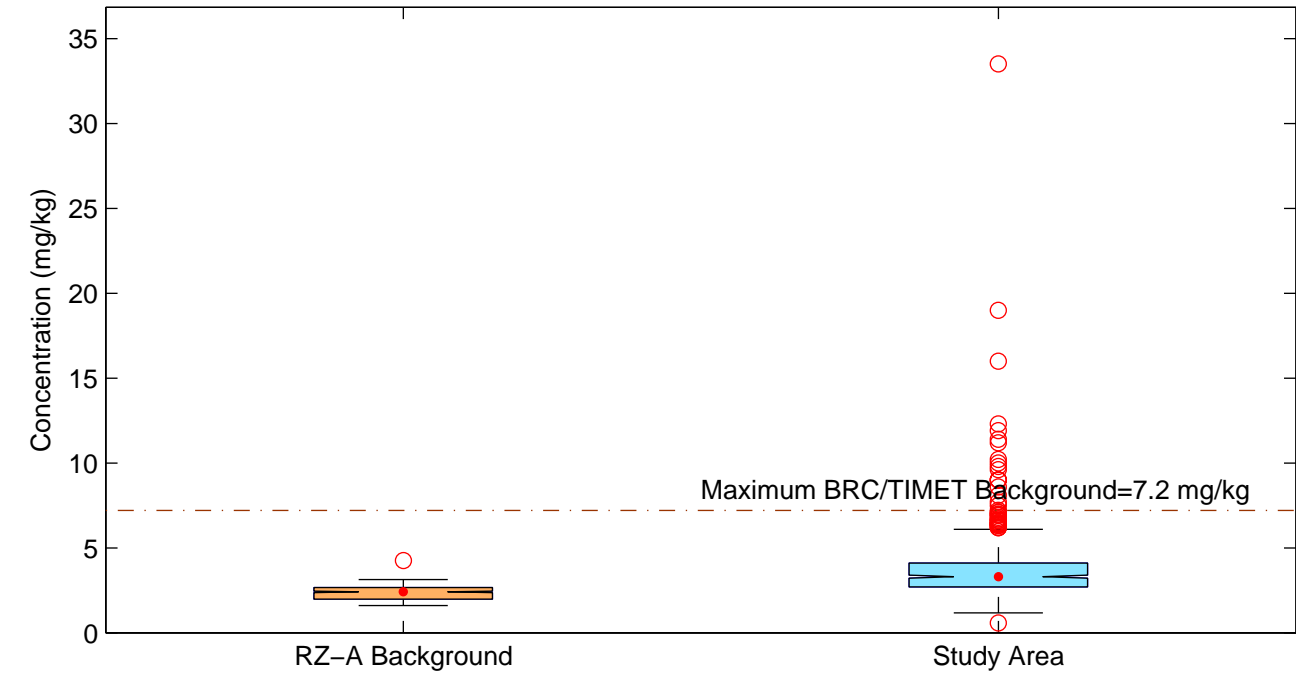
**Figure F1-1. RZ-A Background vs. Study Area Boxplots
Aluminum**



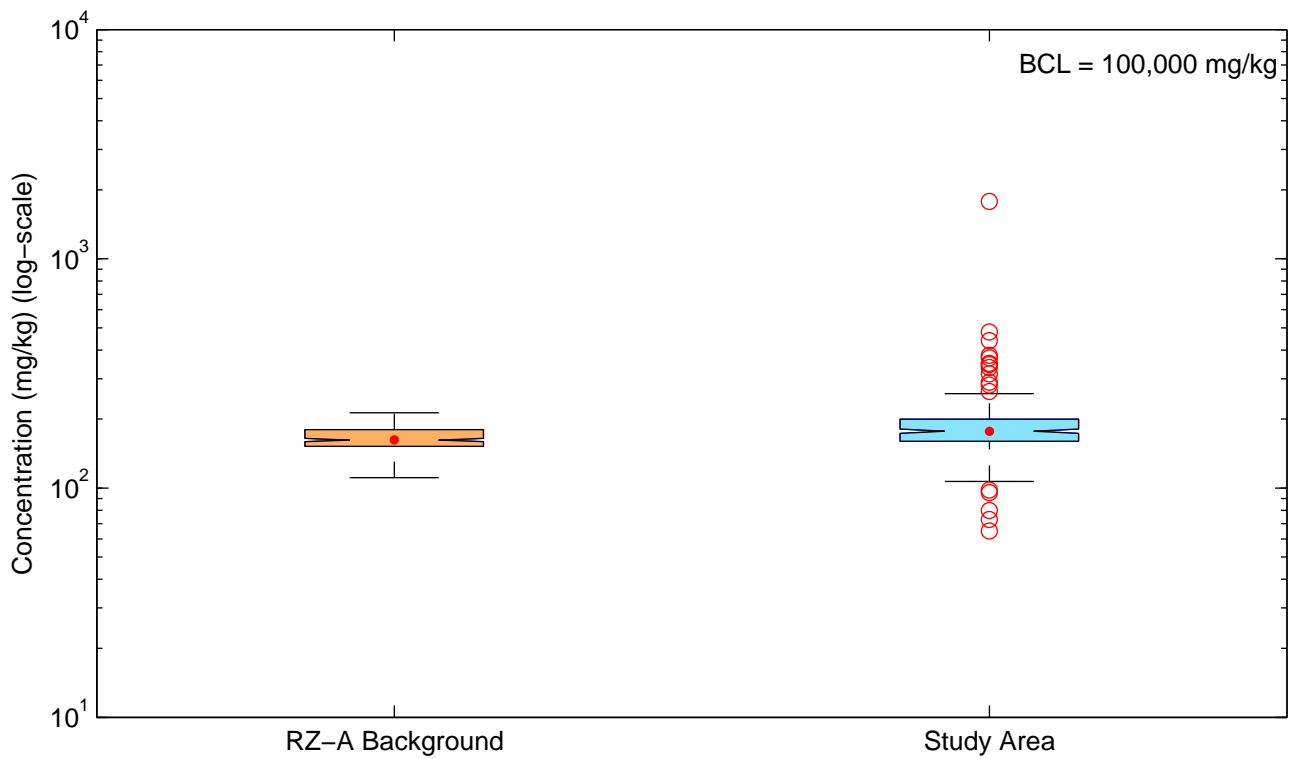
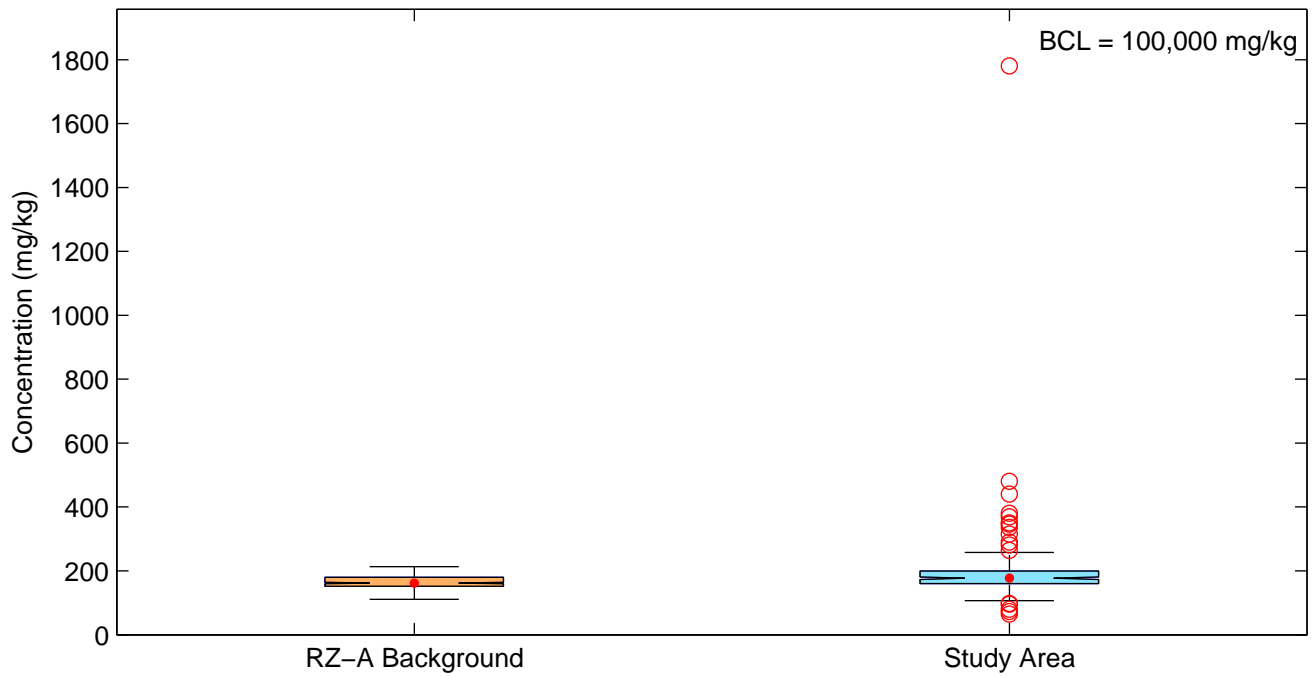
**Figure F1-2. RZ-A Background vs. Study Area Boxplots
Antimony**



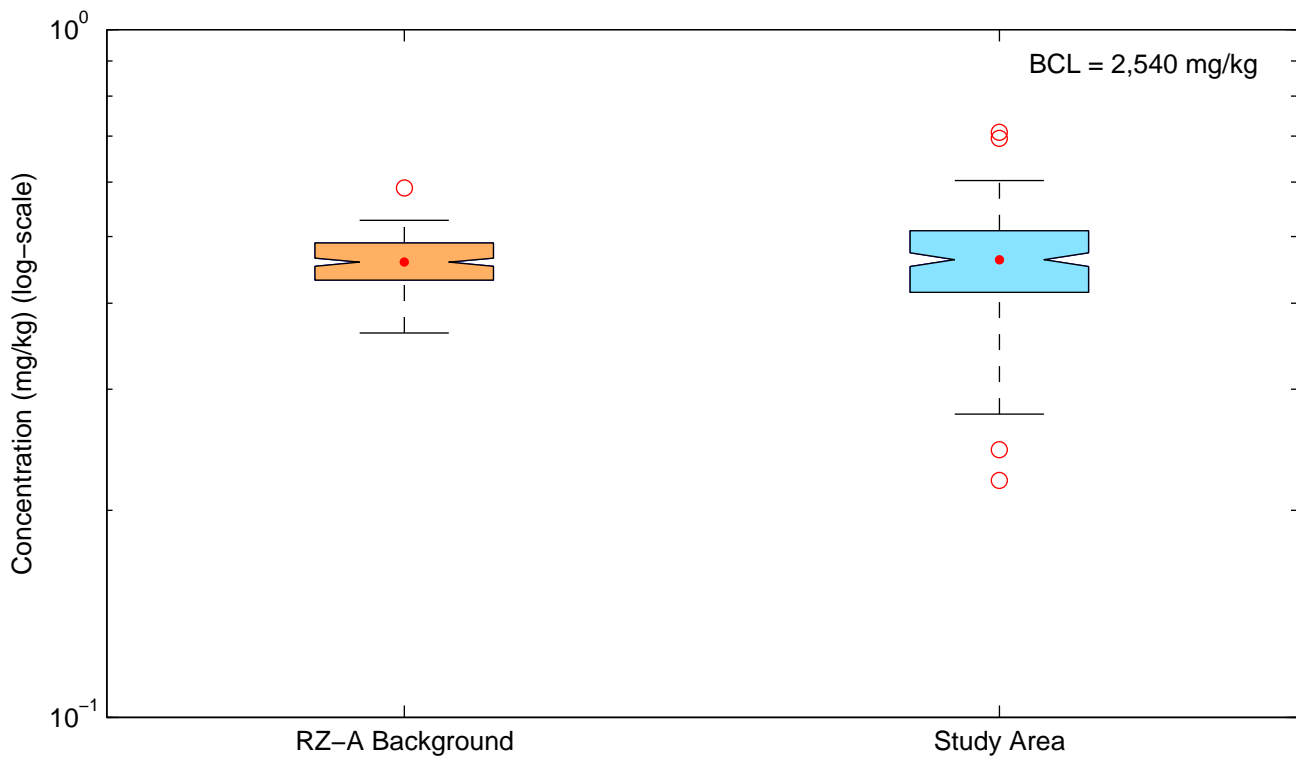
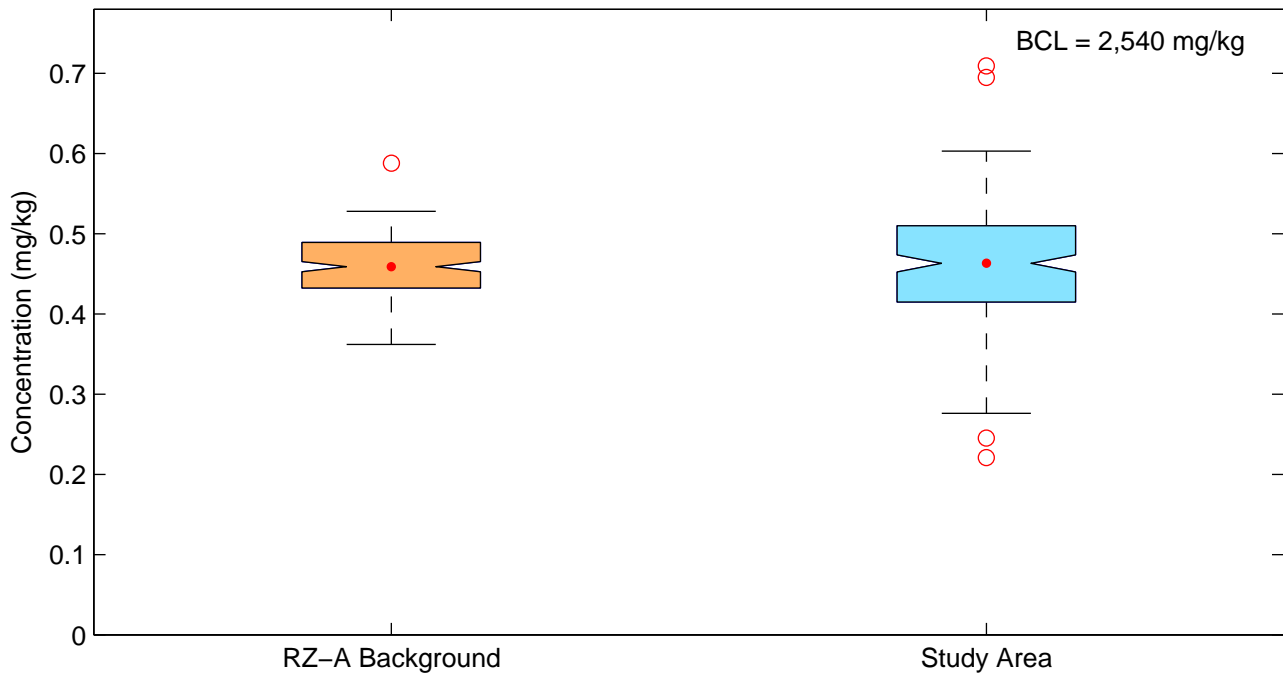
**Figure F1-3. RZ-A Background vs. Study Area Boxplots
Arsenic**



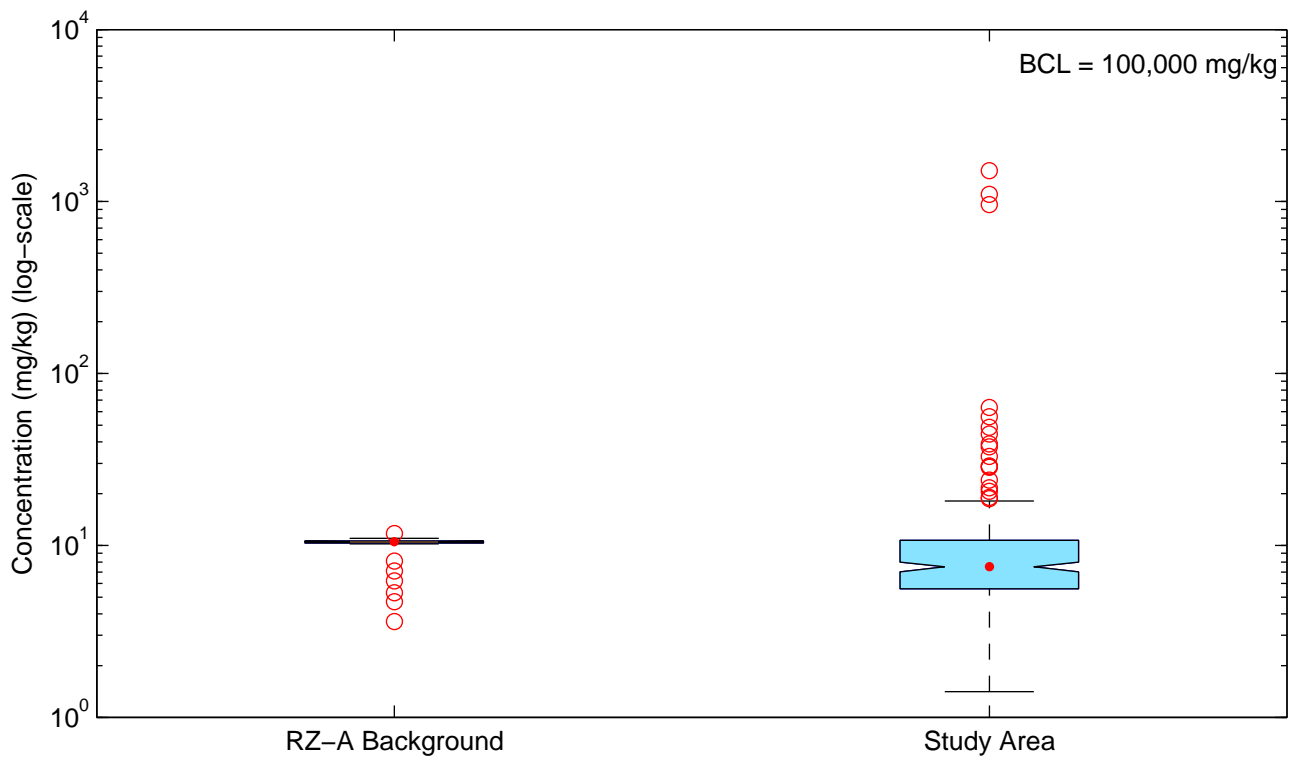
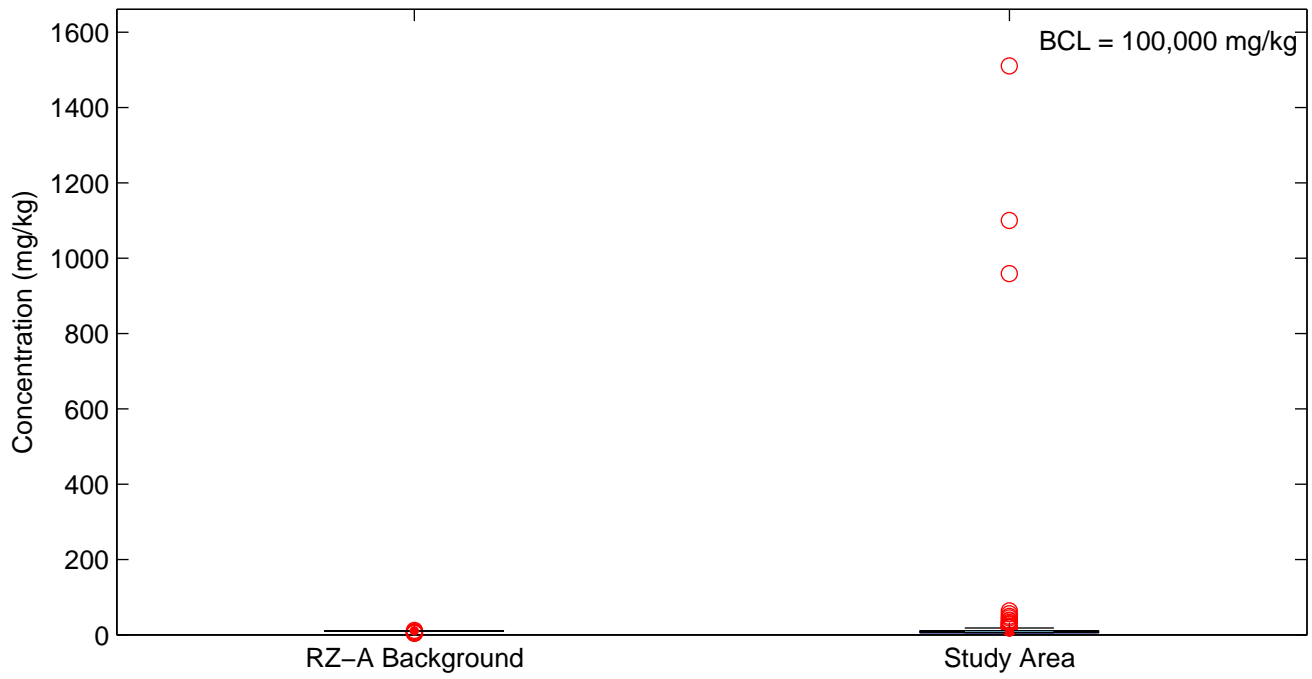
**Figure F1-4. RZ-A Background vs. Study Area Boxplots
Barium**



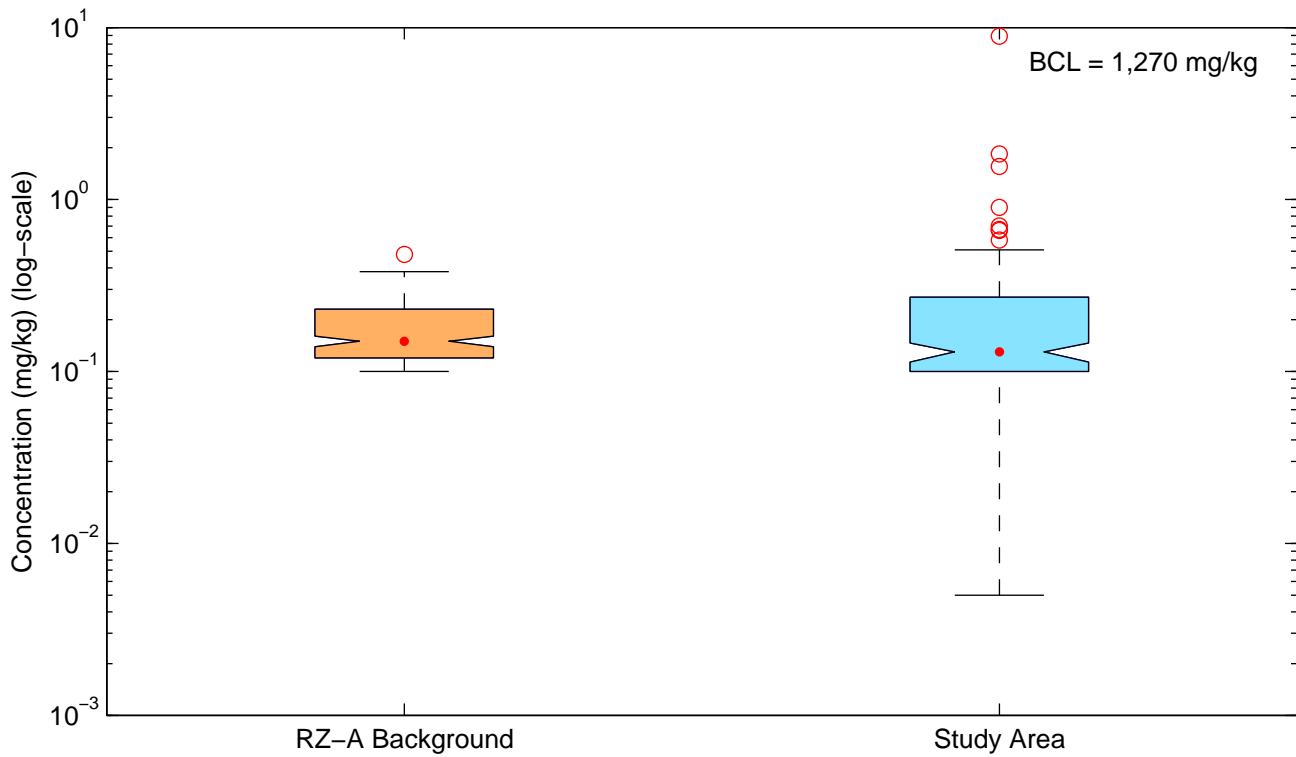
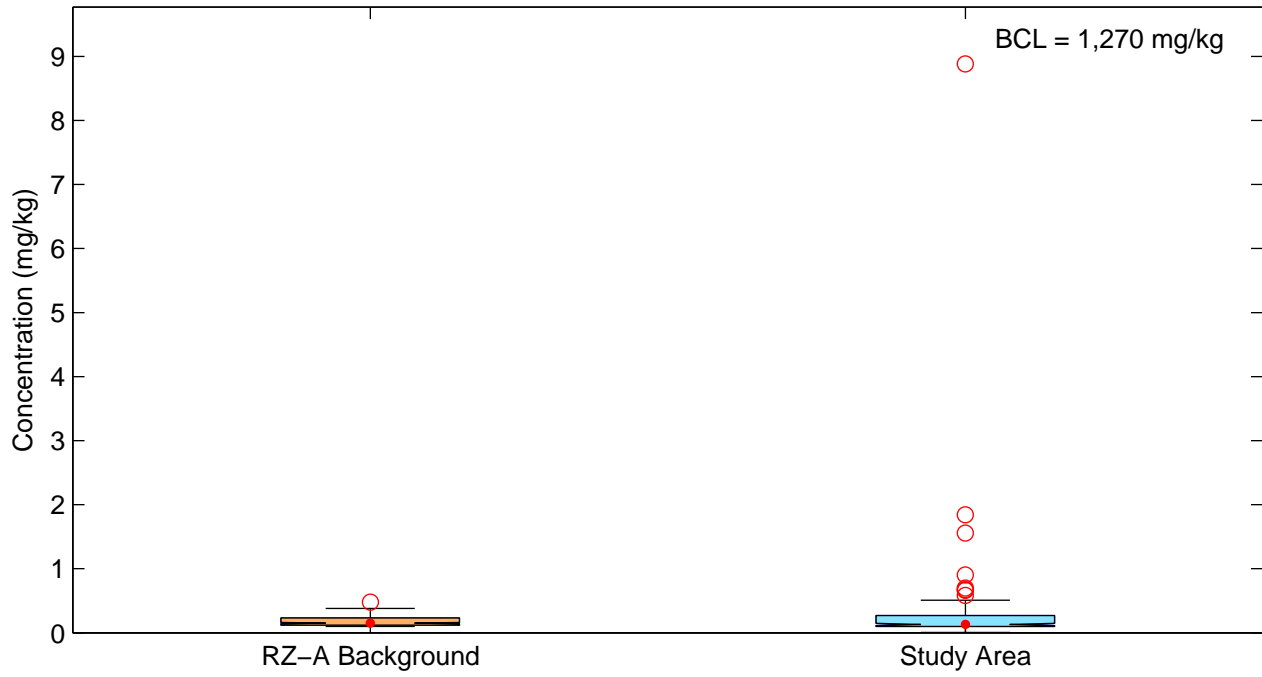
**Figure F1-5. RZ-A Background vs. Study Area Boxplots
Beryllium**



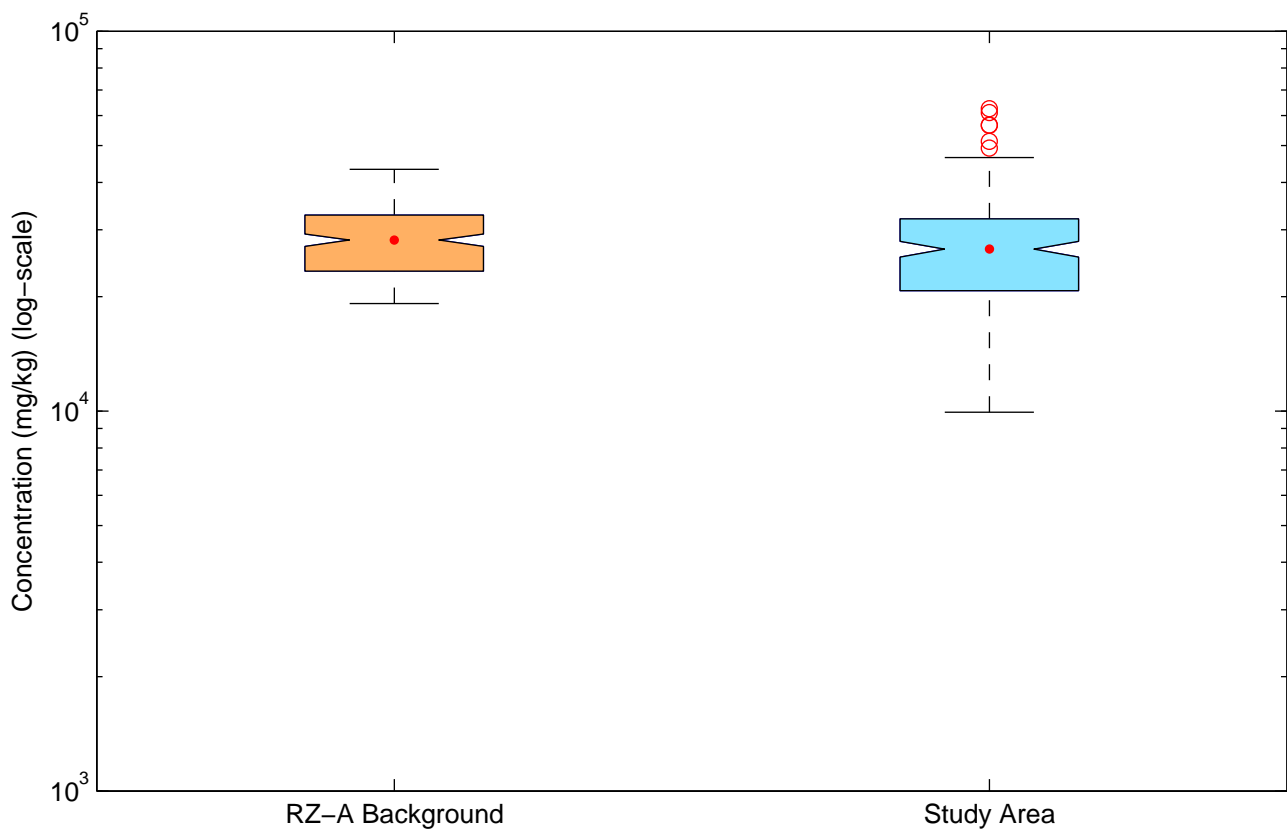
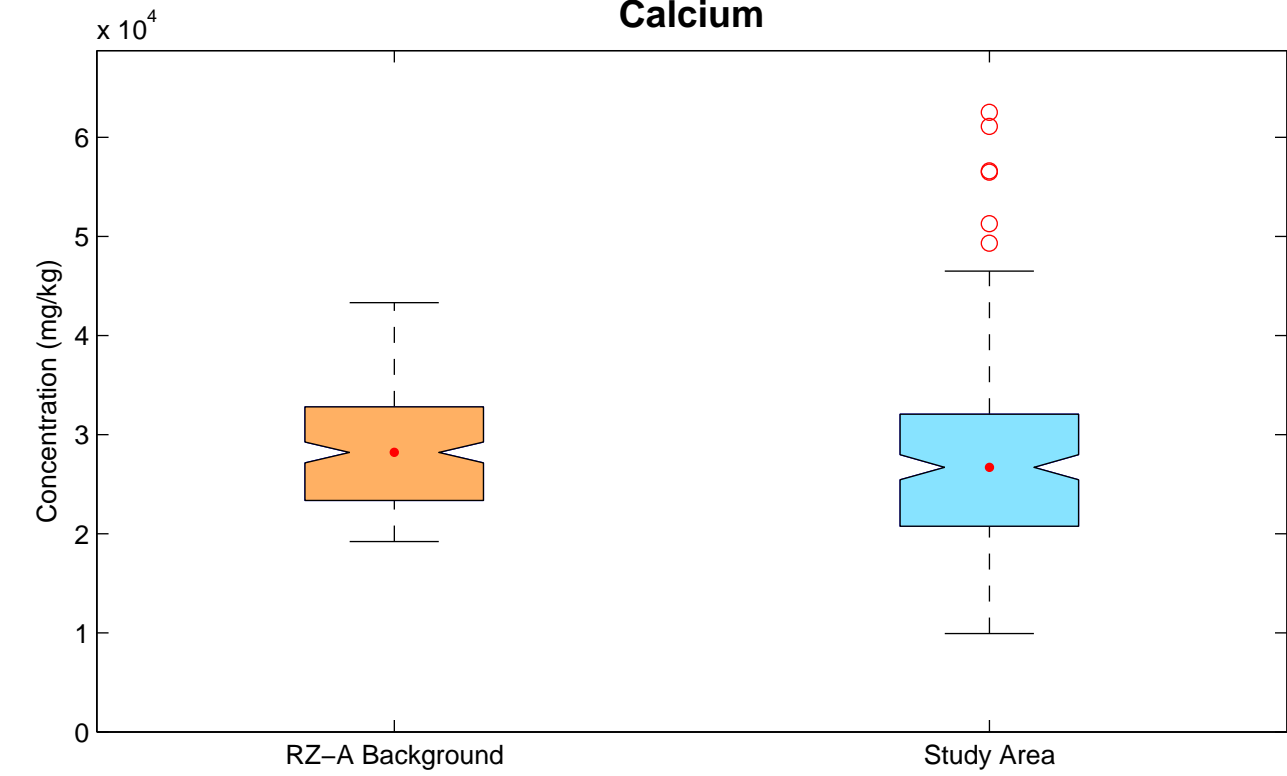
**Figure F1-6. RZ-A Background vs. Study Area Boxplots
Boron**



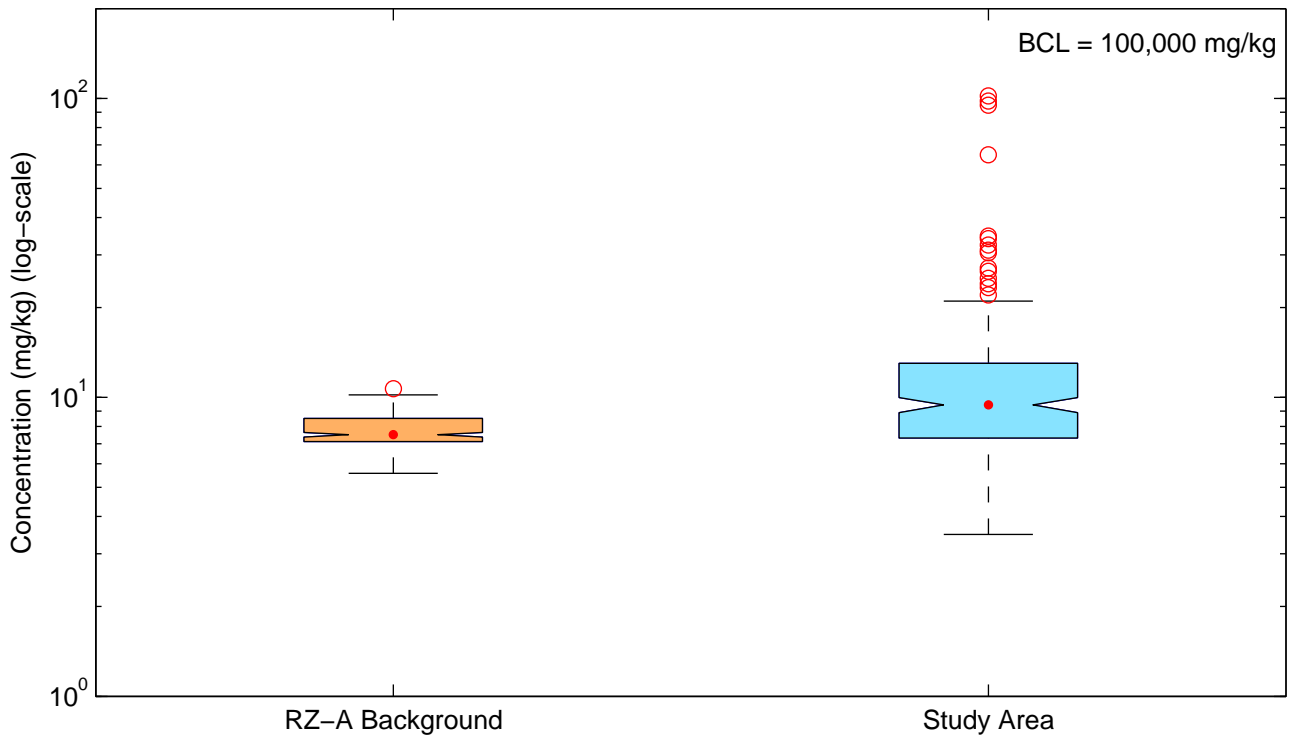
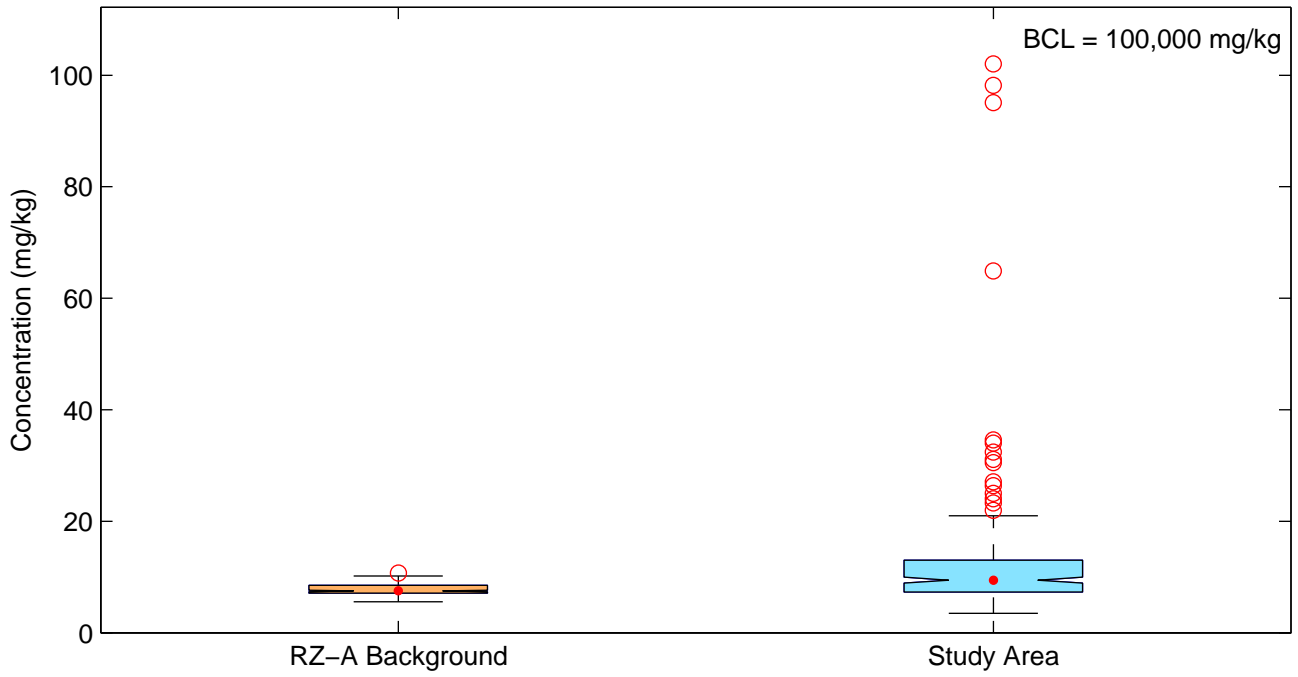
**Figure F1-7. RZ-A Background vs. Study Area Boxplots
Cadmium**



**Figure F1-8. RZ-A Background vs. Study Area Boxplots
Calcium**



**Figure F1-9. RZ-A Background vs. Study Area Boxplots
Chromium (total)**



**Figure F1-10. RZ-A Background vs. Study Area Boxplots
Chromium VI**

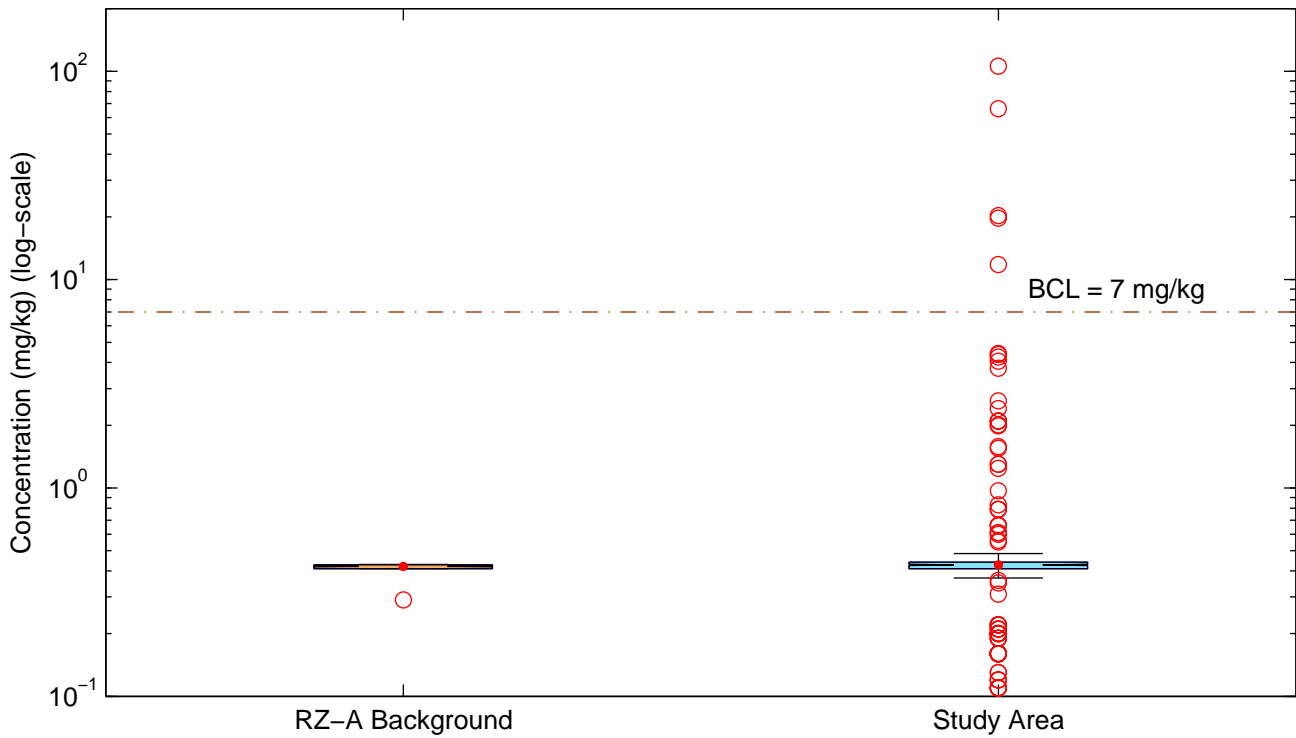
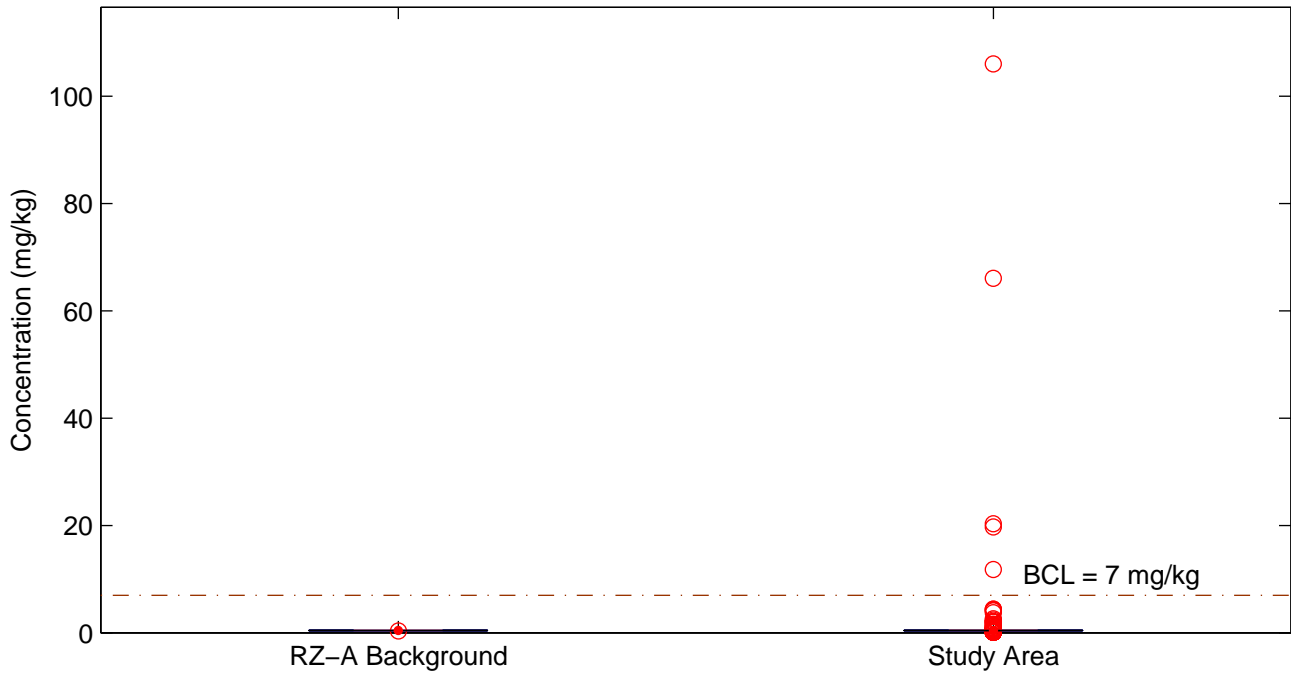
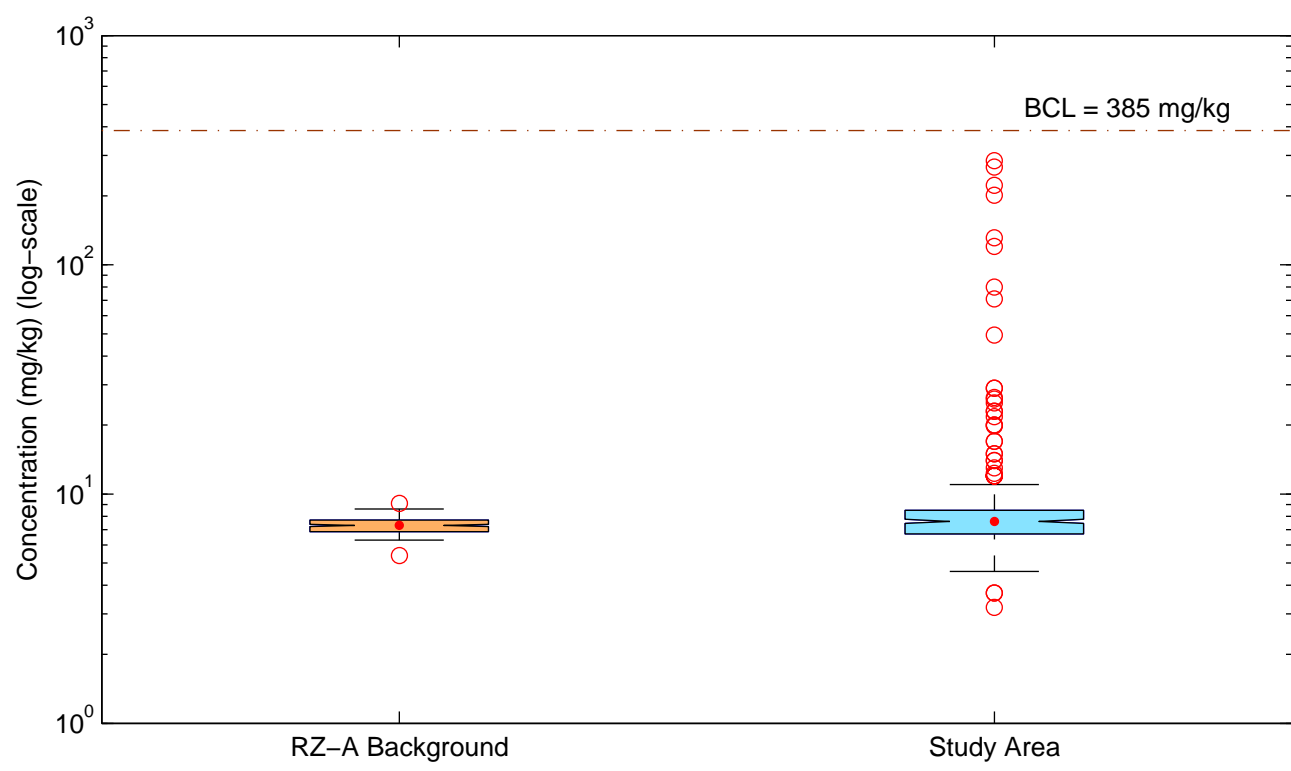
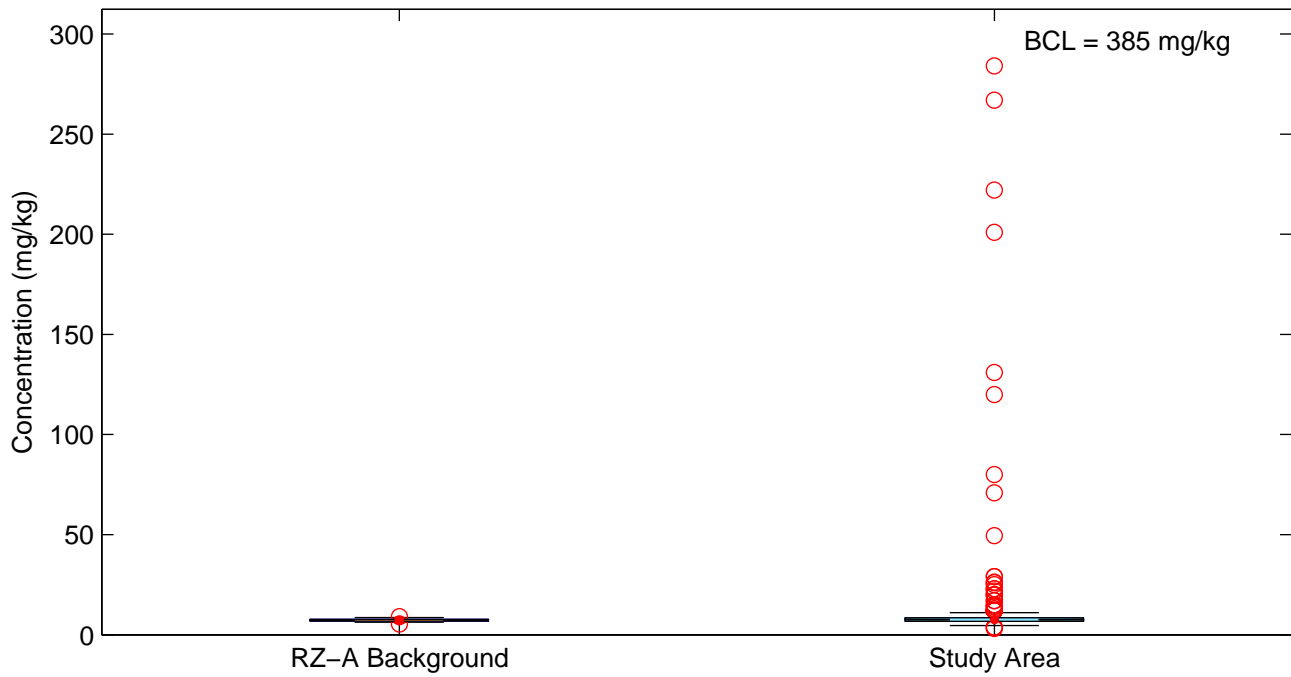


Figure F1-11. RZ-A Background vs. Study Area Boxplots Cobalt



**Figure F1-12. RZ-A Background vs. Study Area Boxplots
Copper**

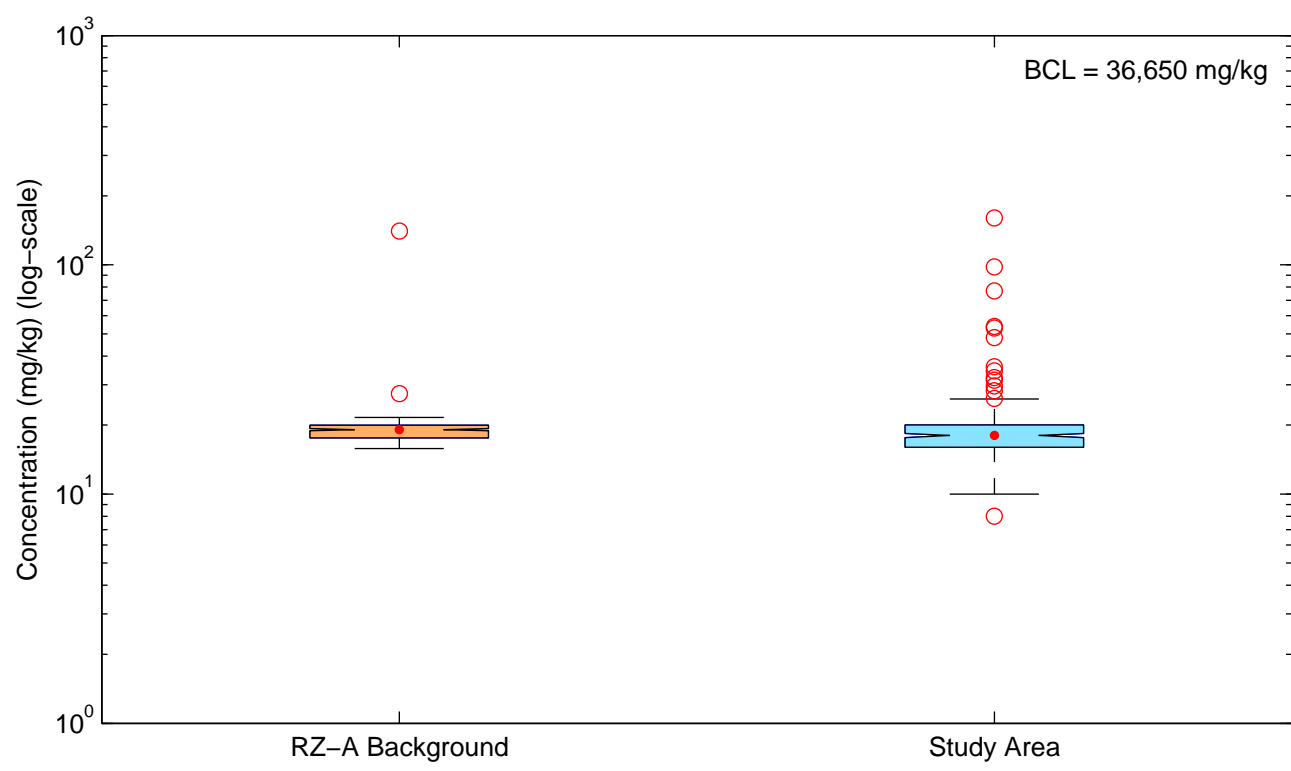
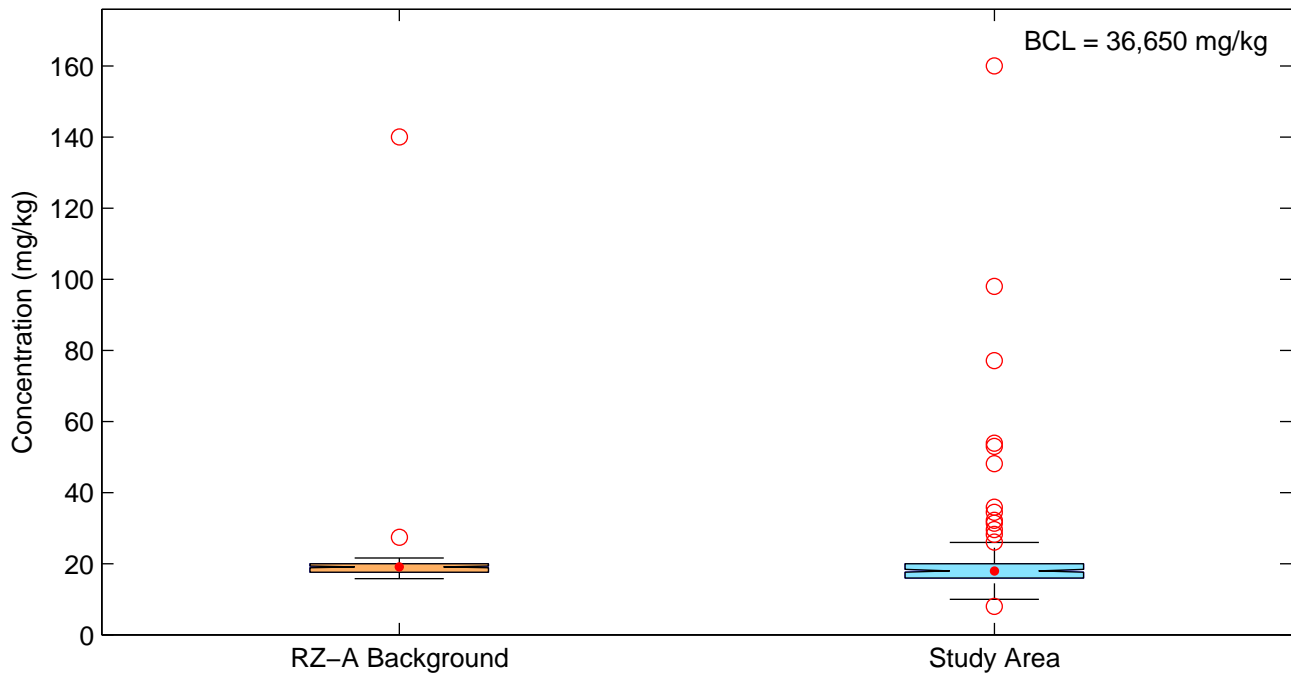
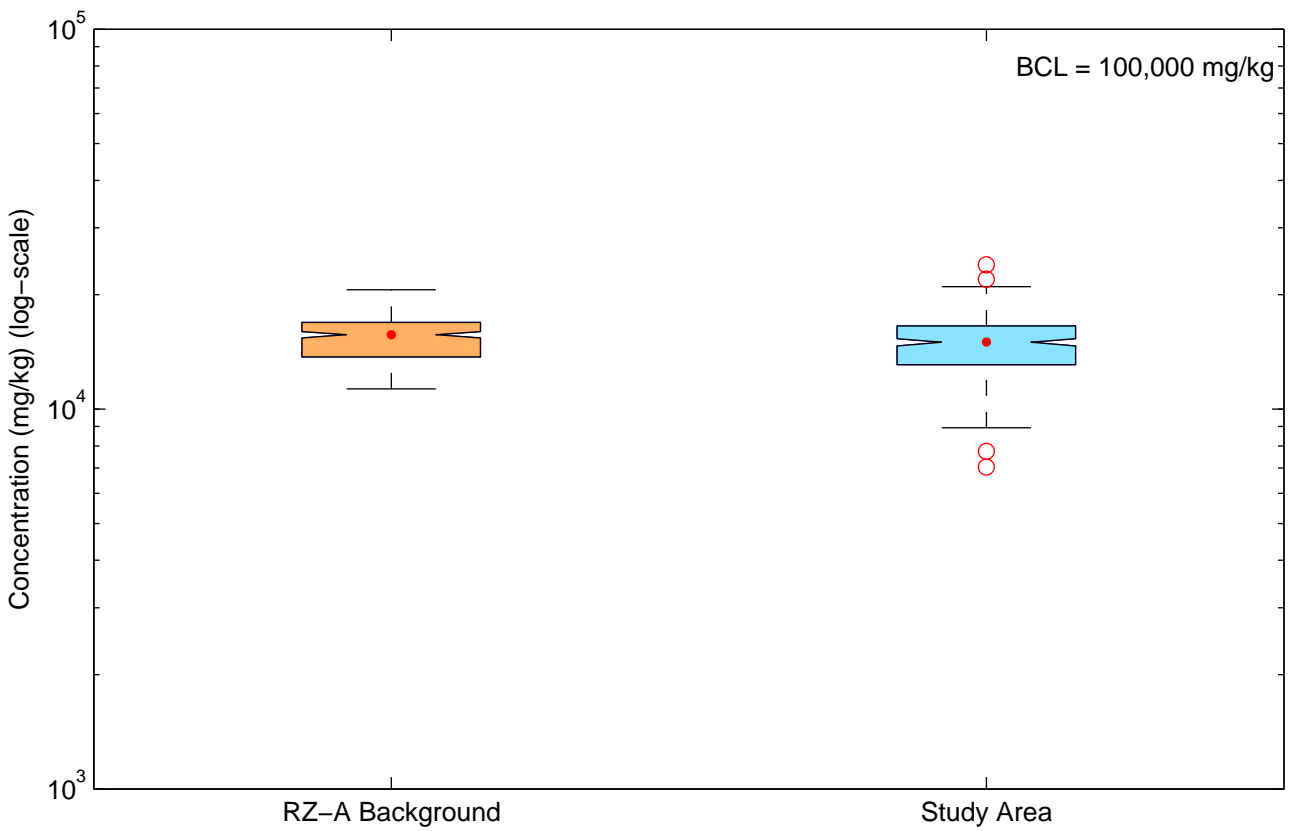
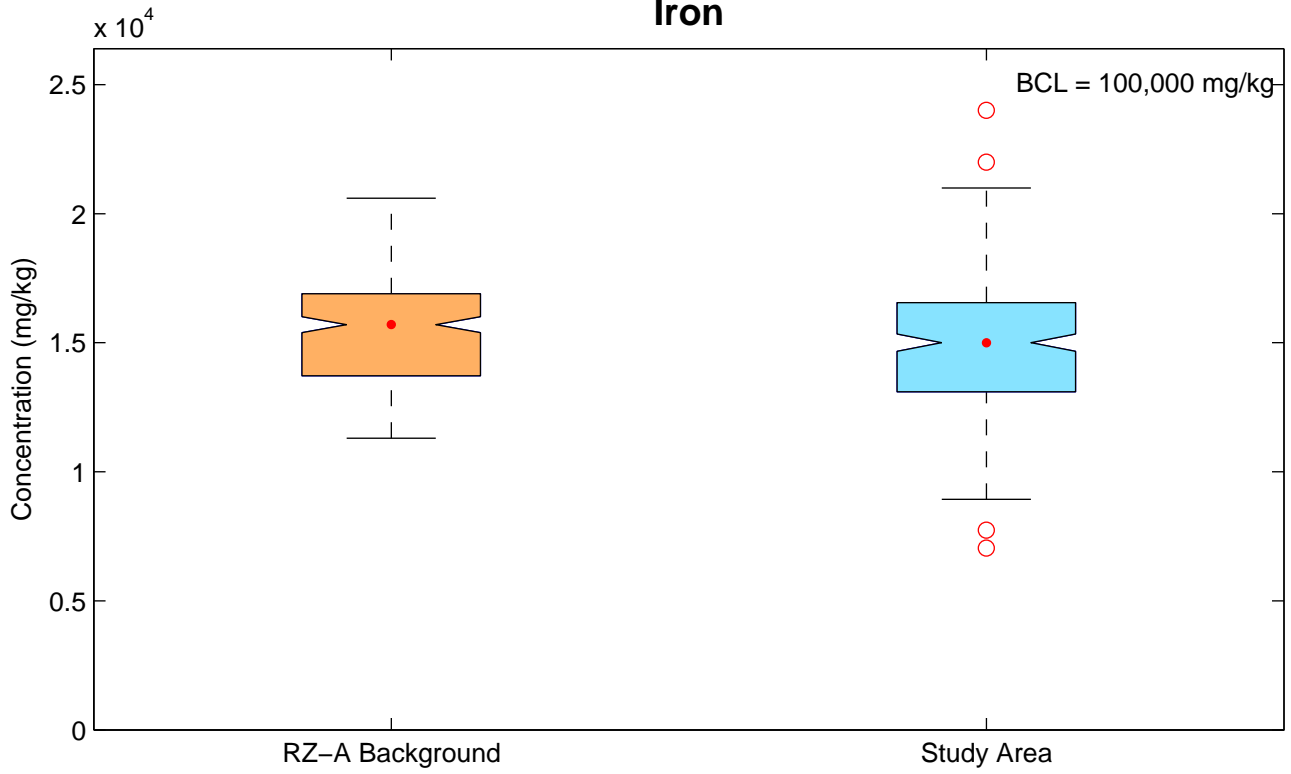
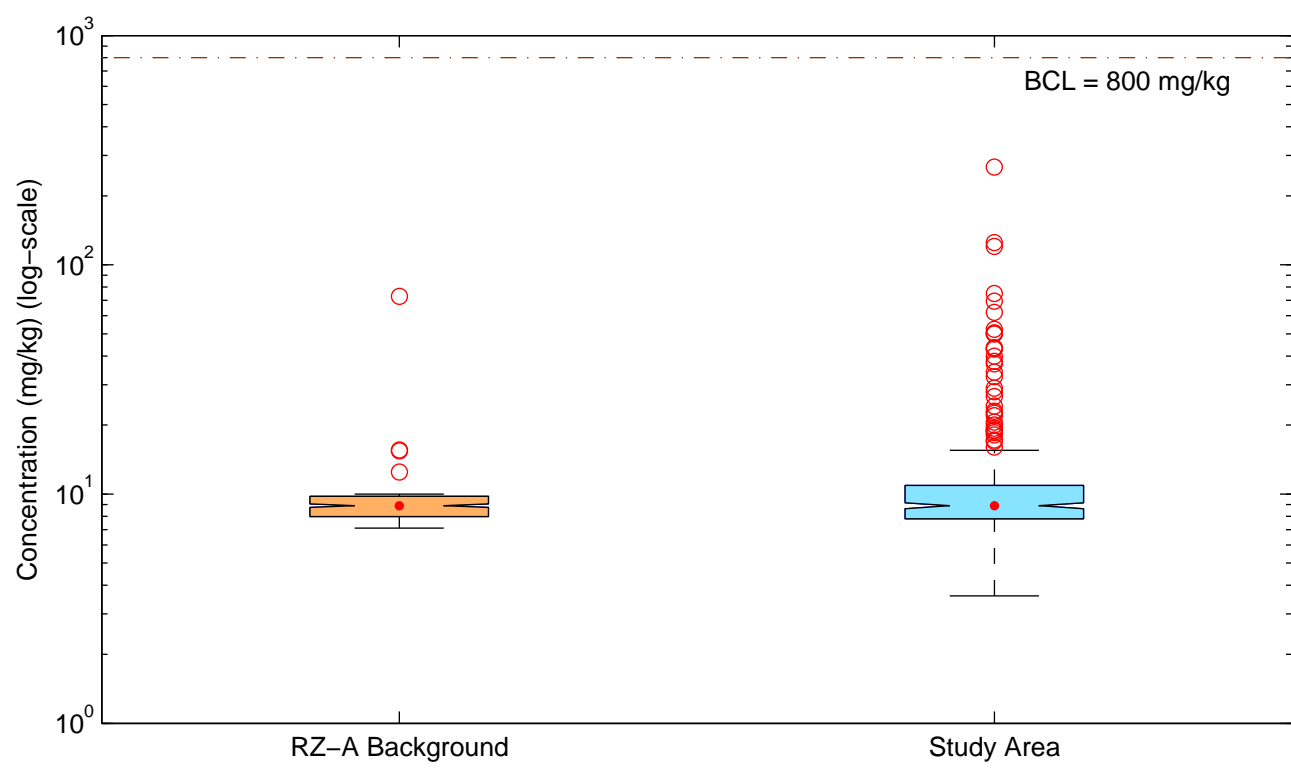
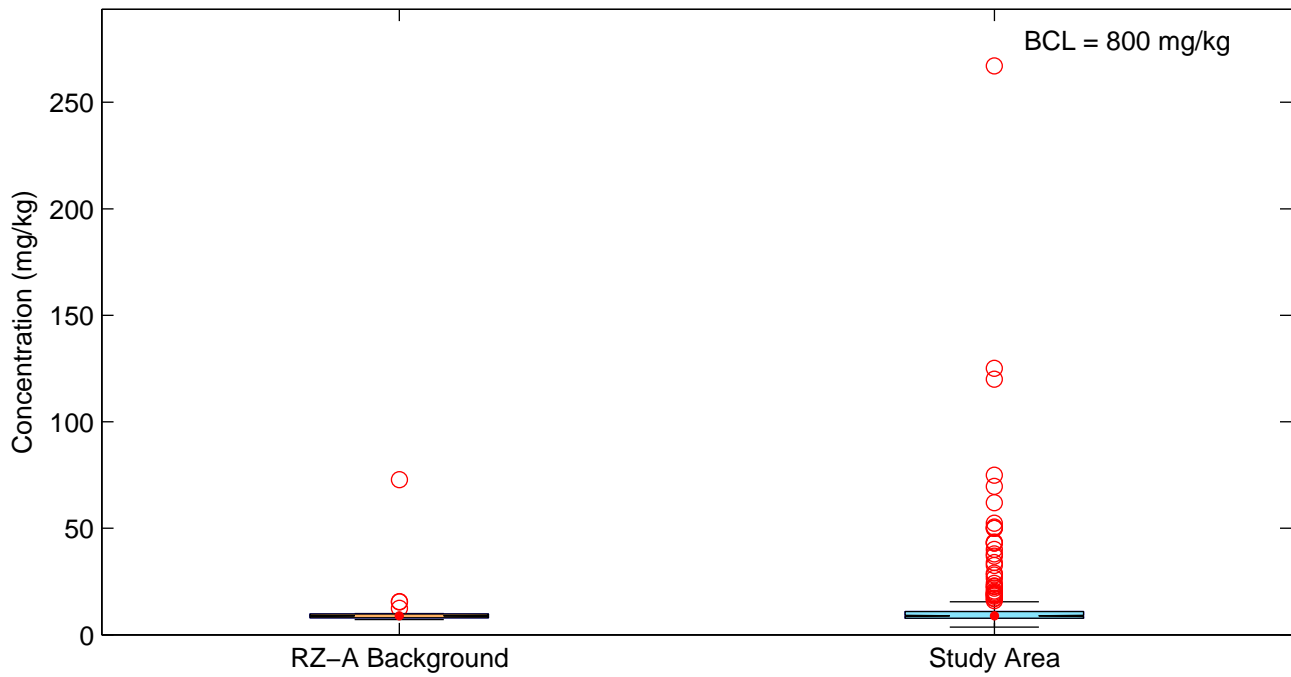


Figure F1-13. RZ-A Background vs. Study Area Boxplots
Iron



**Figure F1-14. RZ-A Background vs. Study Area Boxplots
Lead**



**Figure F1-15. RZ-A Background vs. Study Area Boxplots
Magnesium**

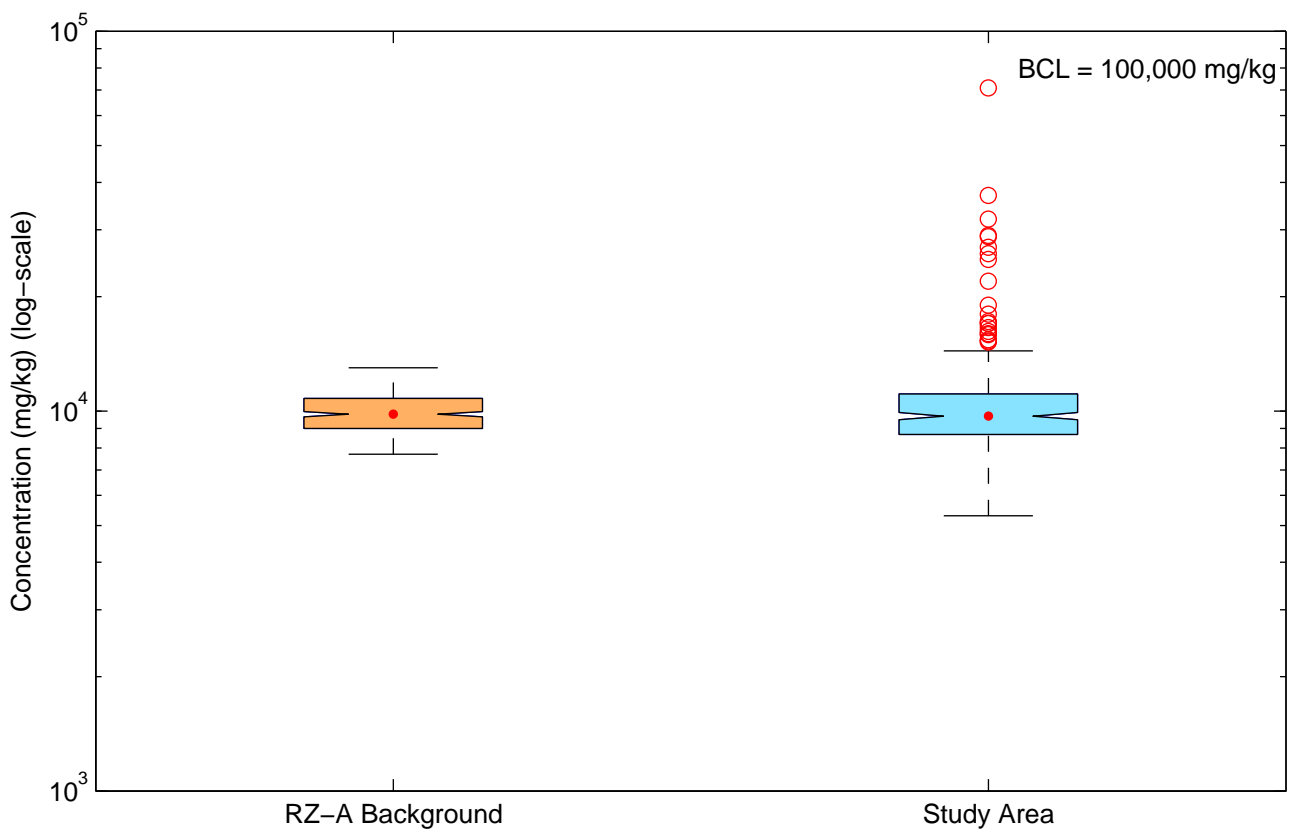
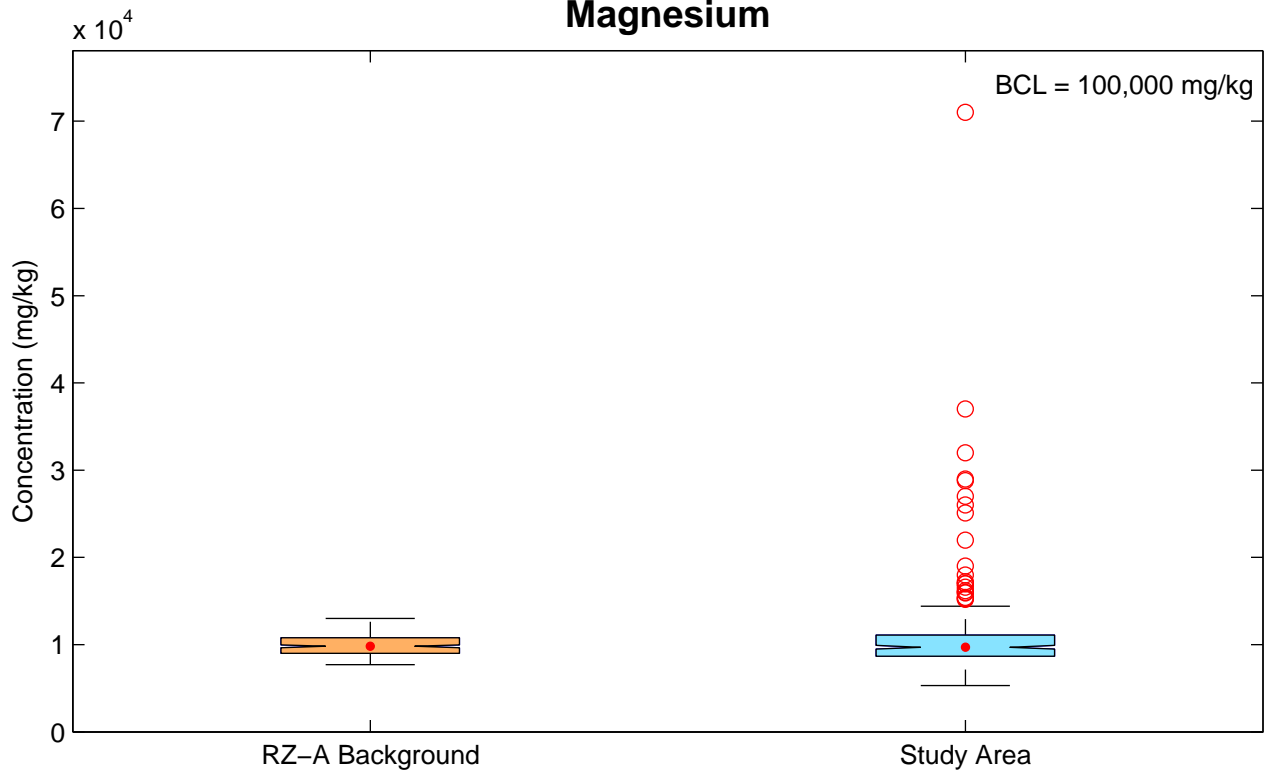
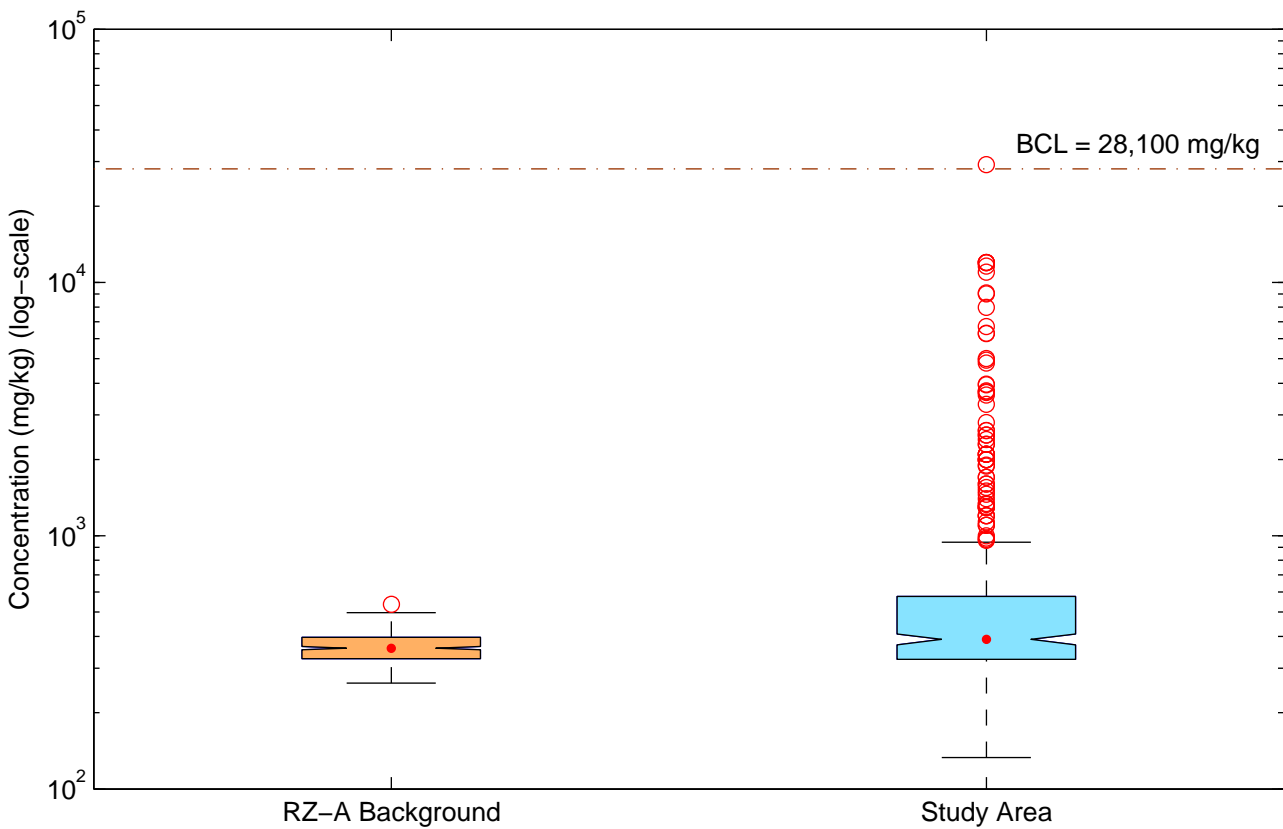
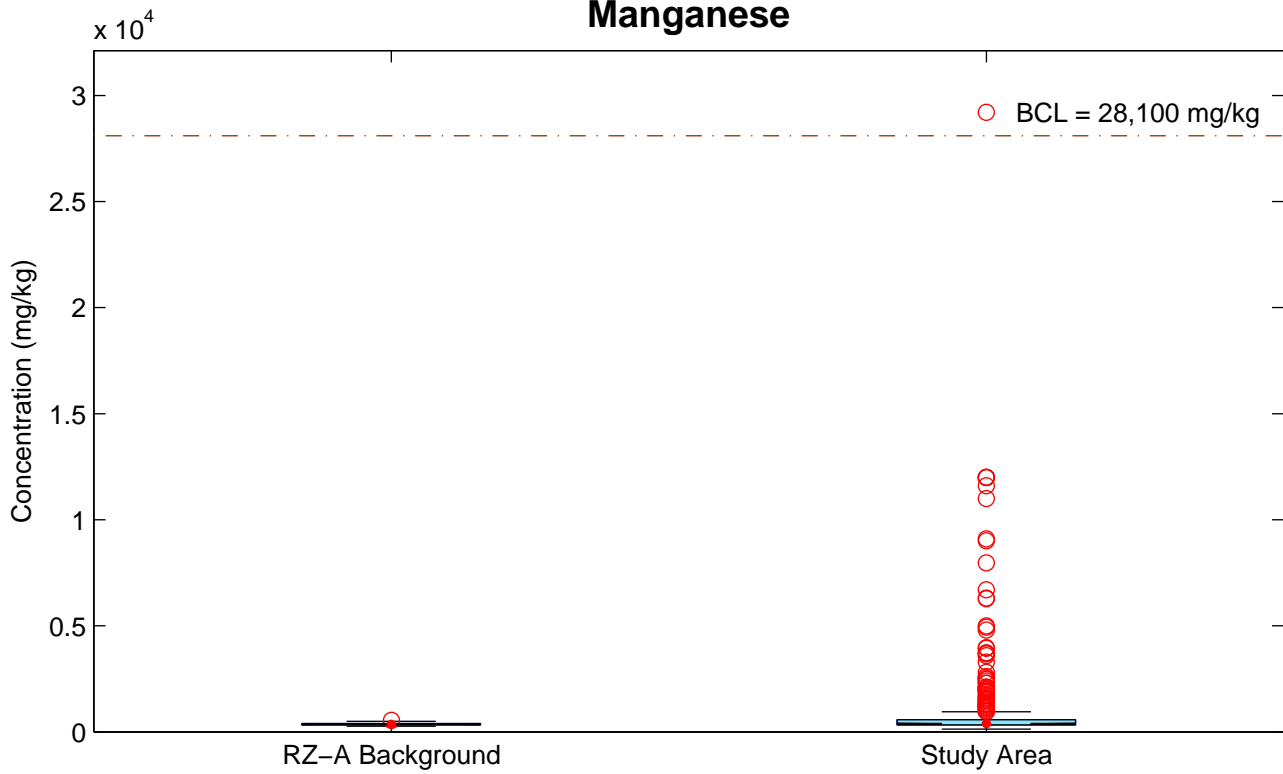
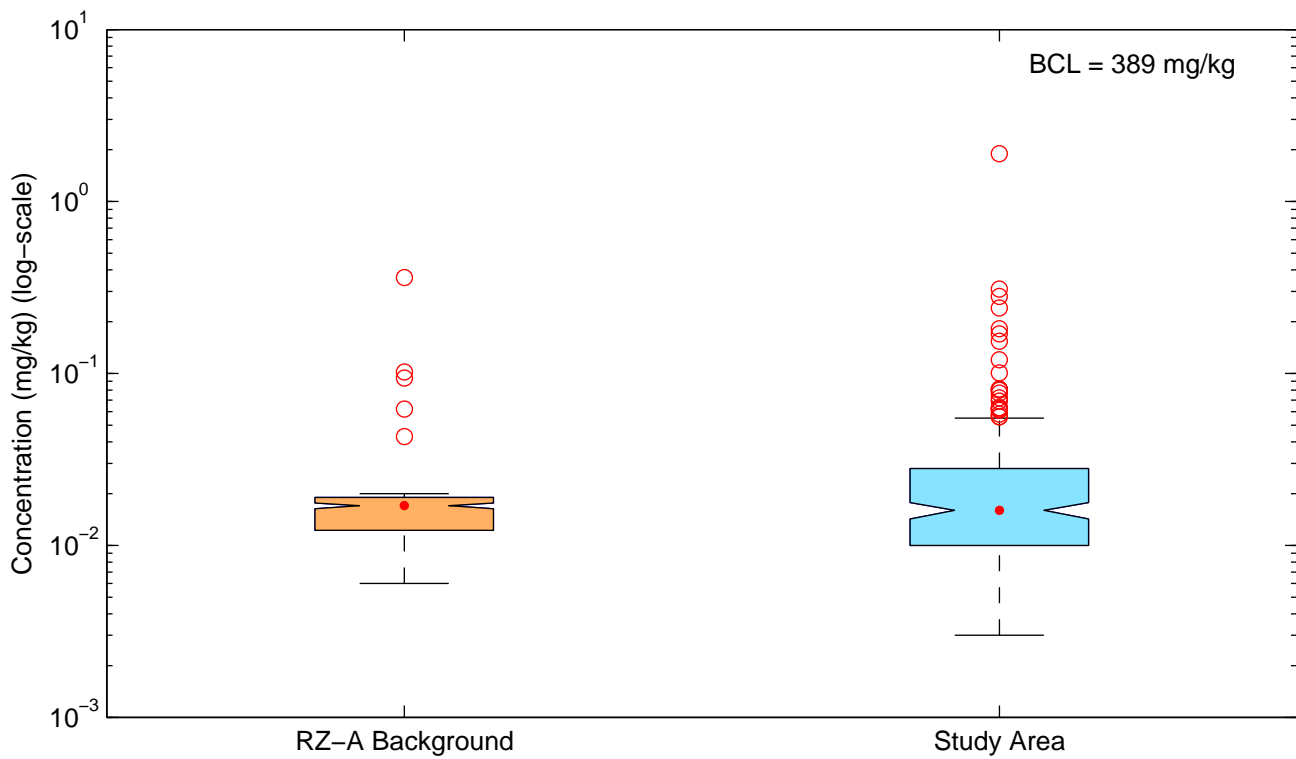
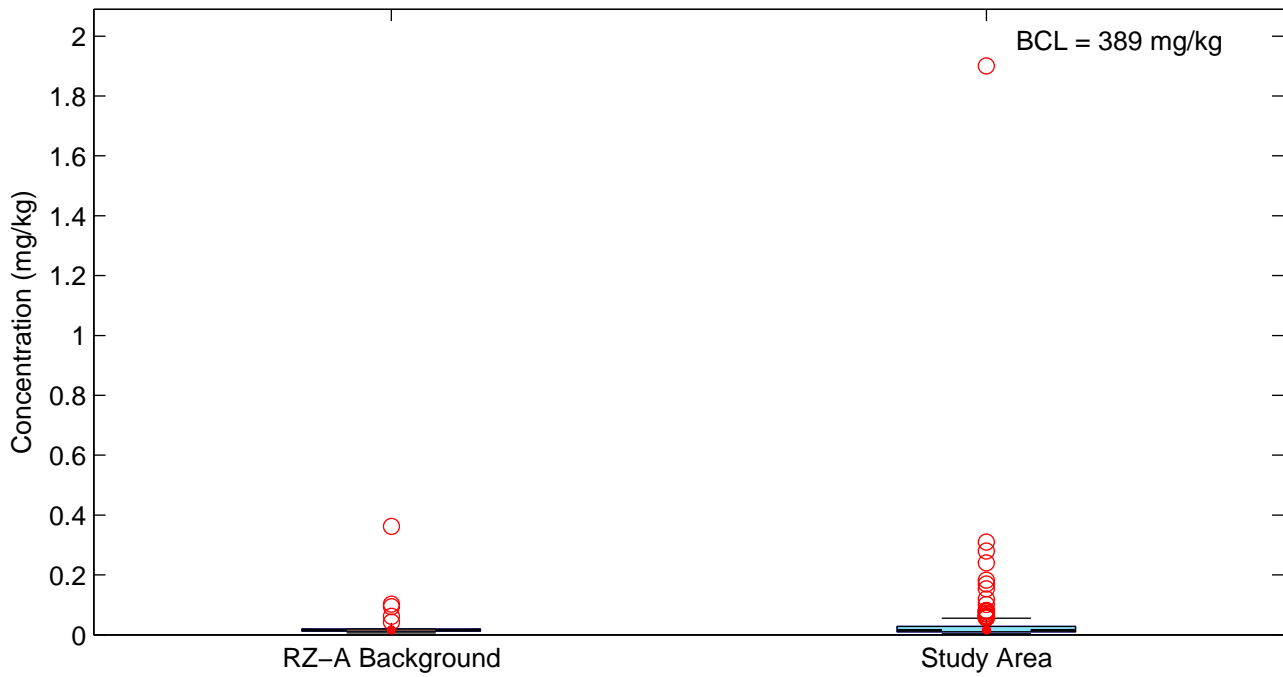


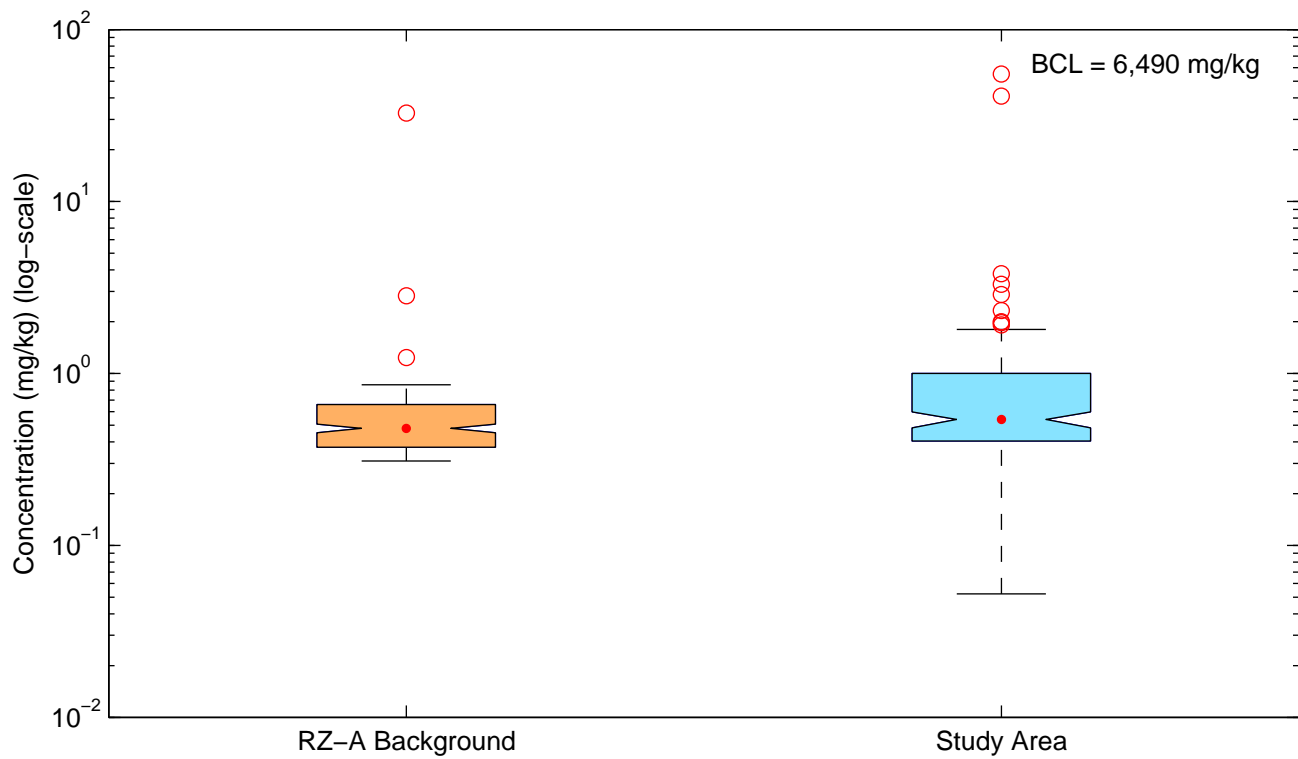
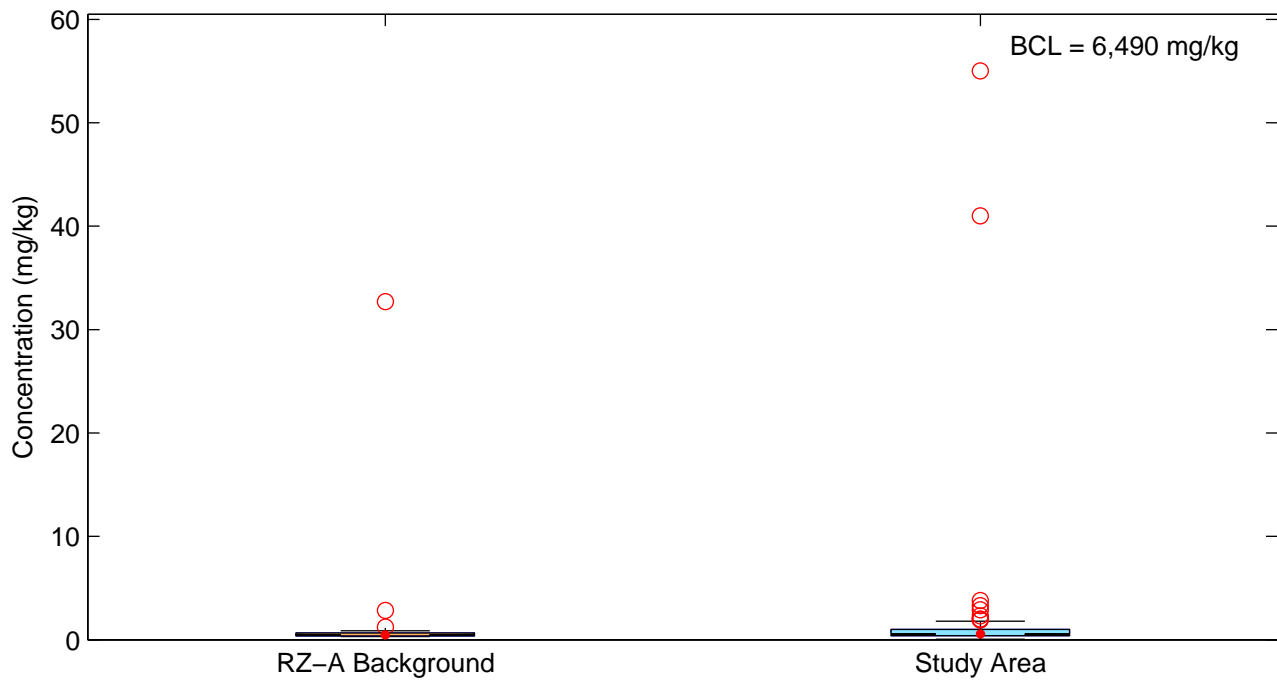
Figure F1-16. RZ-A Background vs. Study Area Boxplots Manganese



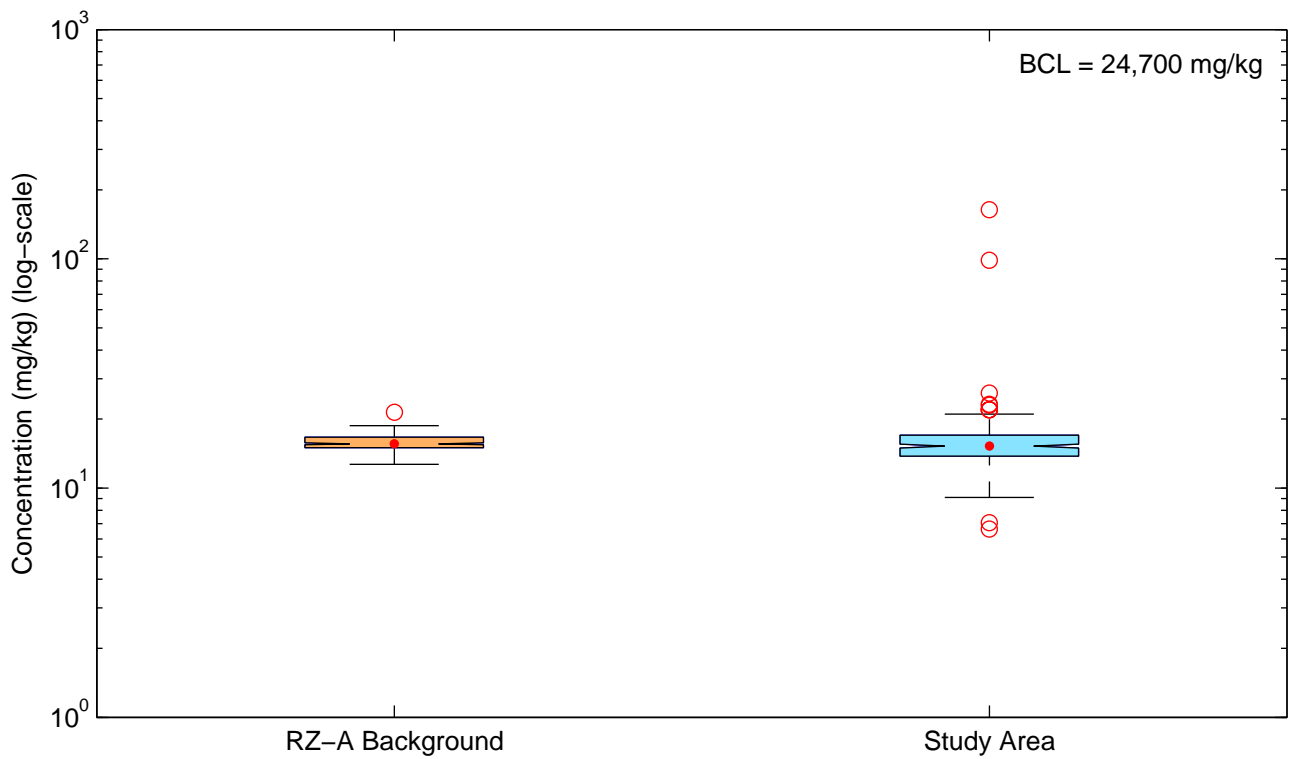
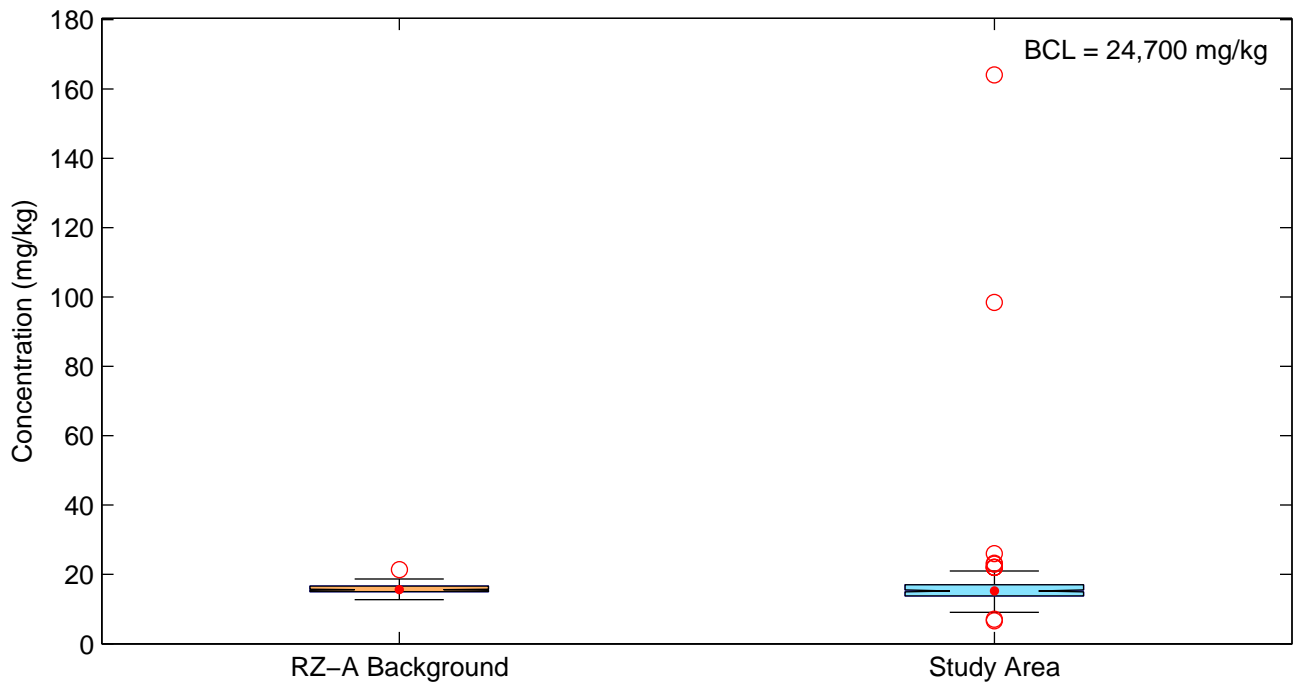
**Figure F1-17. RZ-A Background vs. Study Area Boxplots
Mercury**



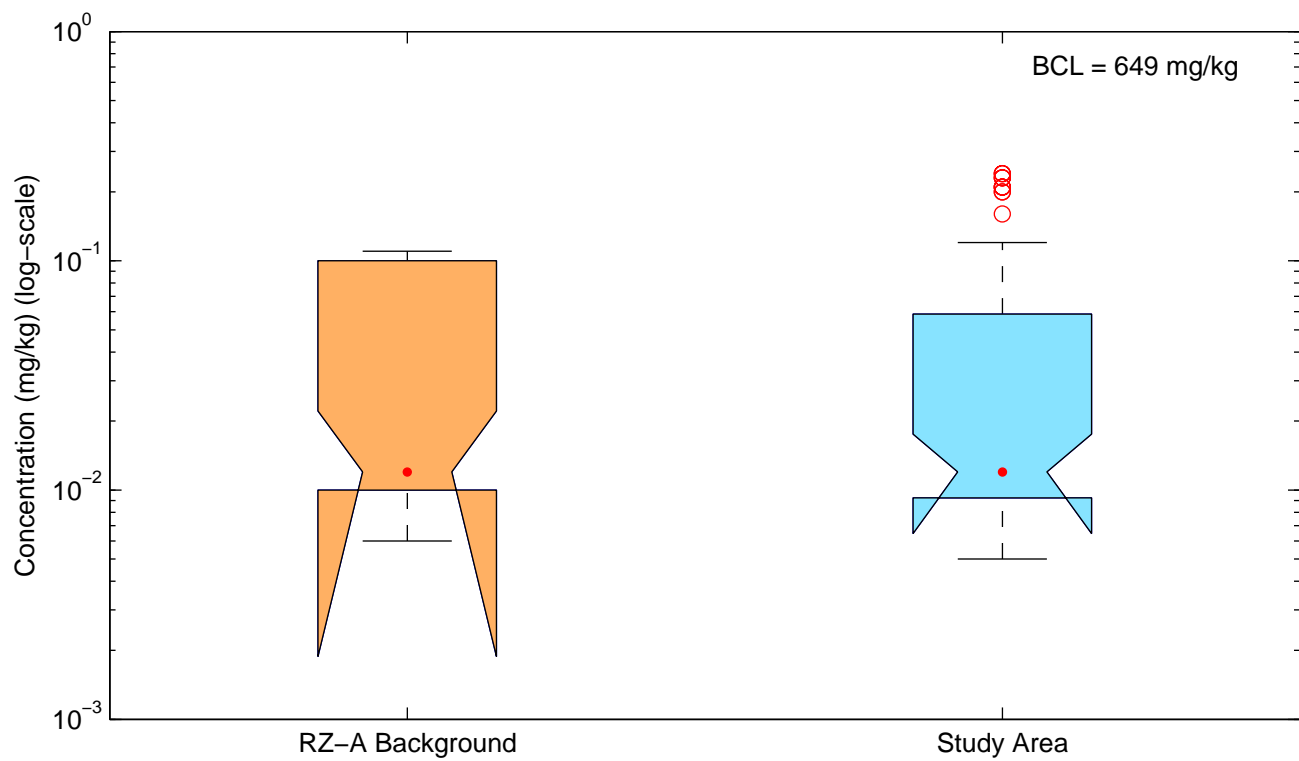
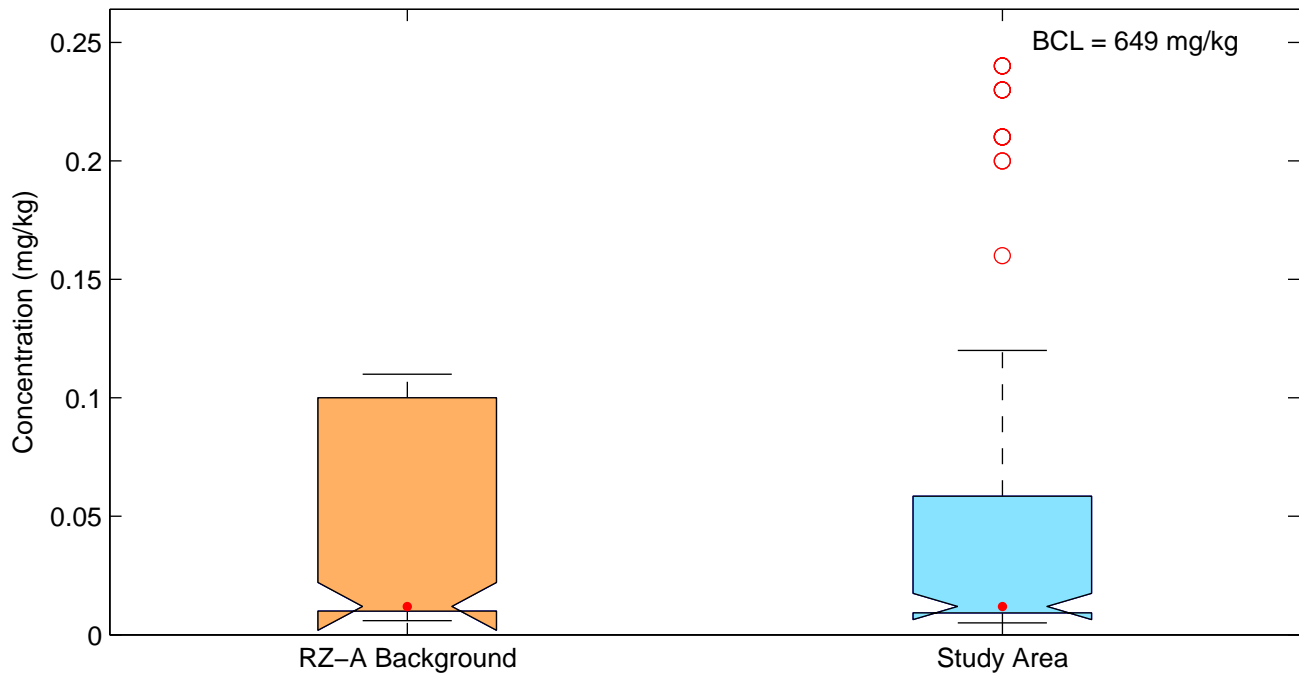
**Figure F1-18. RZ-A Background vs. Study Area Boxplots
Molybdenum**



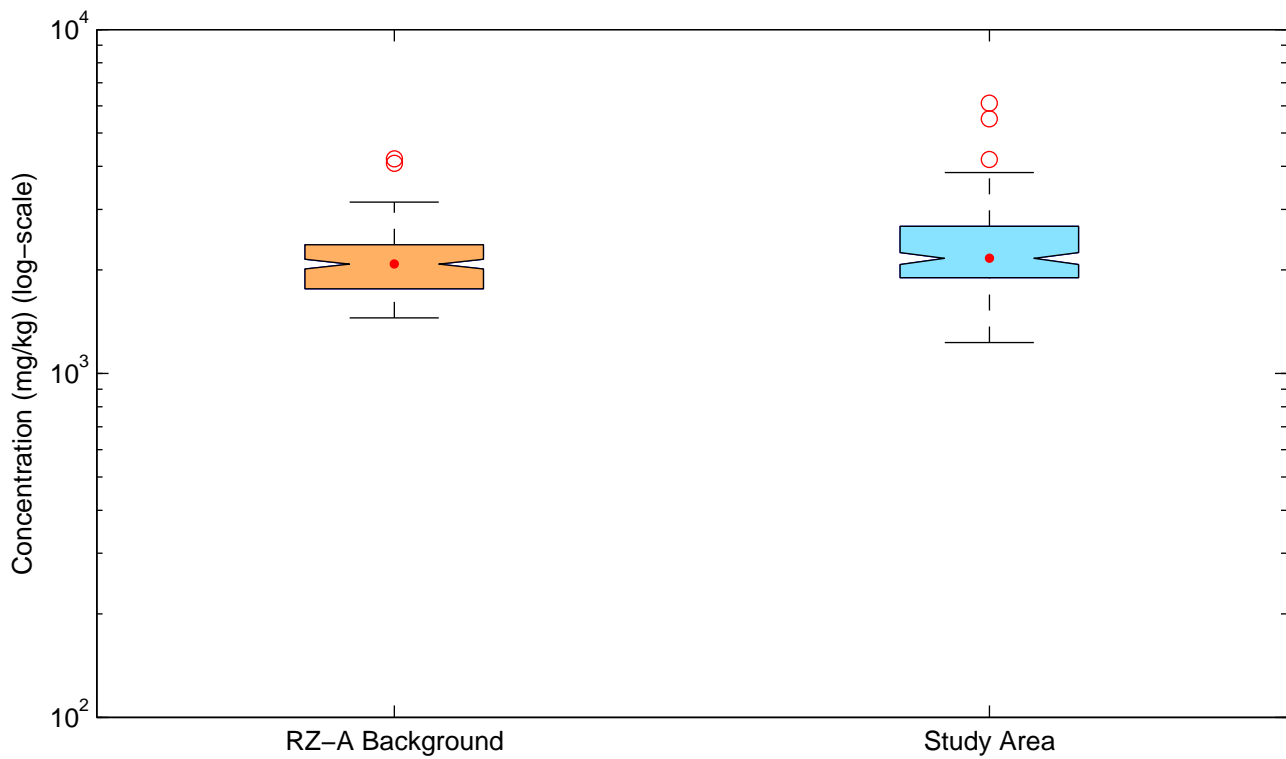
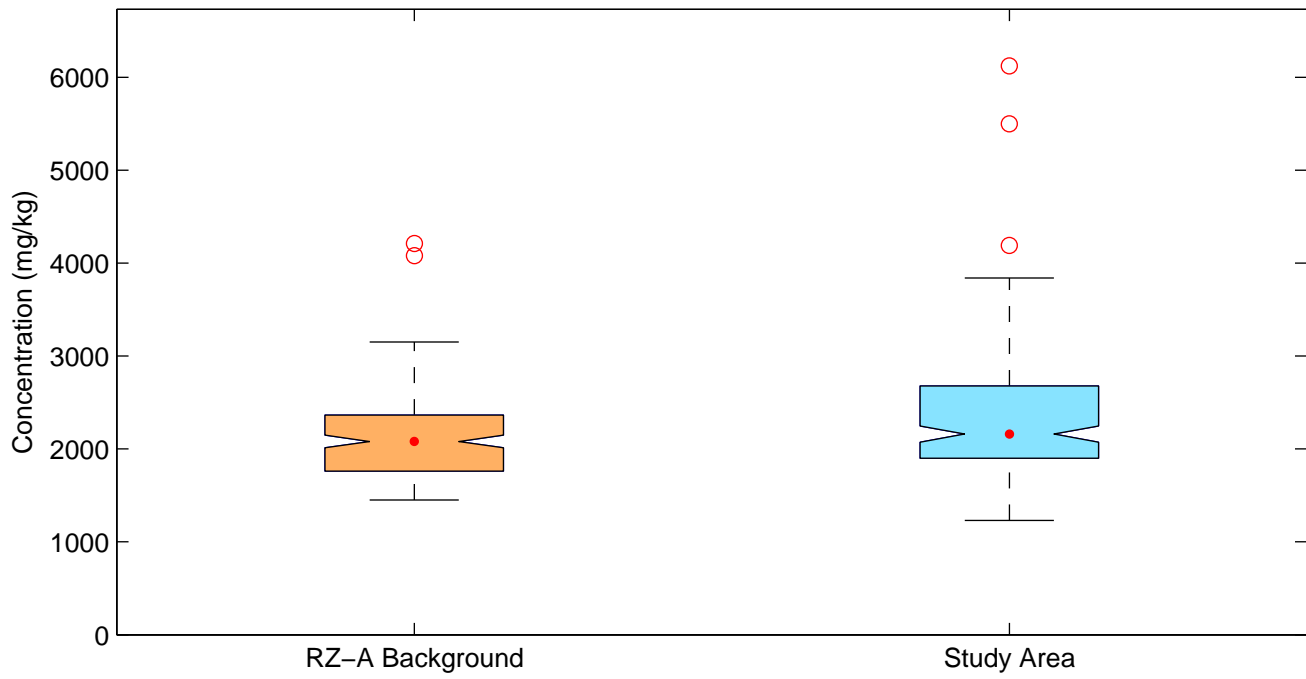
**Figure F1-19. RZ-A Background vs. Study Area Boxplots
Nickel**



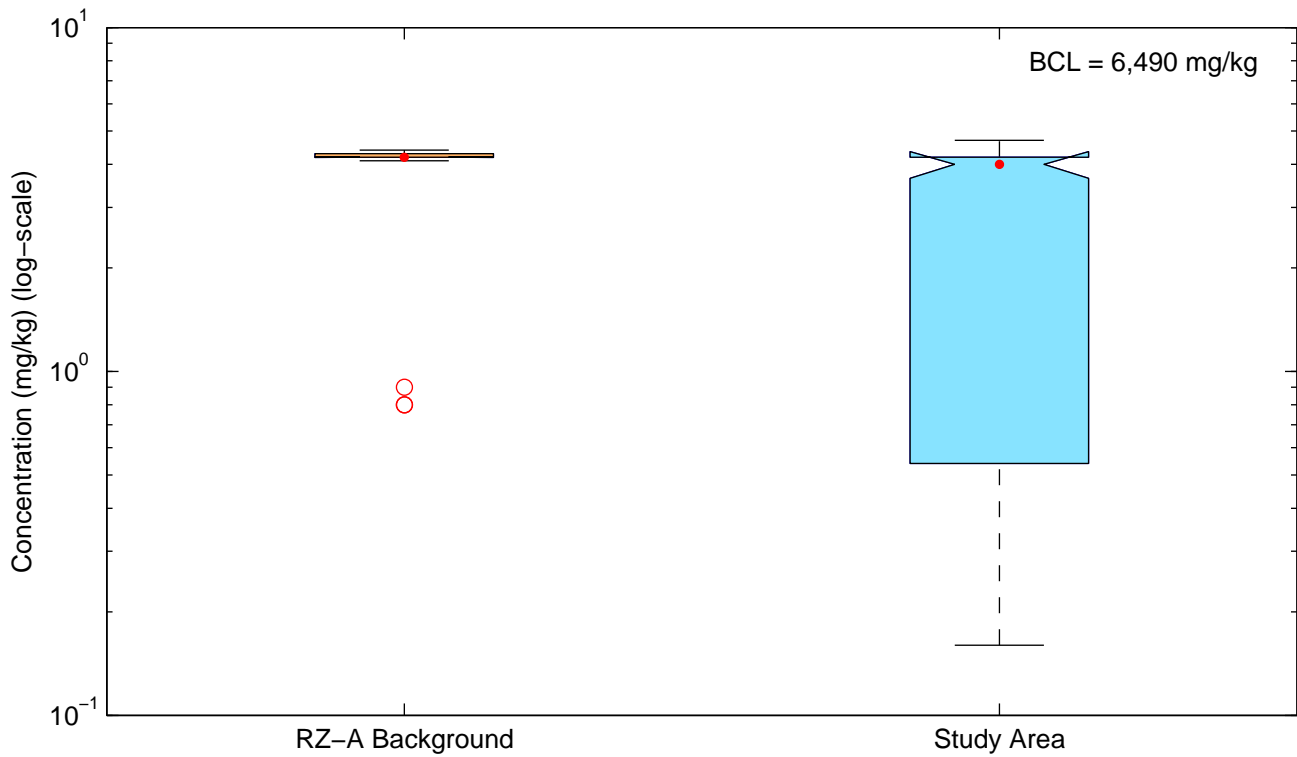
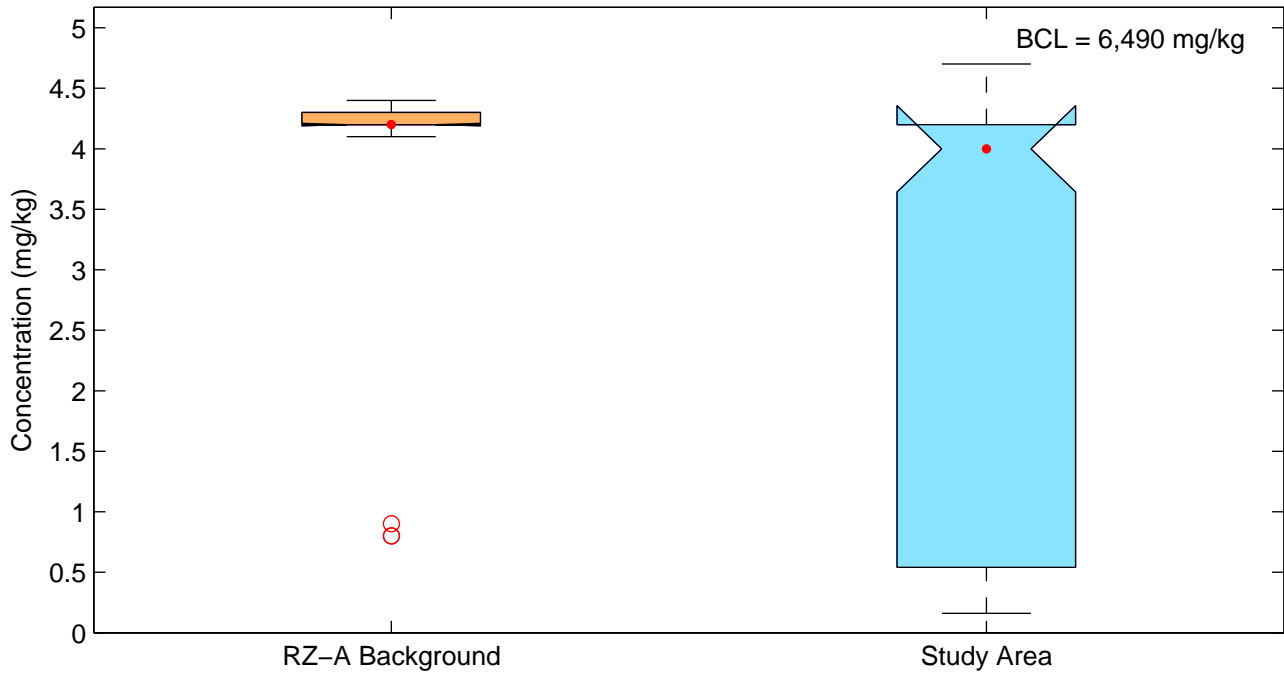
**Figure F1-20. RZ-A Background vs. Study Area Boxplots
Platinum**



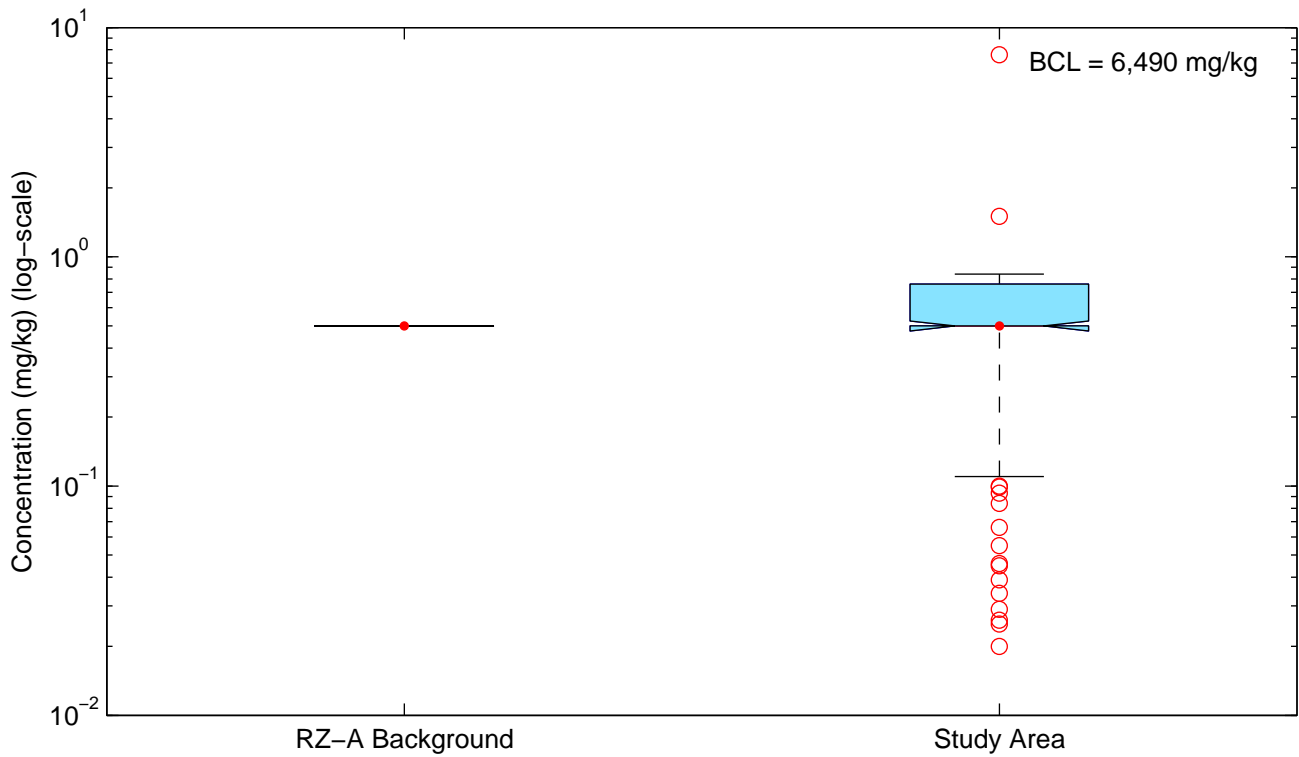
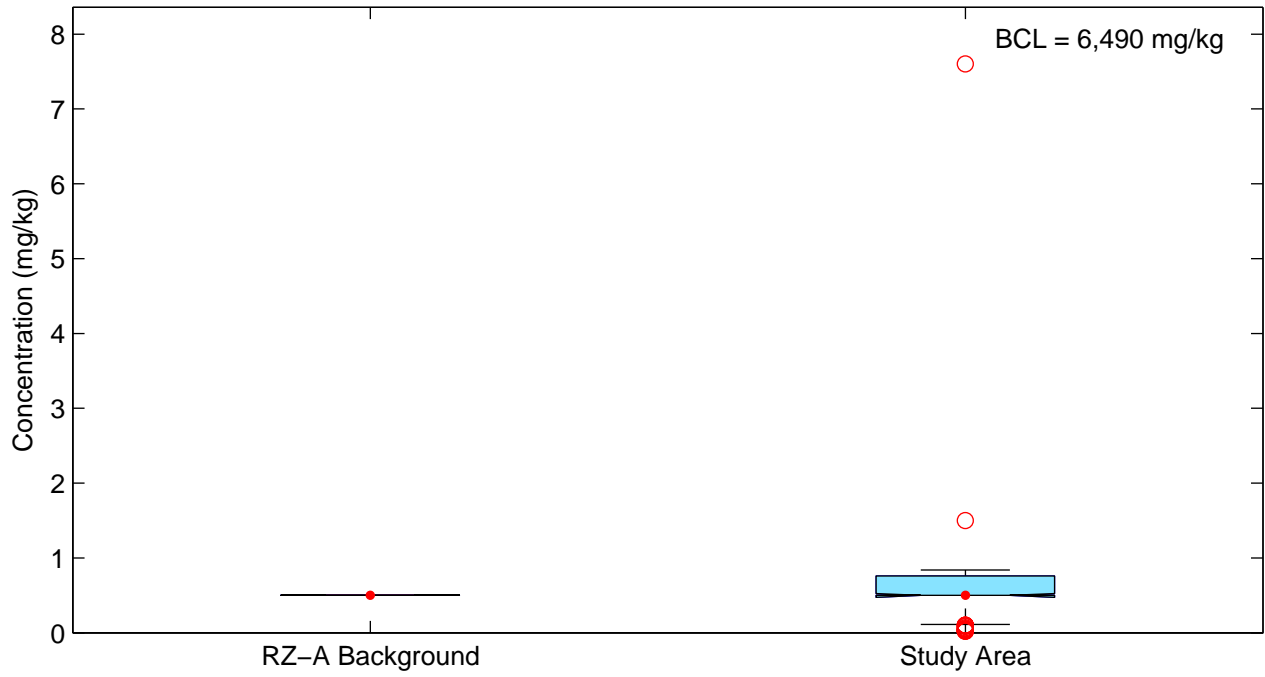
**Figure F1-21. RZ-A Background vs. Study Area Boxplots
Potassium**



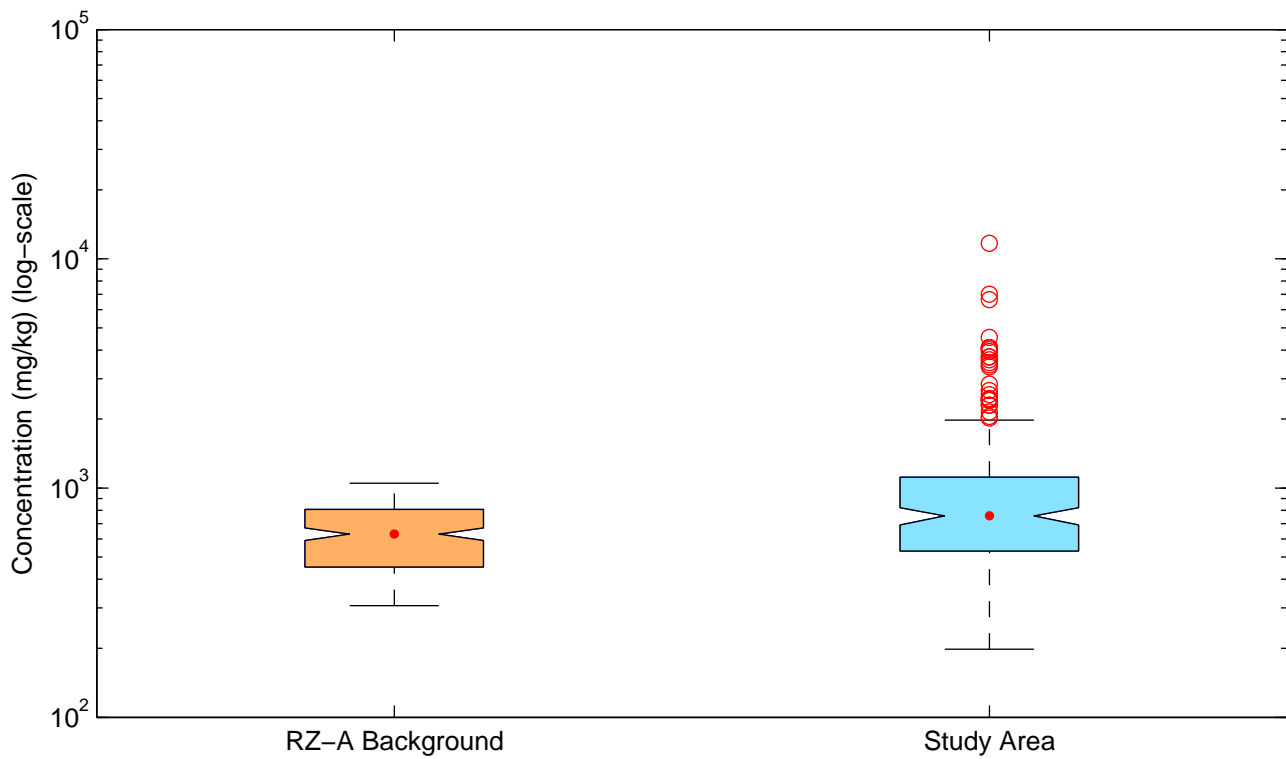
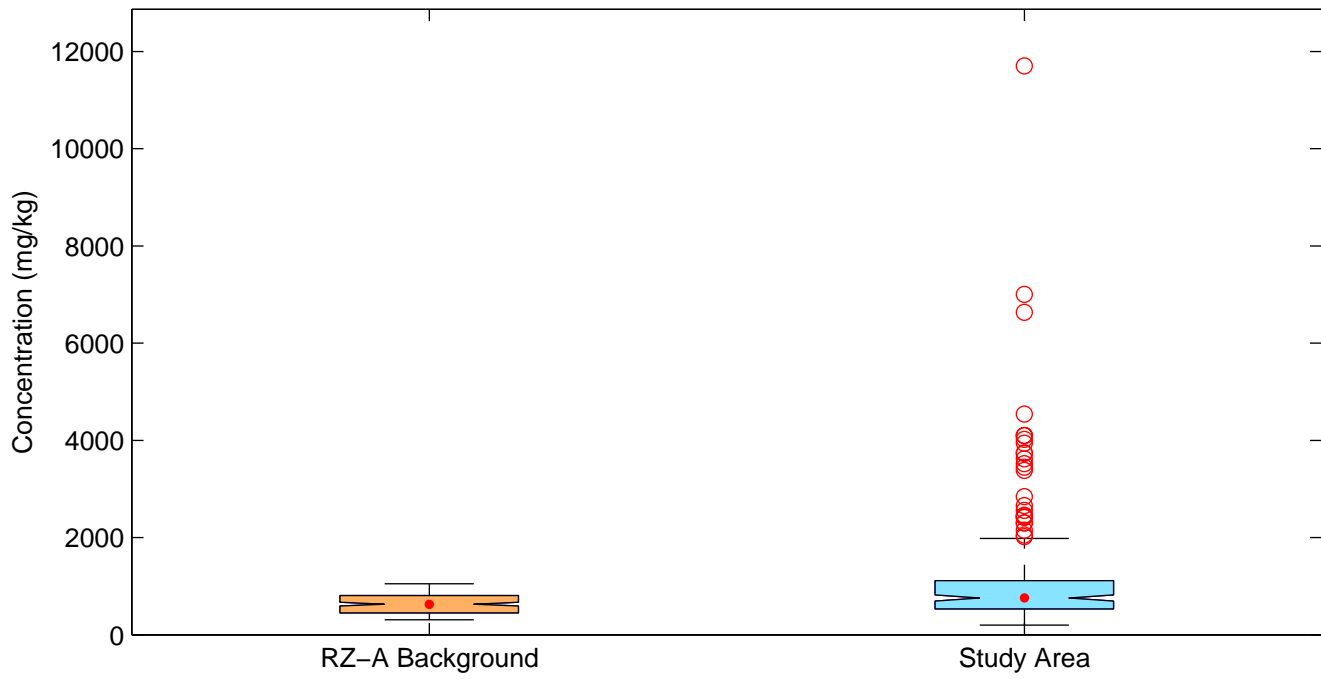
**Figure F1-22. RZ-A Background vs. Study Area Boxplots
Selenium**



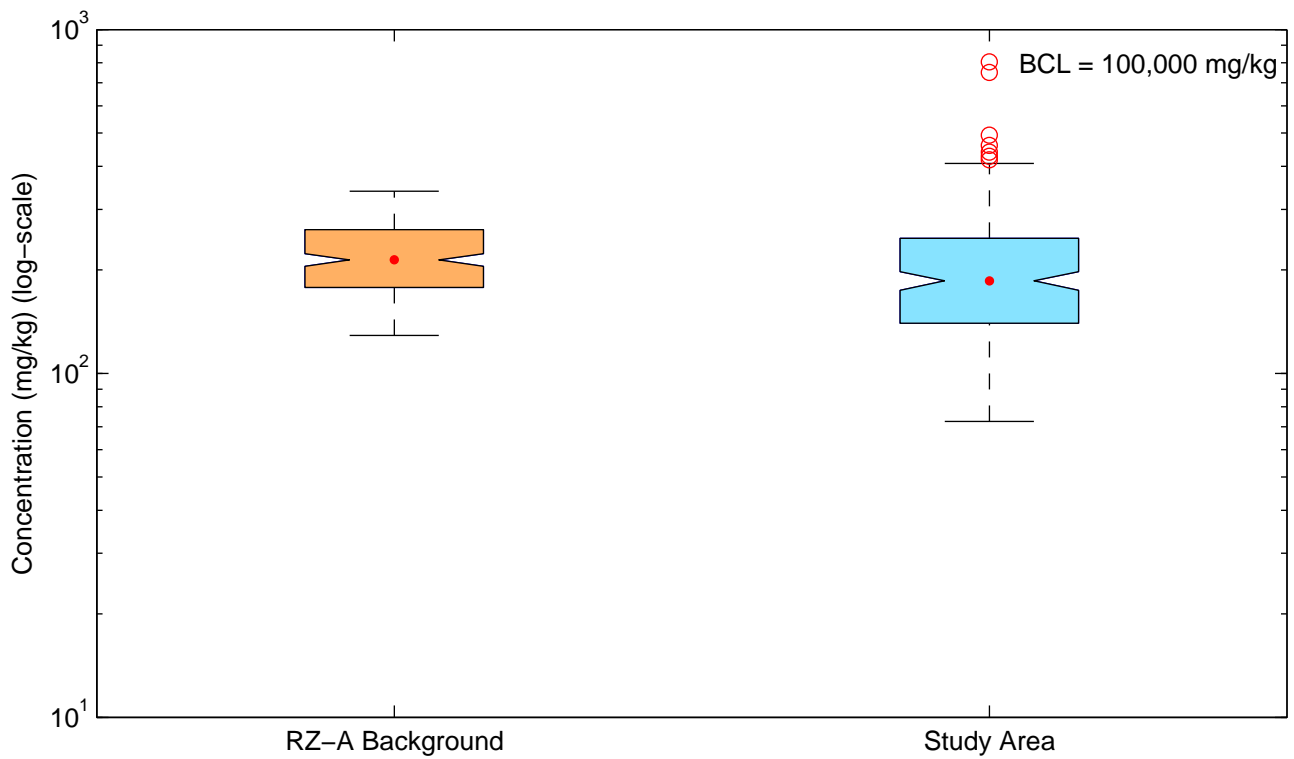
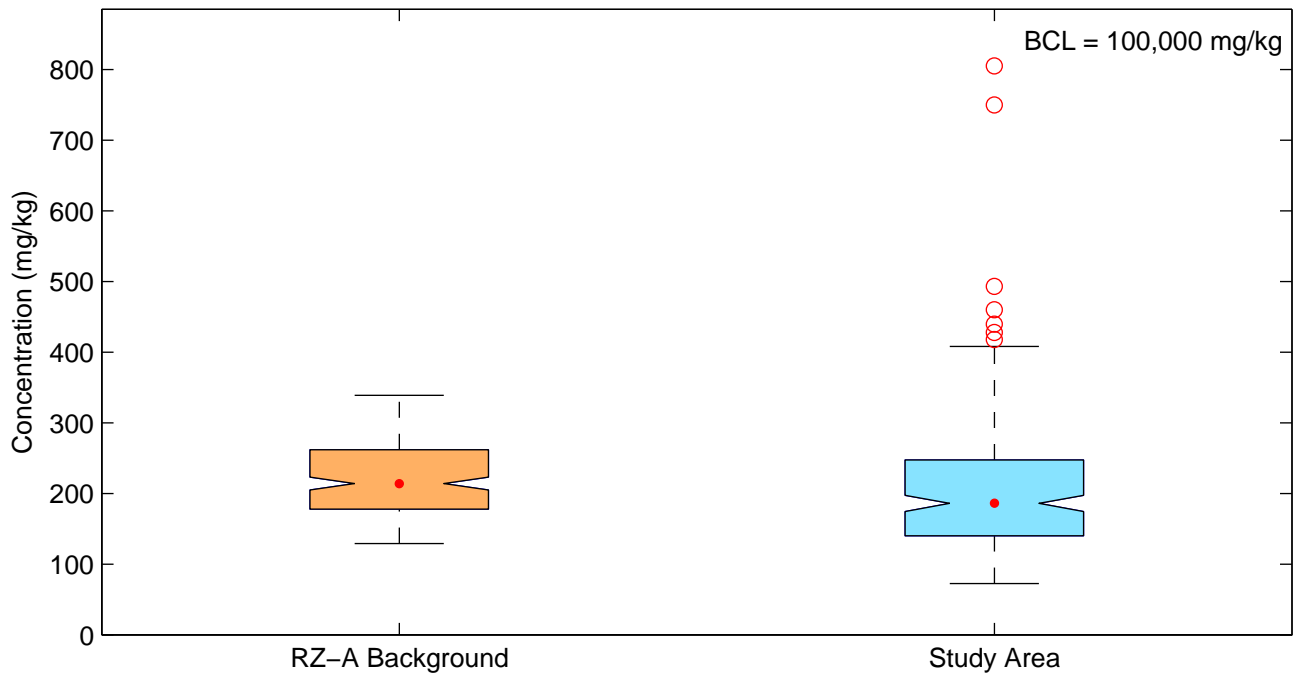
**Figure F1-23. RZ-A Background vs. Study Area Boxplots
Silver**



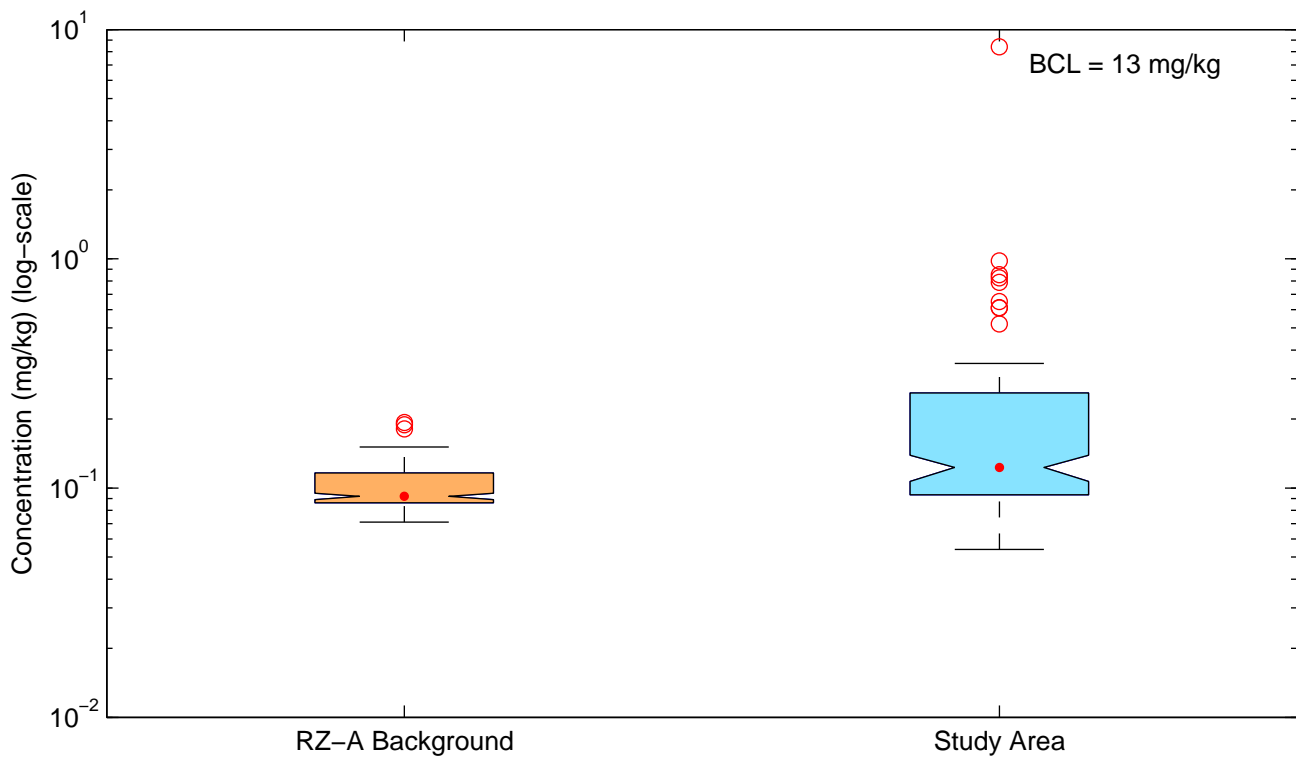
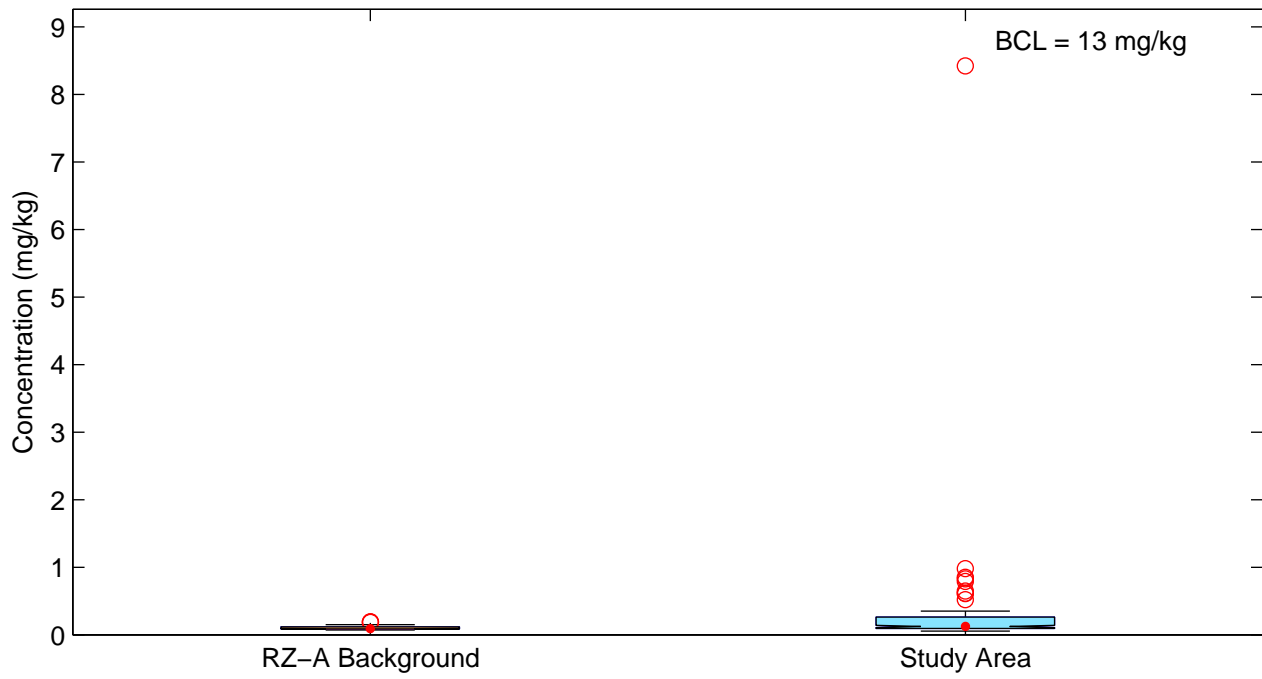
**Figure F1-24. RZ-A Background vs. Study Area Boxplots
Sodium**



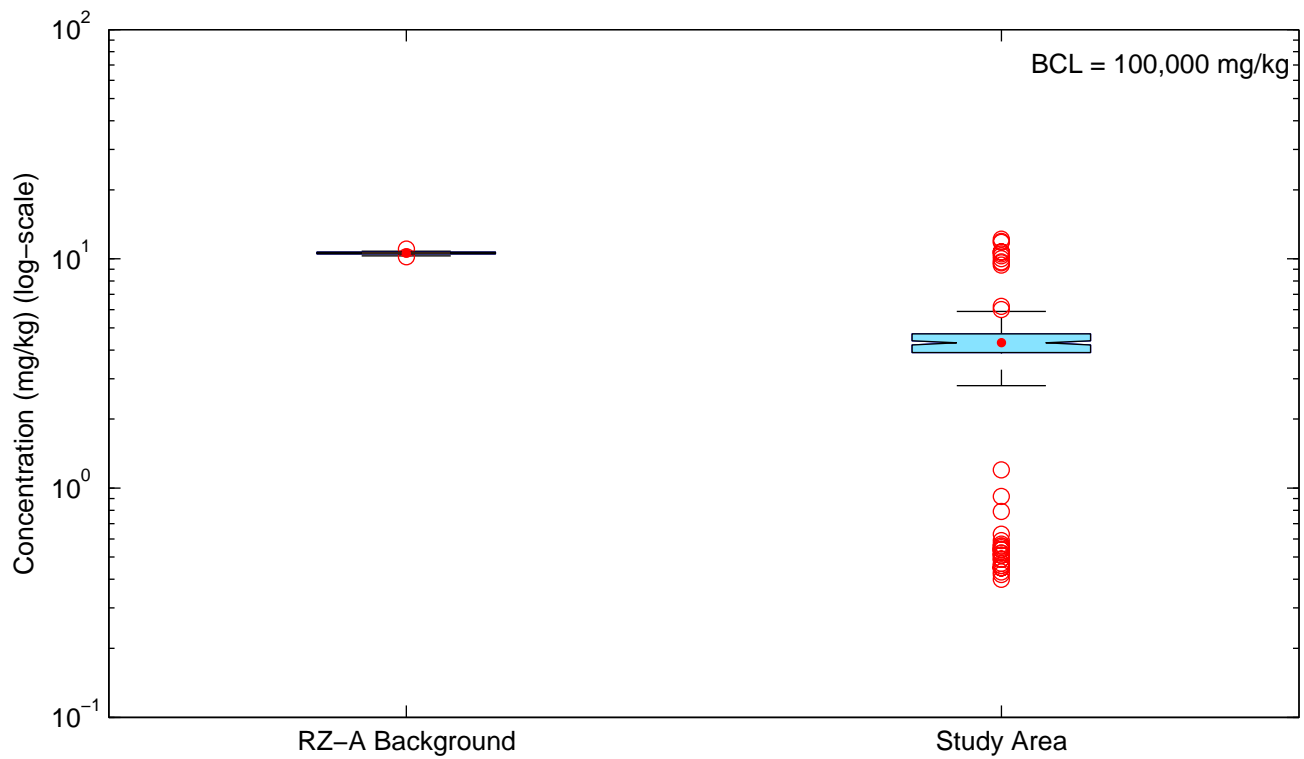
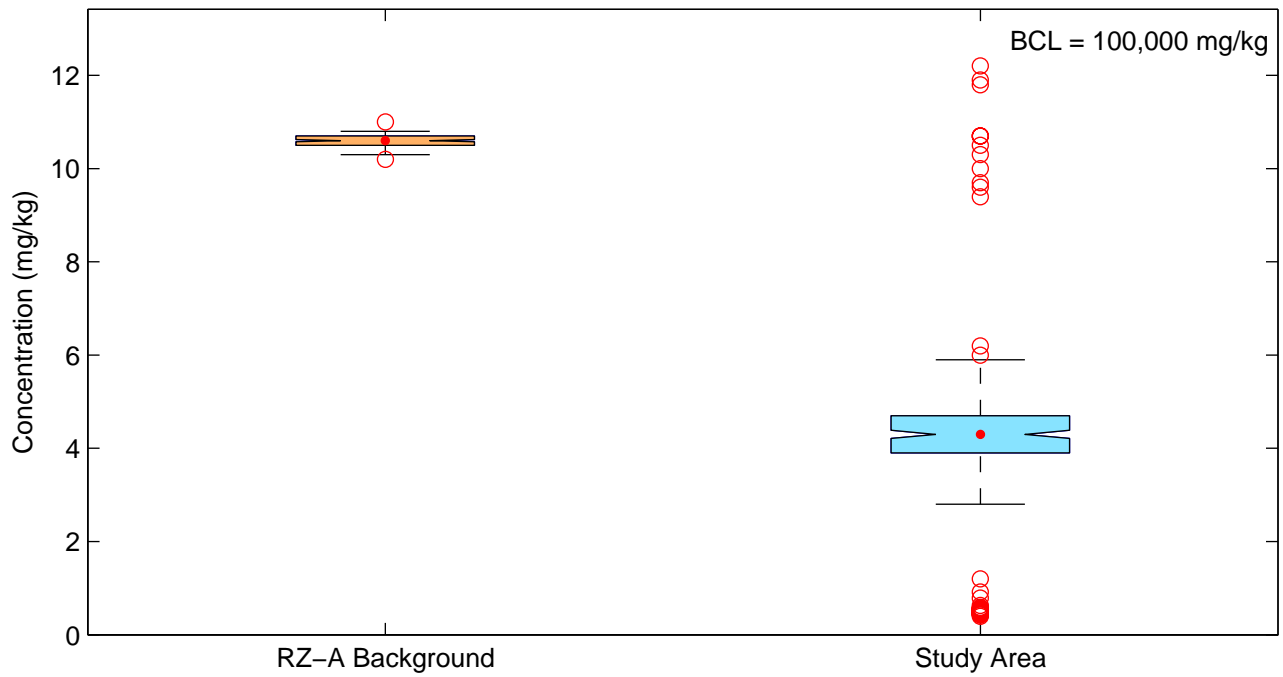
**Figure F1-25. RZ-A Background vs. Study Area Boxplots
Strontium**



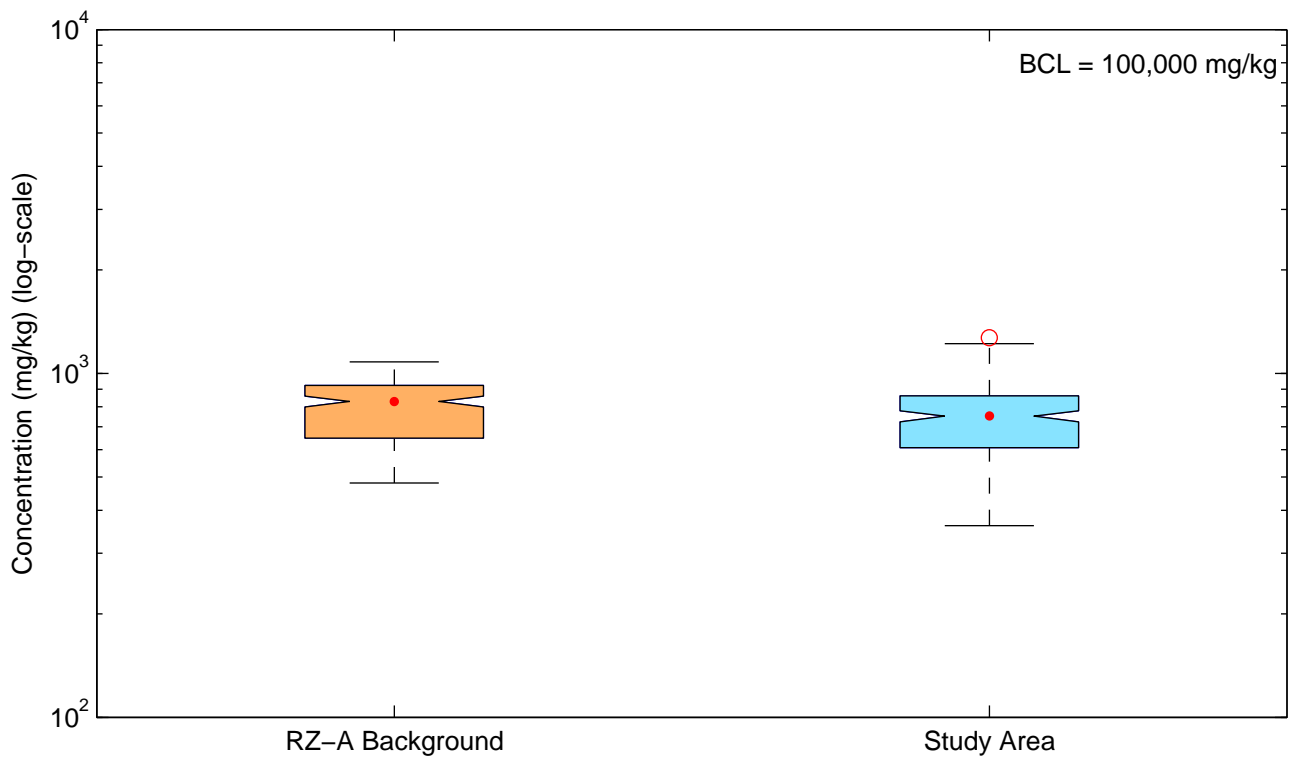
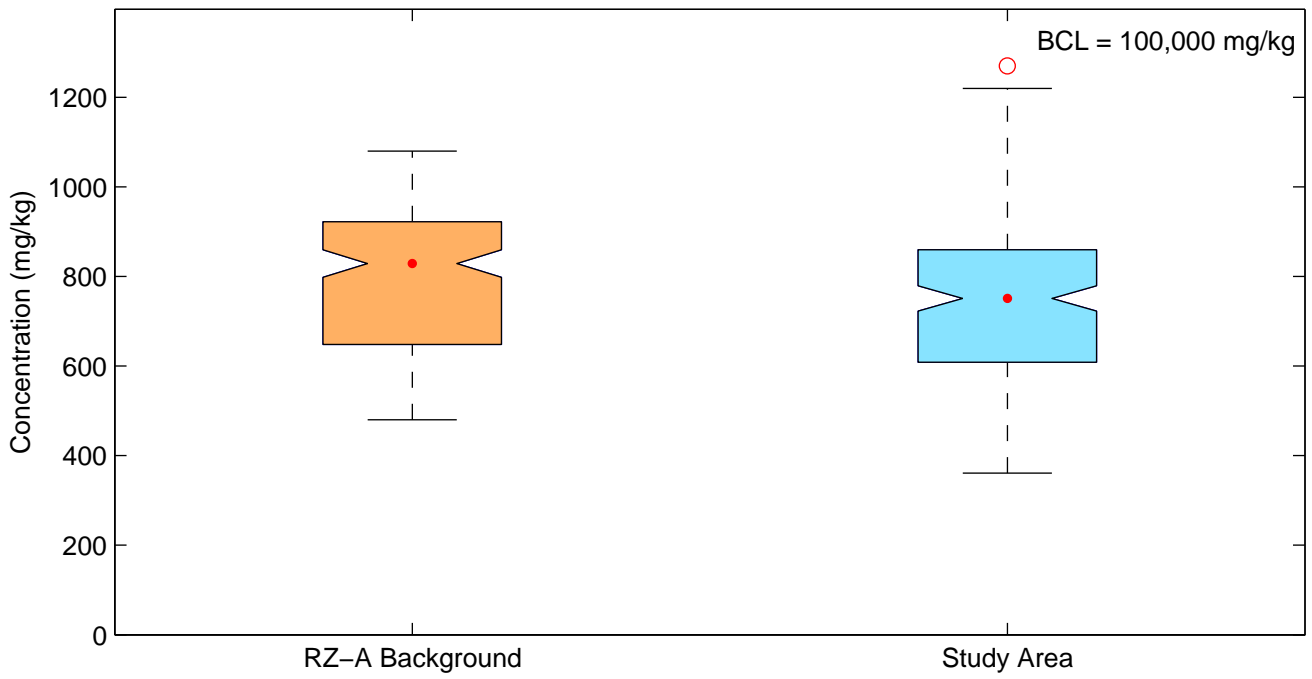
**Figure F1-26. RZ-A Background vs. Study Area Boxplots
Thallium**



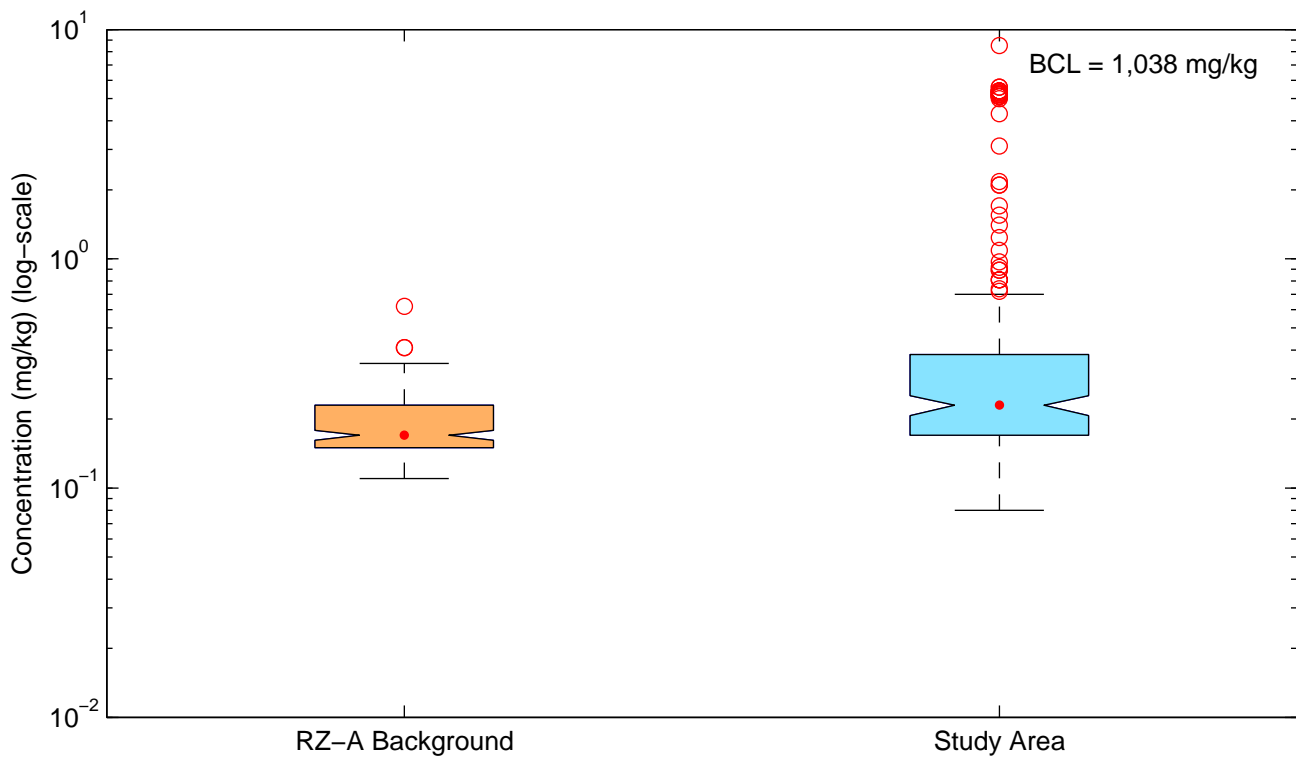
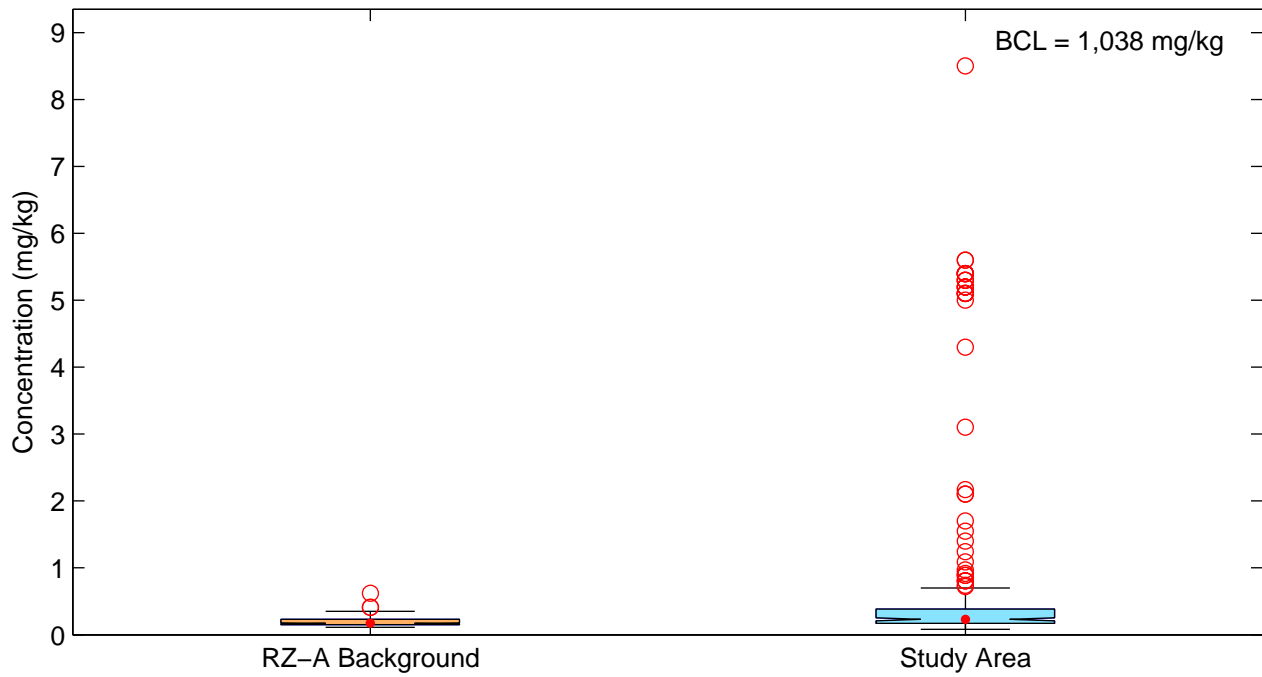
**Figure F1-27. RZ-A Background vs. Study Area Boxplots
Tin**



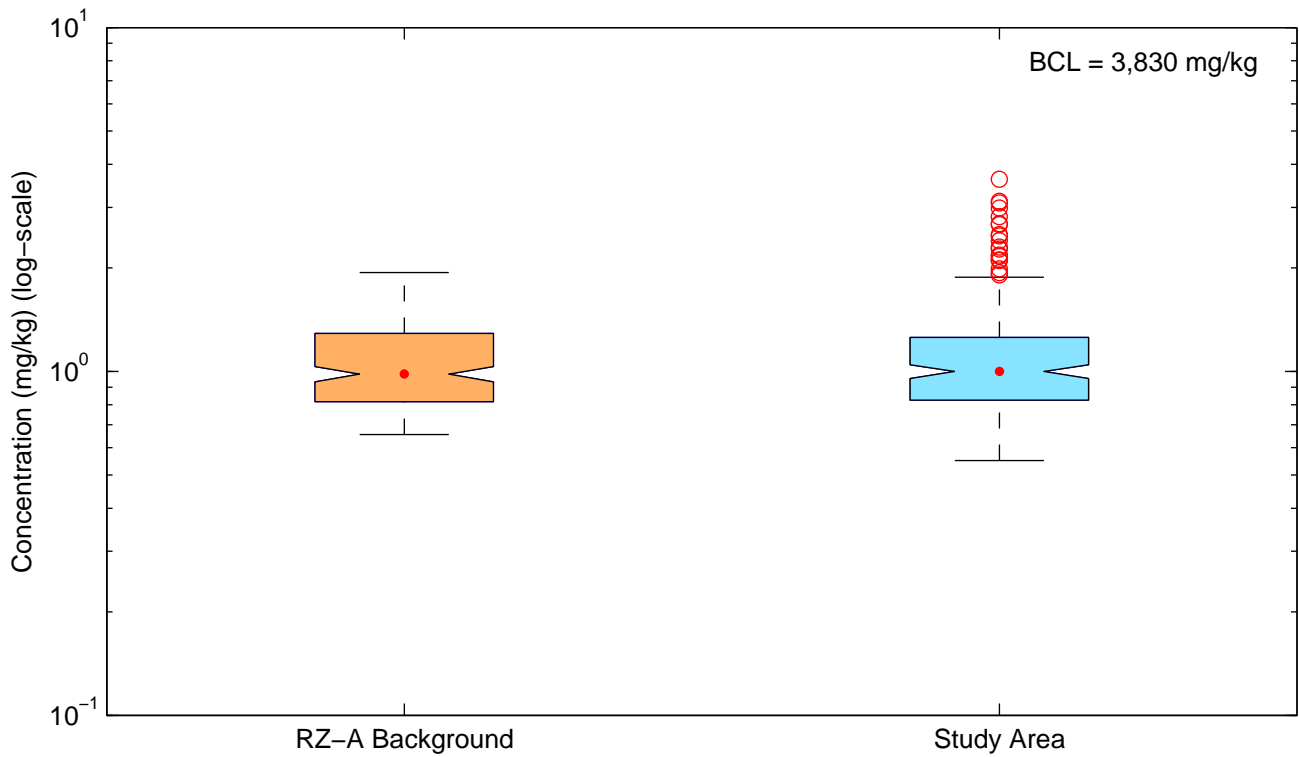
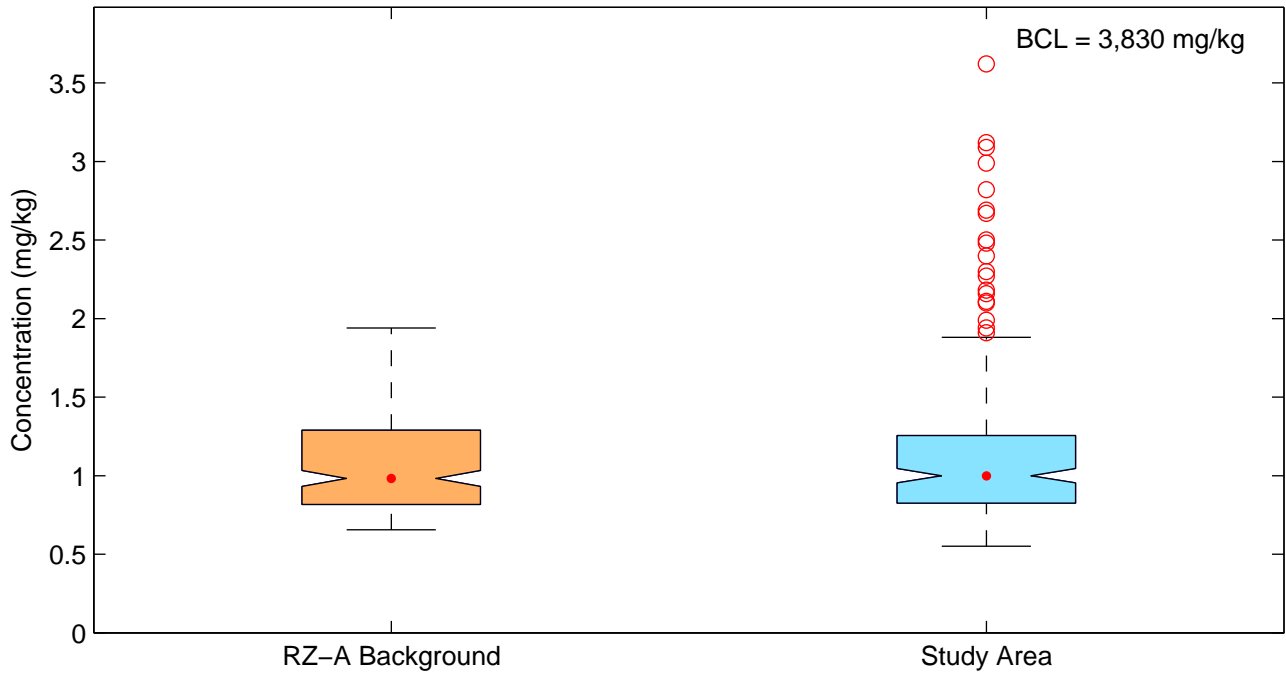
**Figure F1-28. RZ-A Background vs. Study Area Boxplots
Titanium**



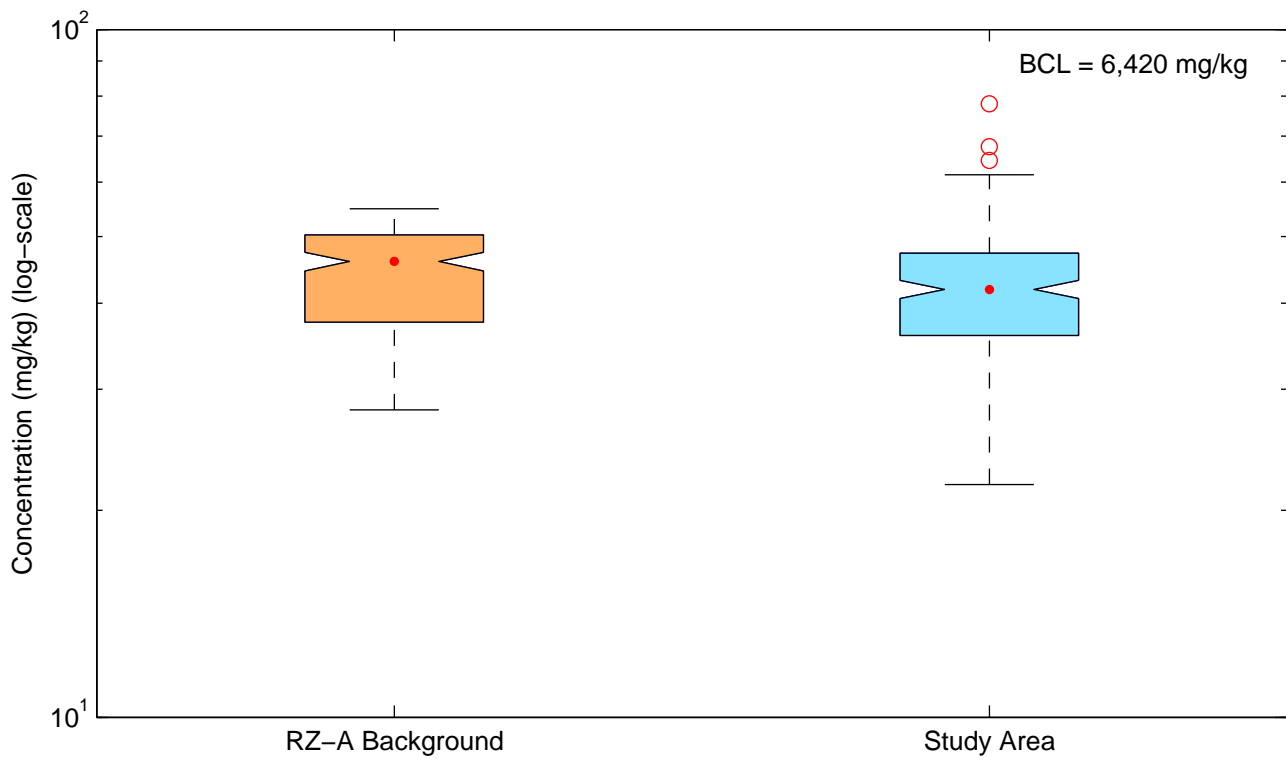
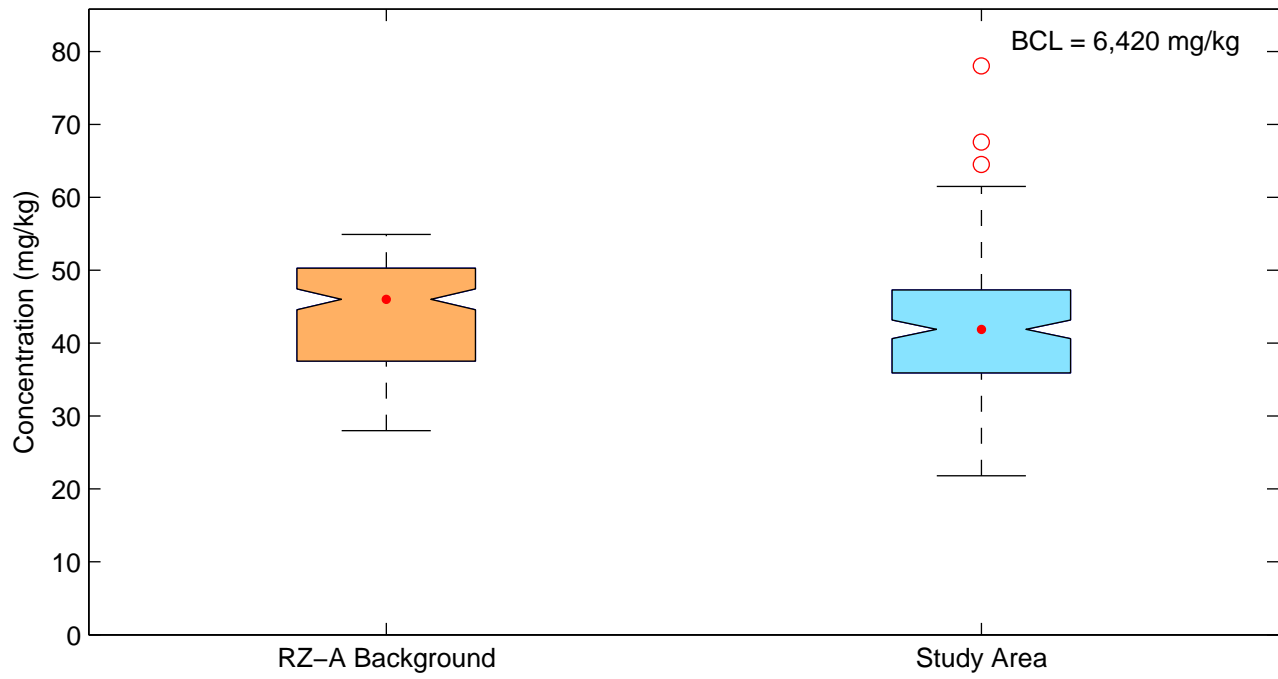
**Figure F1-29. RZ-A Background vs. Study Area Boxplots
Tungsten**



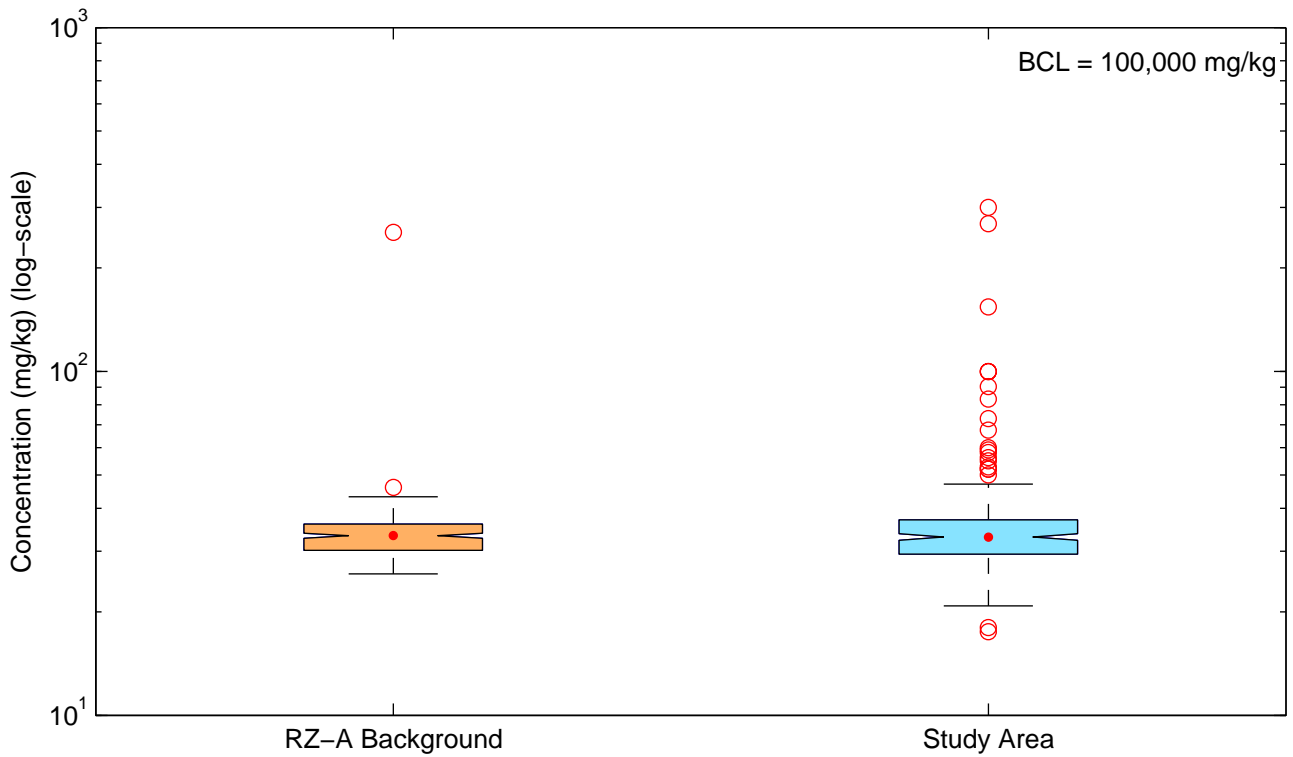
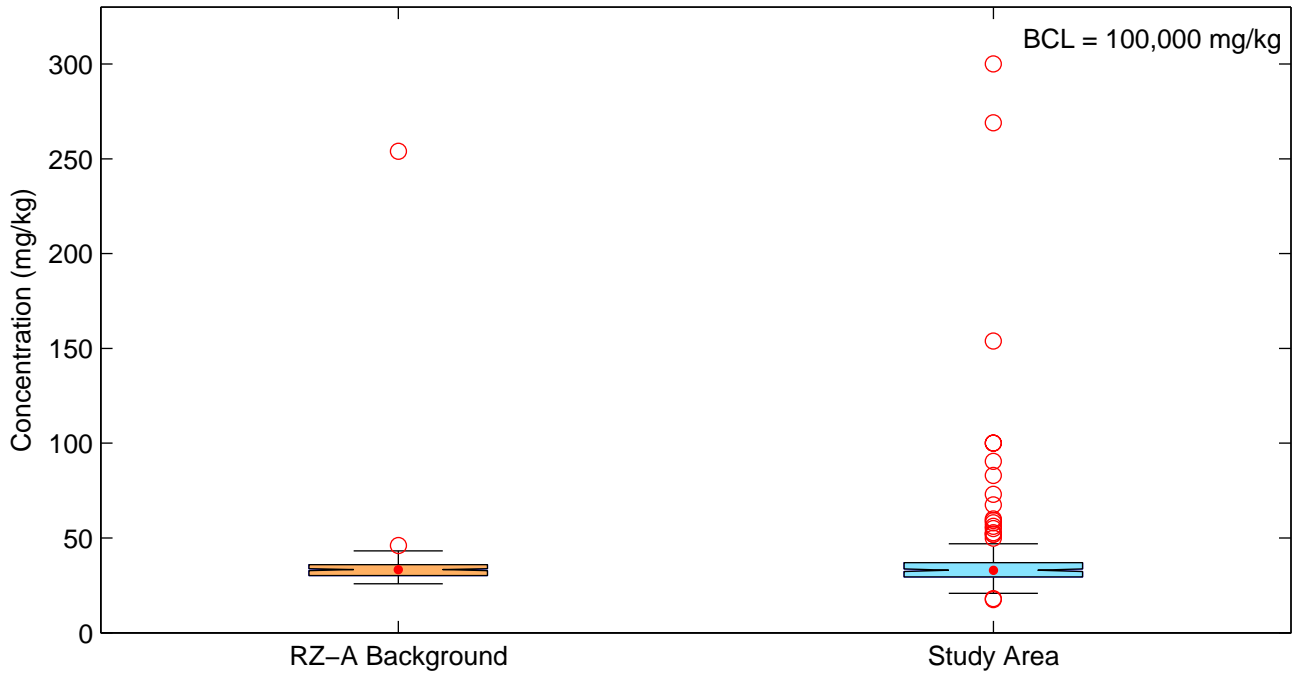
**Figure F1-30. RZ-A Background vs. Study Area Boxplots
Uranium (total)**



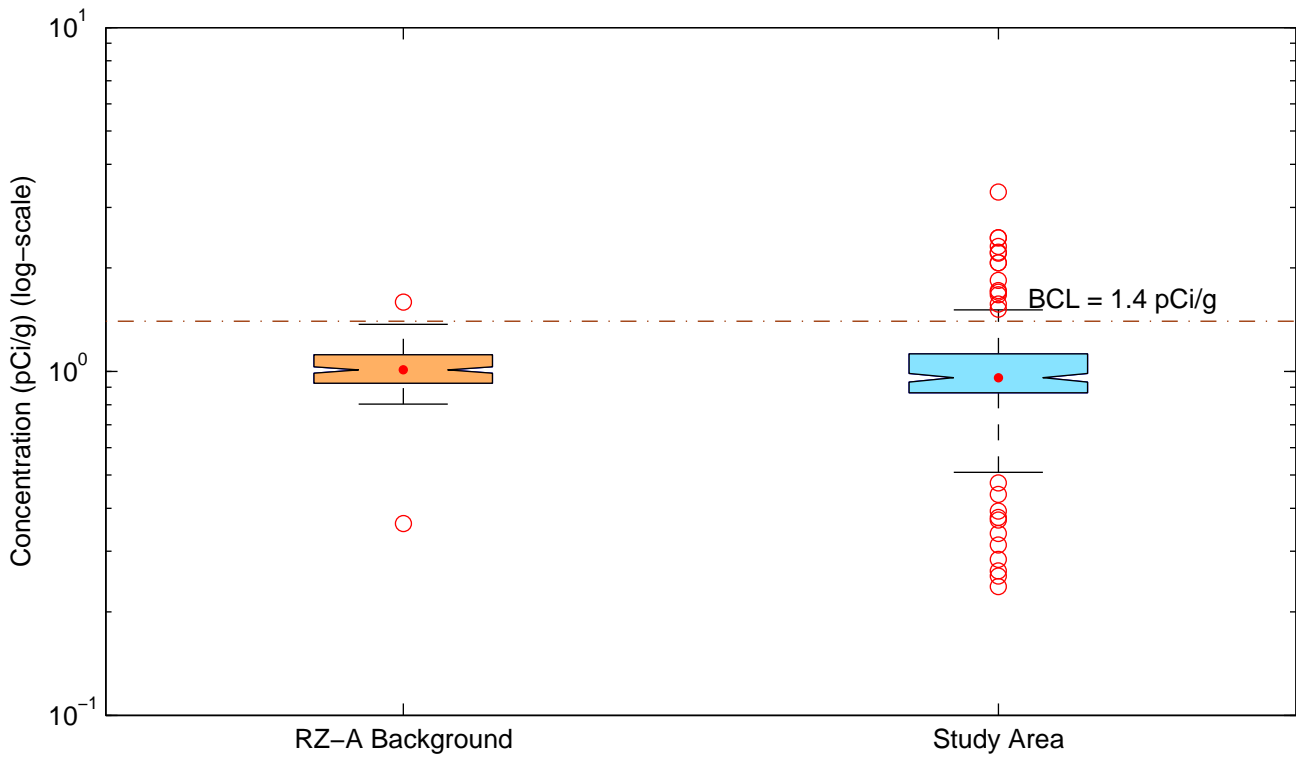
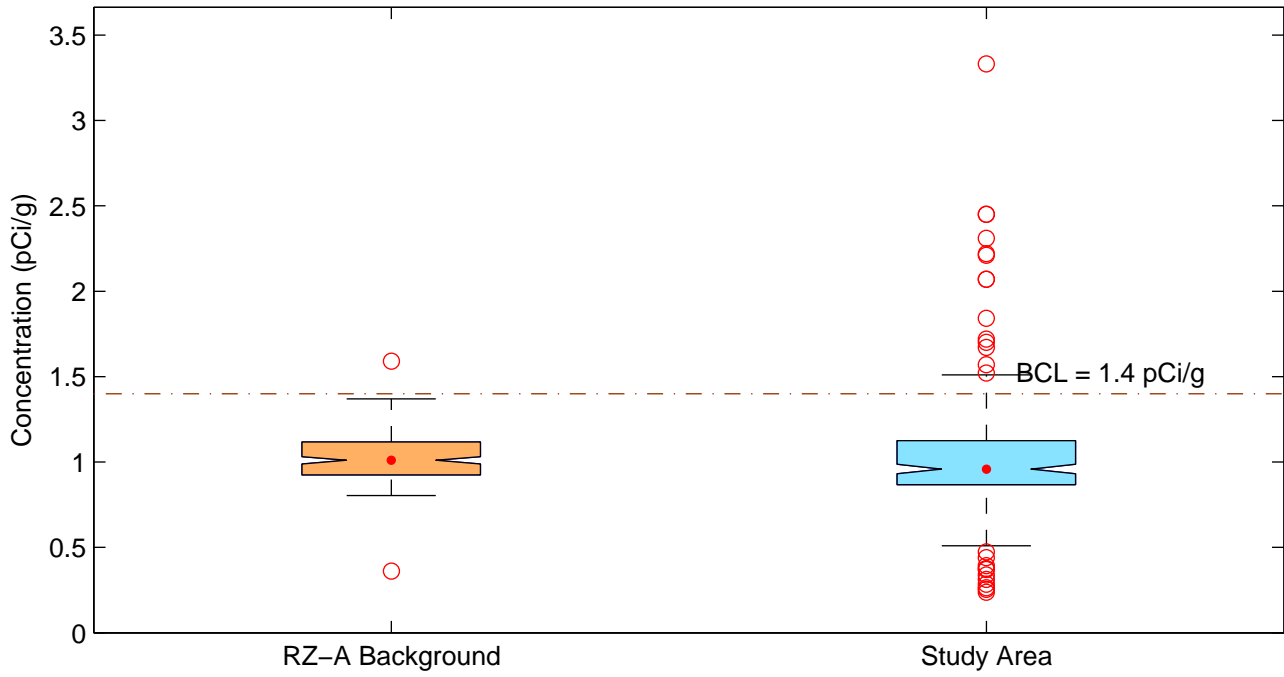
**Figure F1-31. RZ-A Background vs. Study Area Boxplots
Vanadium**



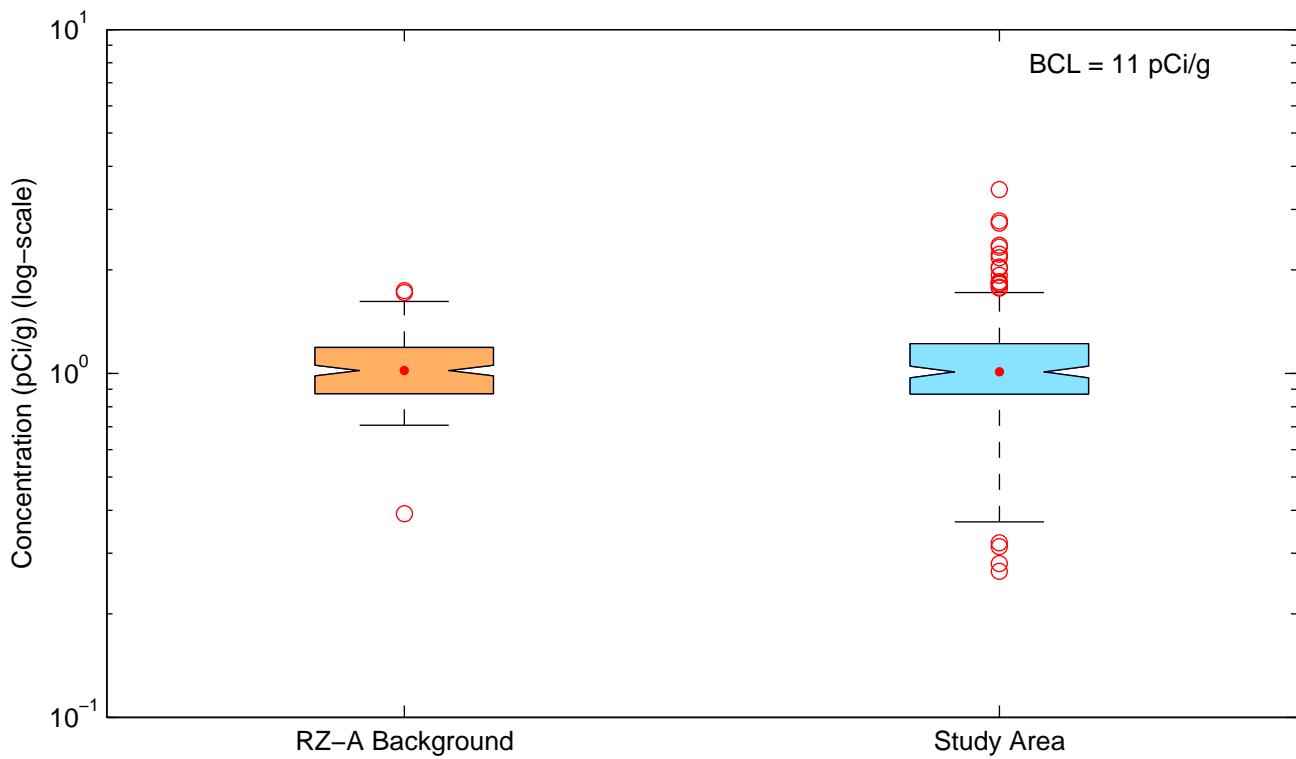
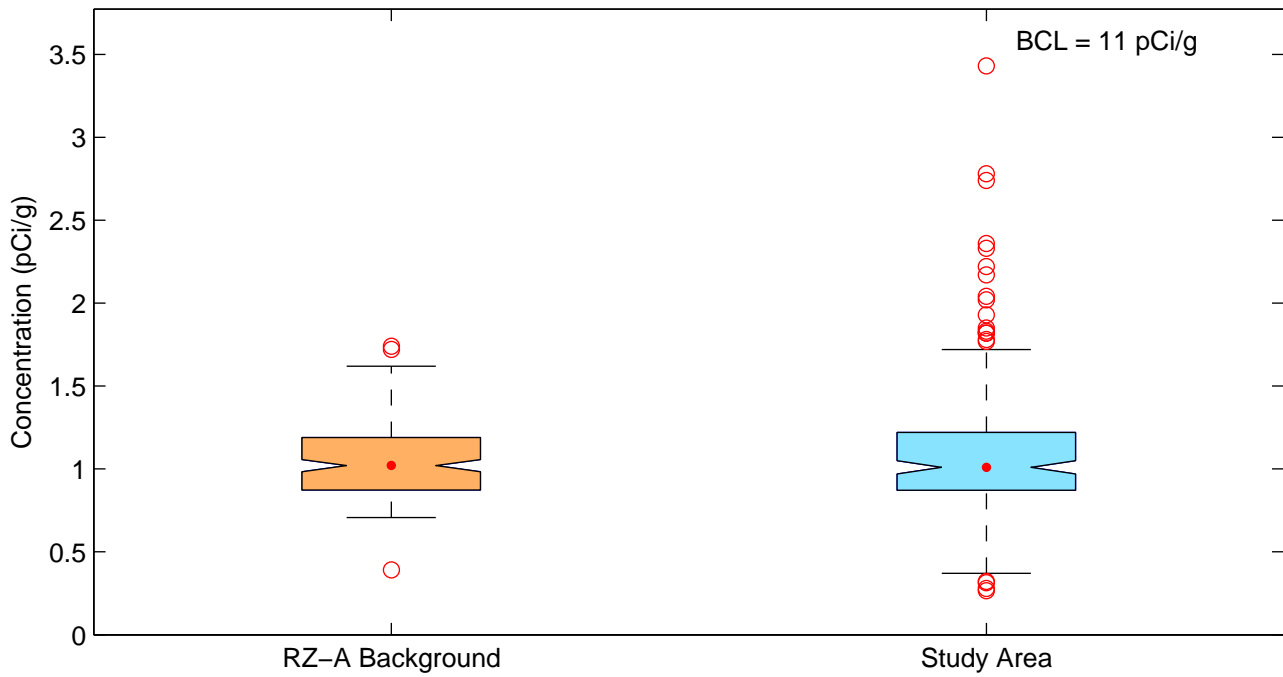
**Figure F1-32. RZ-A Background vs. Study Area Boxplots
Zinc**



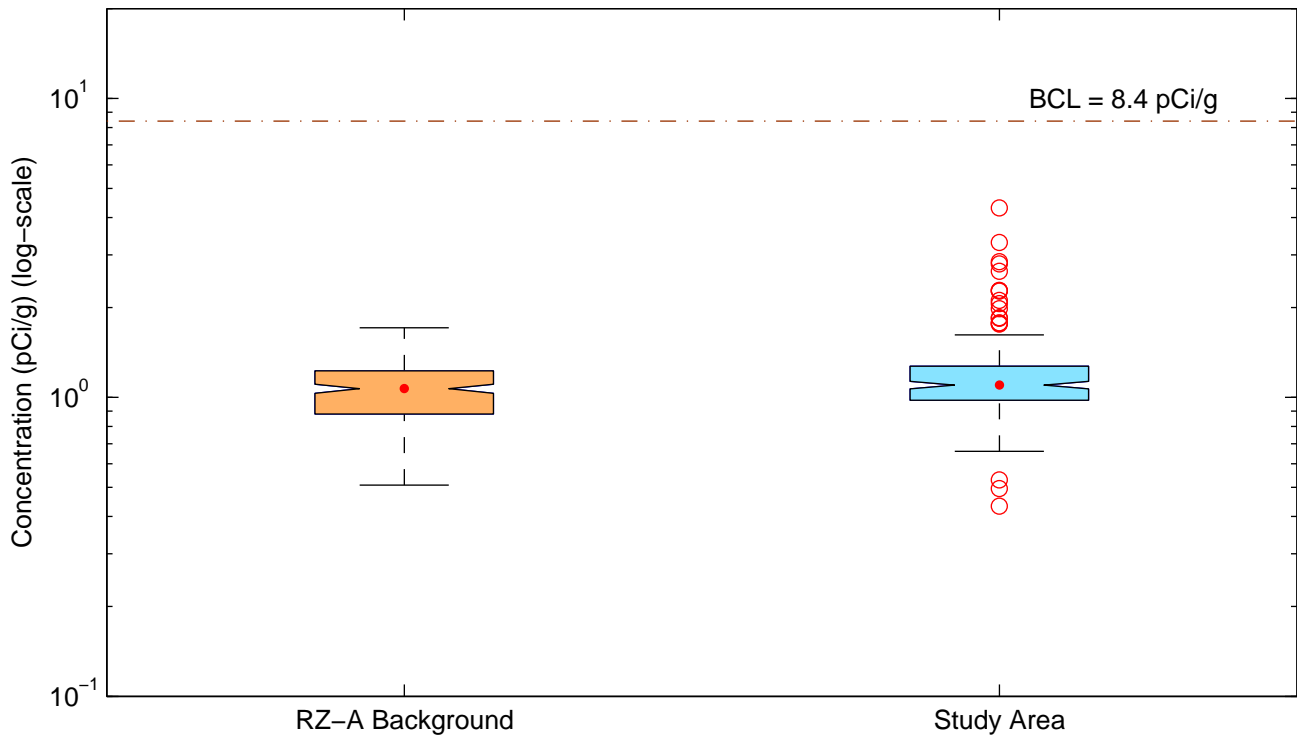
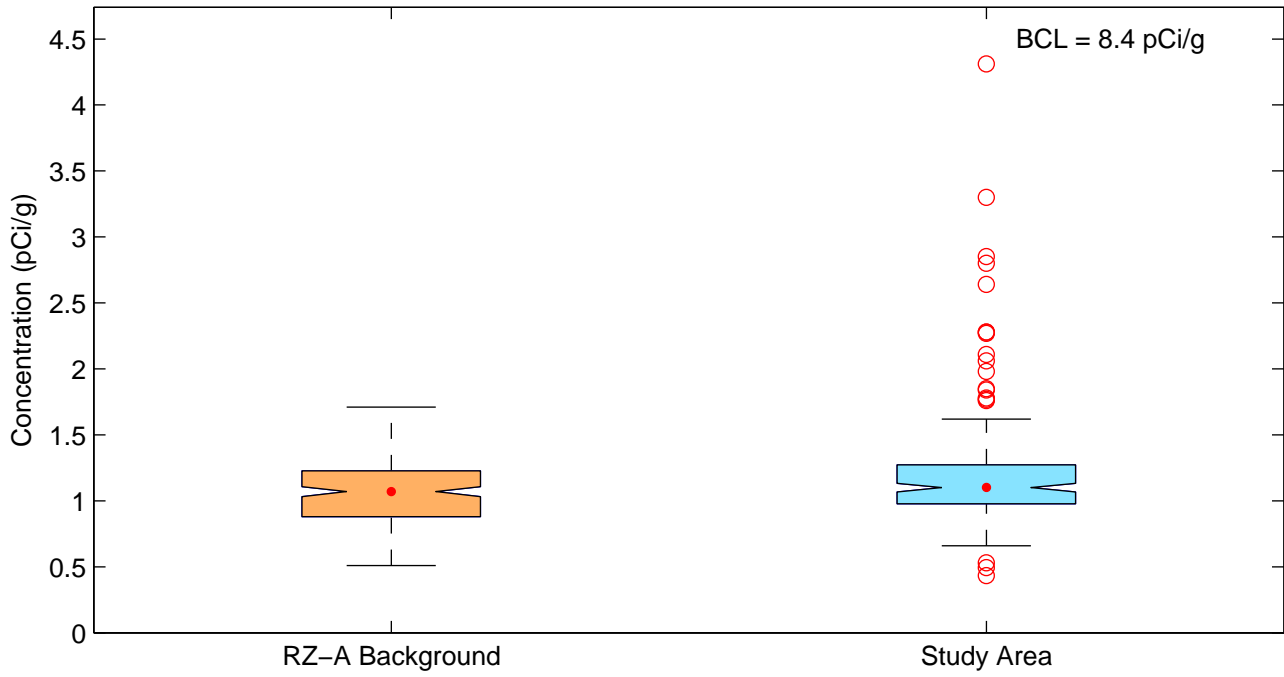
**Figure F1-33. RZ-A Background vs. Study Area Boxplots
Uranium-238**



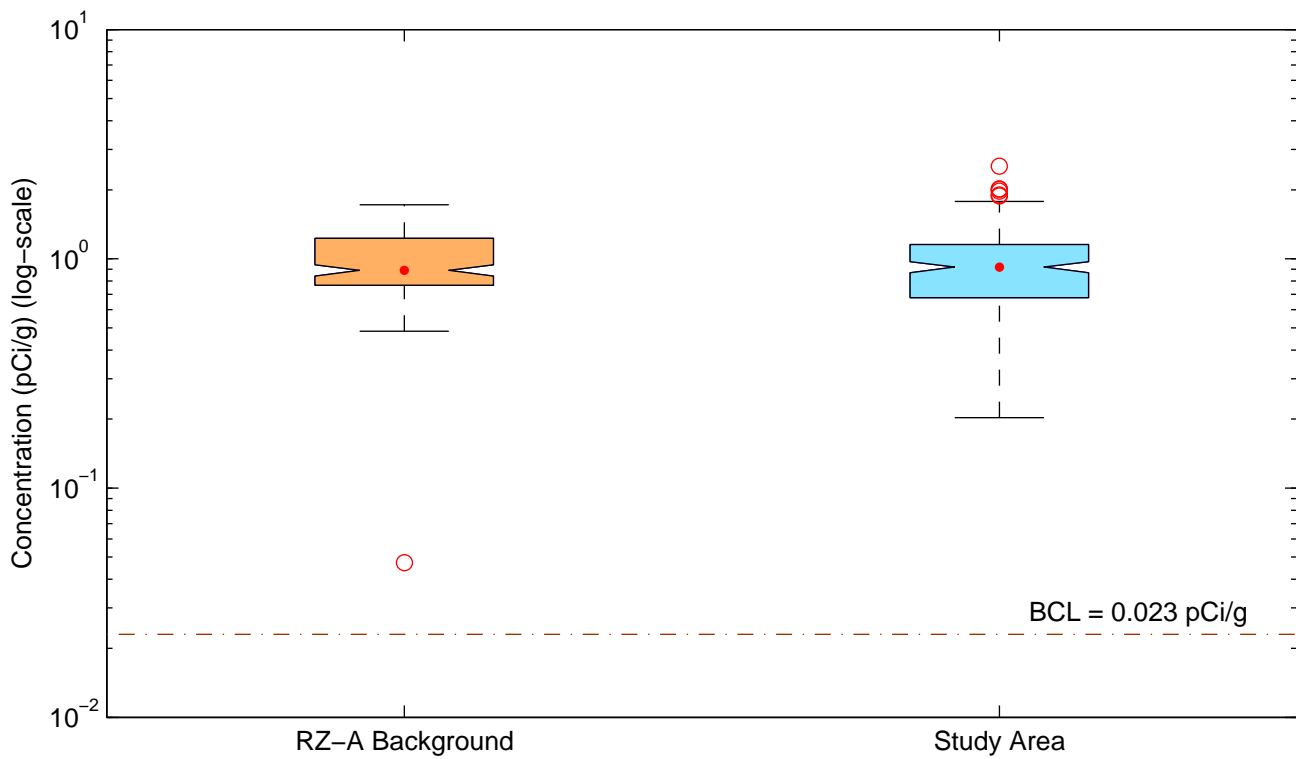
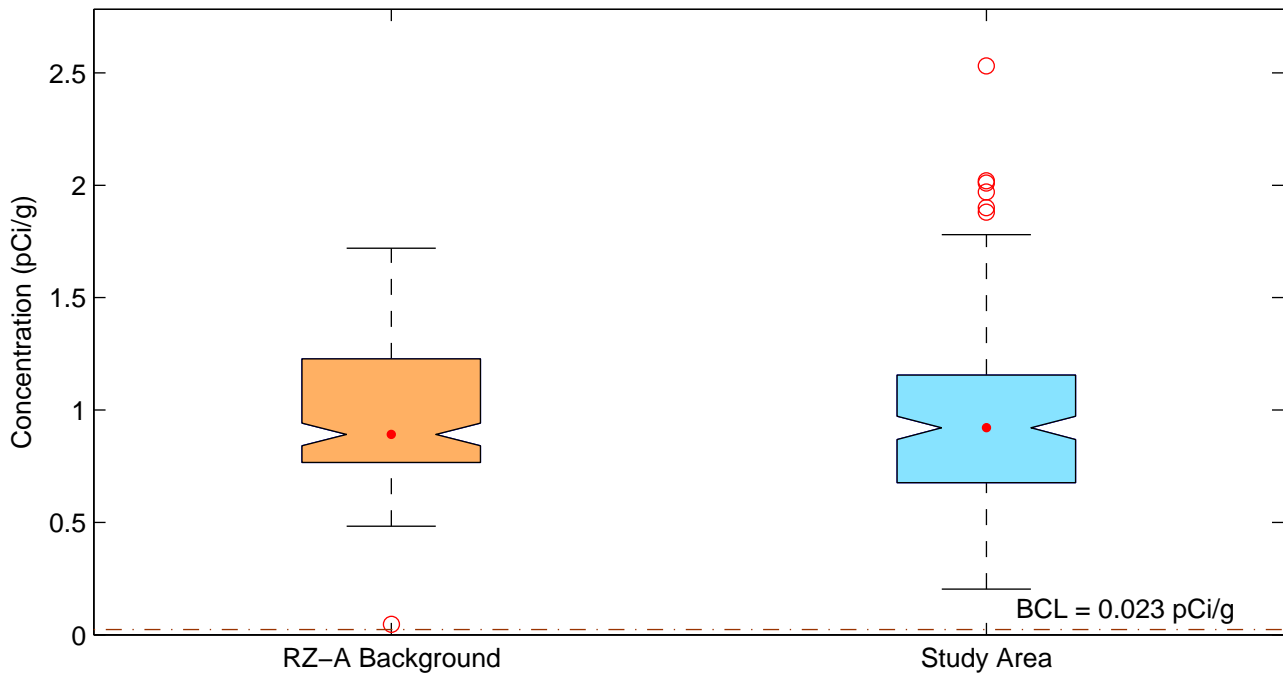
**Figure F1-34. RZ-A Background vs. Study Area Boxplots
Uranium-234**



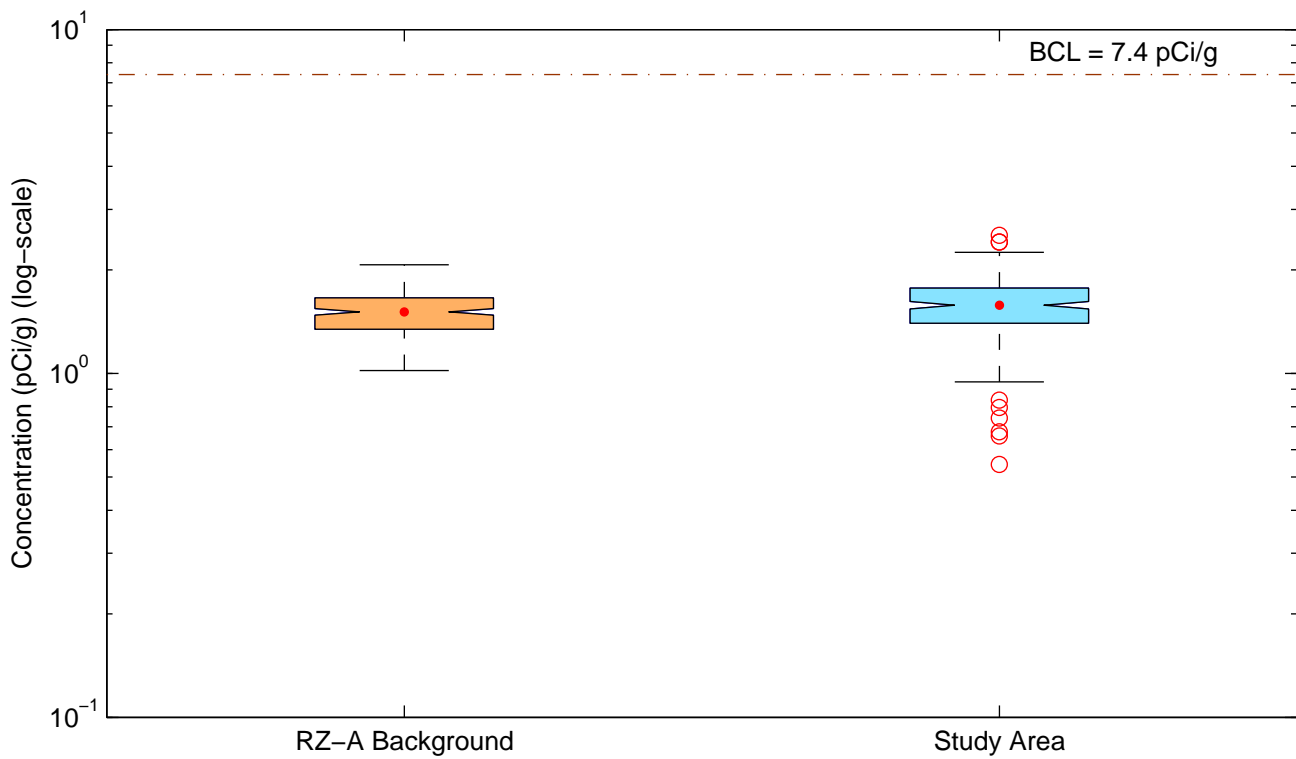
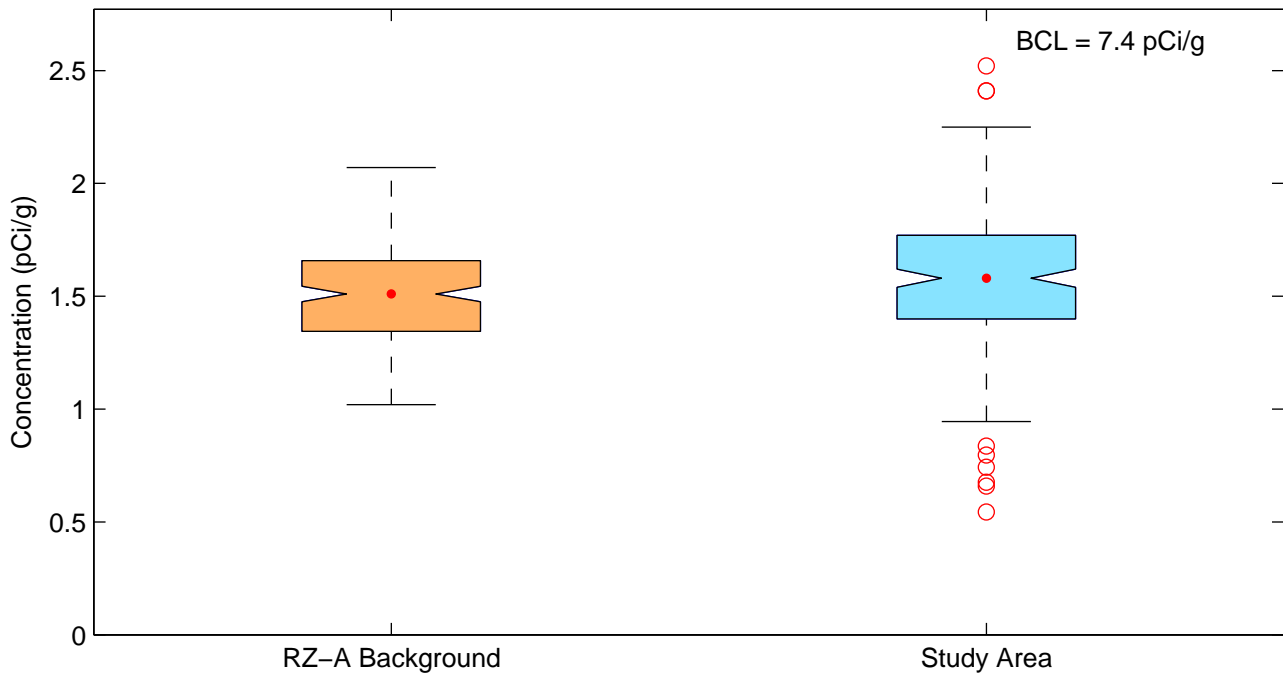
**Figure F1-35. RZ-A Background vs. Study Area Boxplots
Thorium-230**



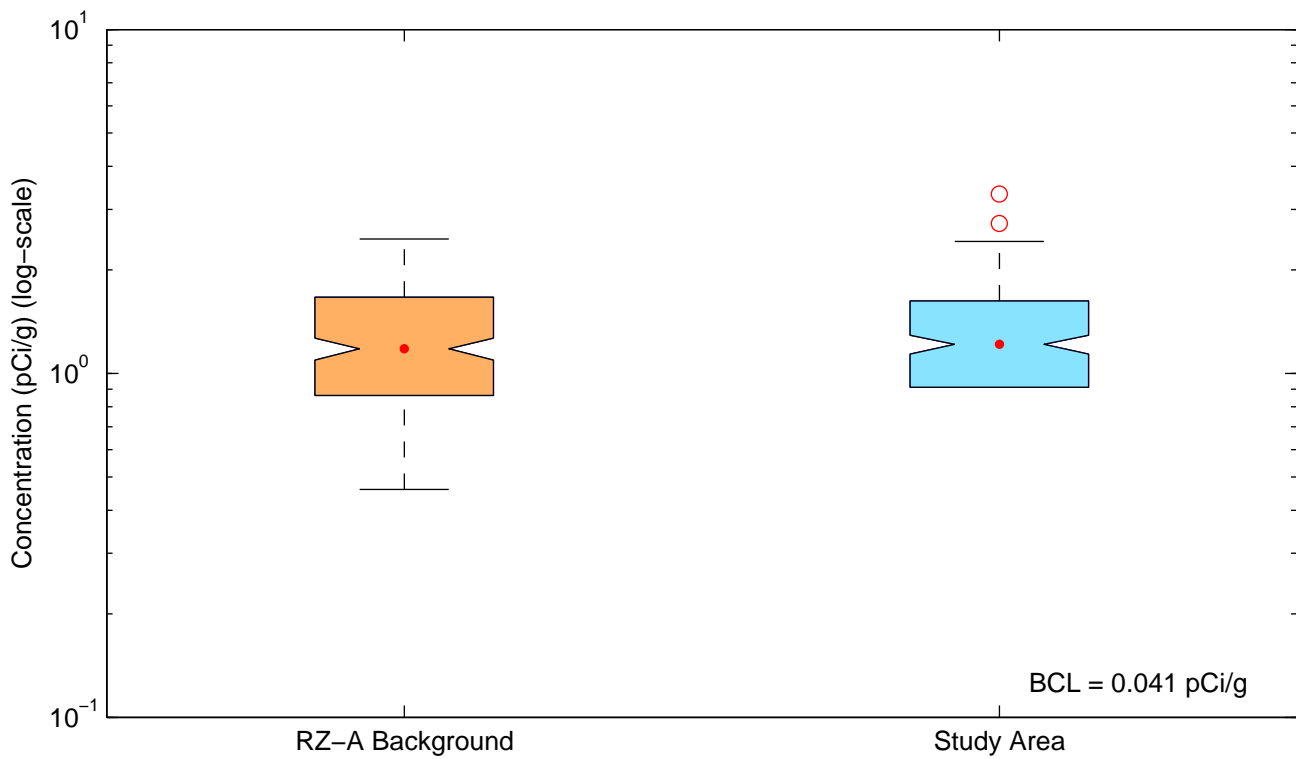
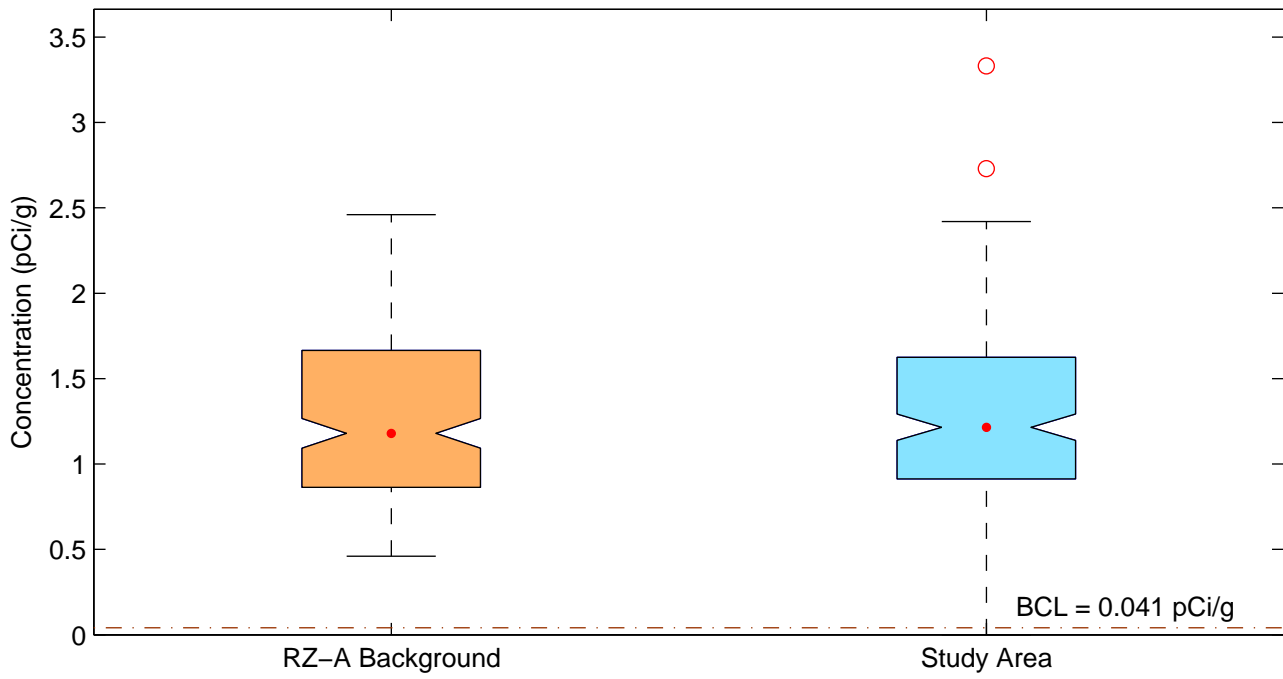
**Figure F1-36. RZ-A Background vs. Study Area Boxplots
Radium-226**



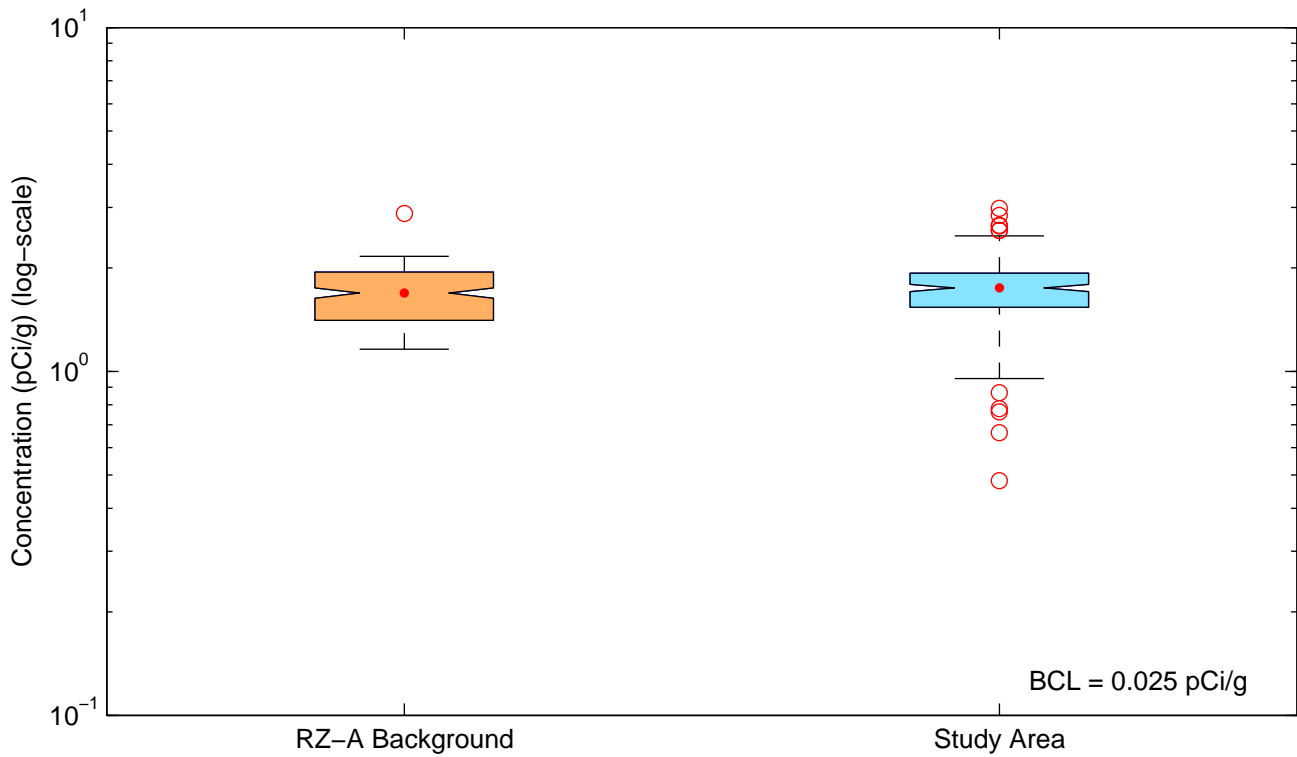
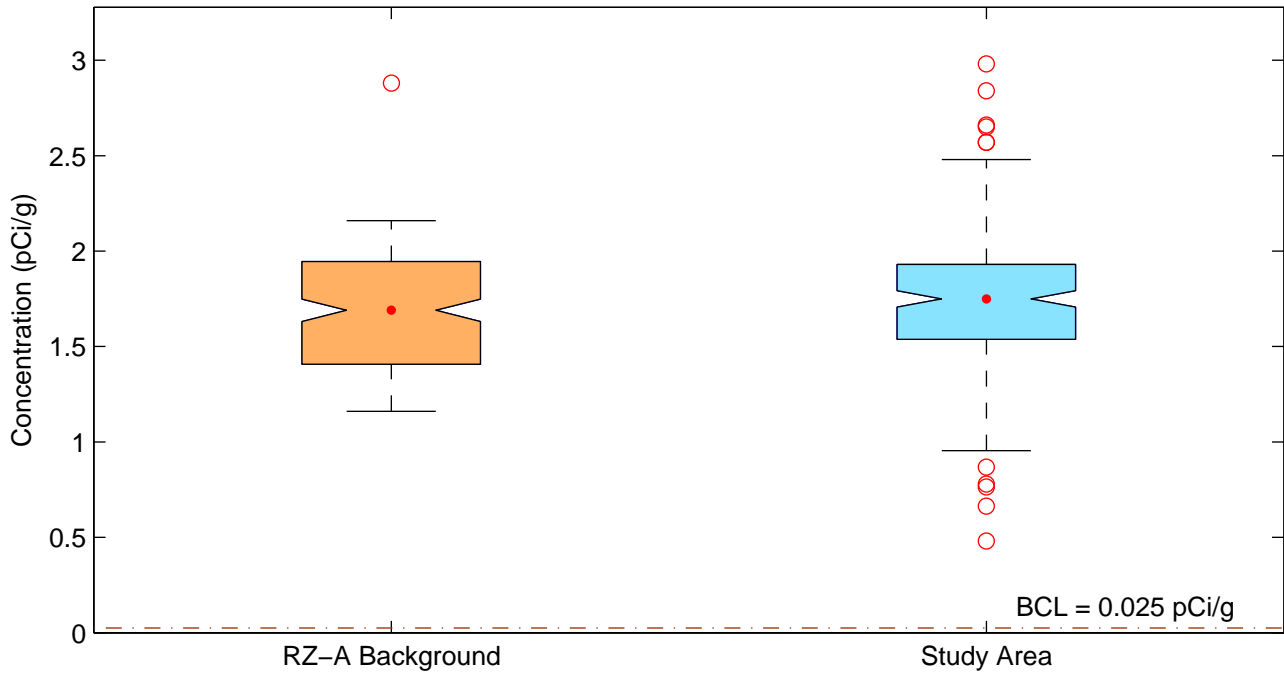
**Figure F1-37. RZ-A Background vs. Study Area Boxplots
Thorium-232**



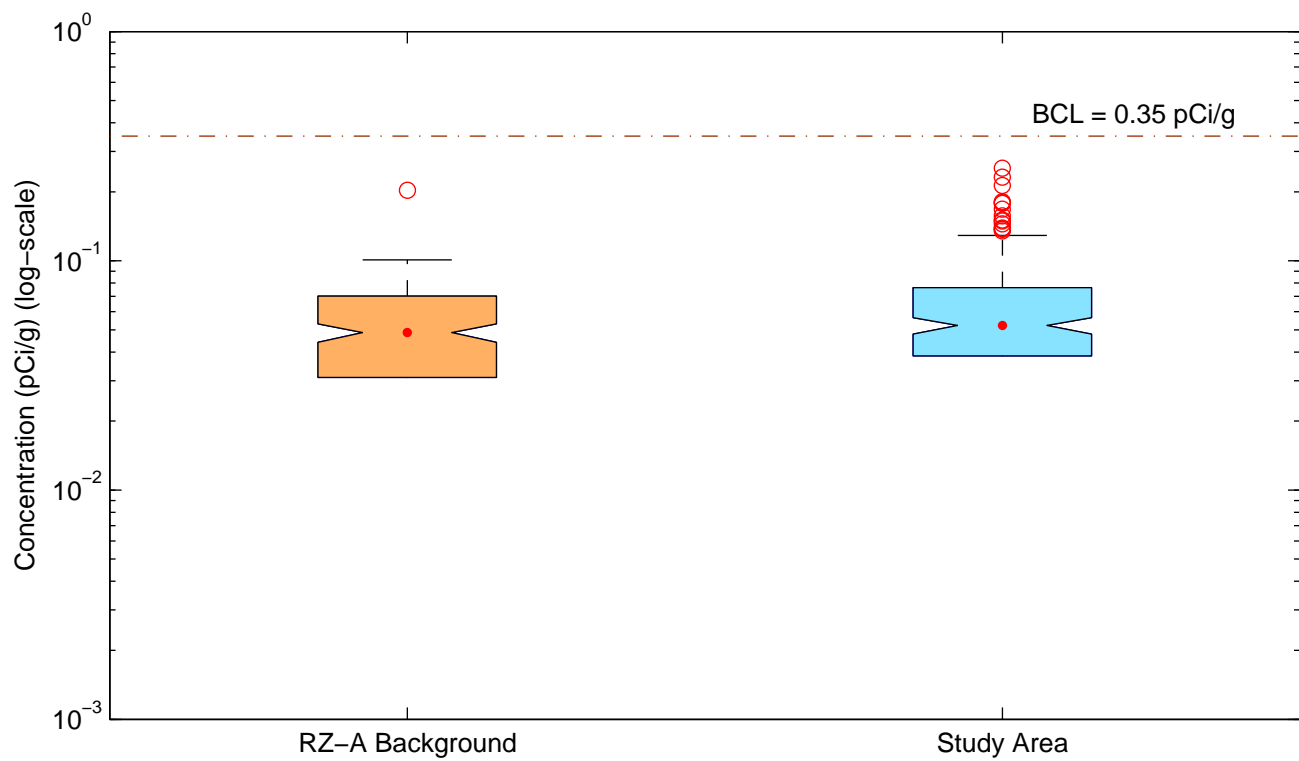
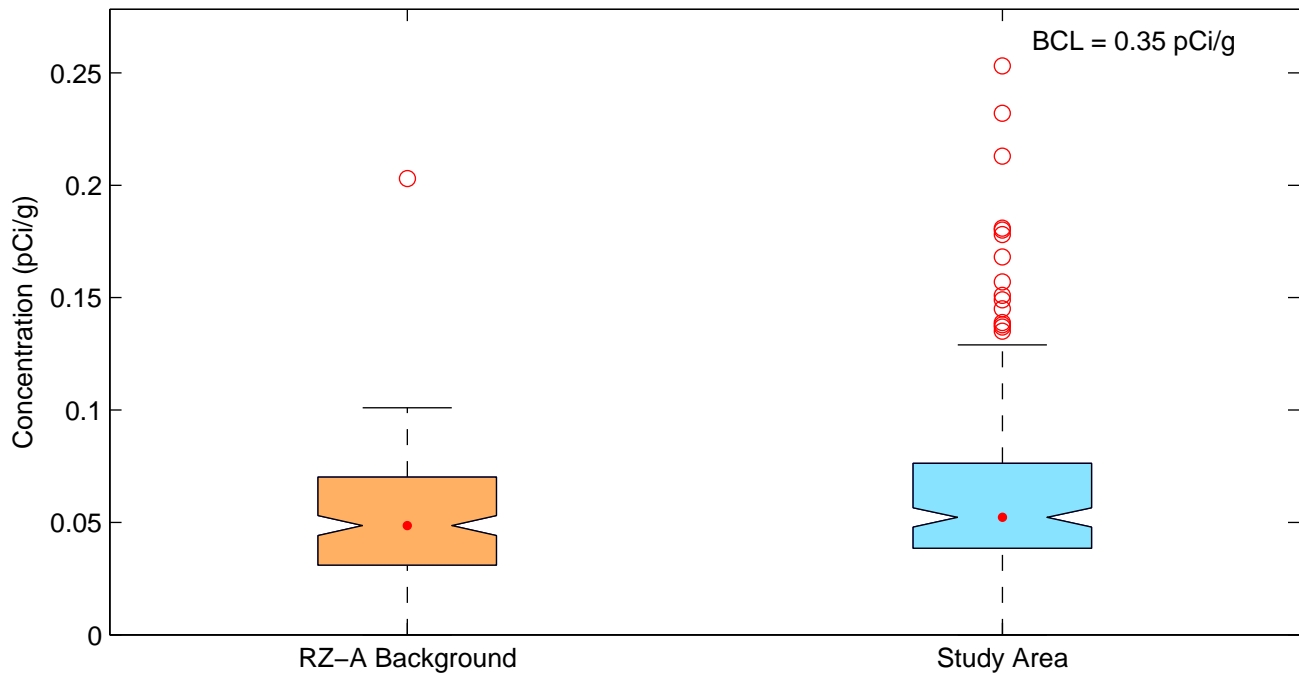
**Figure F1-38. RZ-A Background vs. Study Area Boxplots
Radium-228**



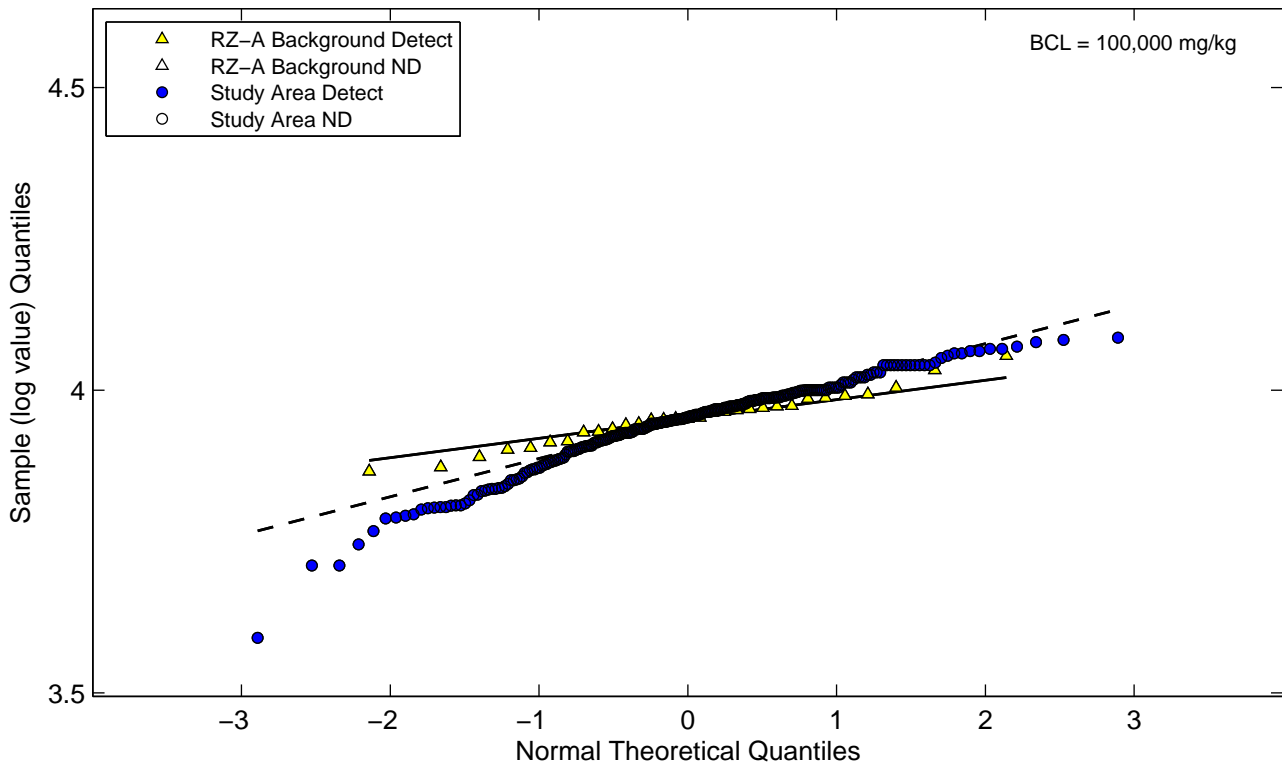
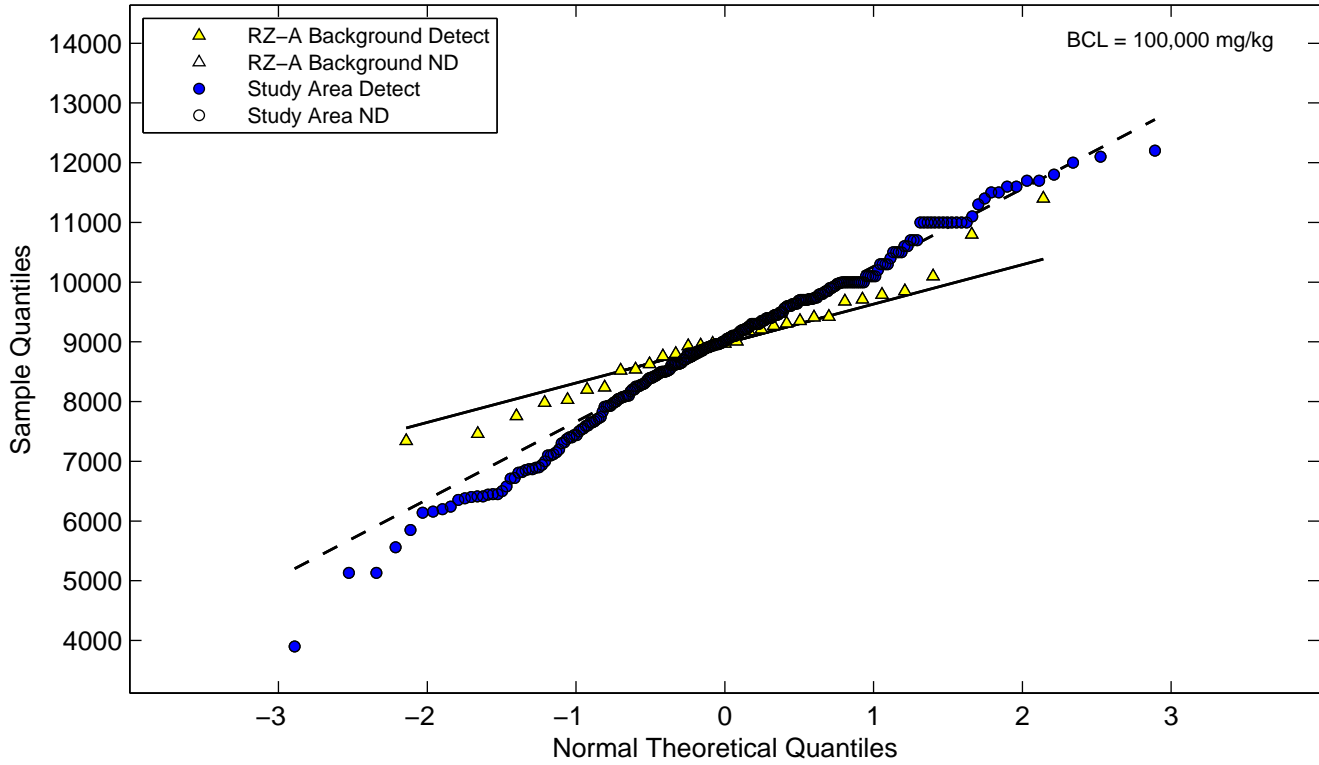
**Figure F1-39. RZ-A Background vs. Study Area Boxplots
Thorium-228**



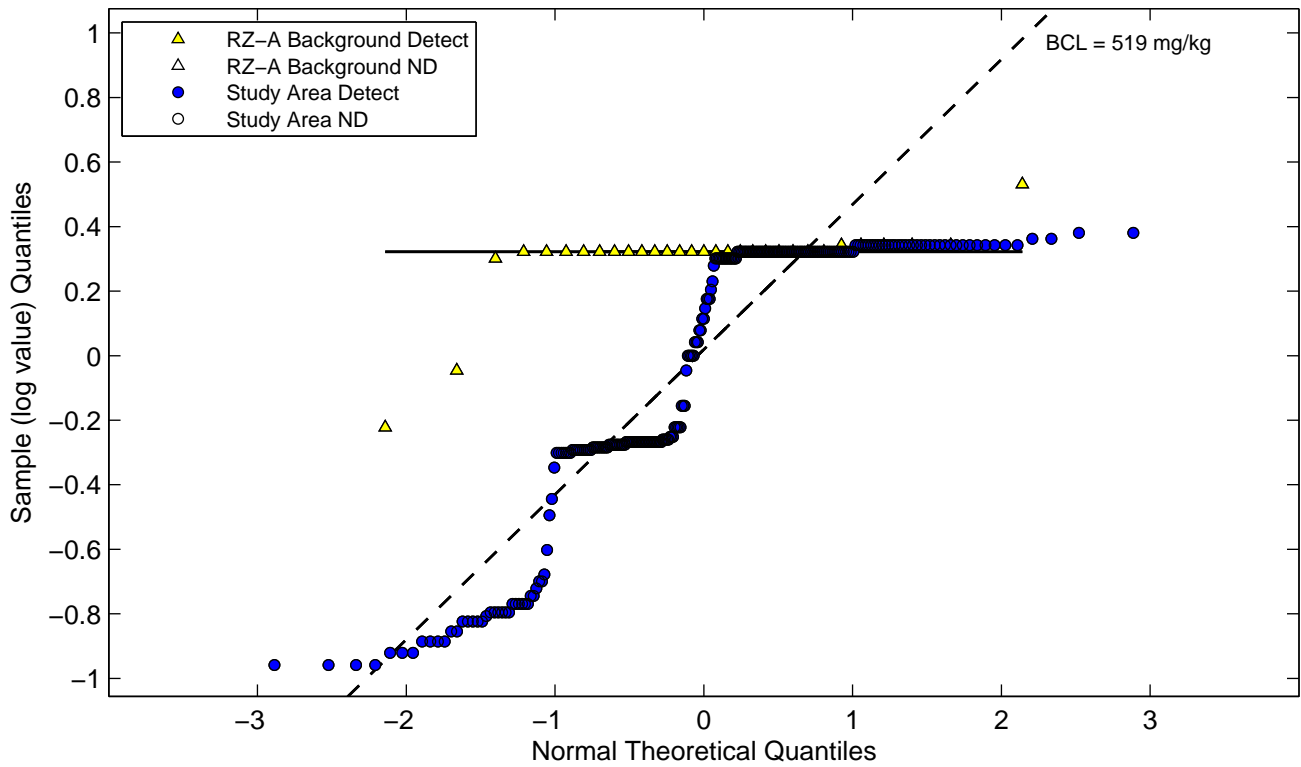
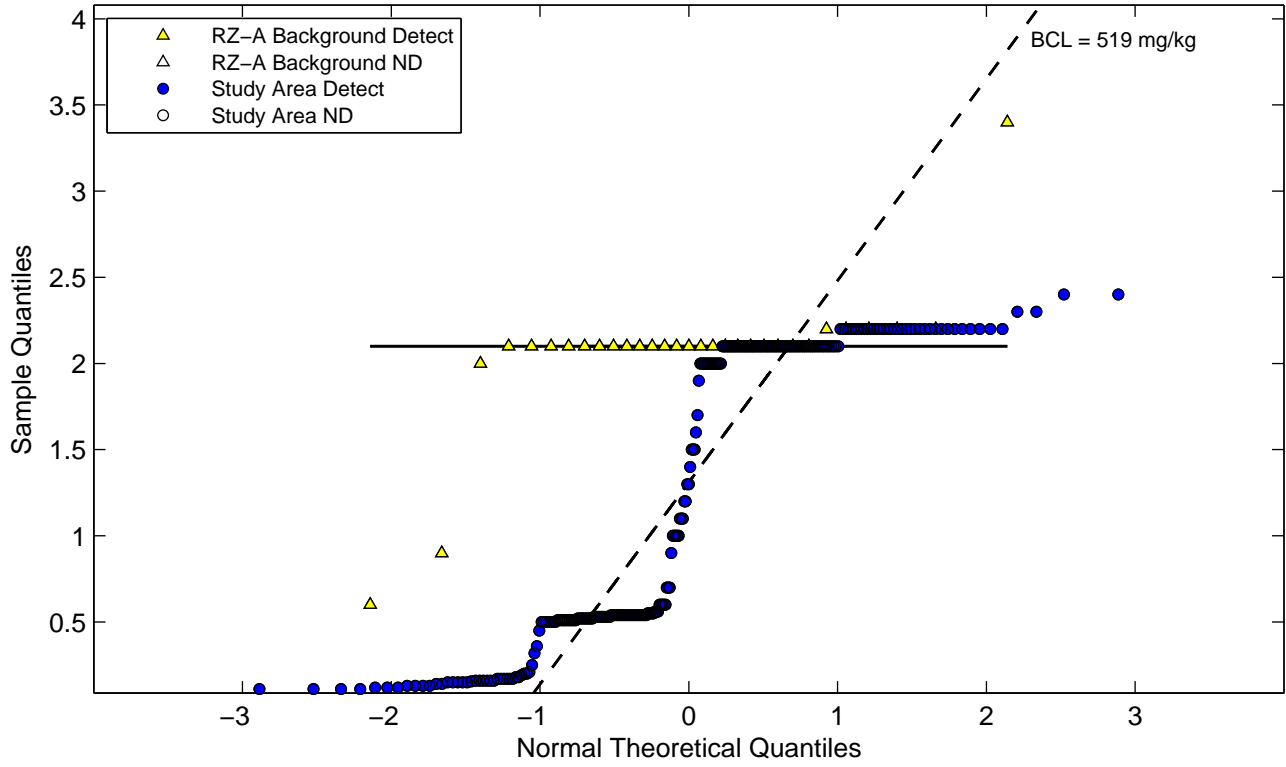
**Figure F1-40. RZ-A Background vs. Study Area Boxplots
Uranium-235**



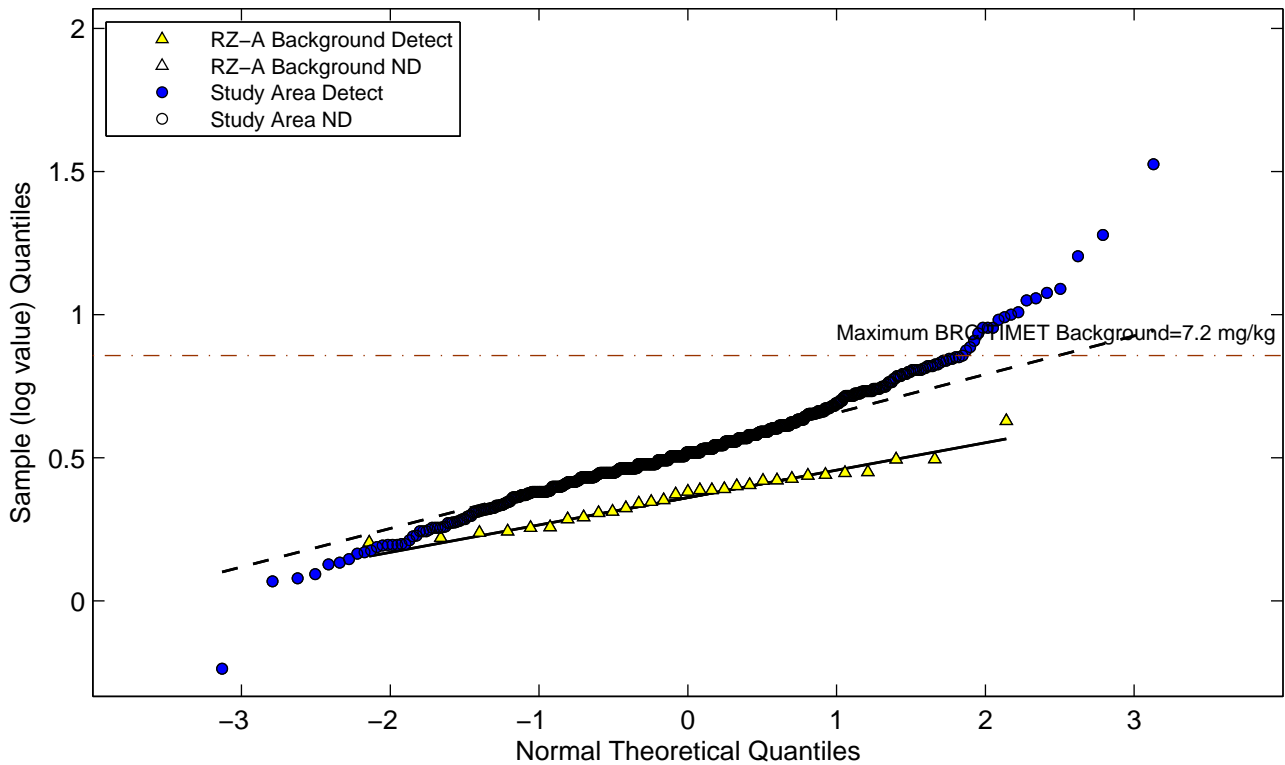
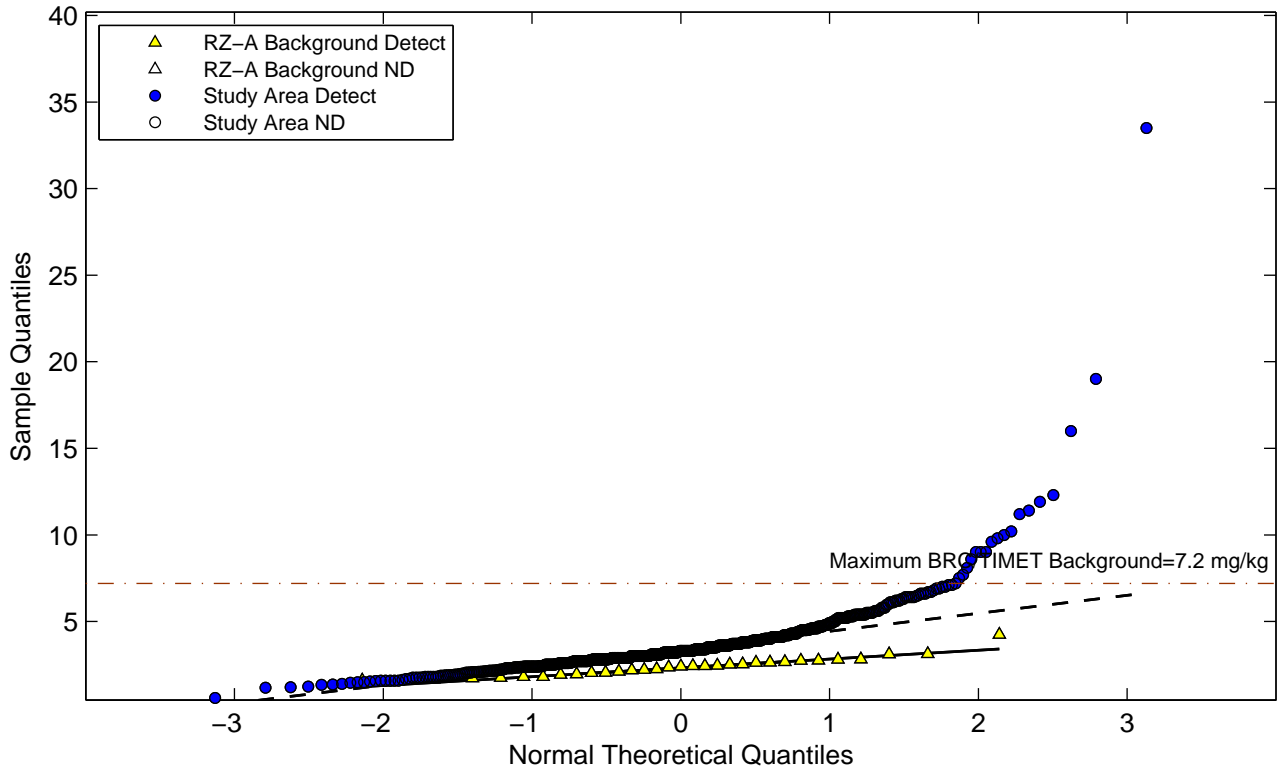
**Figure F2-1. Normal and Lognormal Q-Q Plots
Aluminum**



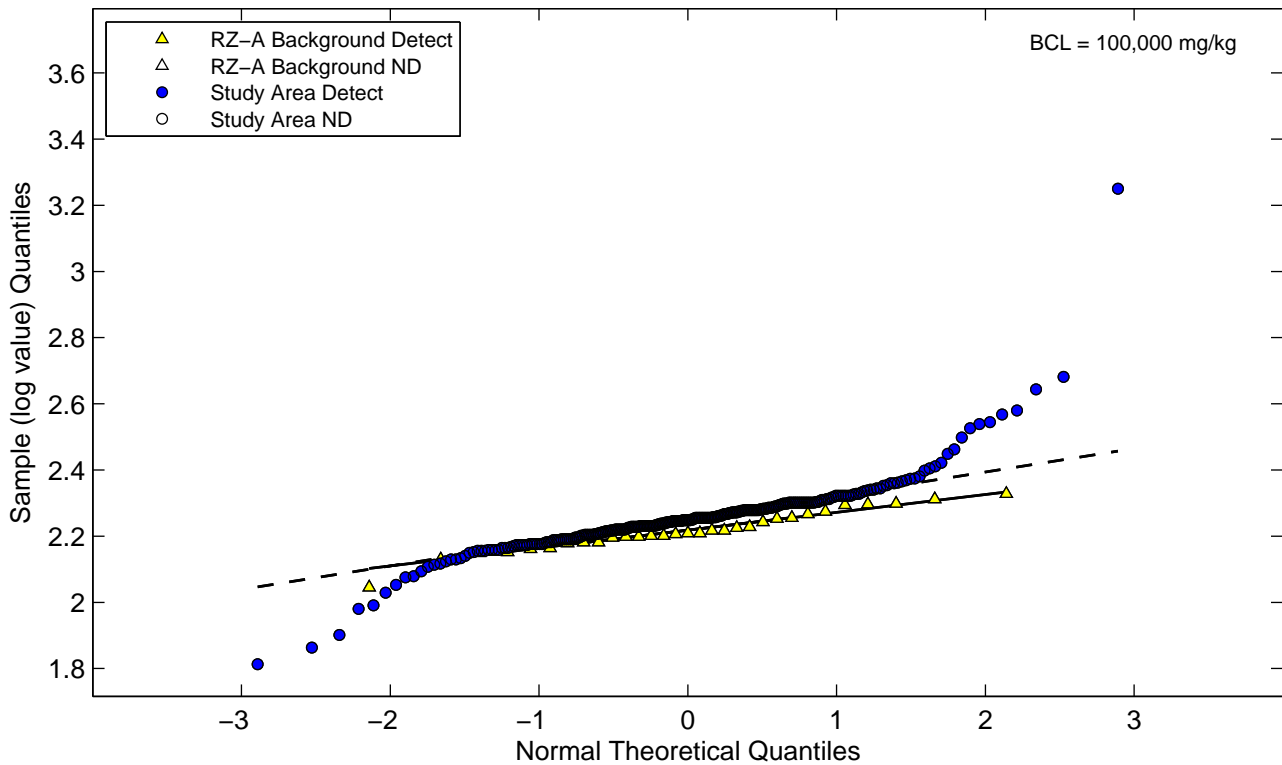
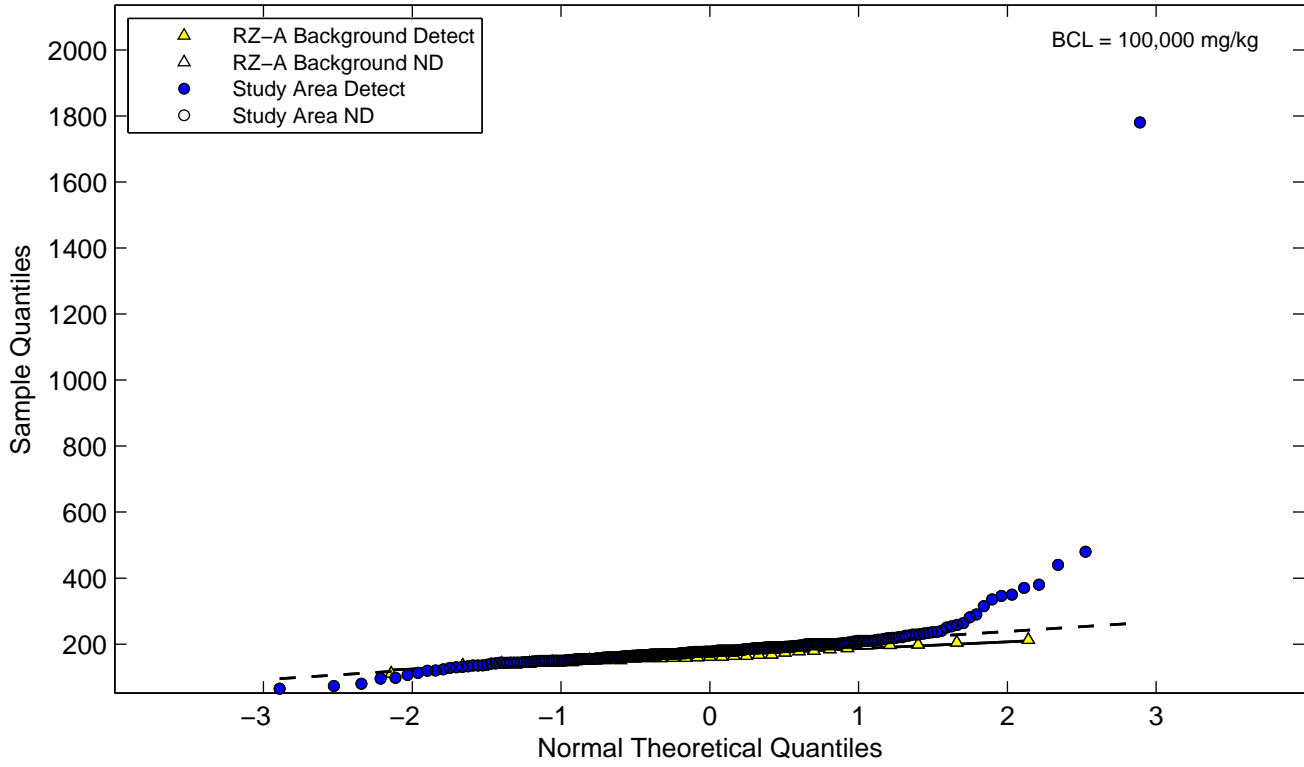
**Figure F2-2. Normal and Lognormal Q-Q Plots
Antimony**



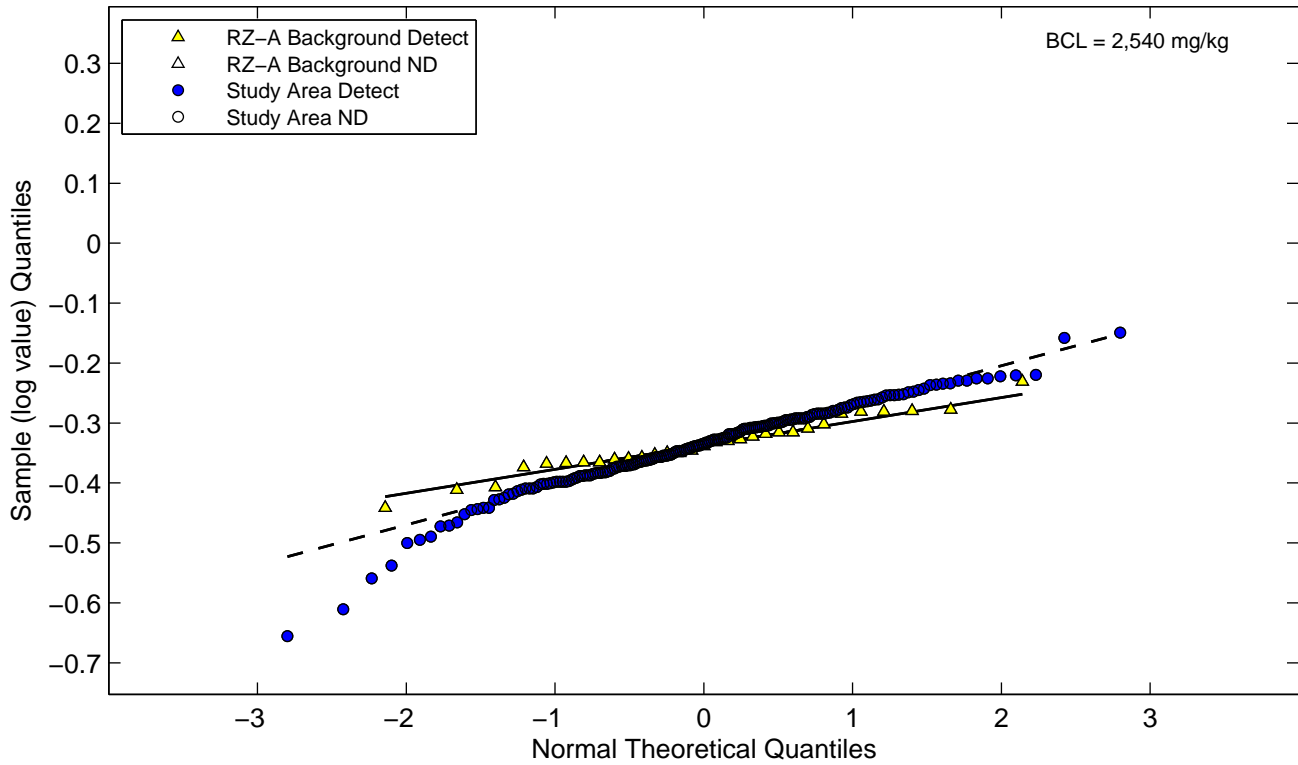
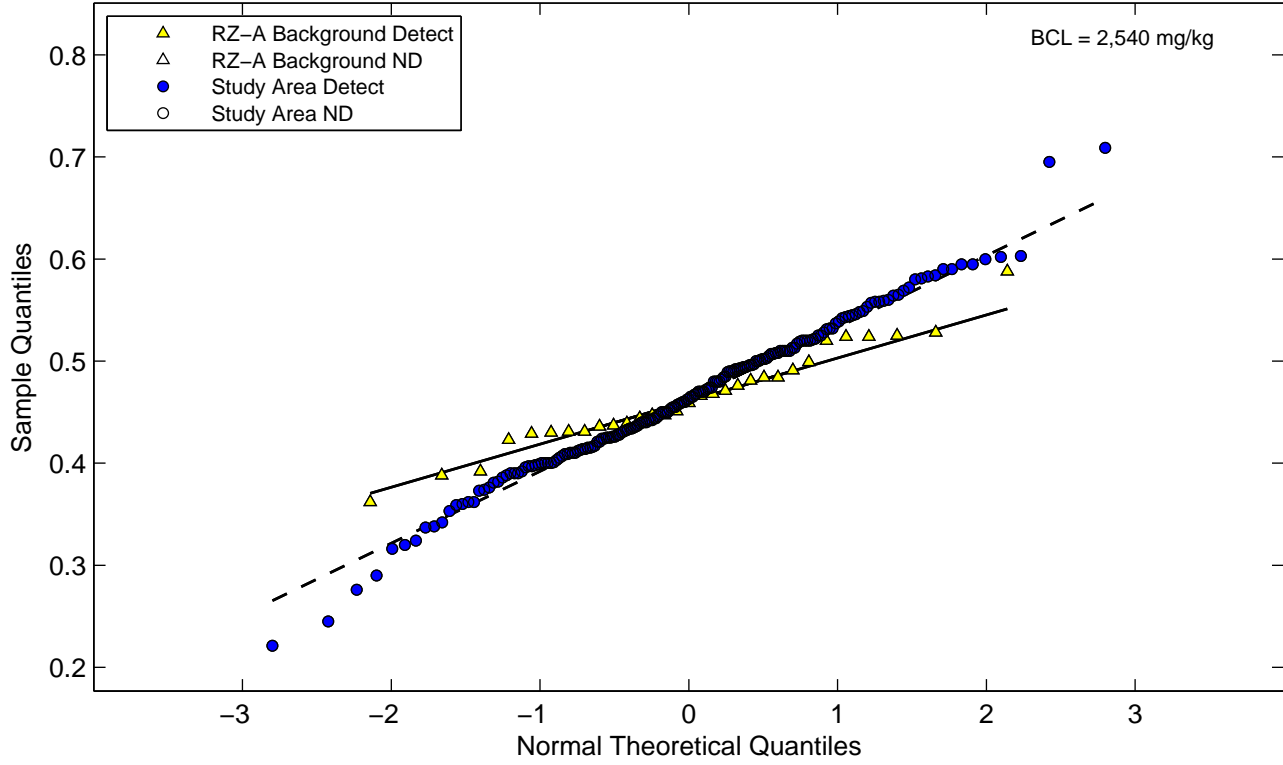
**Figure F2-3. Normal and Lognormal Q-Q Plots
Arsenic**



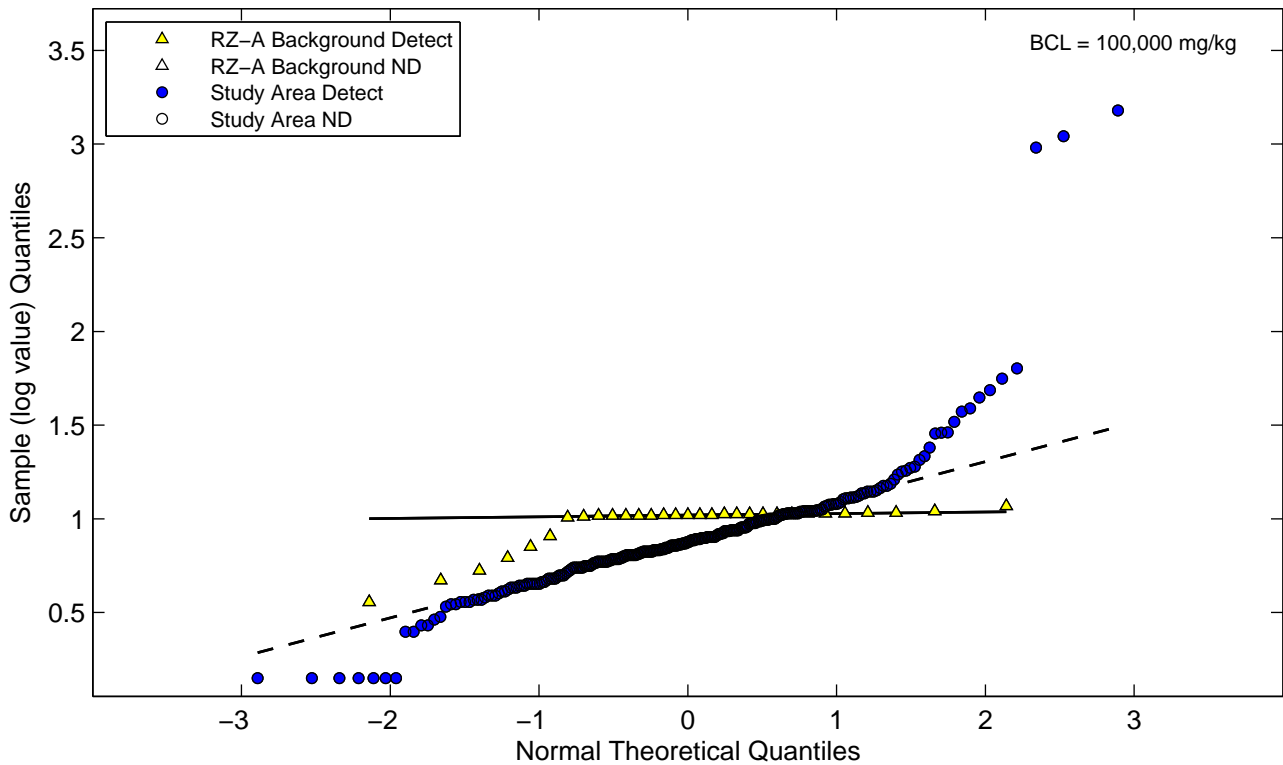
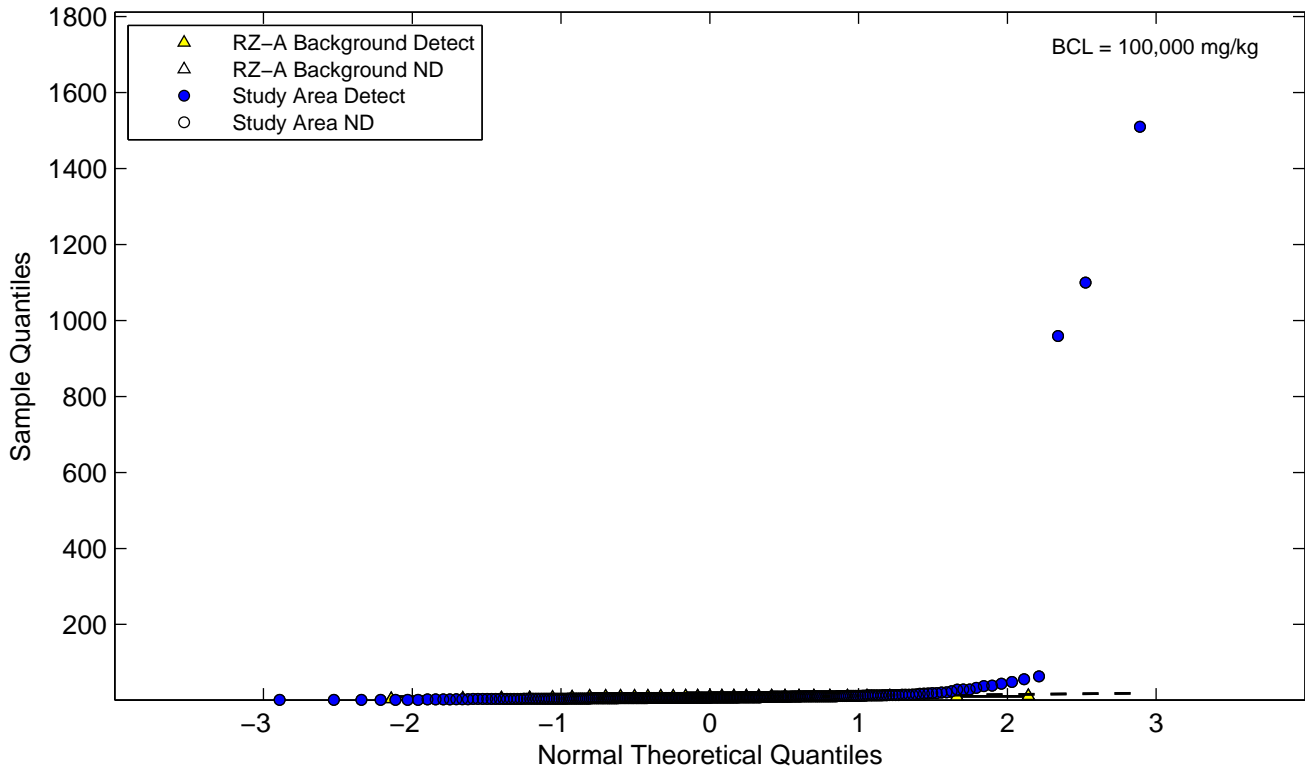
**Figure F2-4. Normal and Lognormal Q-Q Plots
Barium**



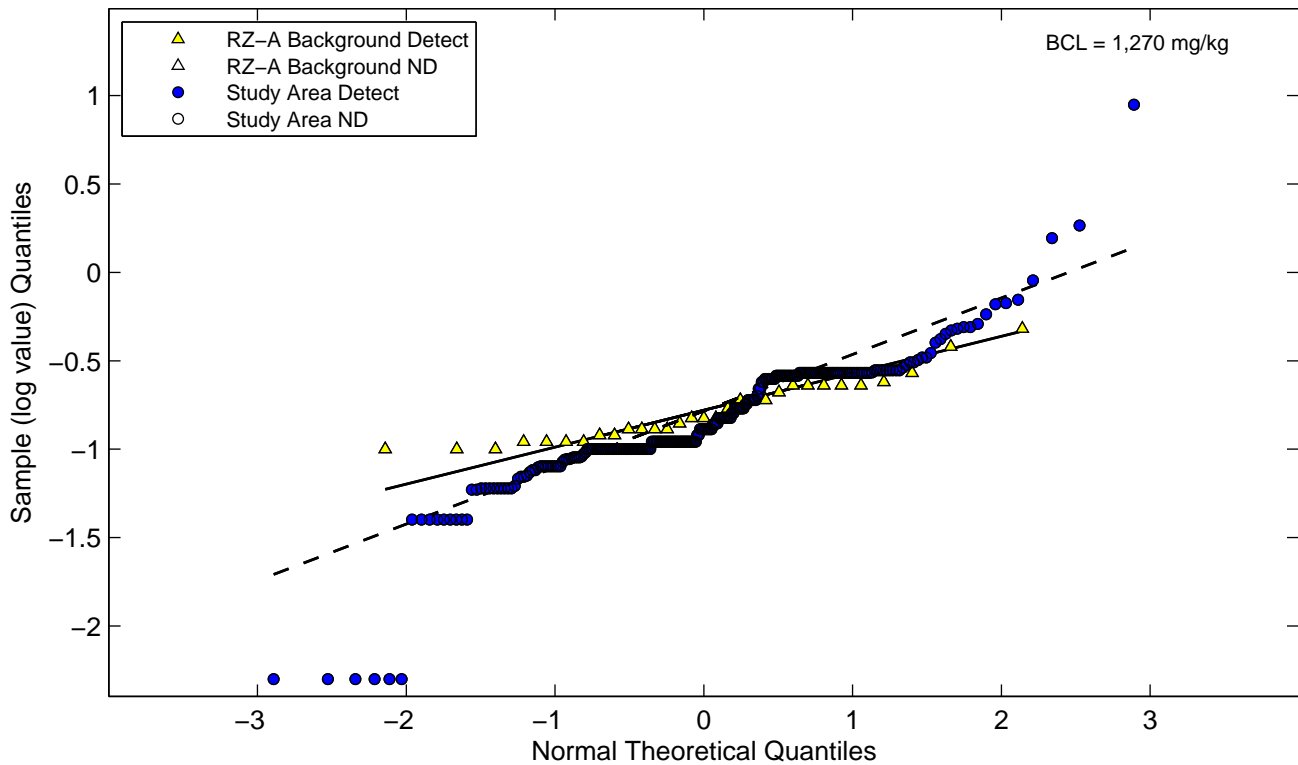
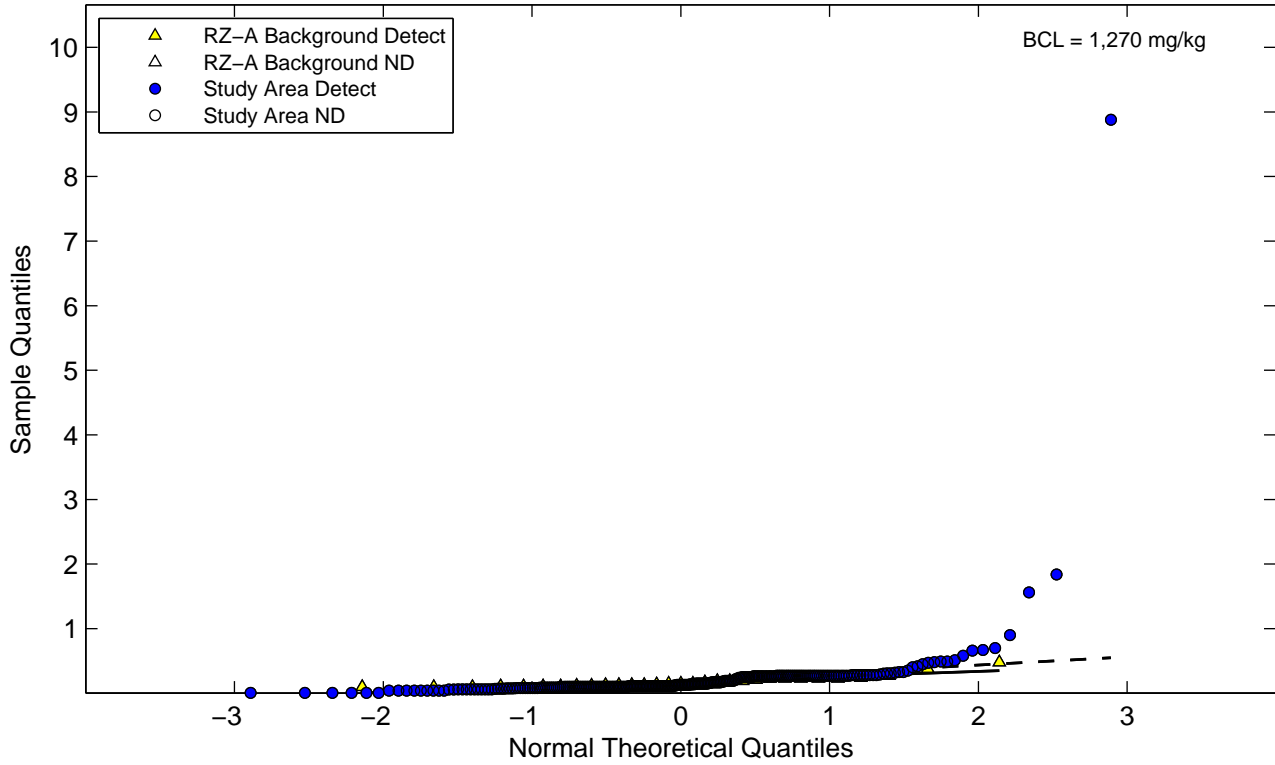
**Figure F2-5. Normal and Lognormal Q-Q Plots
Beryllium**



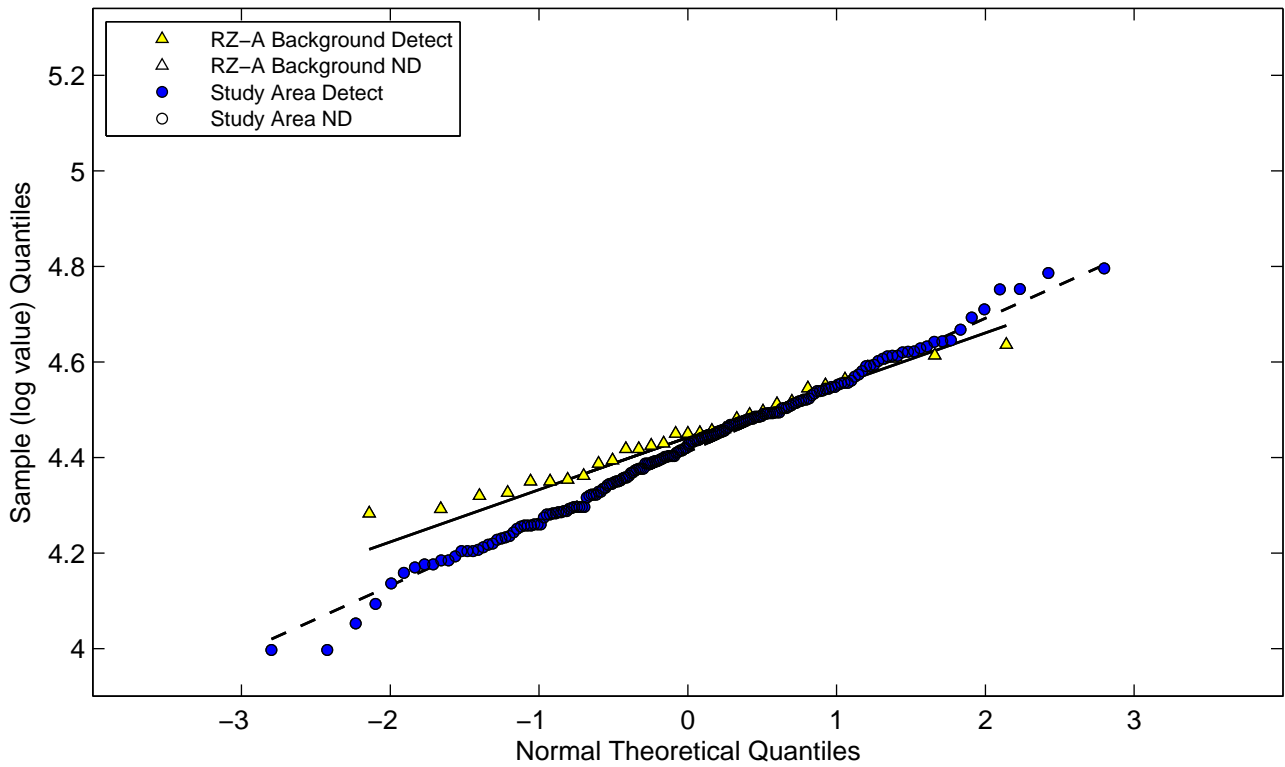
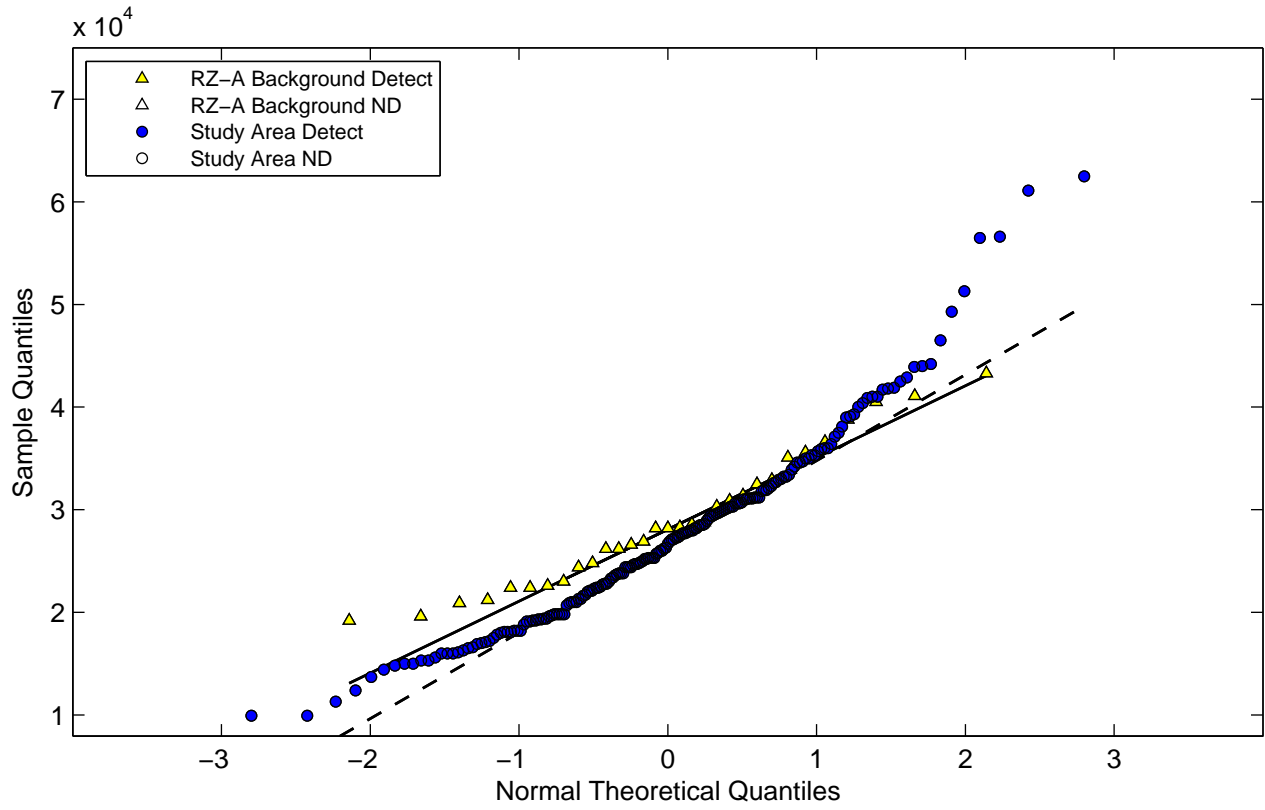
**Figure F2-6. Normal and Lognormal Q-Q Plots
Boron**



**Figure F2-7. Normal and Lognormal Q-Q Plots
Cadmium**



**Figure F2-8. Normal and Lognormal Q-Q Plots
Calcium**



**Figure F2-9. Normal and Lognormal Q-Q Plots
Chromium (total)**

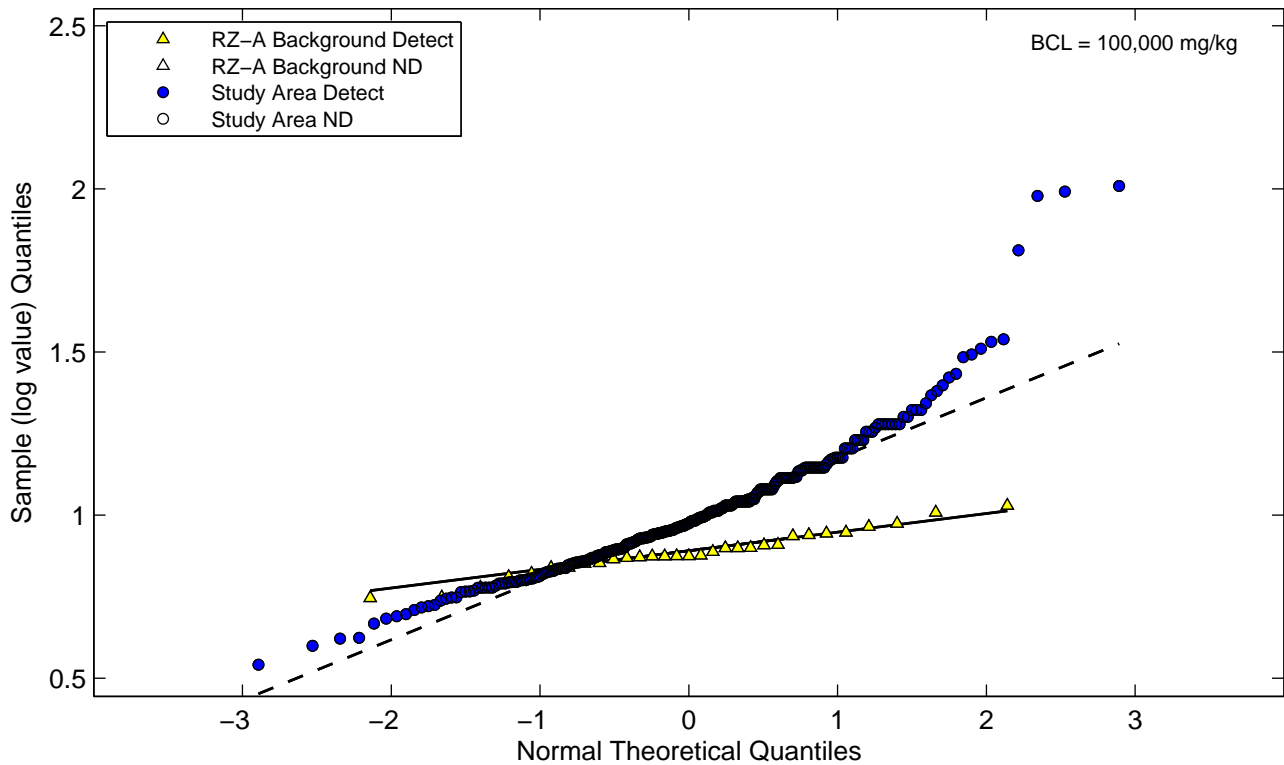
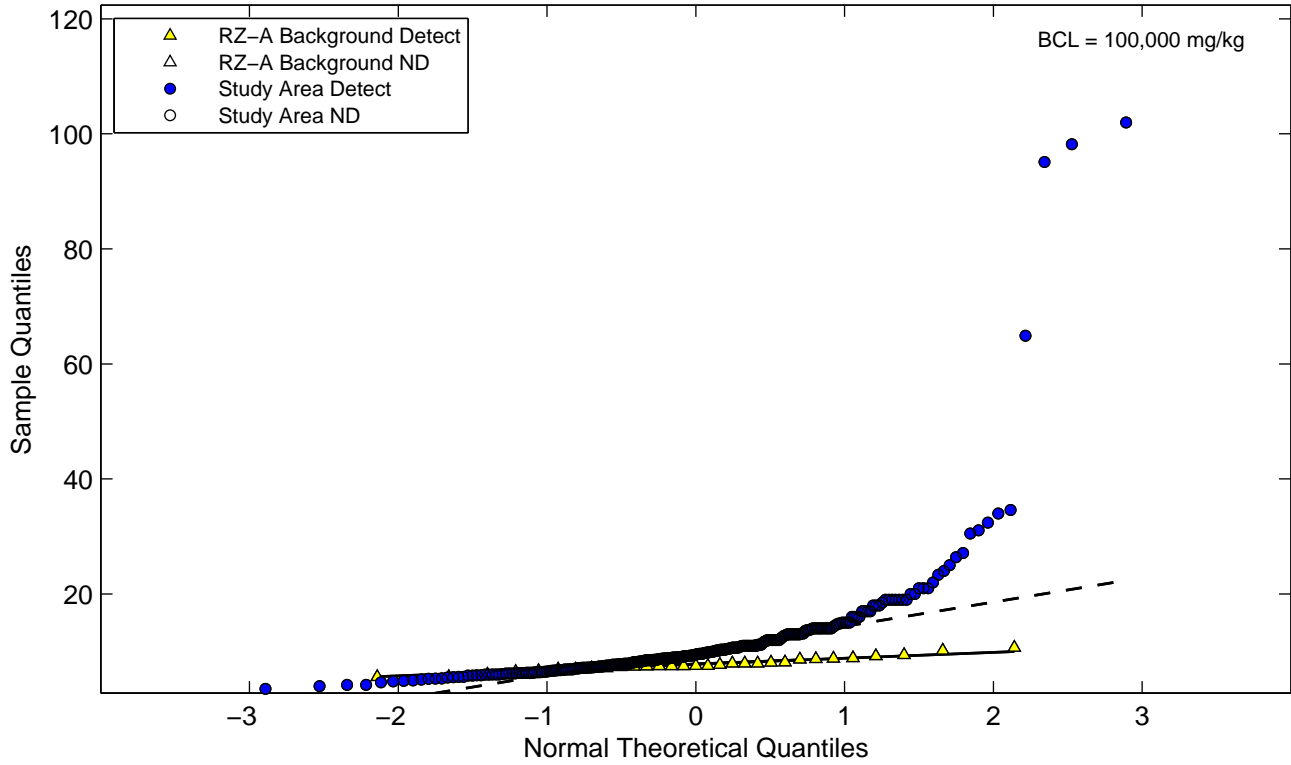


Figure F2-10. Normal and Lognormal Q-Q Plots
Chromium VI

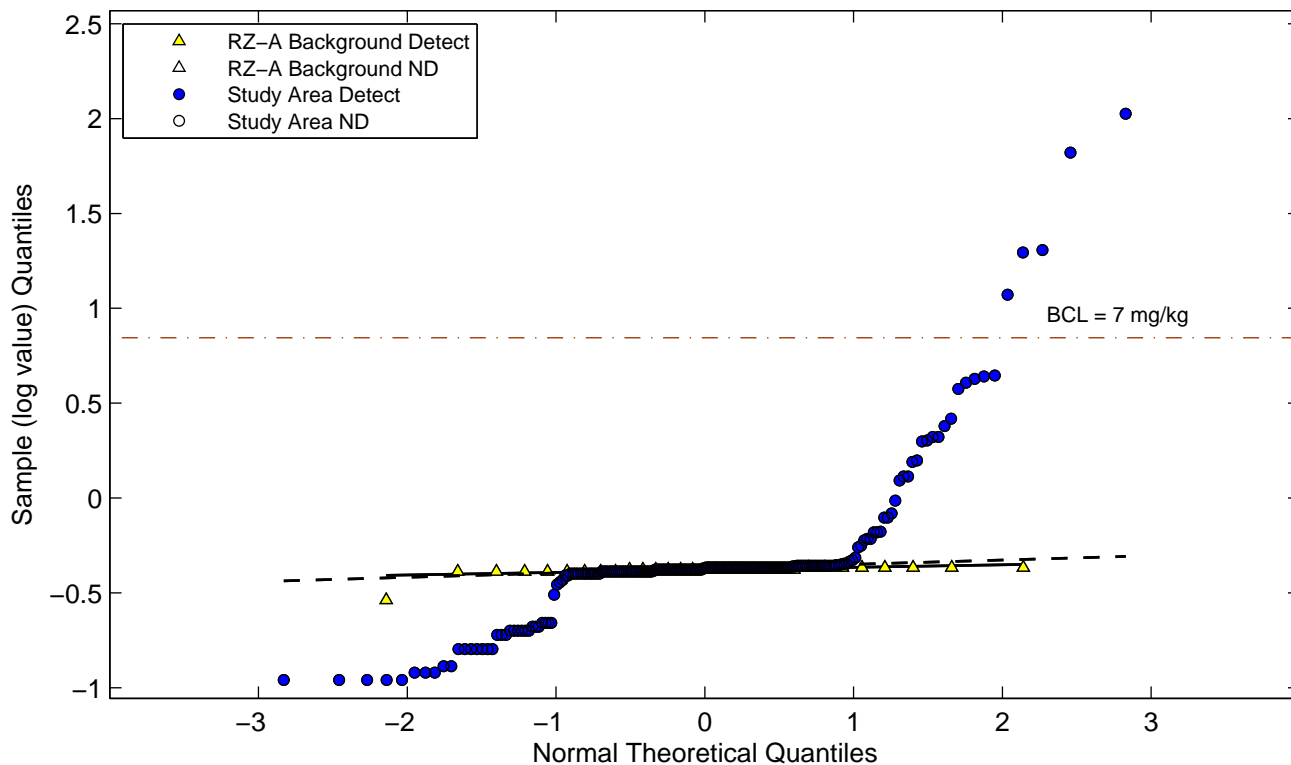
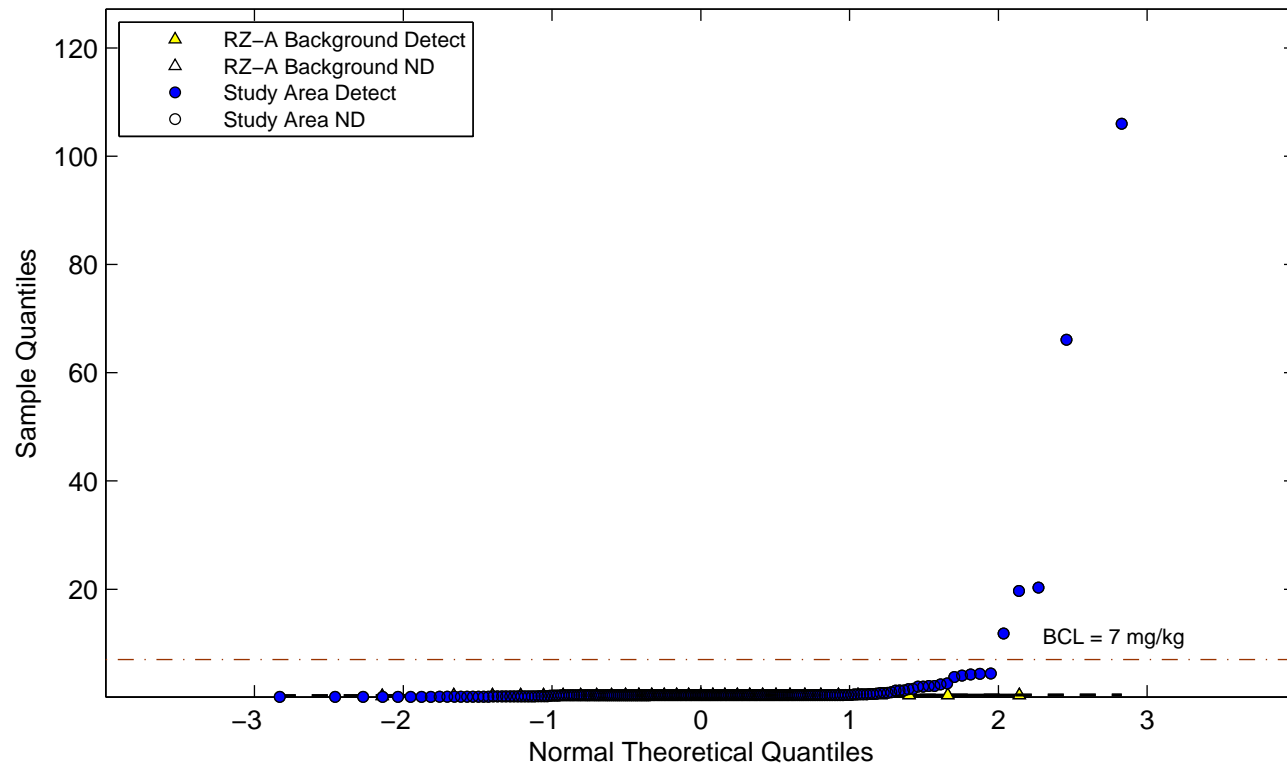


Figure F2-11. Normal and Lognormal Q-Q Plots
Cobalt

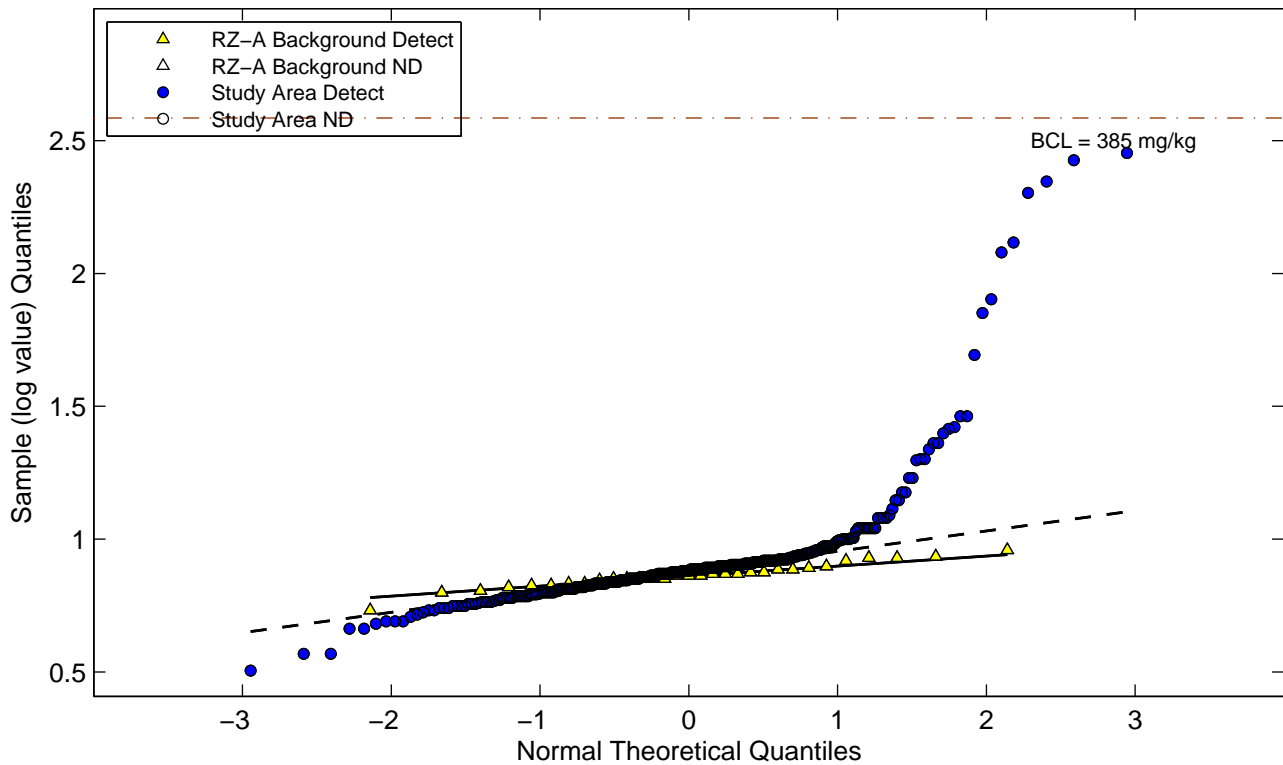
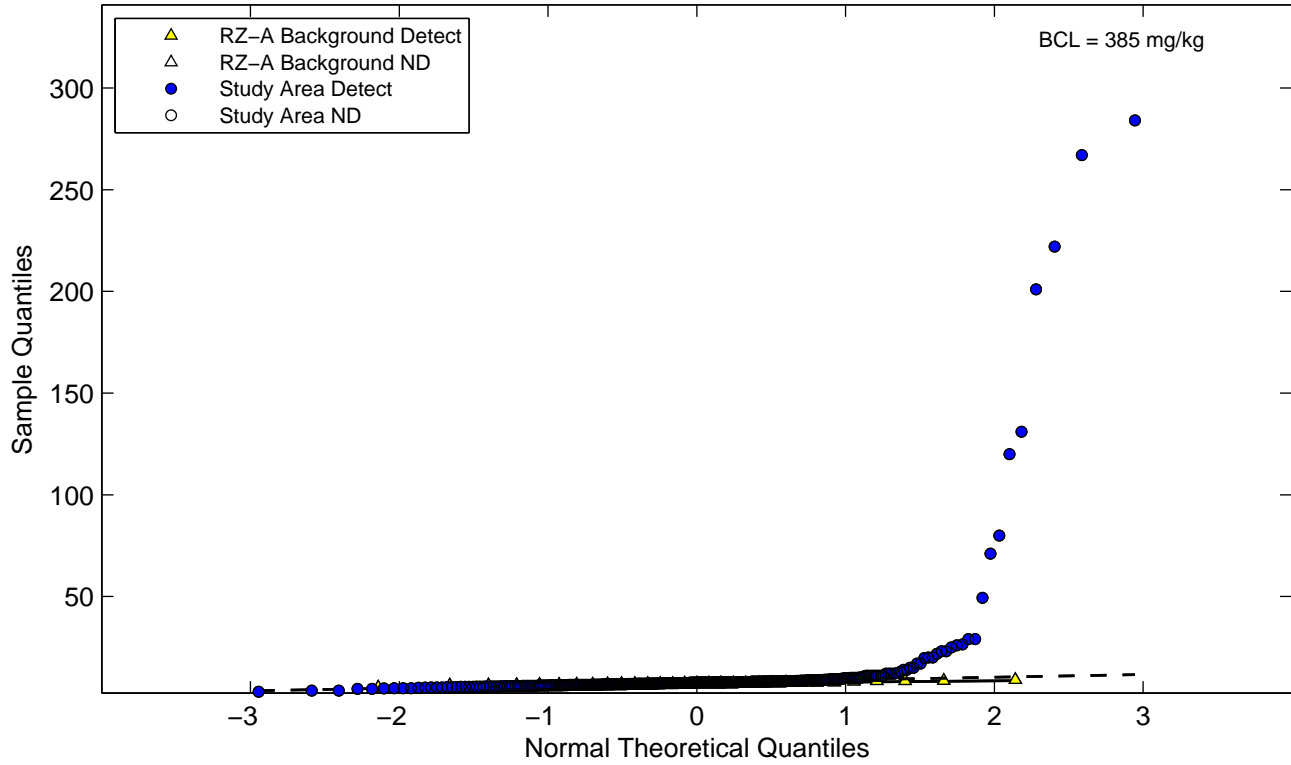


Figure F2-12. Normal and Lognormal Q-Q Plots
Copper

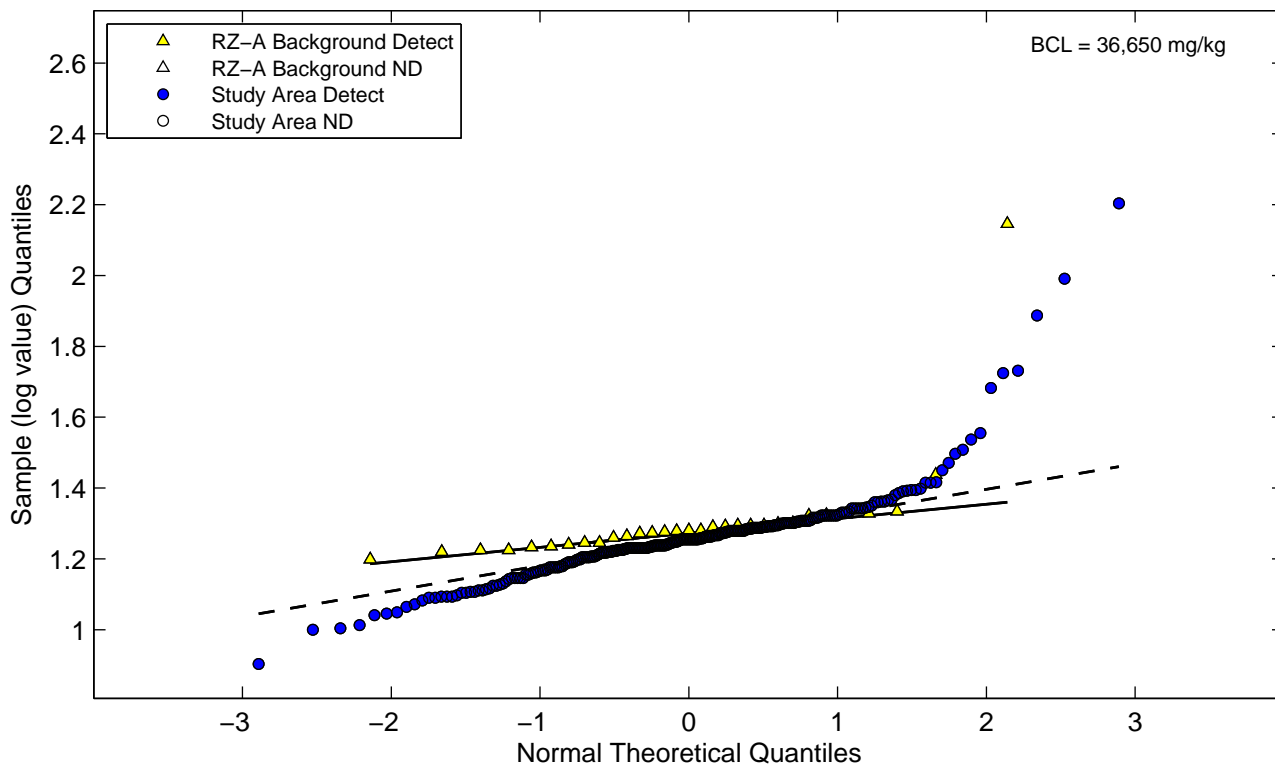
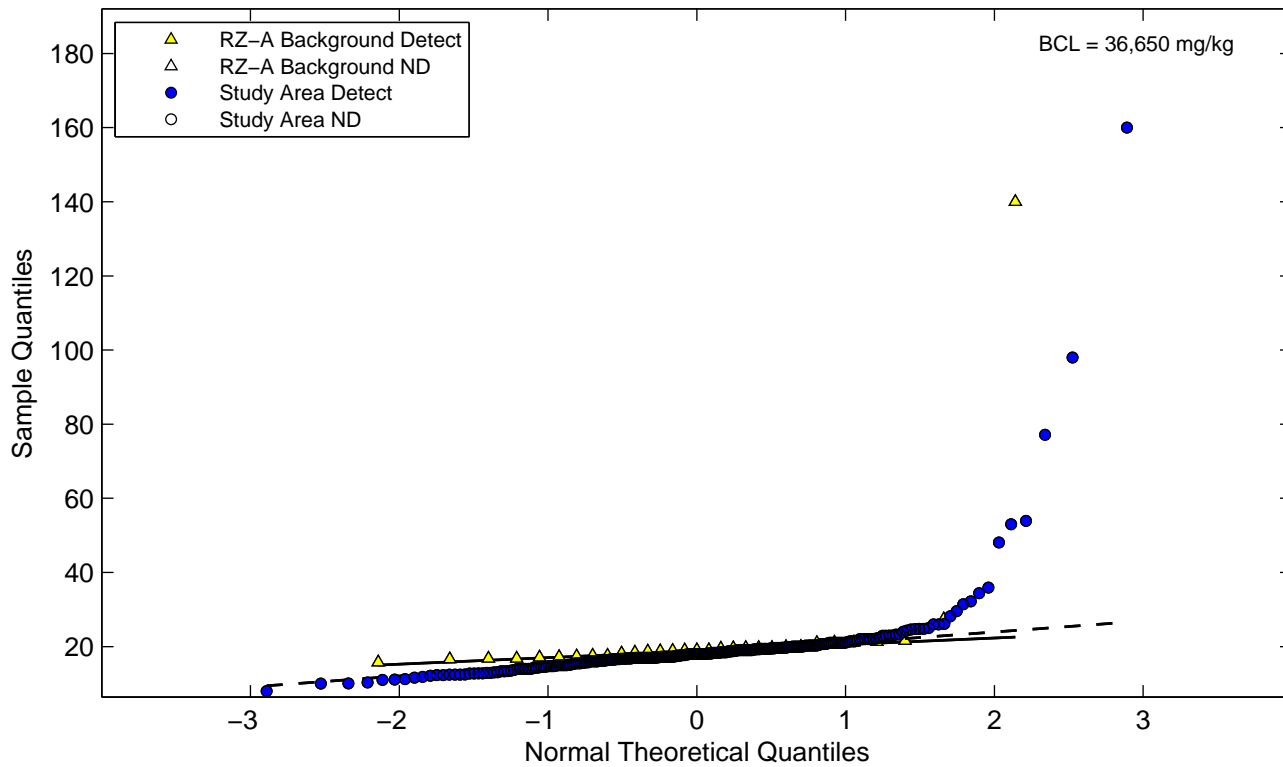


Figure F2-13. Normal and Lognormal Q-Q Plots Iron

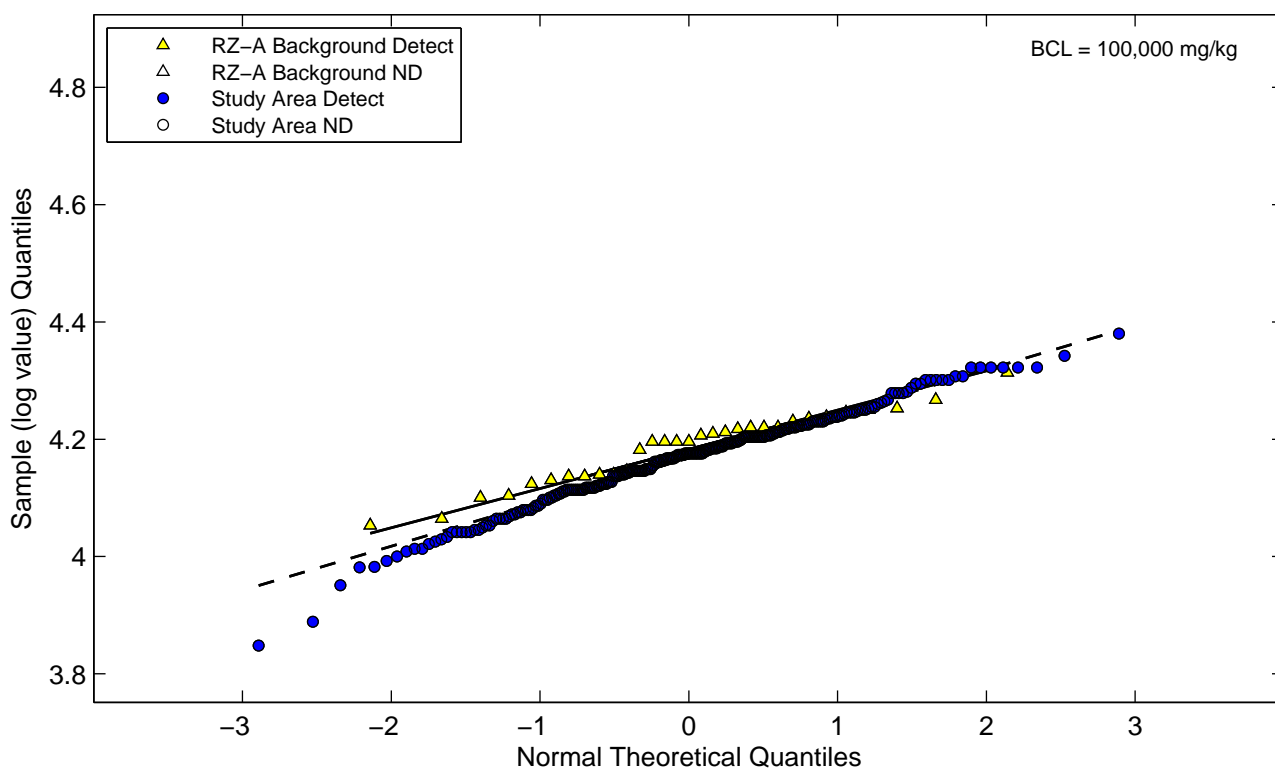
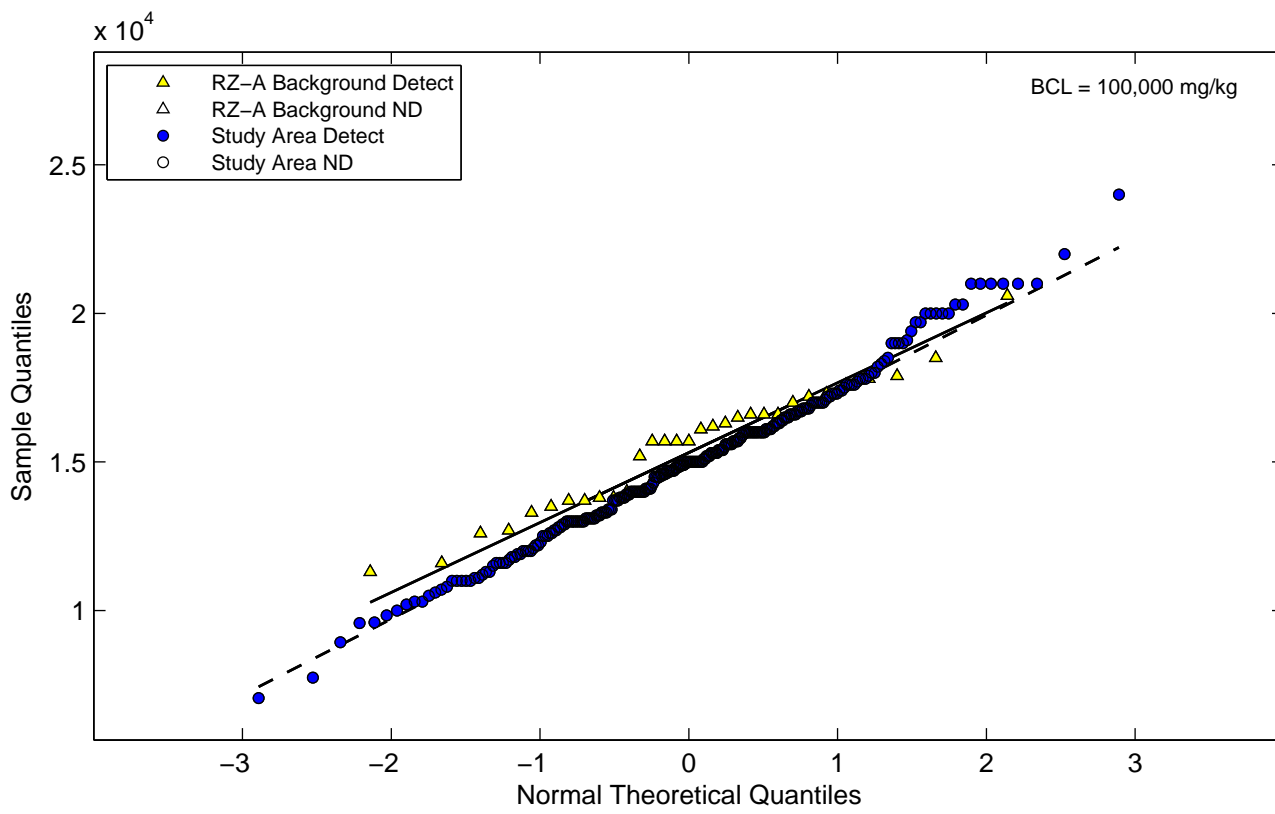
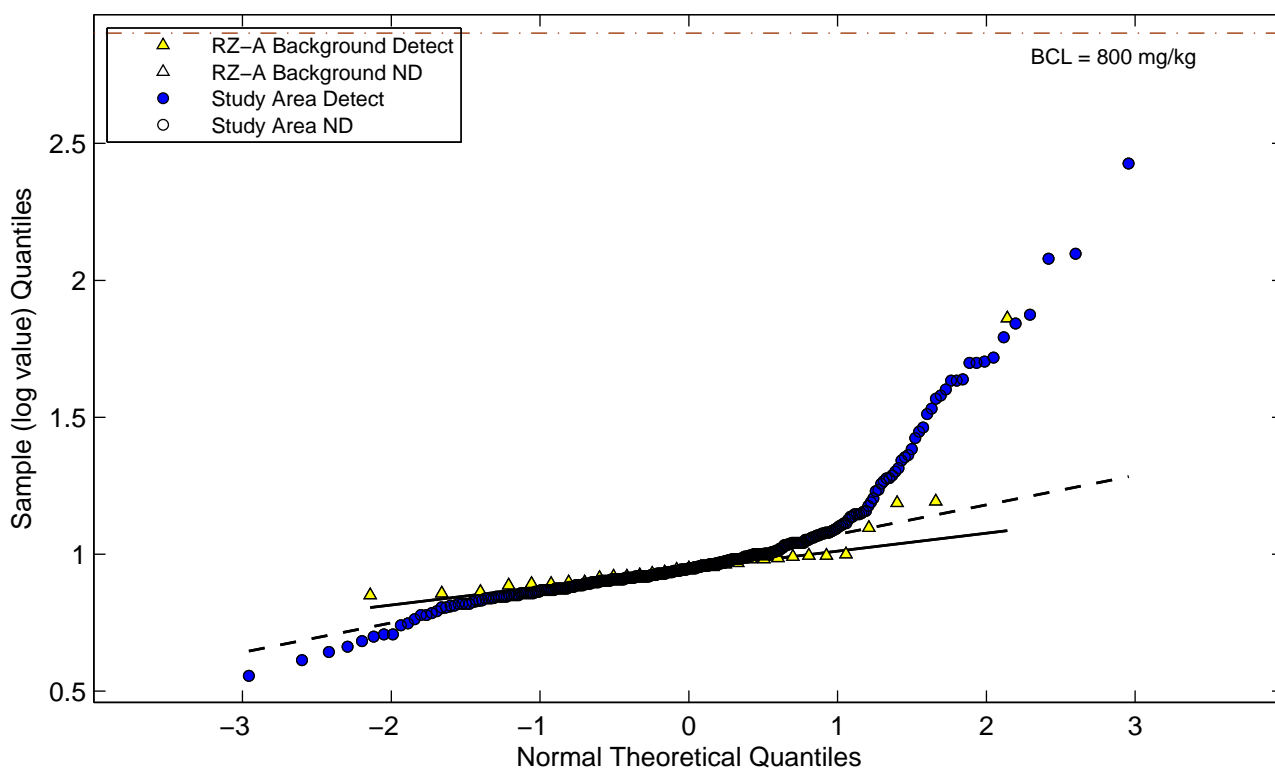
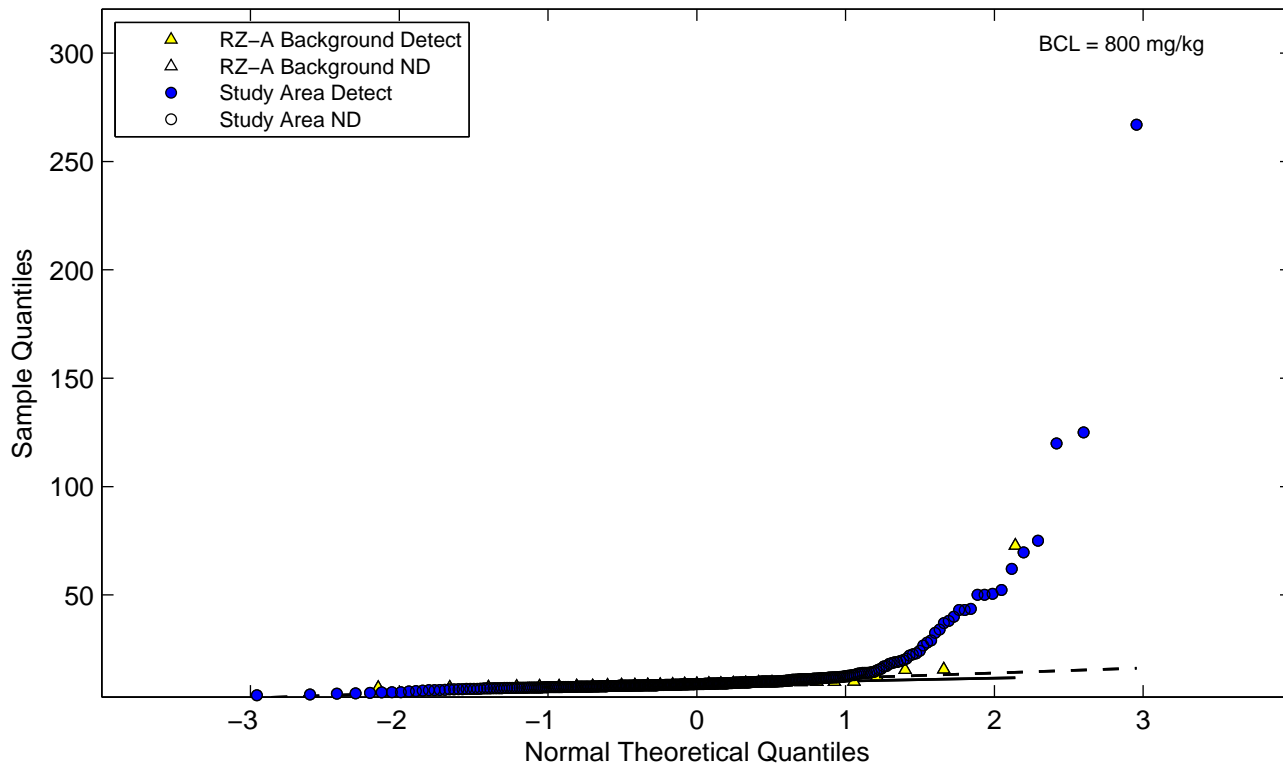
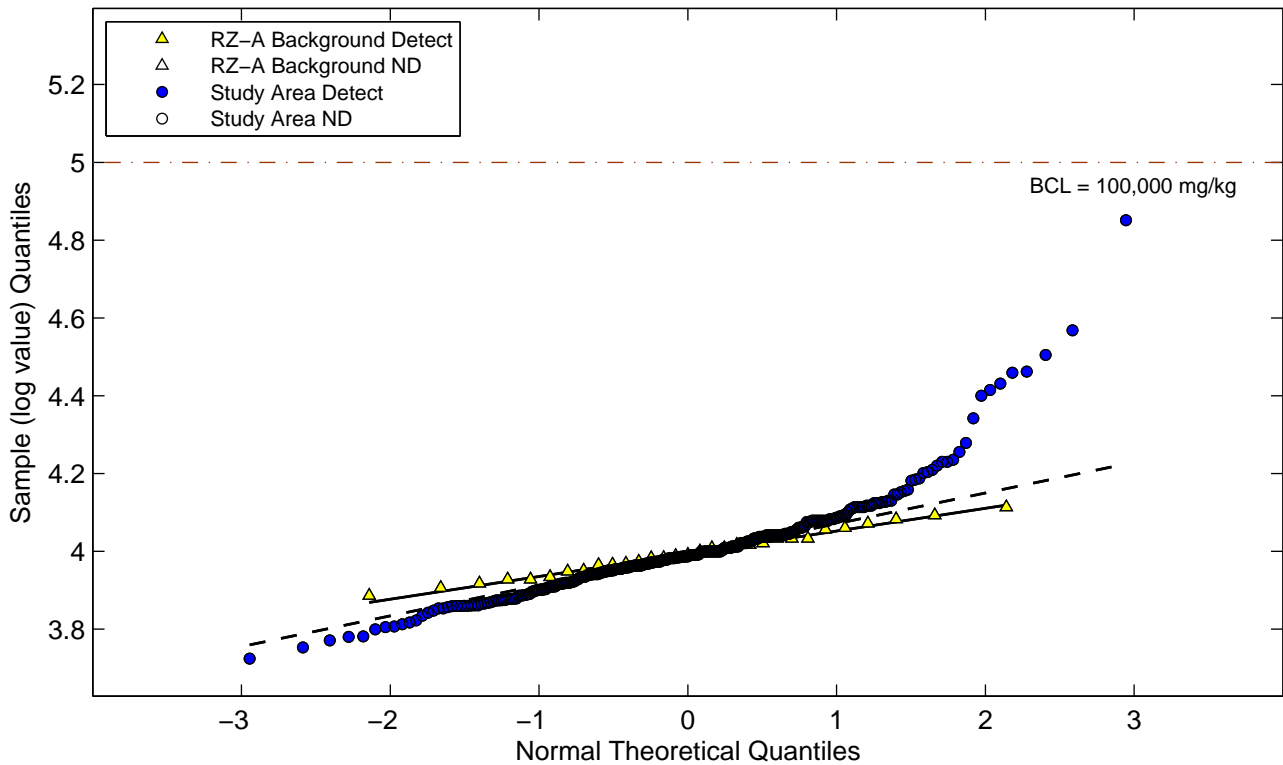
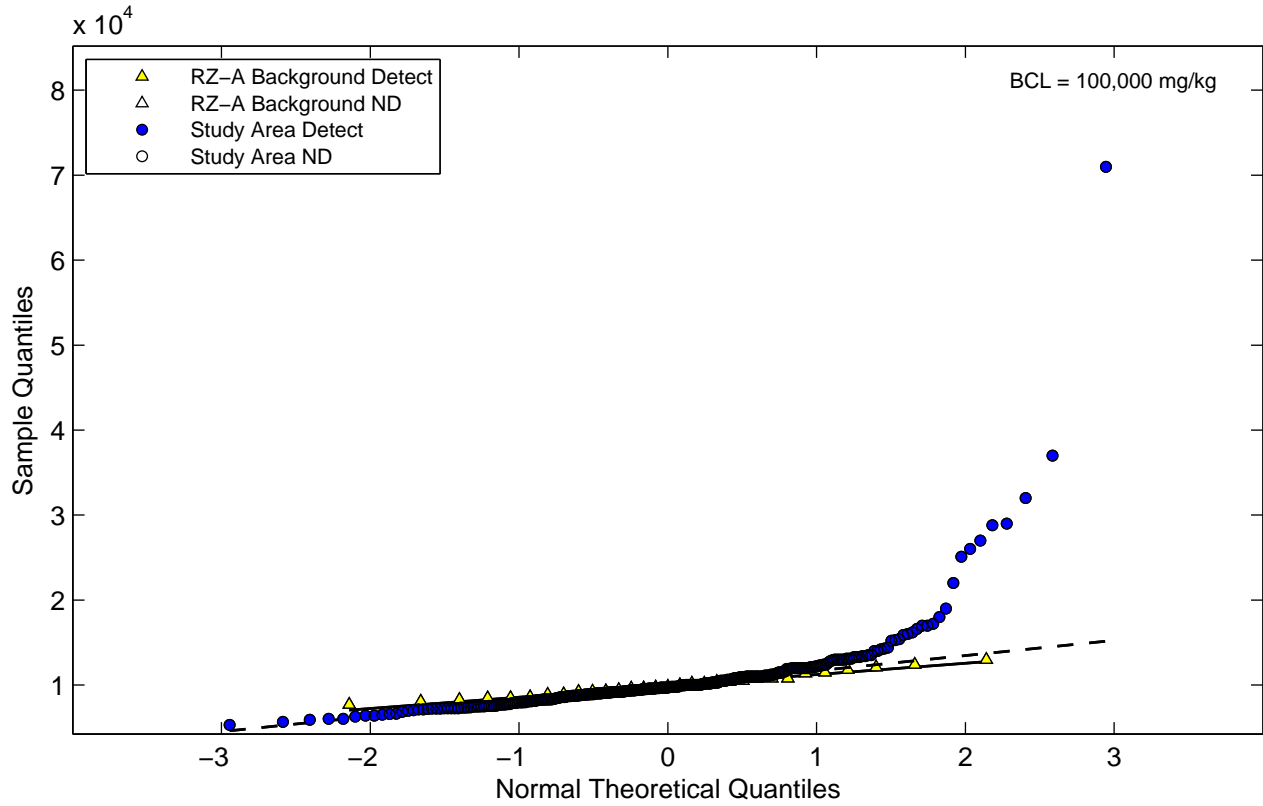


Figure F2-14. Normal and Lognormal Q-Q Plots
Lead



**Figure F2-15. Normal and Lognormal Q-Q Plots
Magnesium**



**Figure F2-16. Normal and Lognormal Q-Q Plots
Manganese**

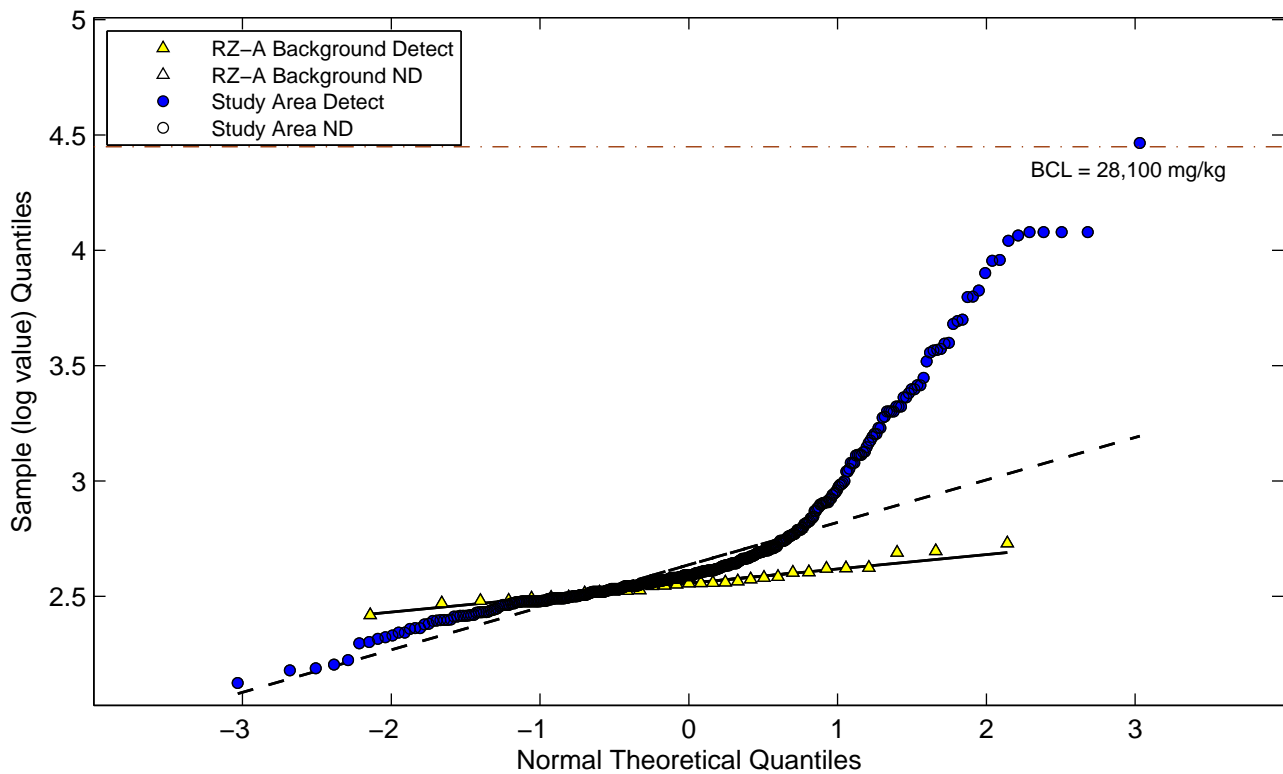
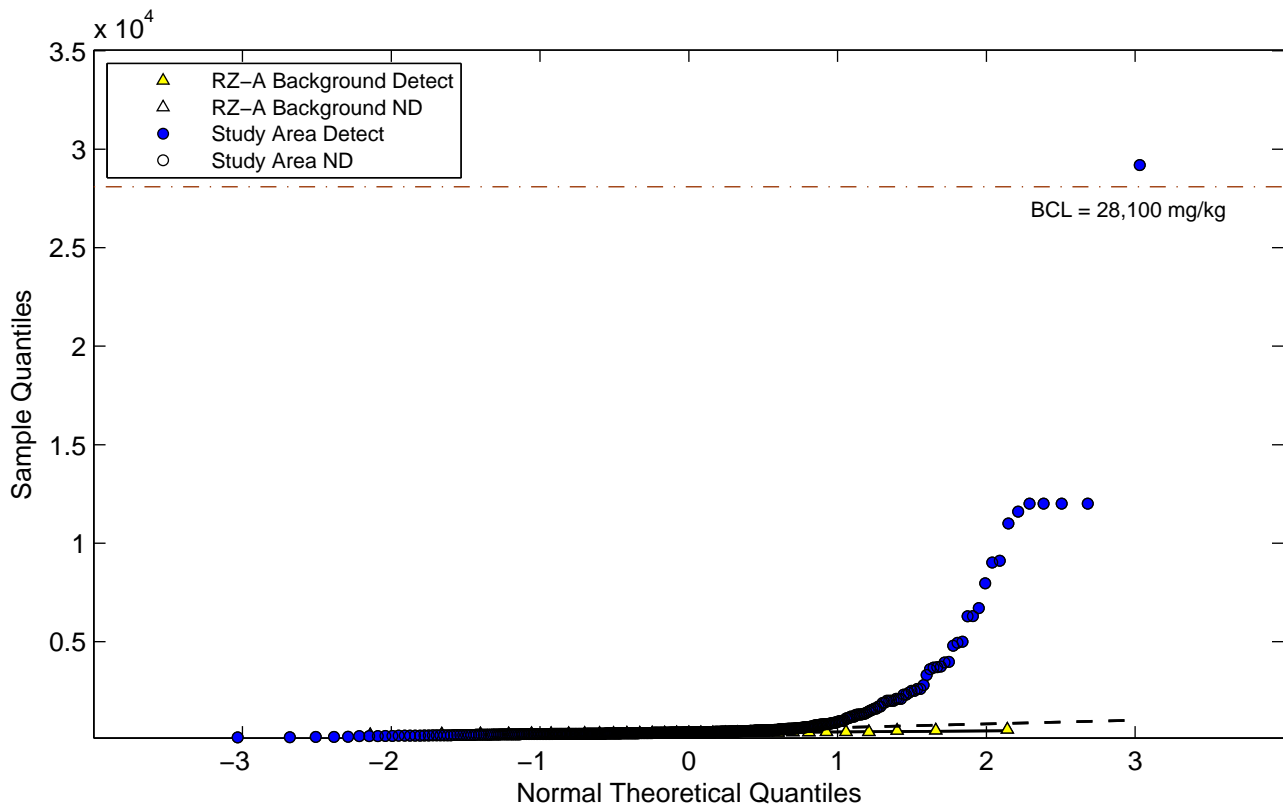
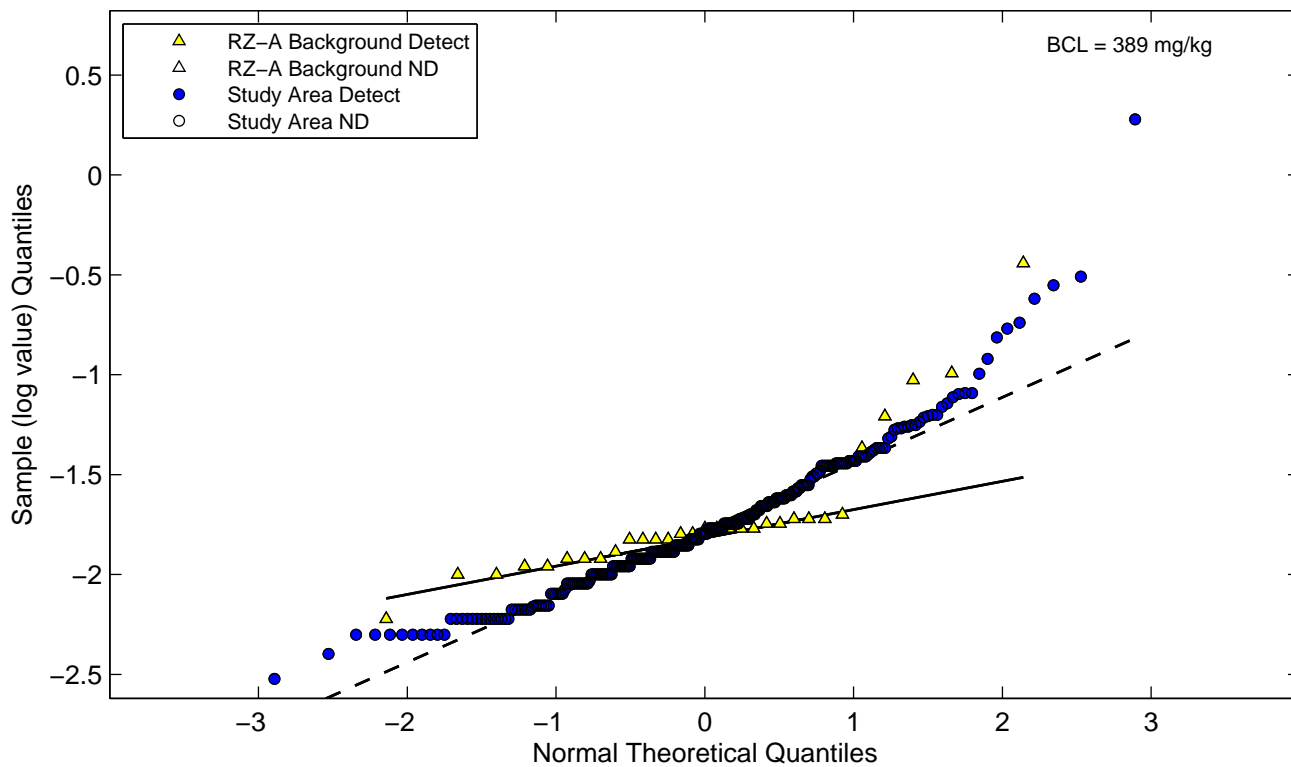
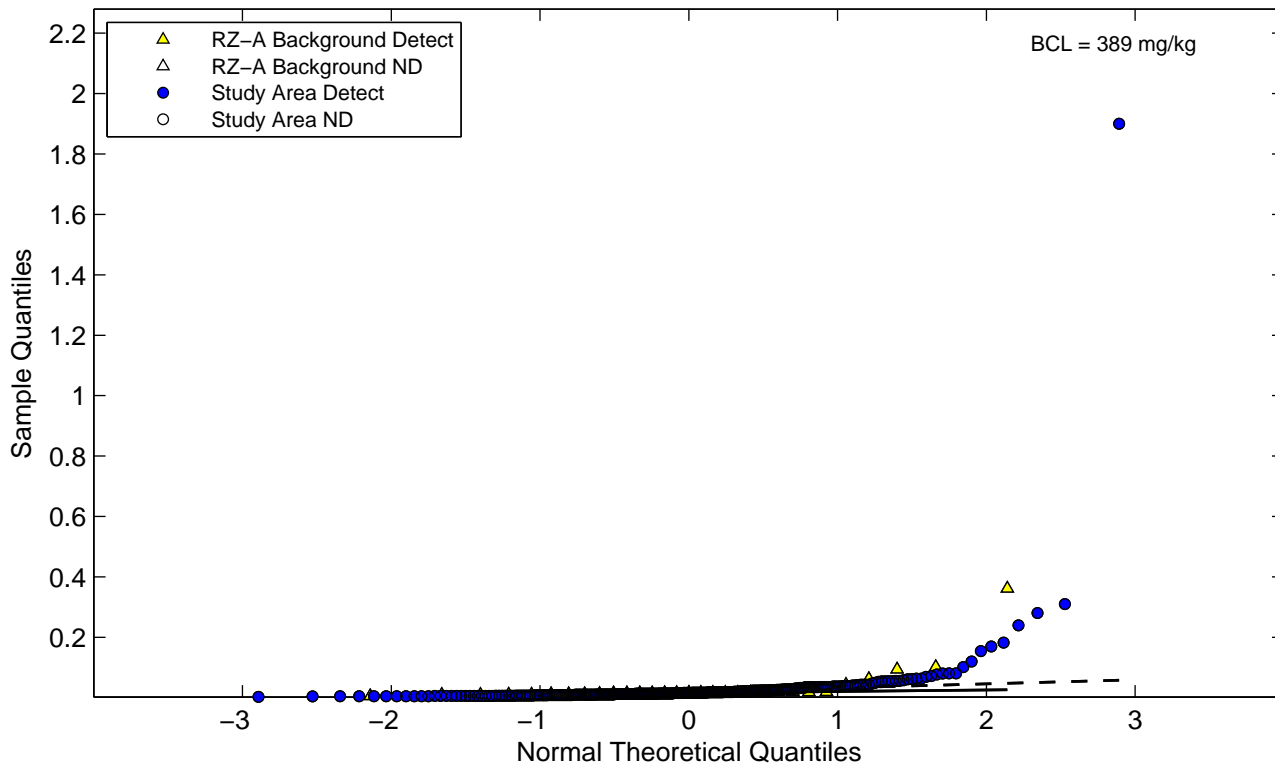


Figure F2-17. Normal and Lognormal Q-Q Plots
Mercury



**Figure F2-18. Normal and Lognormal Q-Q Plots
Molybdenum**

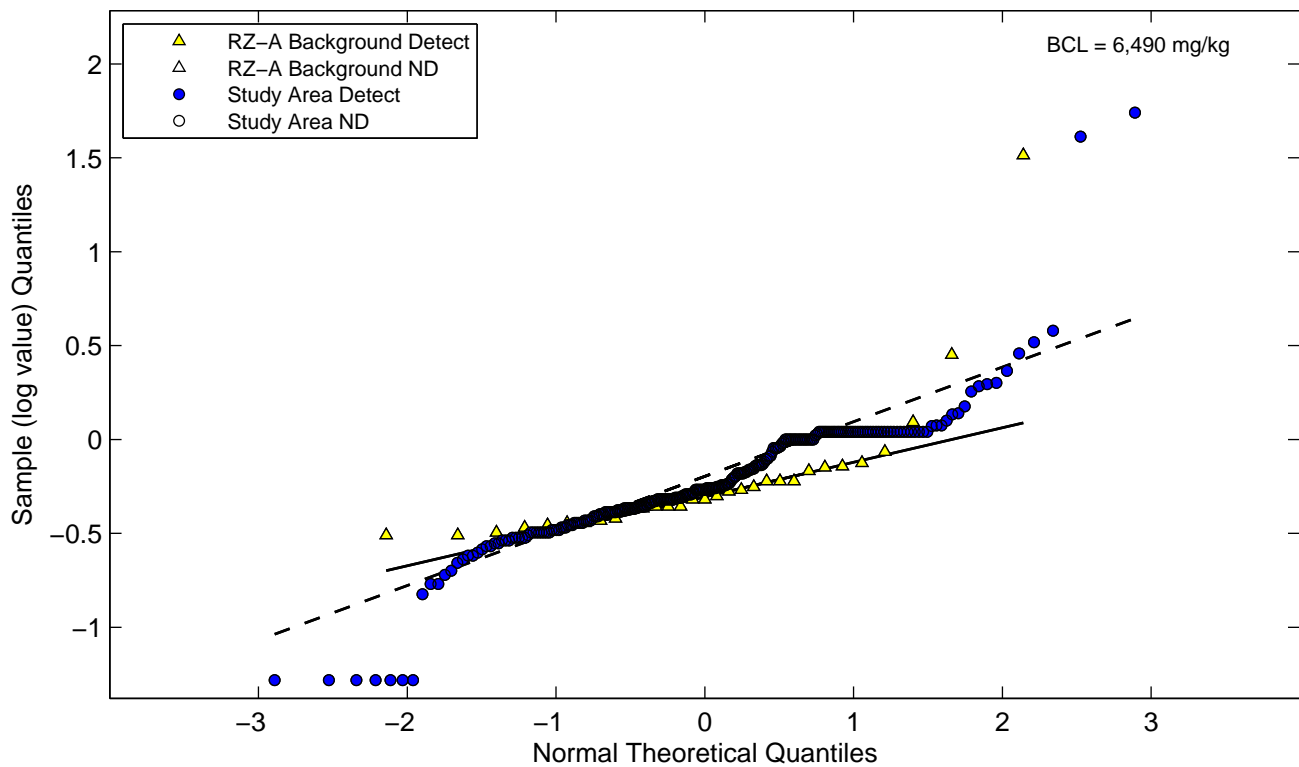
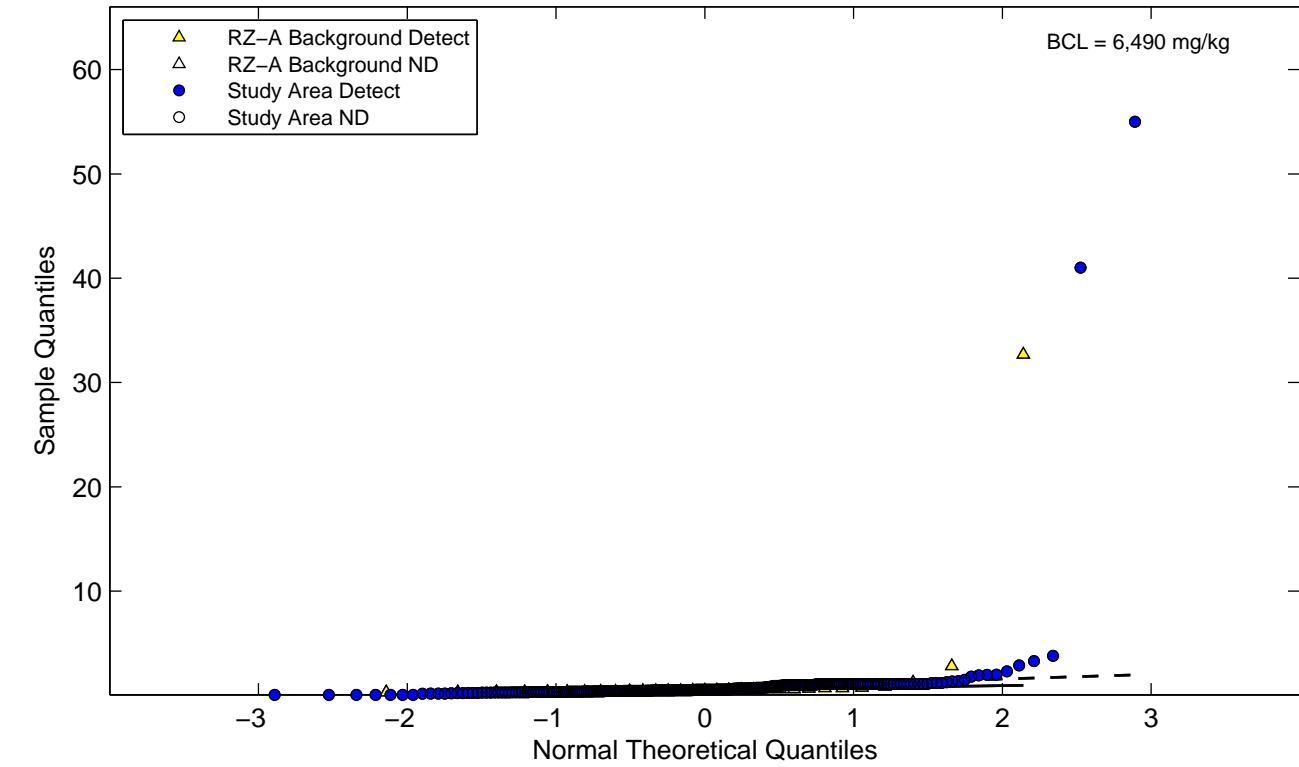


Figure F2-19. Normal and Lognormal Q-Q Plots
Nickel

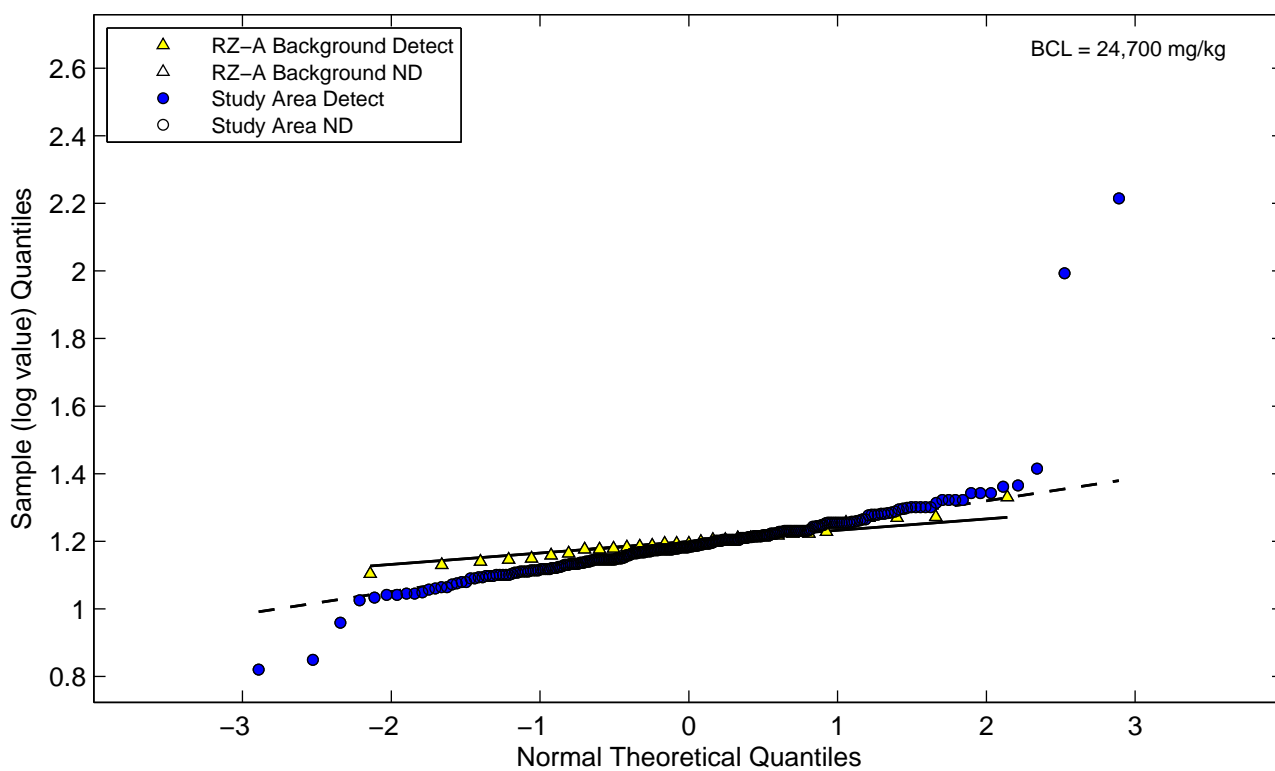
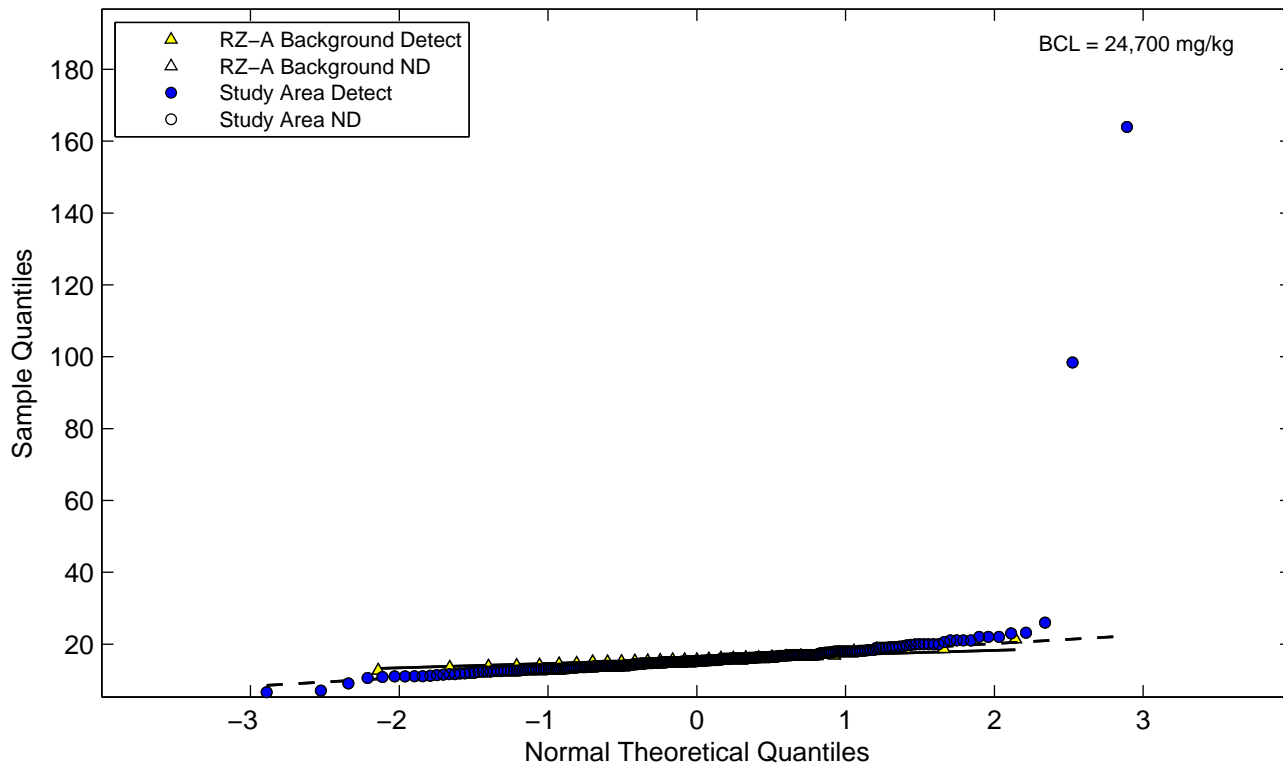
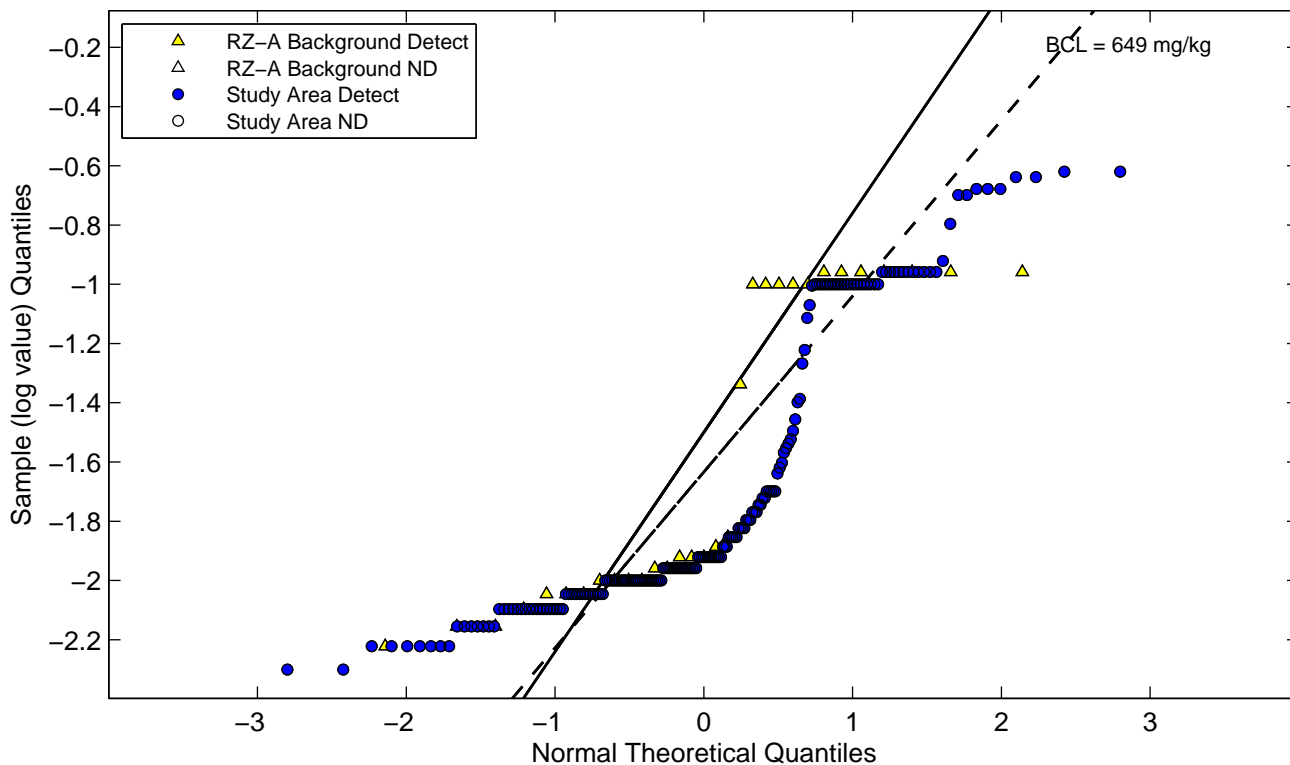
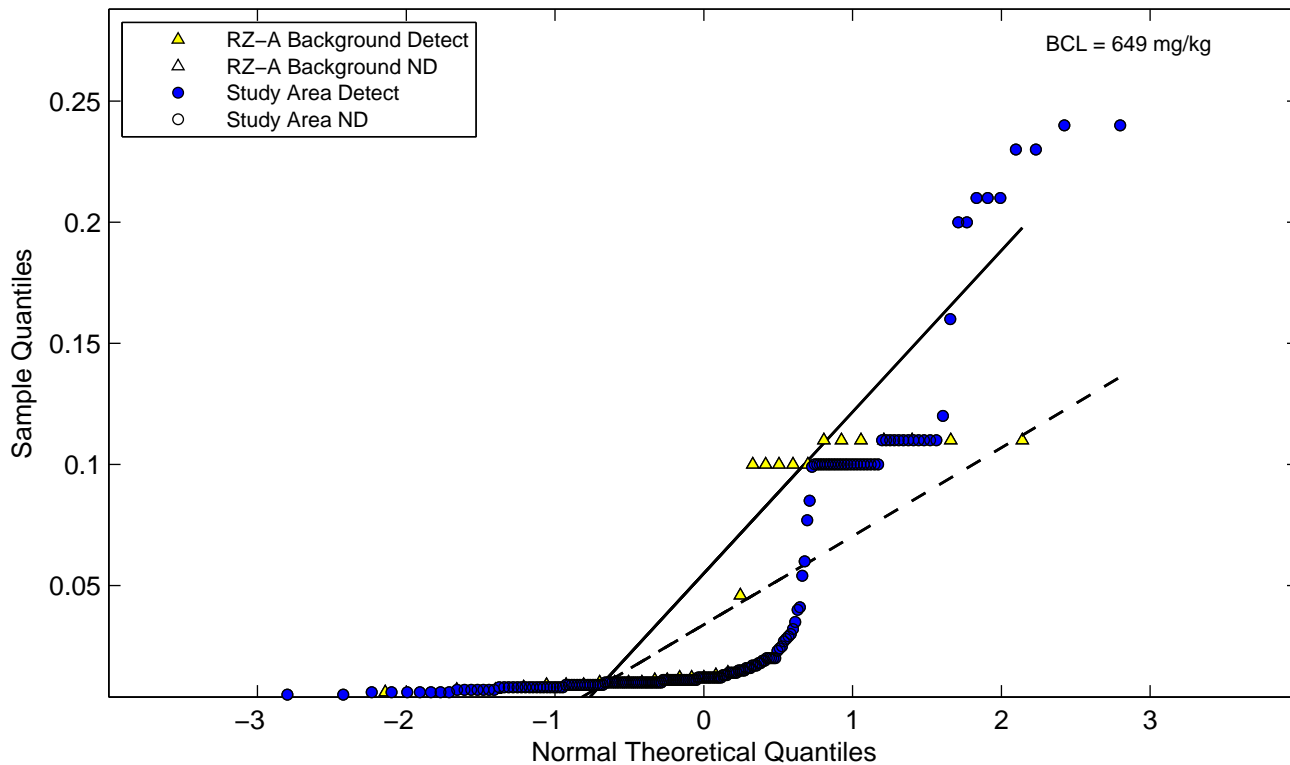


Figure F2-20. Normal and Lognormal Q-Q Plots Platinum



**Figure F2-21. Normal and Lognormal Q-Q Plots
Potassium**

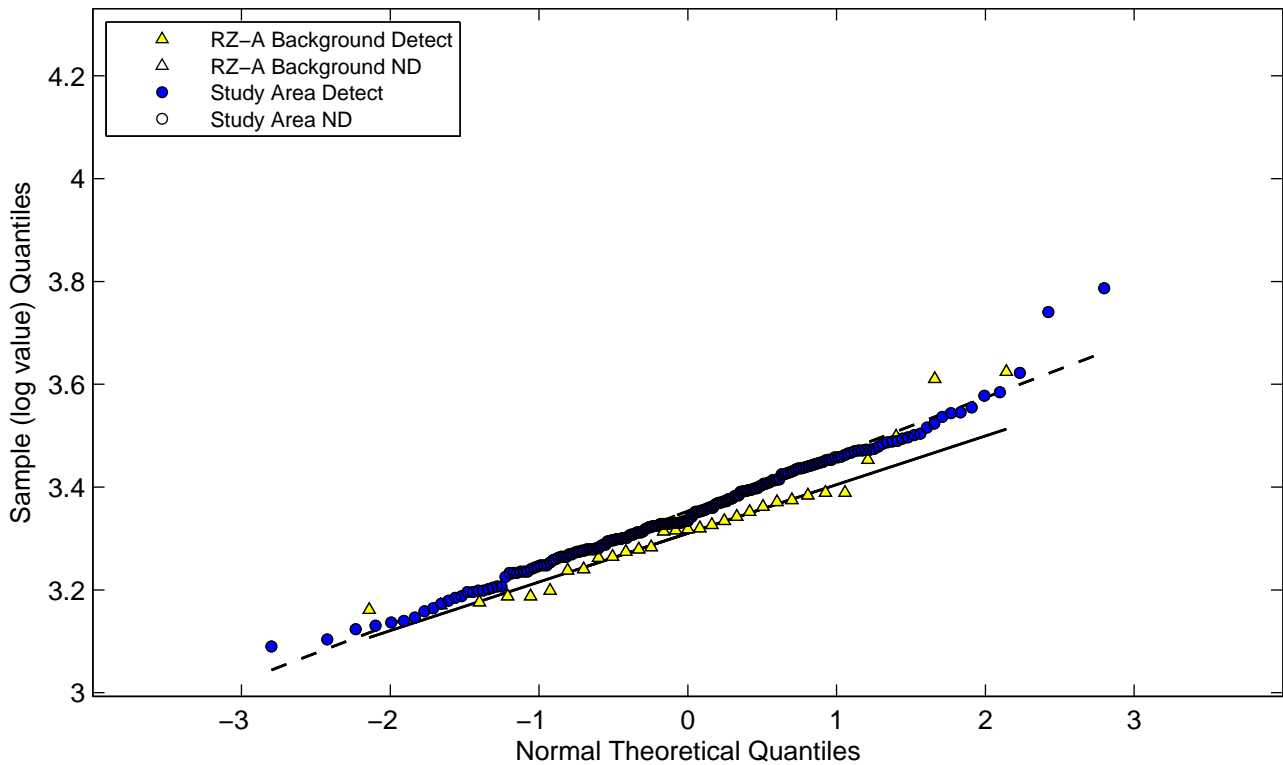
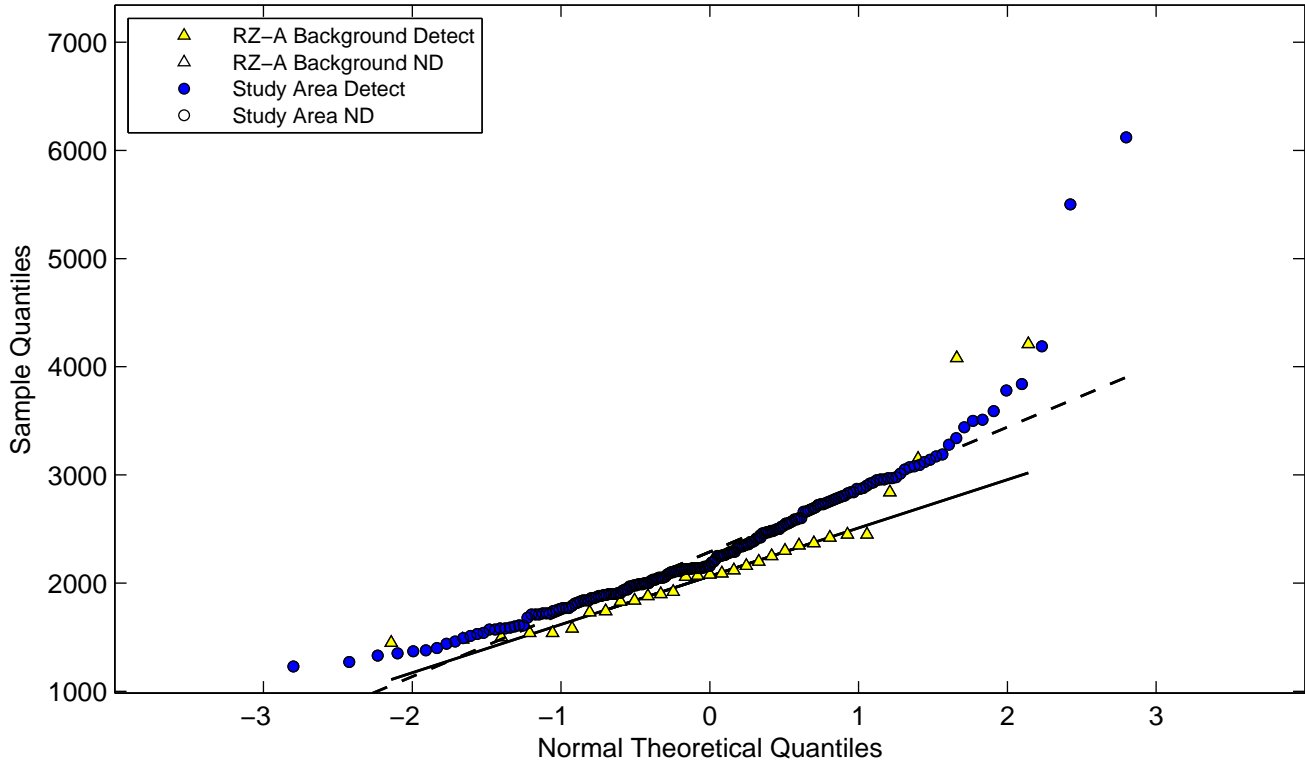


Figure F2-22. Normal and Lognormal Q-Q Plots
Selenium

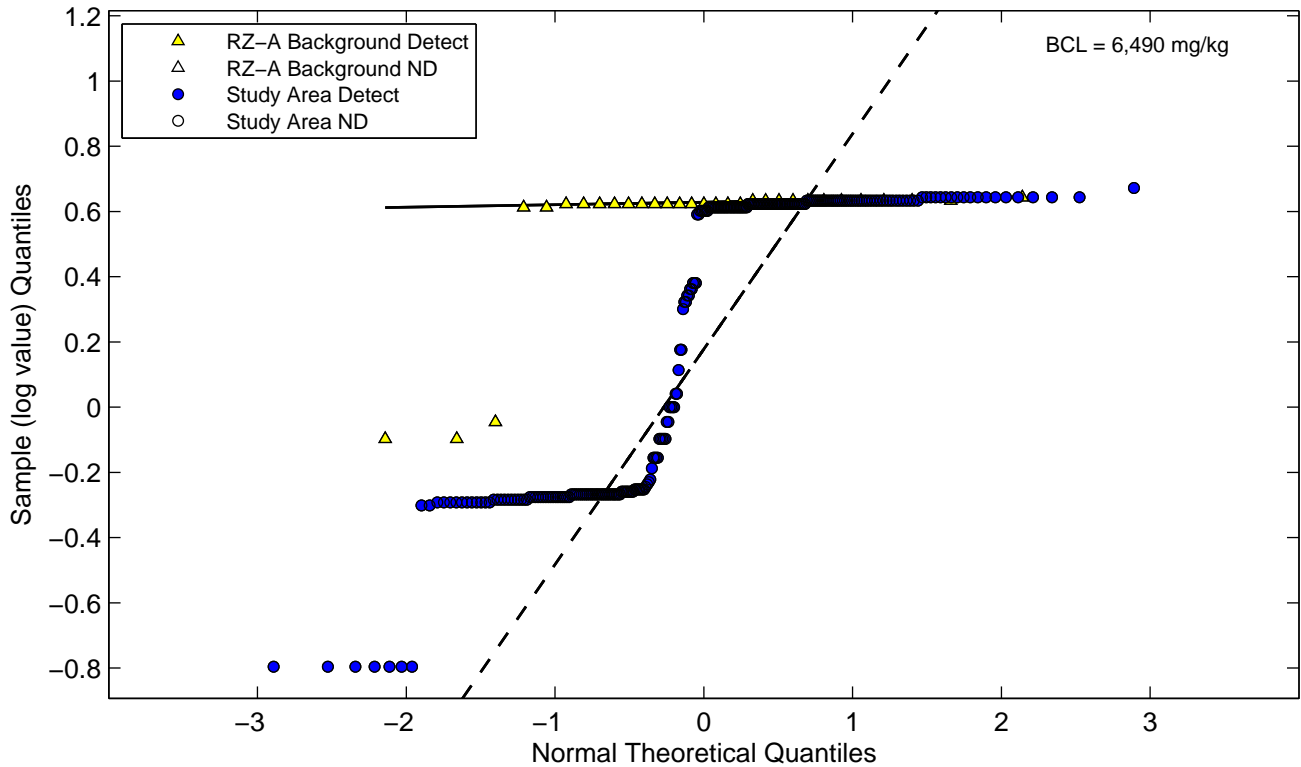
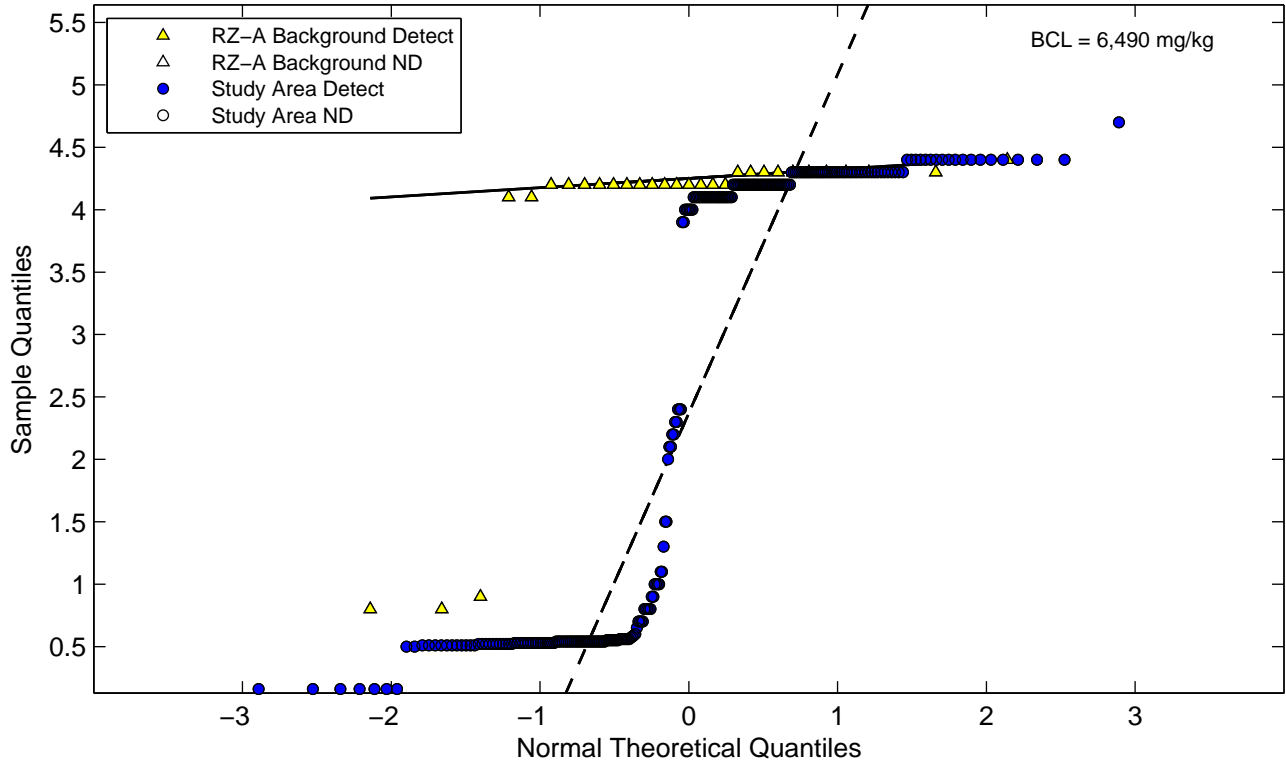


Figure F2-23. Normal and Lognormal Q-Q Plots
Silver

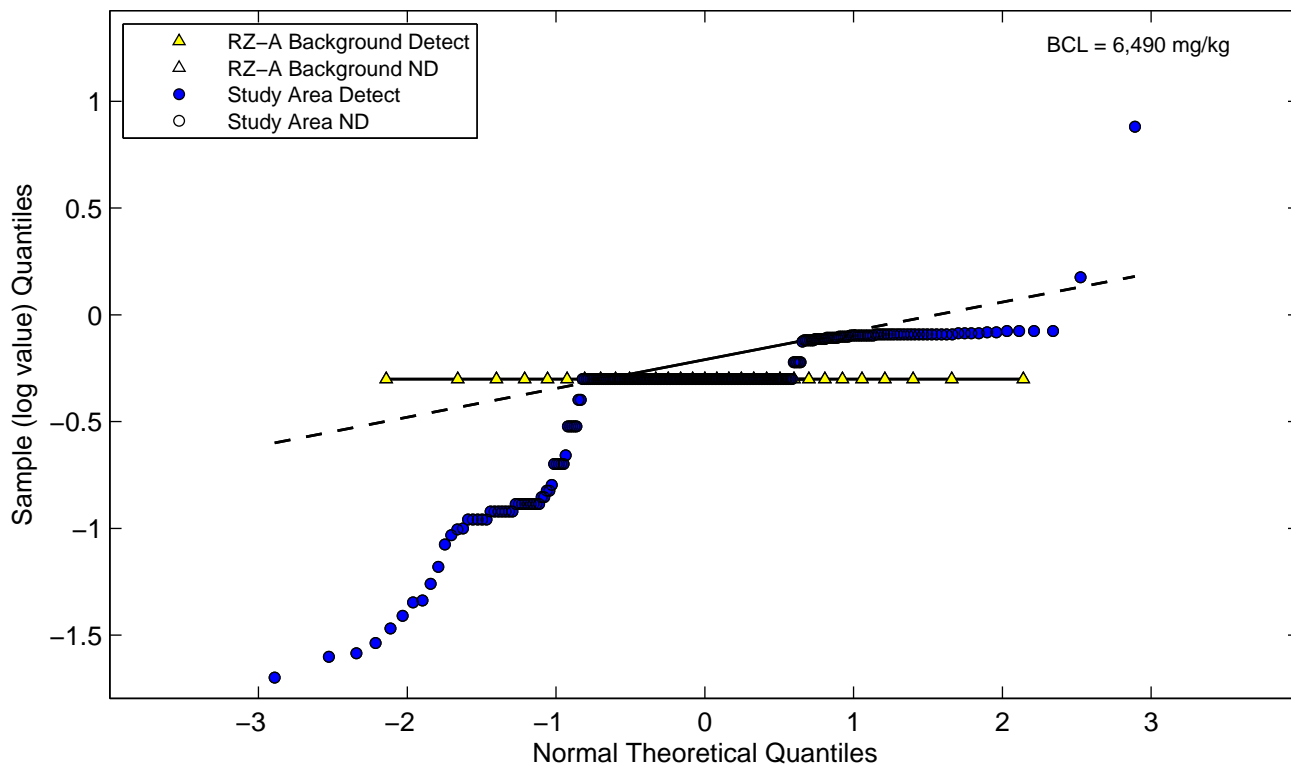
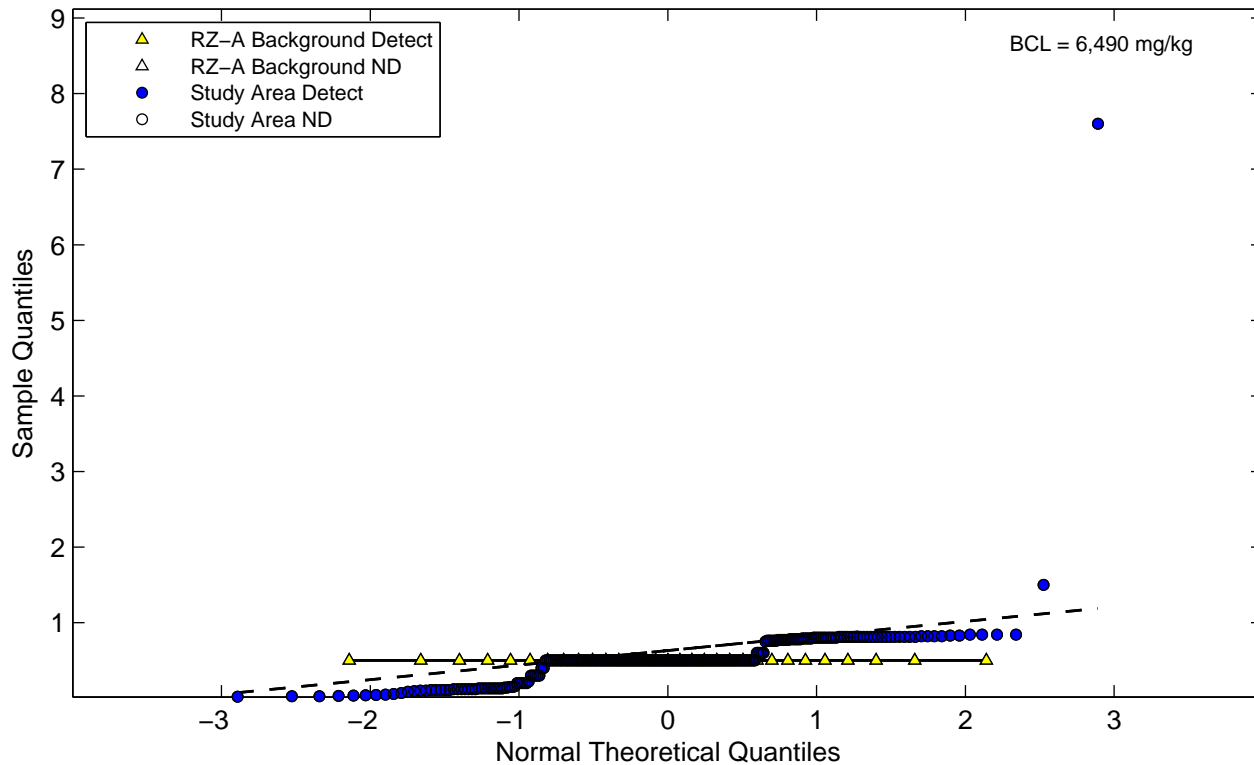
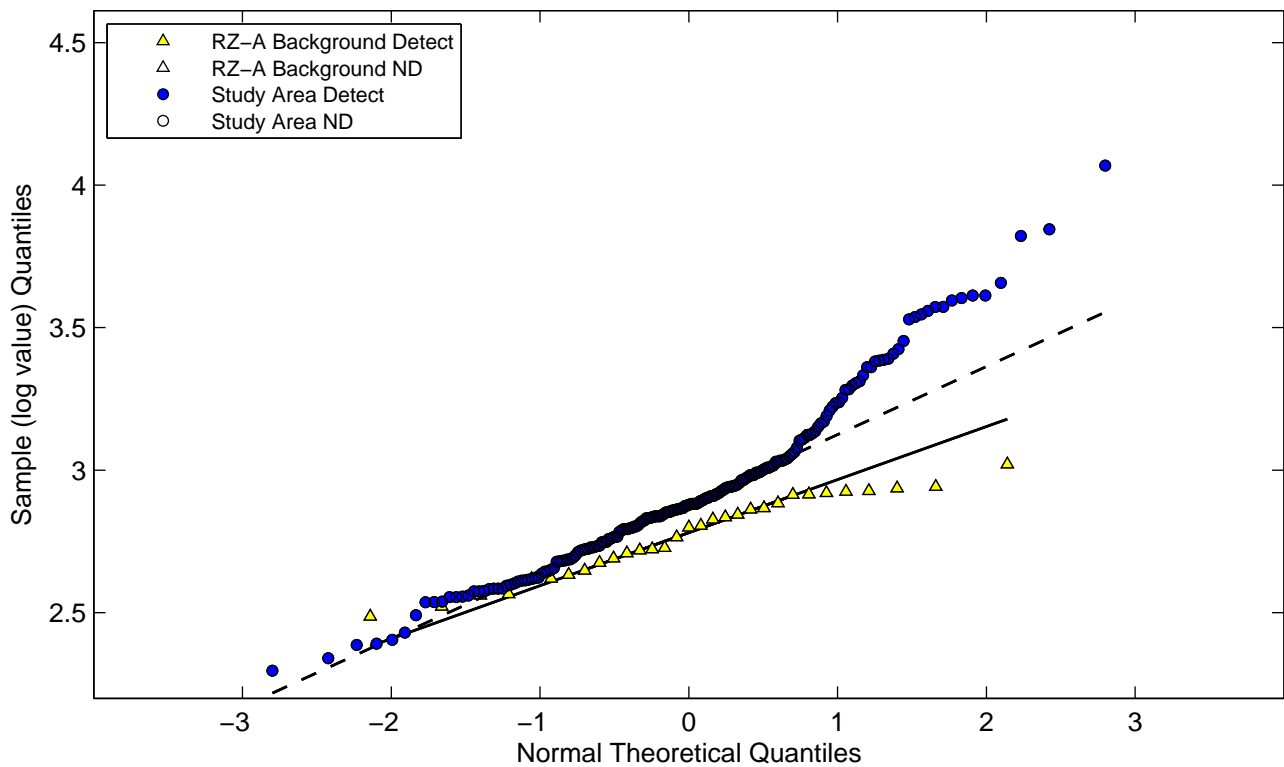
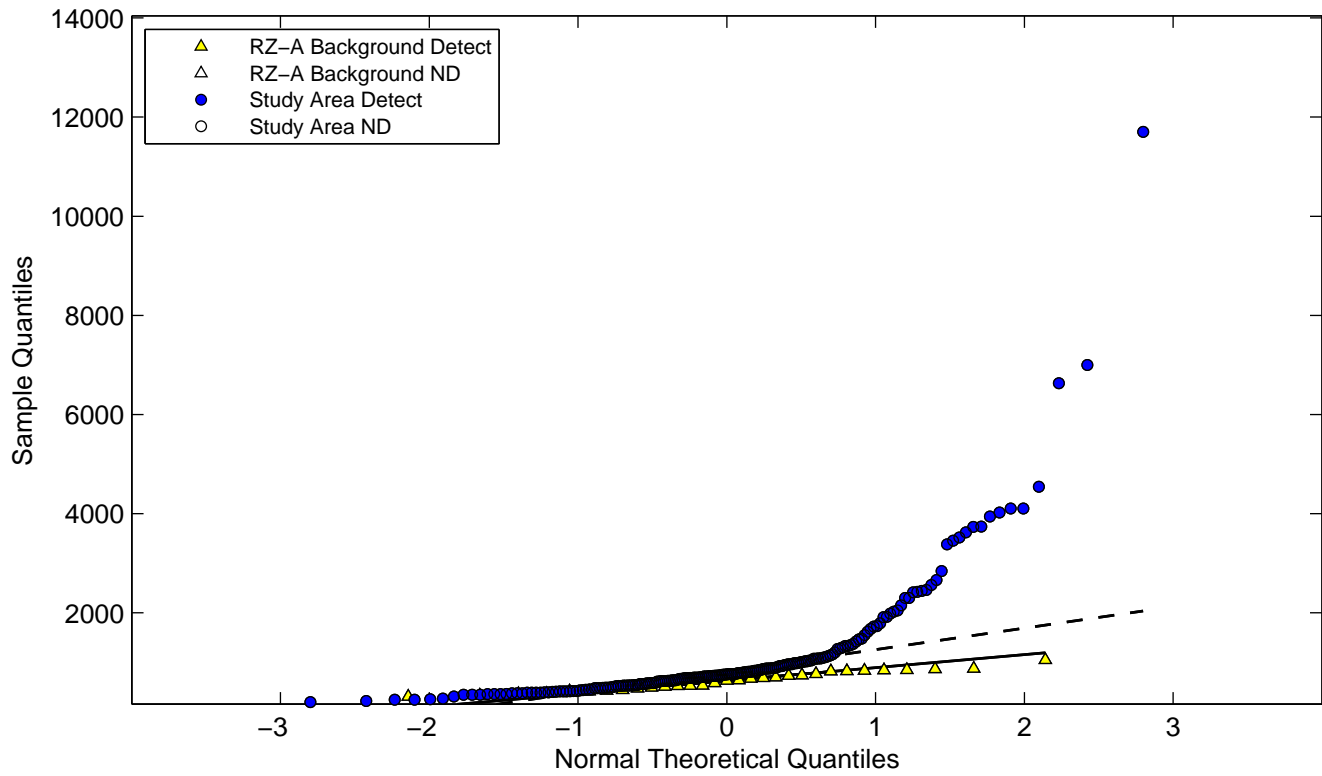


Figure F2-24. Normal and Lognormal Q-Q Plots
Sodium



**Figure F2-25. Normal and Lognormal Q-Q Plots
Strontium**

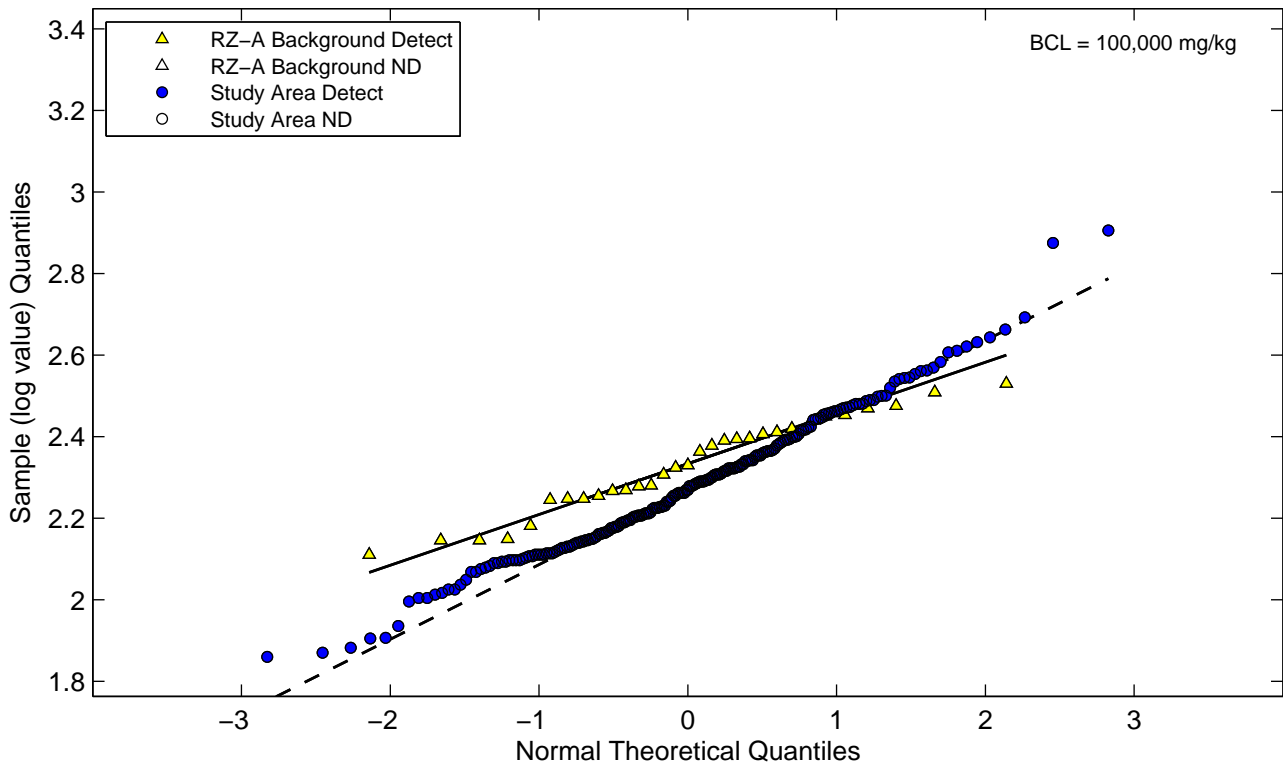
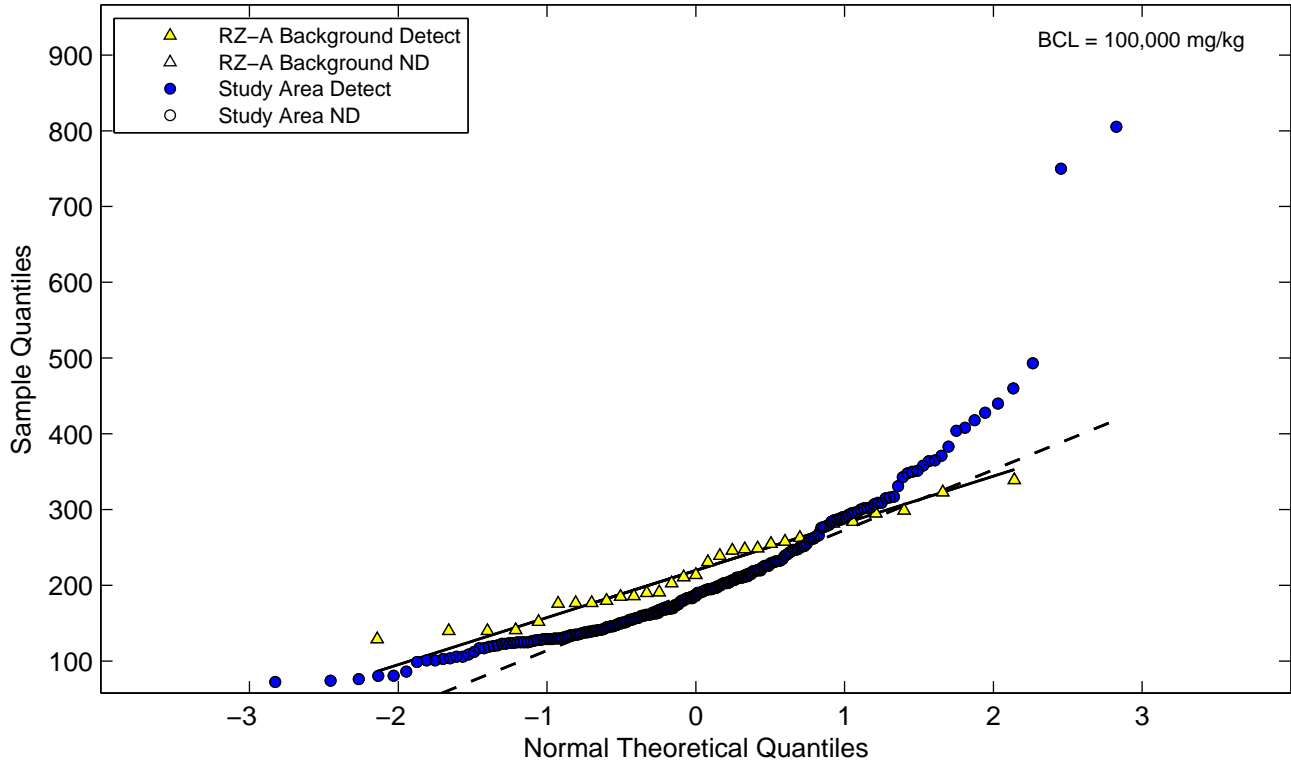


Figure F2-26. Normal and Lognormal Q-Q Plots
Thallium

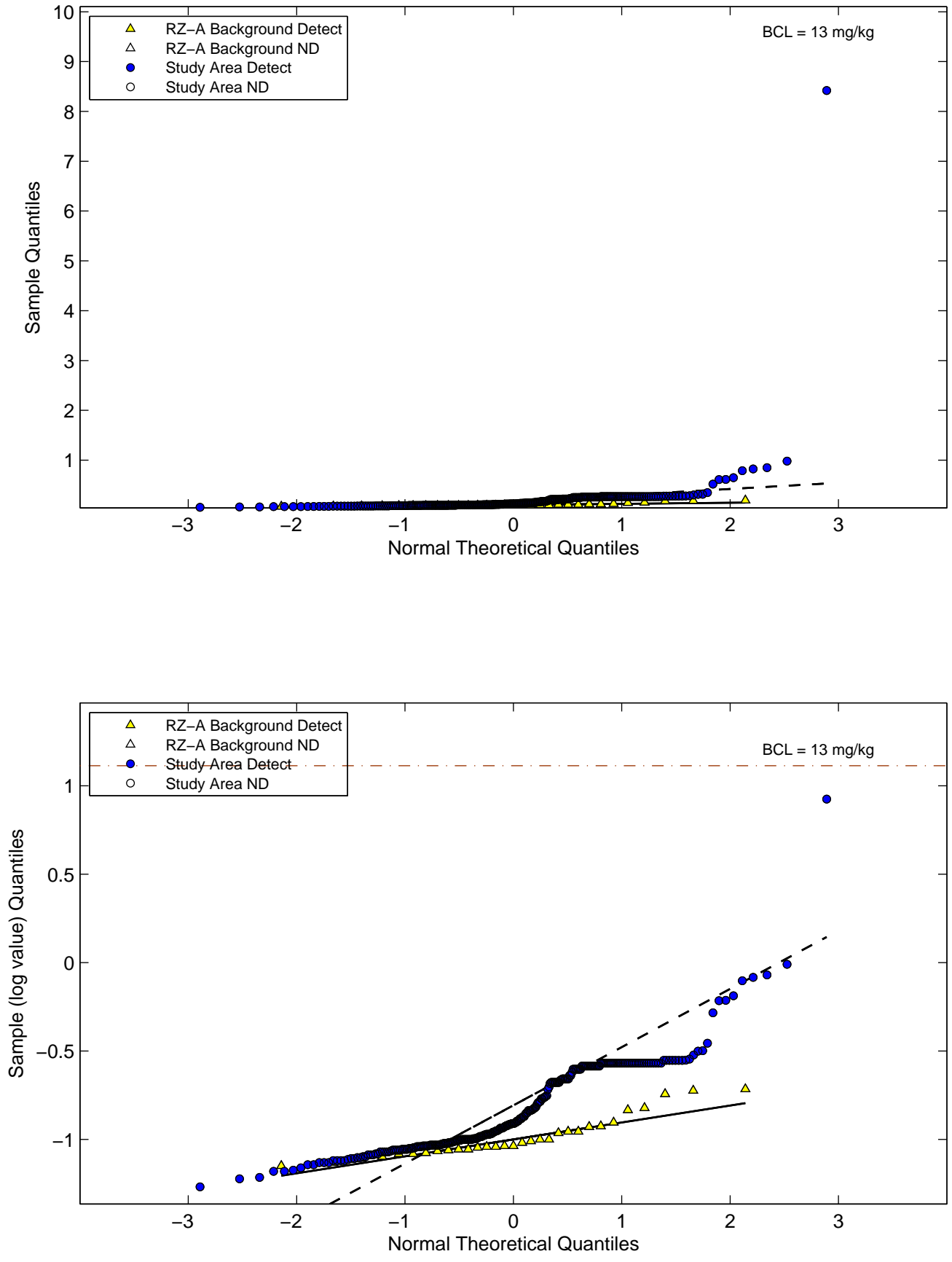


Figure F2-27. Normal and Lognormal Q-Q Plots
Tin

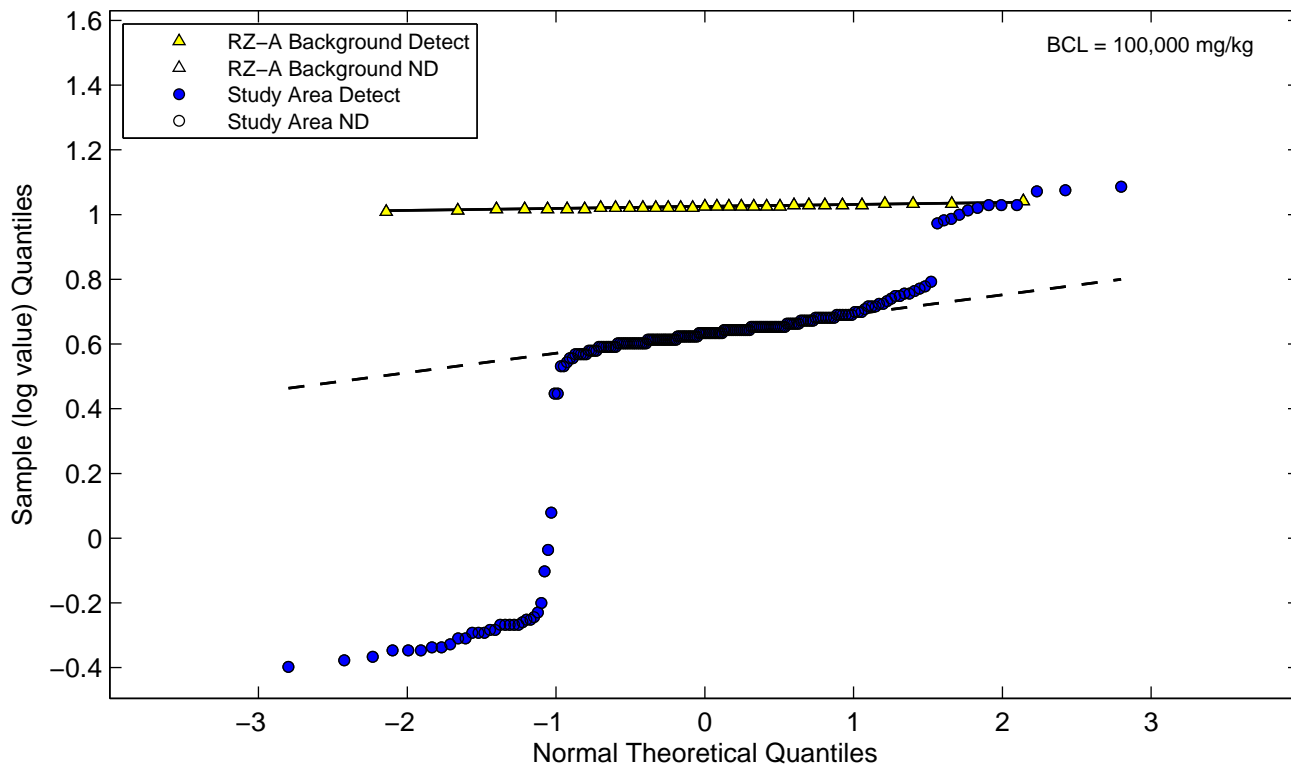
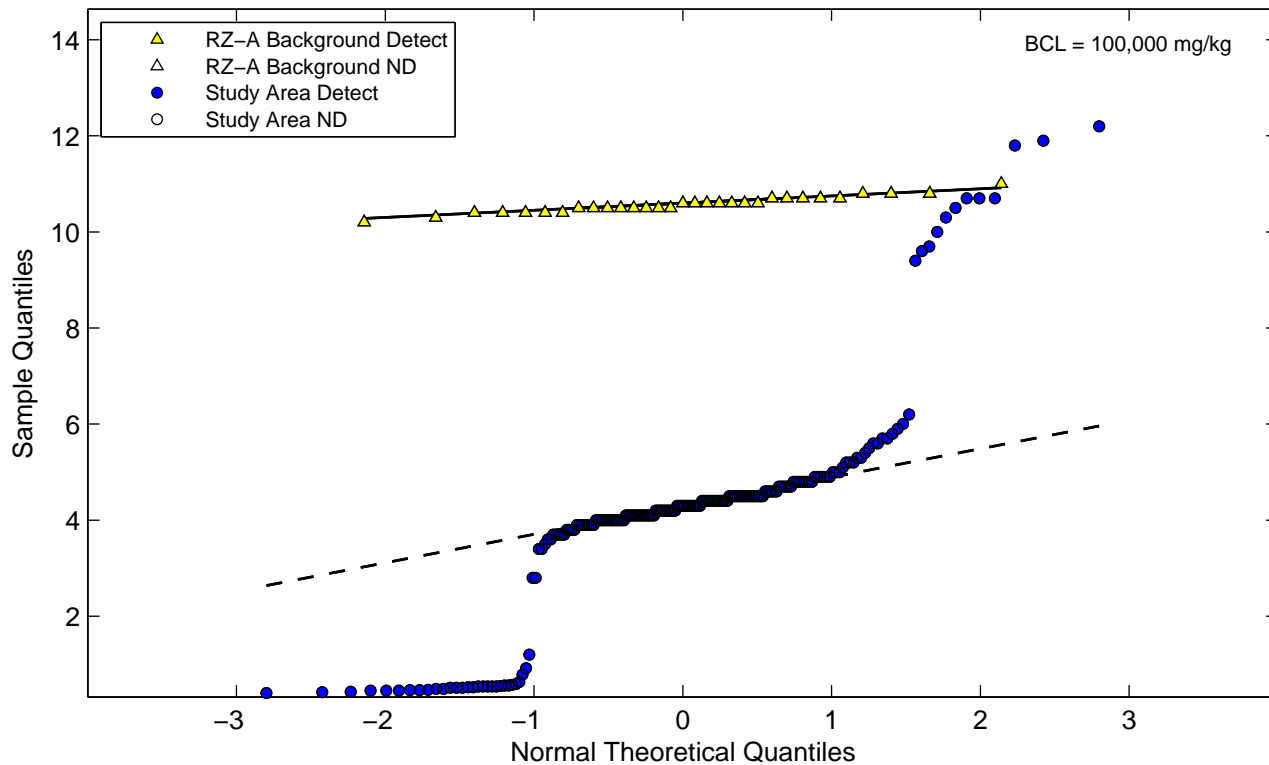


Figure F2-28. Normal and Lognormal Q-Q Plots
Titanium

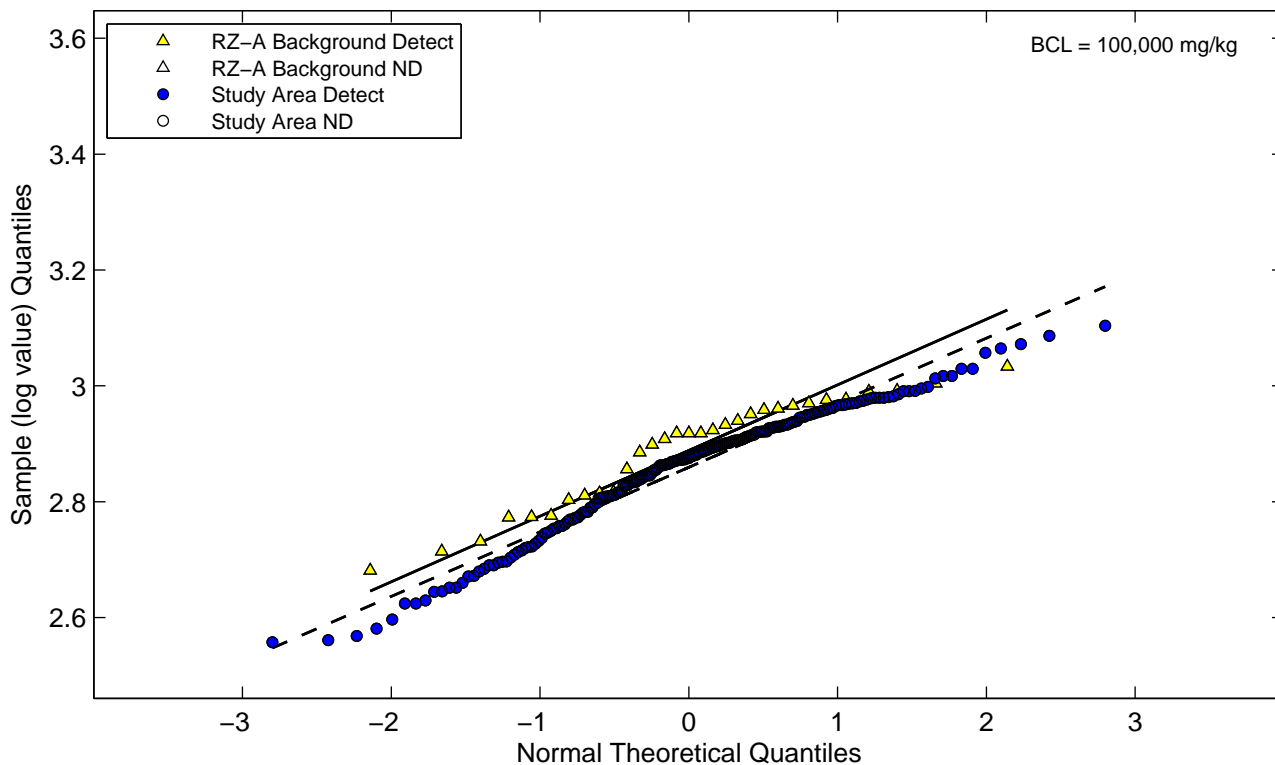
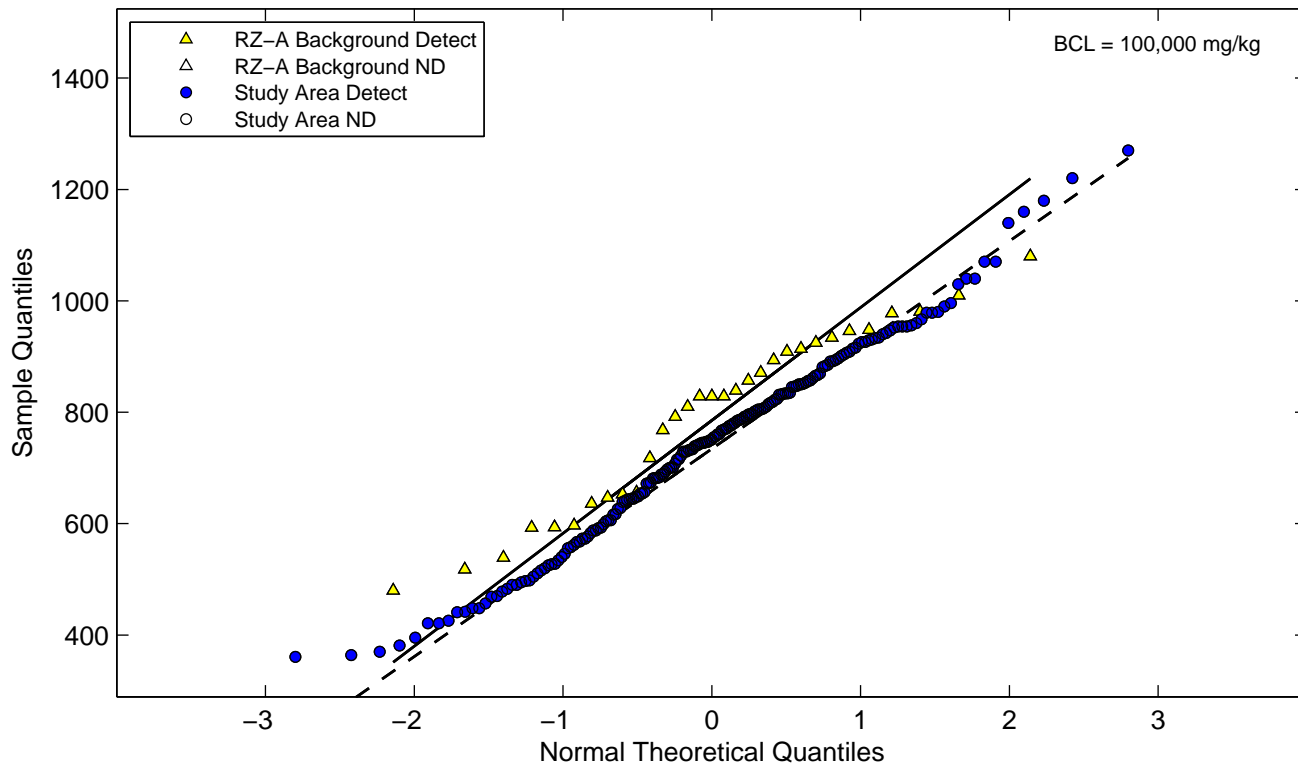


Figure F2-29. Normal and Lognormal Q-Q Plots
Tungsten

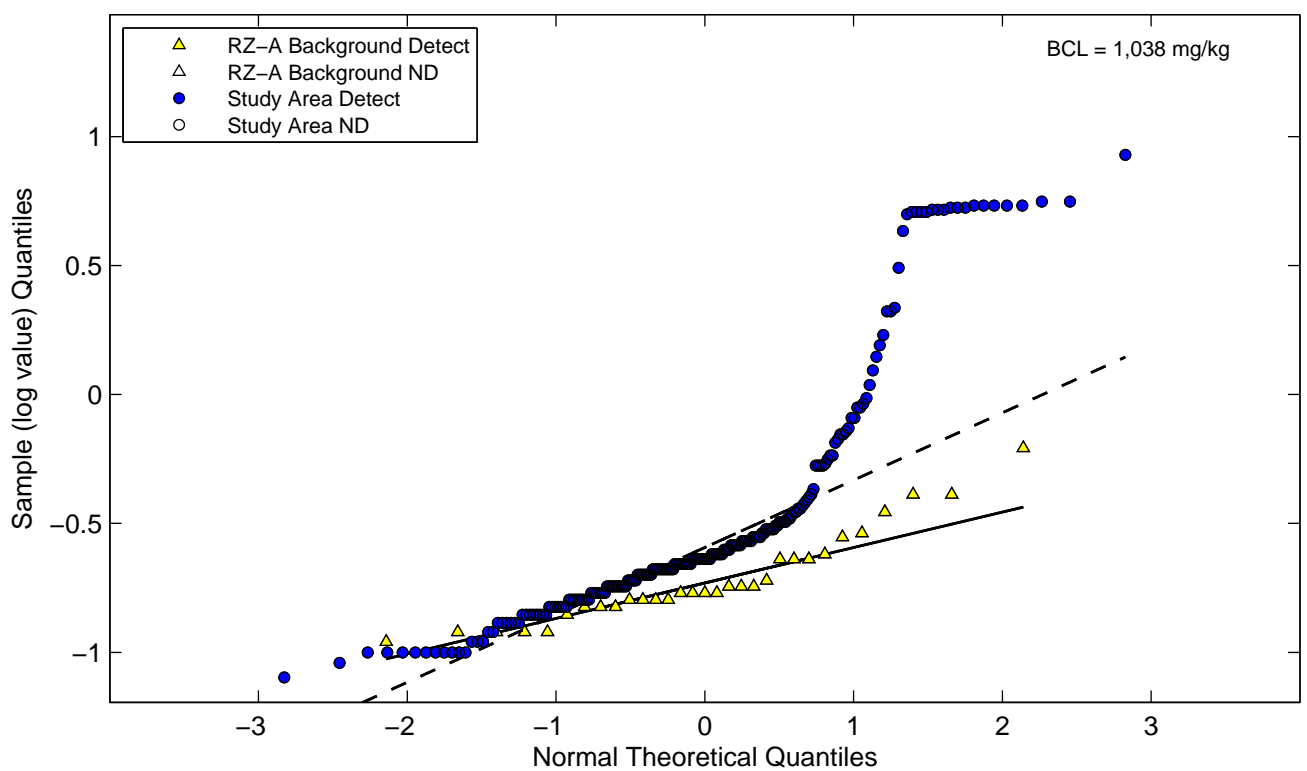
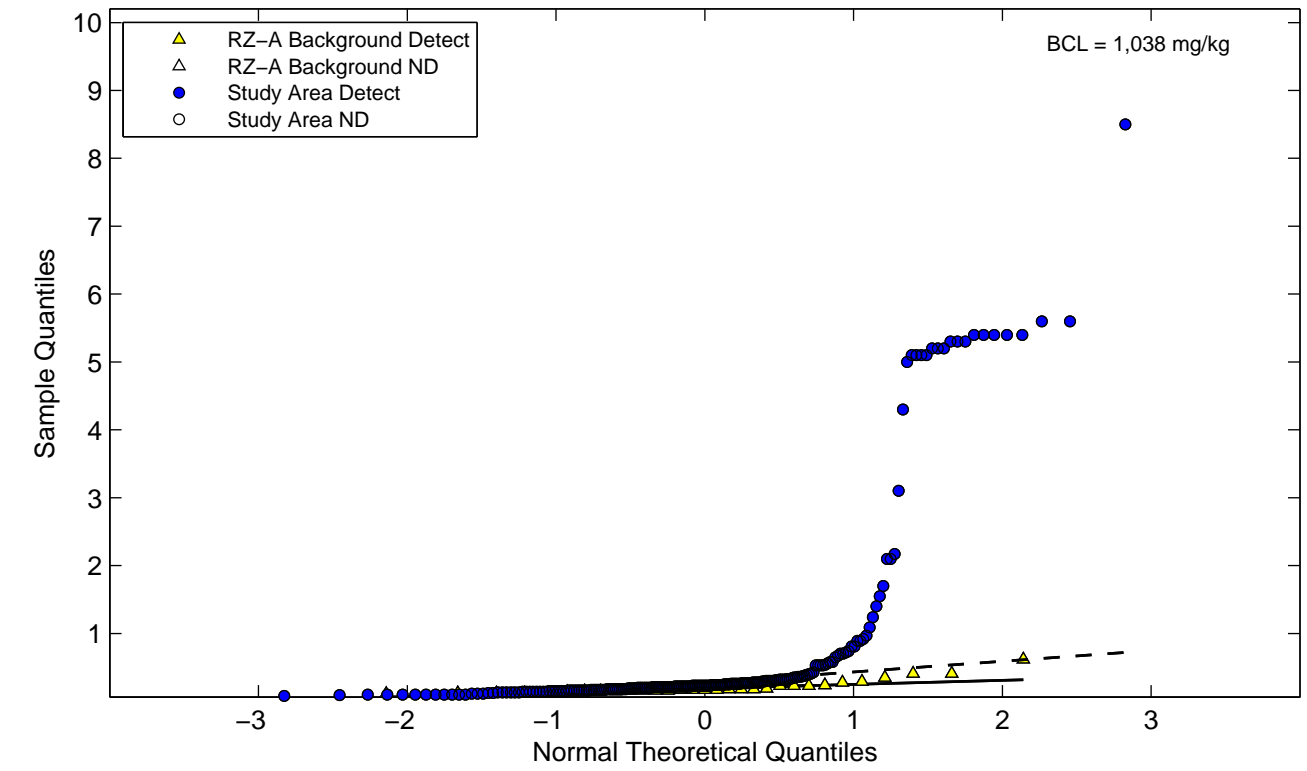


Figure F2-30. Normal and Lognormal Q-Q Plots
Uranium (total)

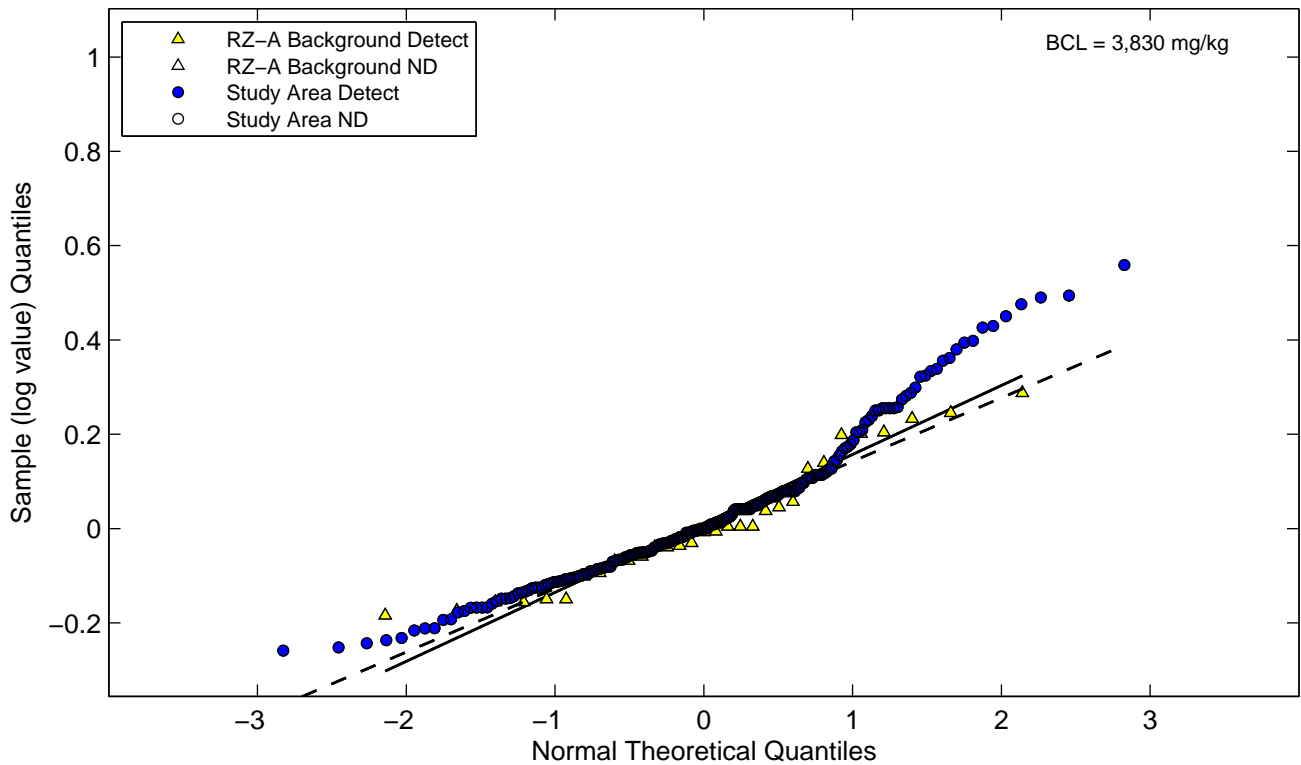
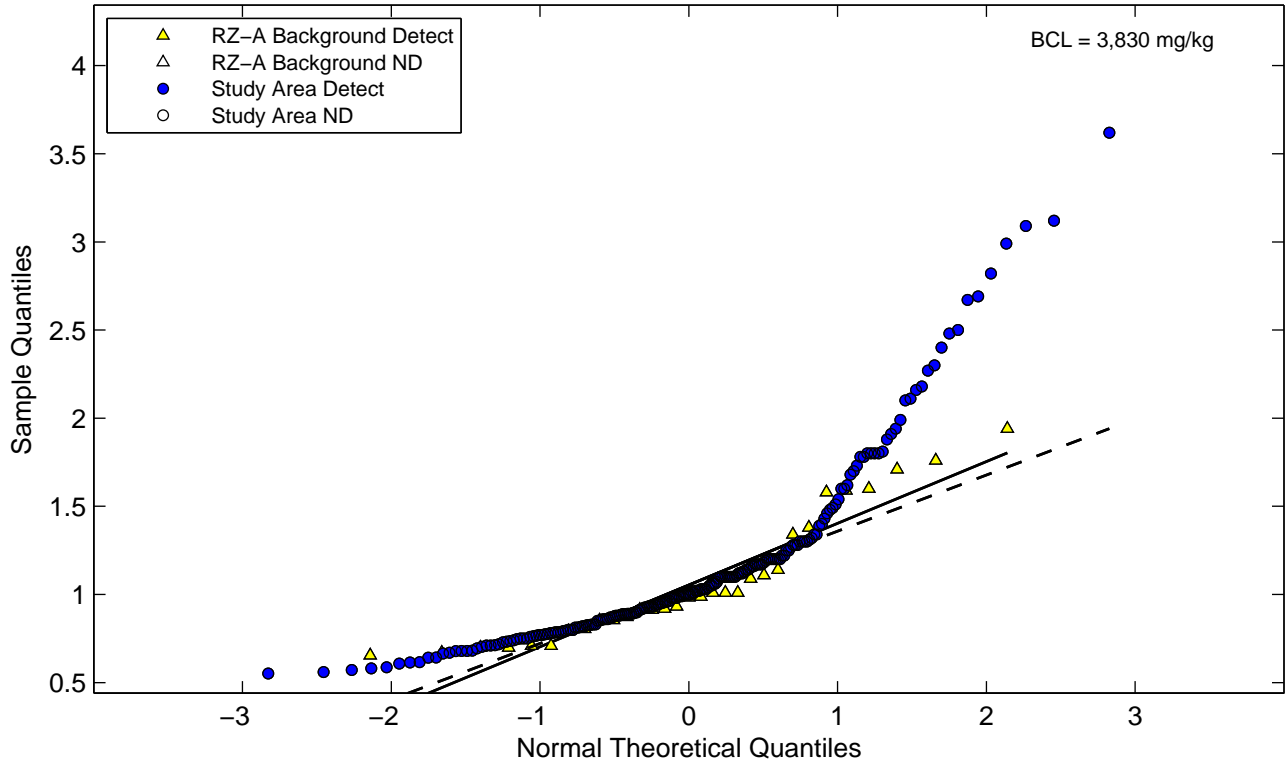


Figure F2-31. Normal and Lognormal Q-Q Plots
Vanadium

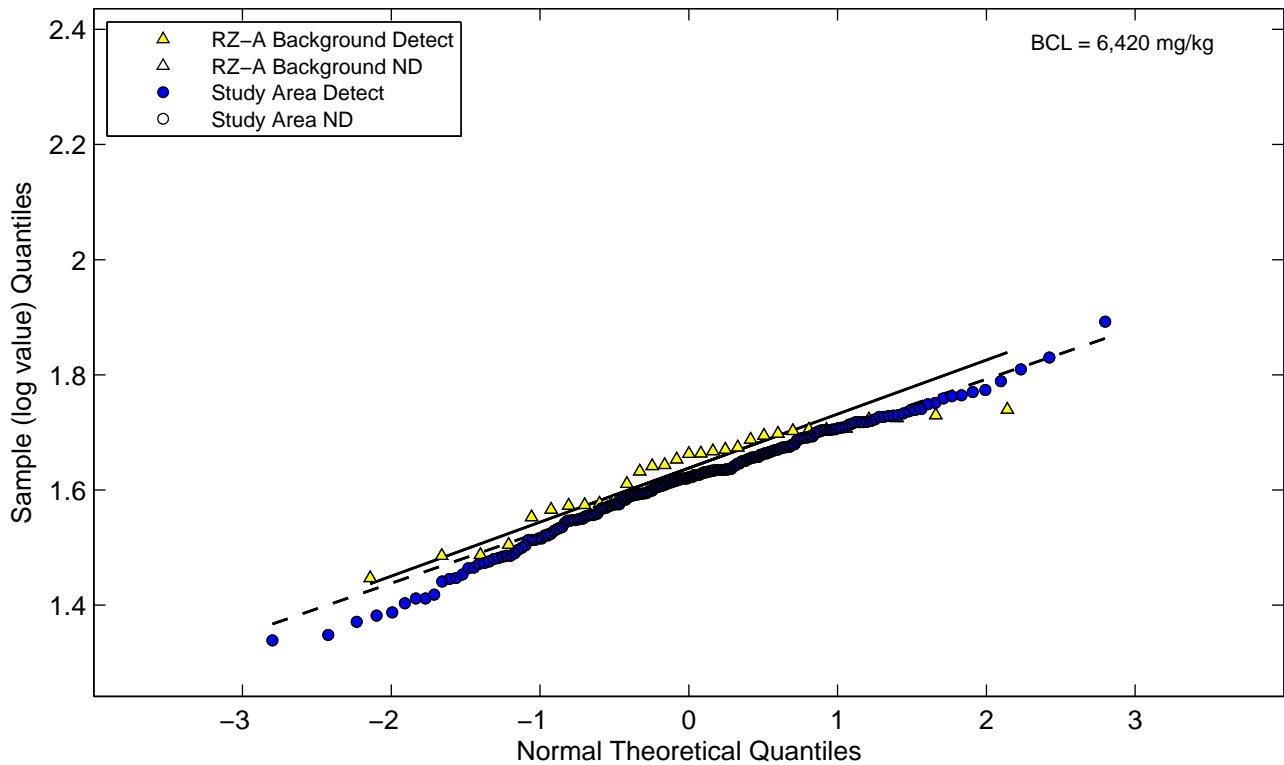
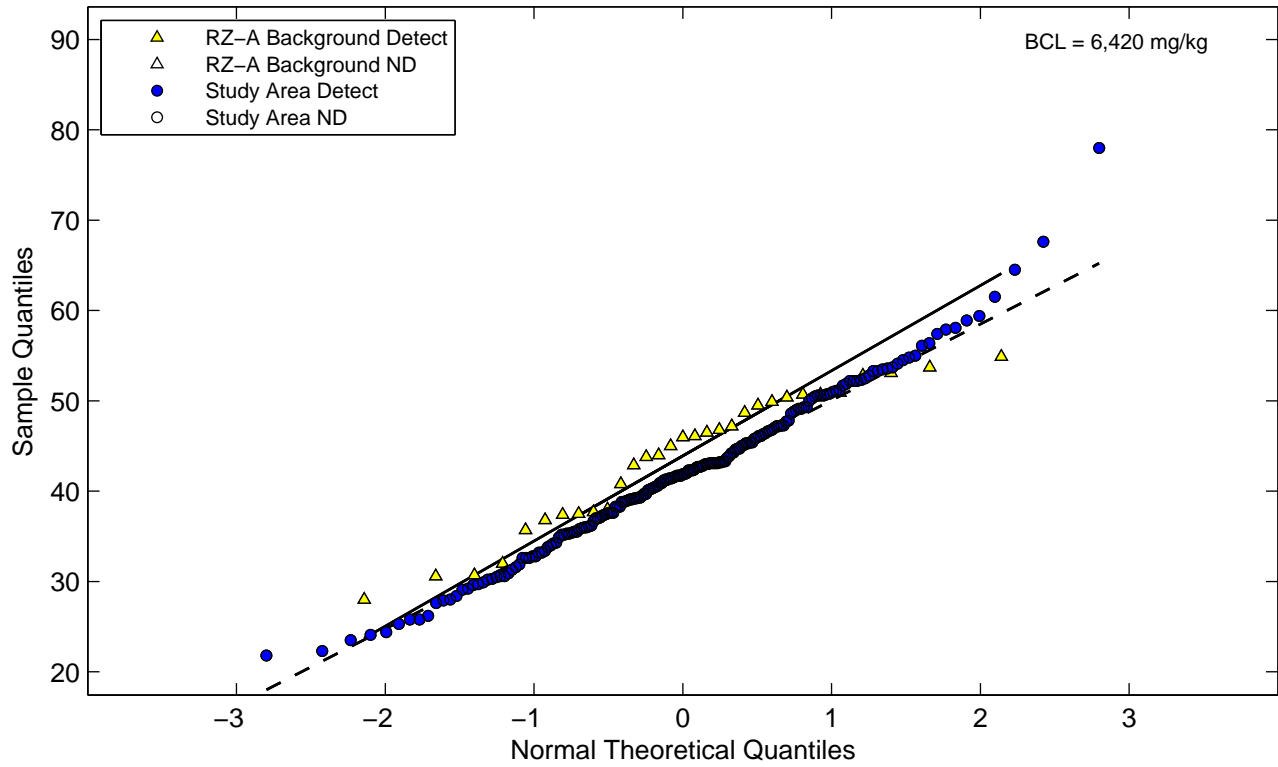


Figure F2-32. Normal and Lognormal Q-Q Plots
Zinc

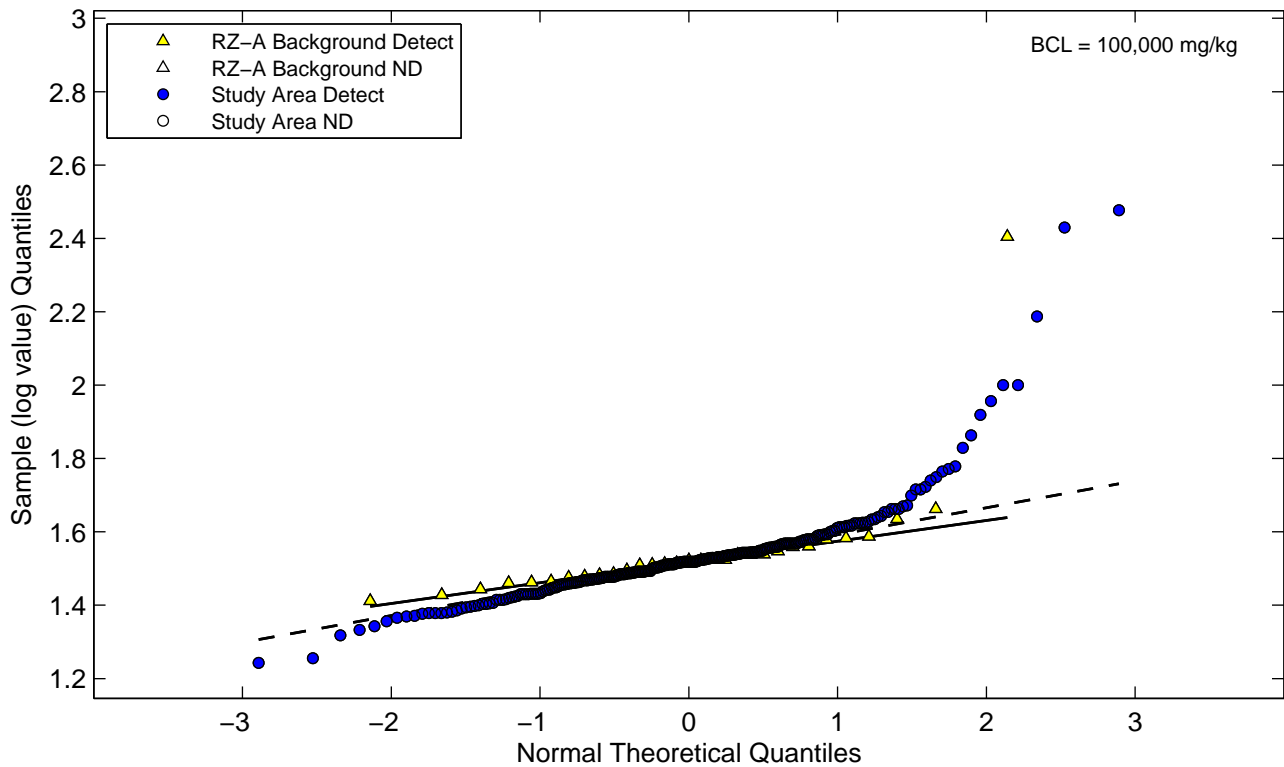
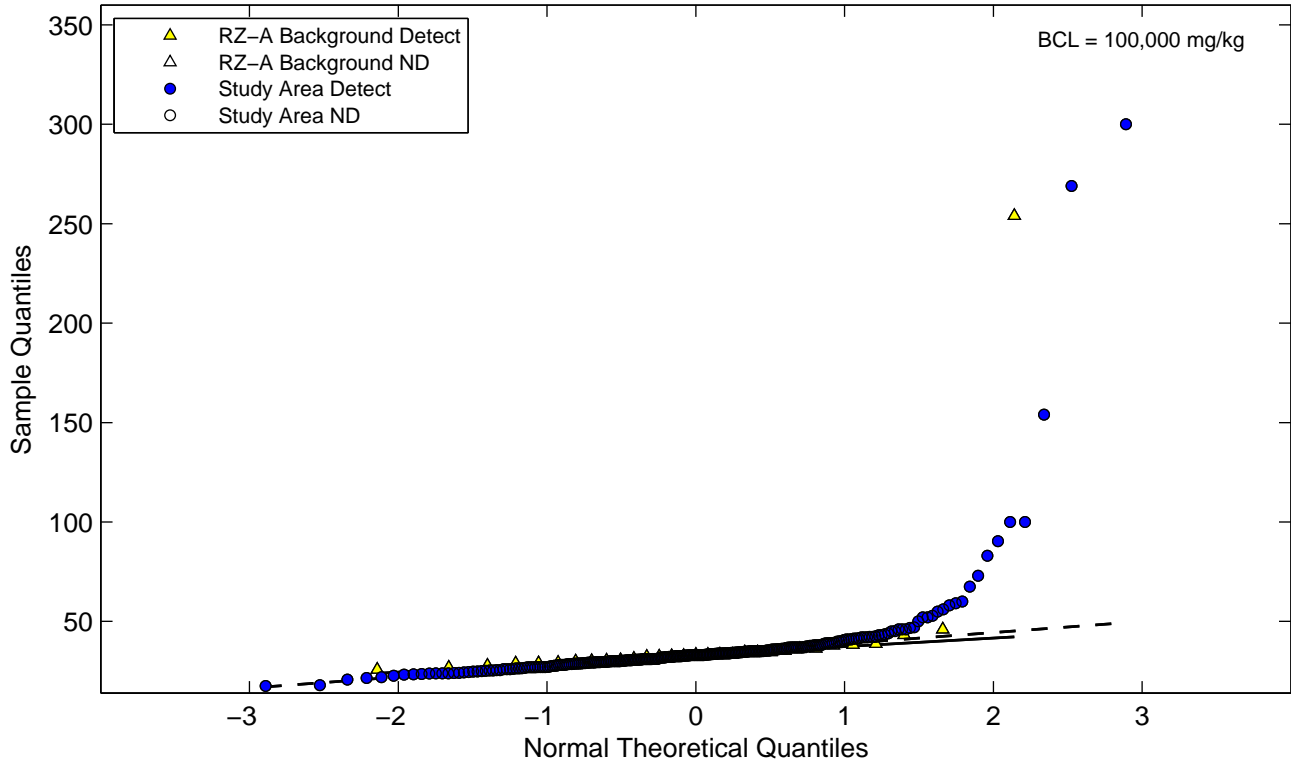


Figure F2-33. Normal and Lognormal Q-Q Plots
Uranium-238

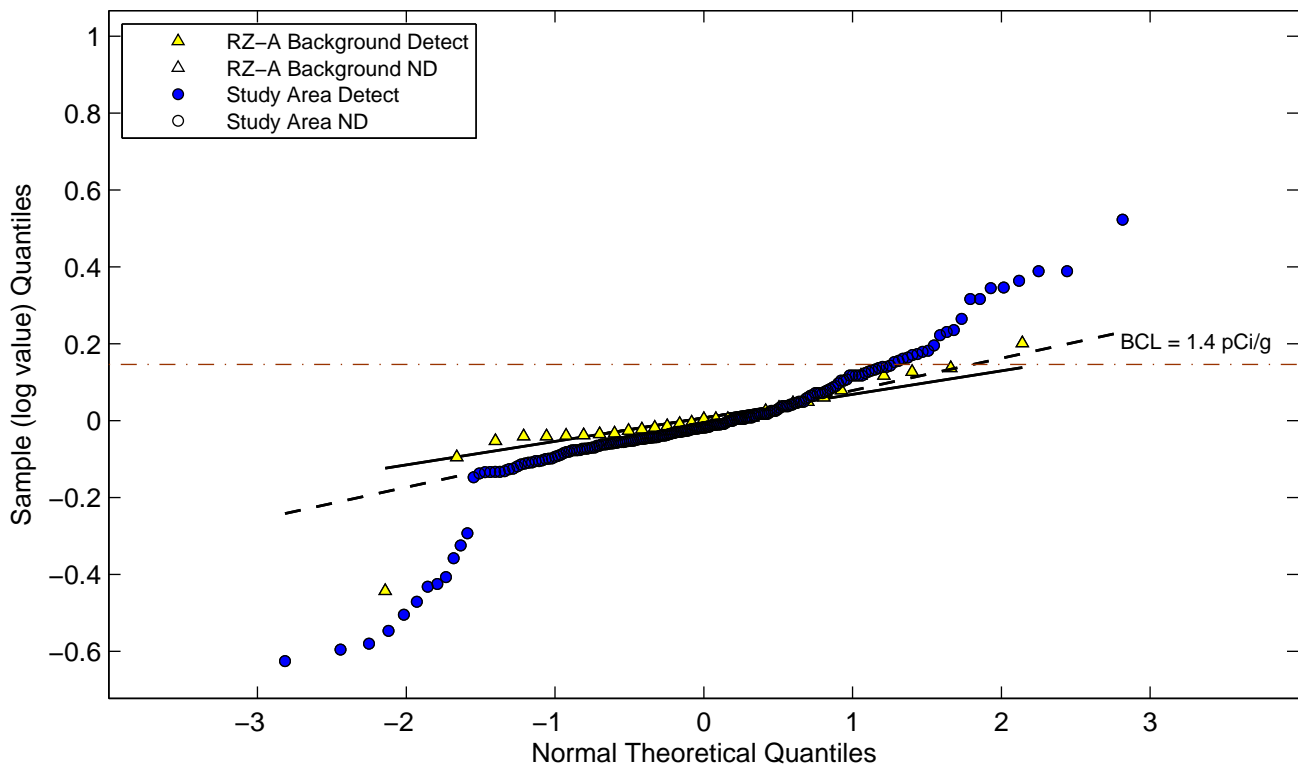
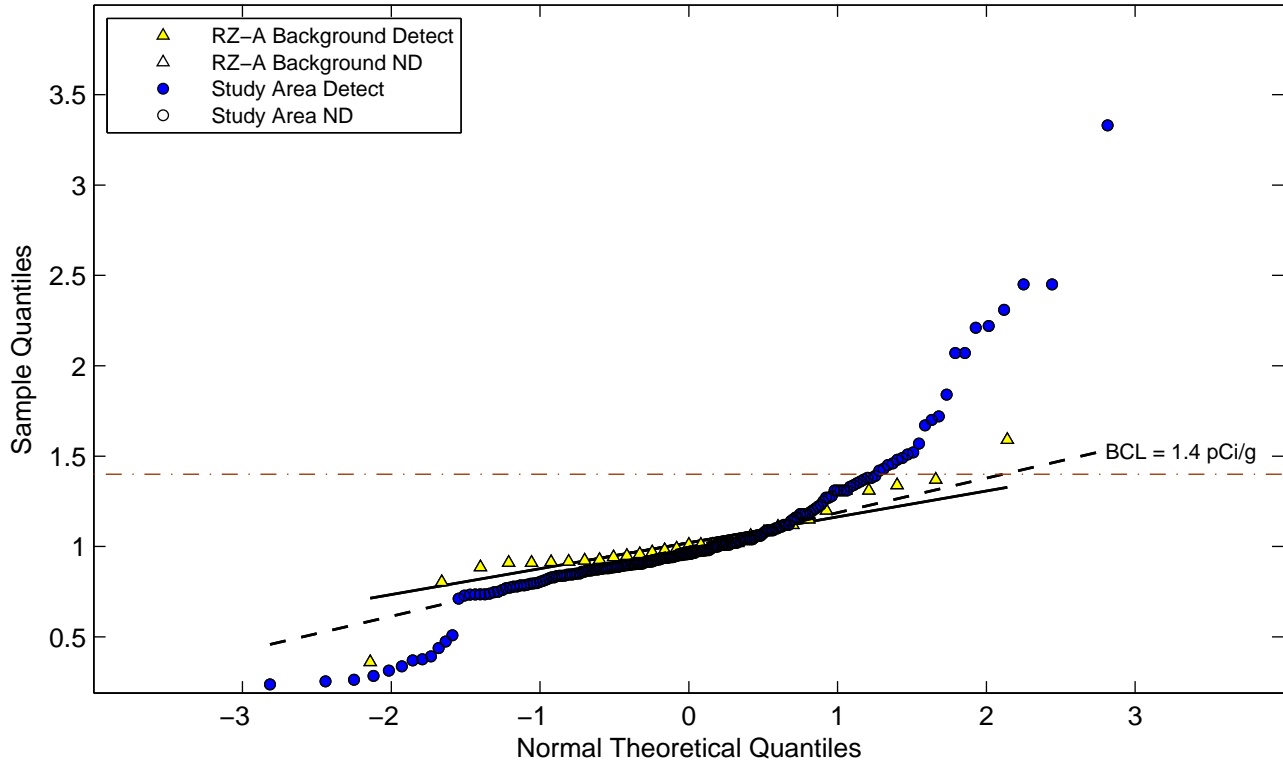


Figure F2-34. Normal and Lognormal Q-Q Plots
Uranium-234

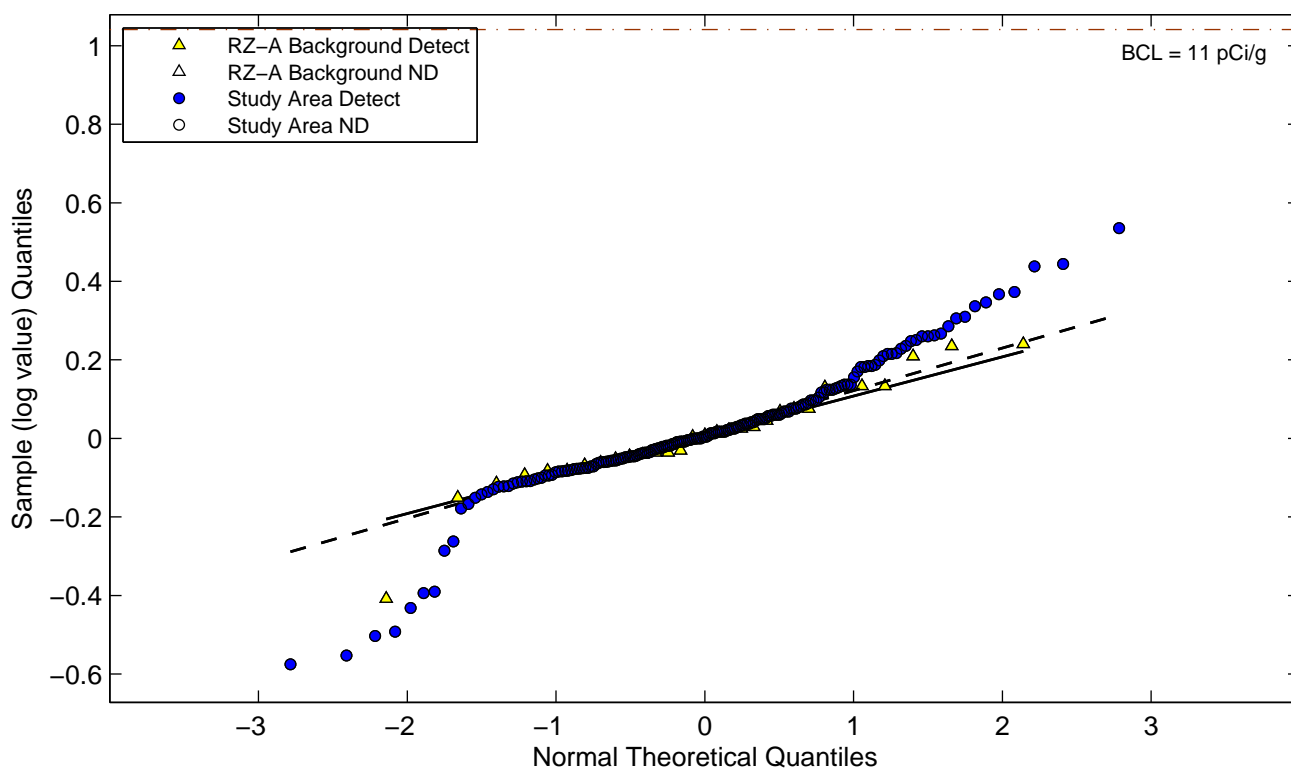
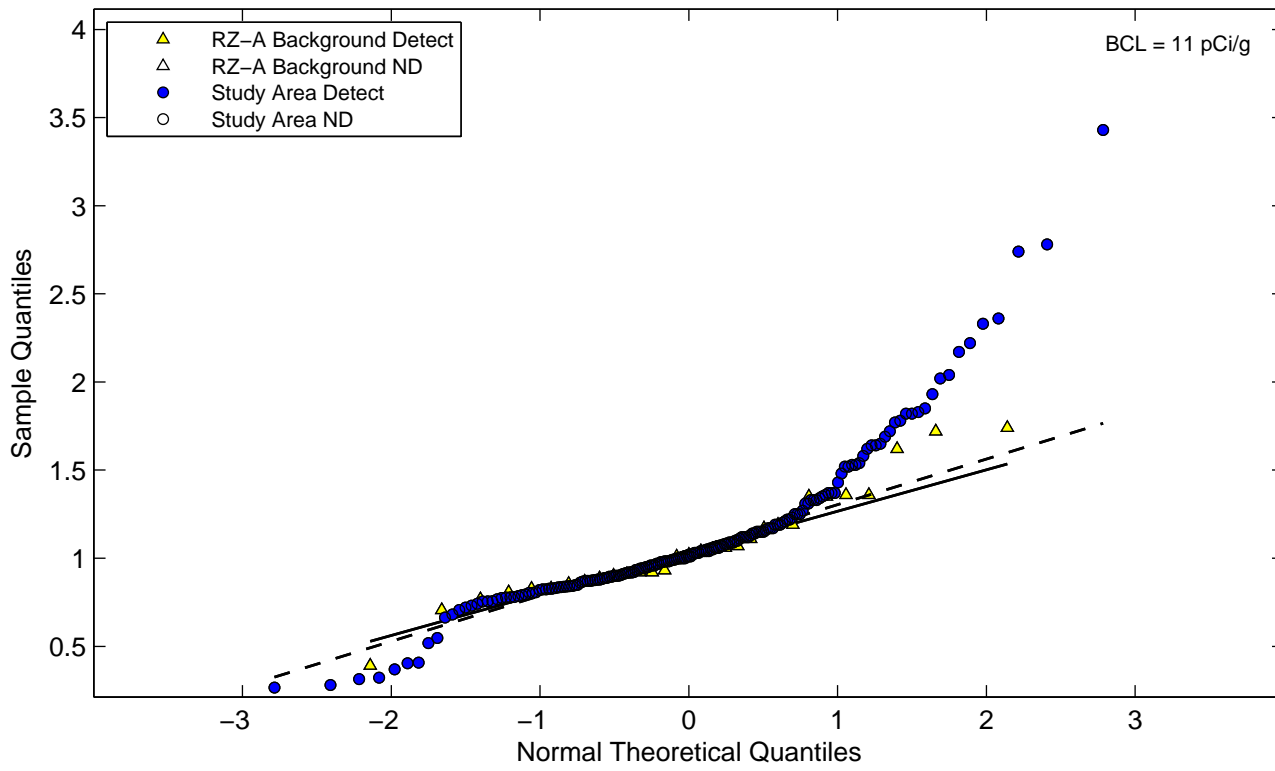


Figure F2-35. Normal and Lognormal Q-Q Plots
Thorium-230

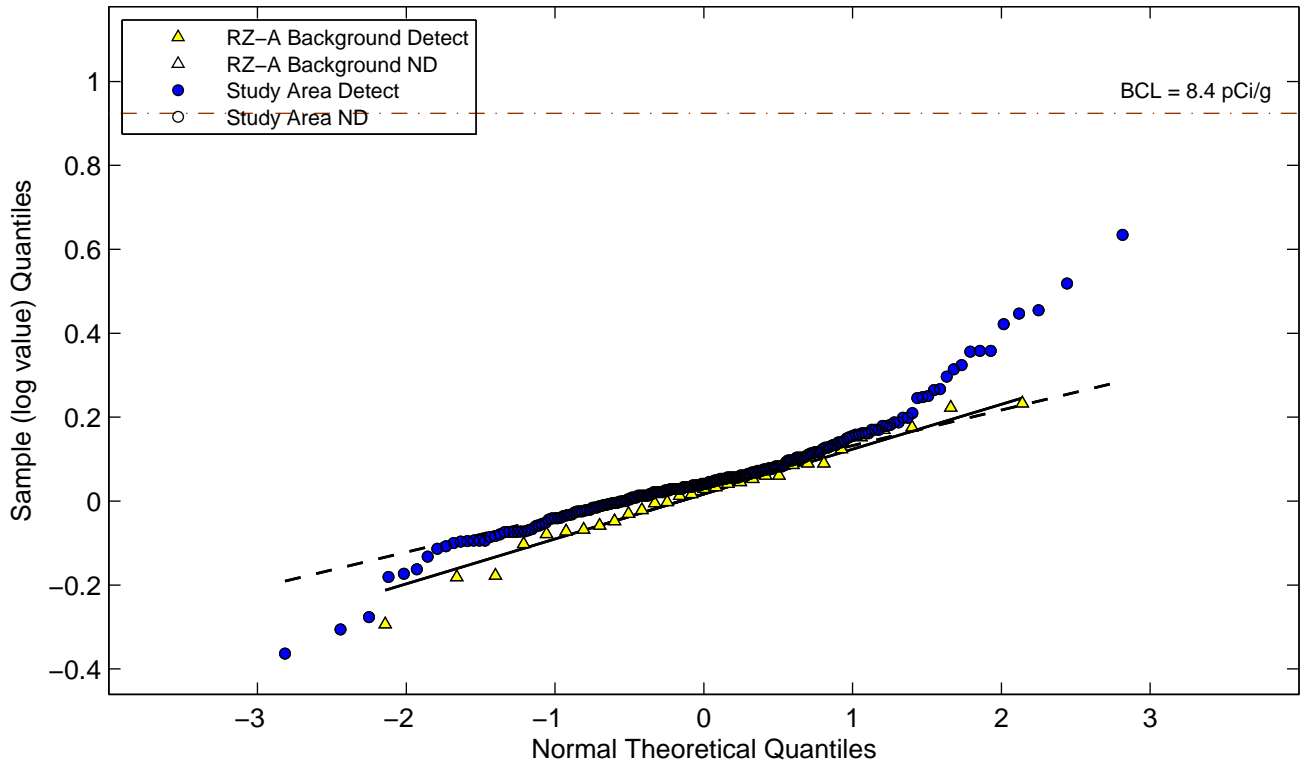
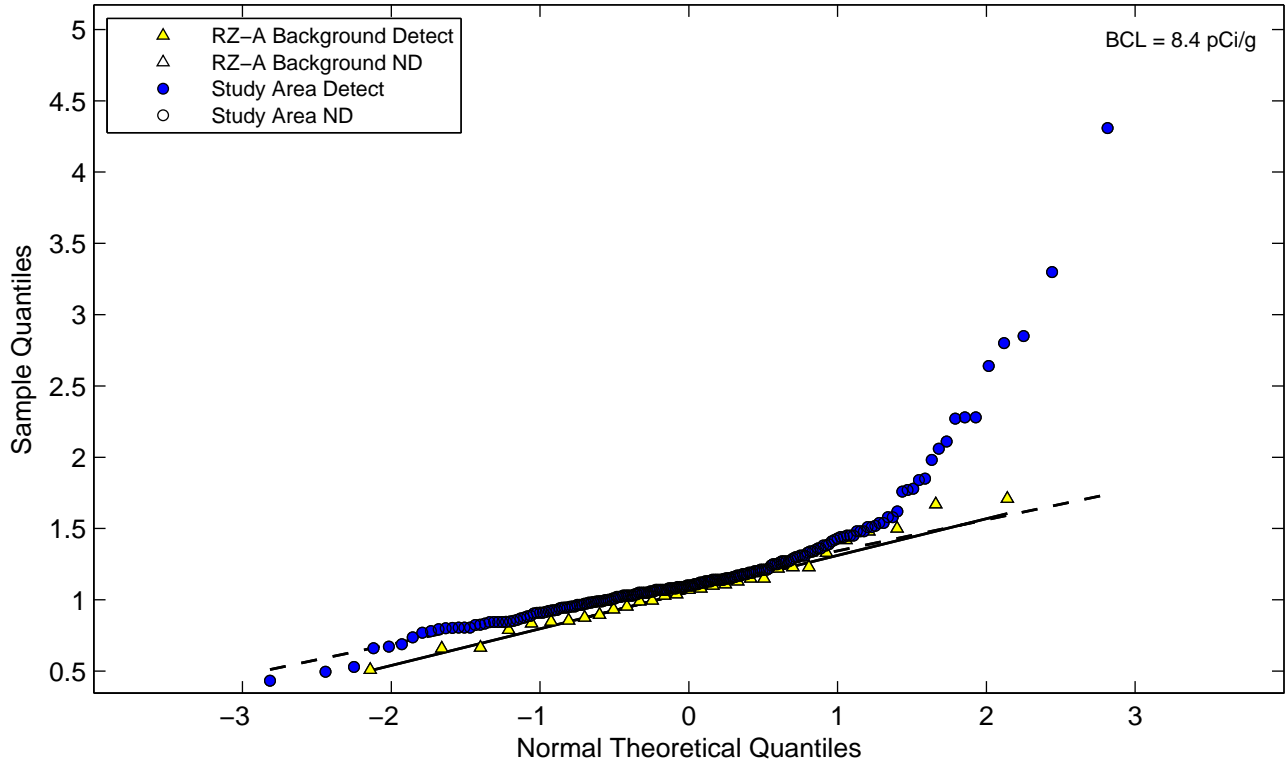


Figure F2-36. Normal and Lognormal Q-Q Plots
Radium-226

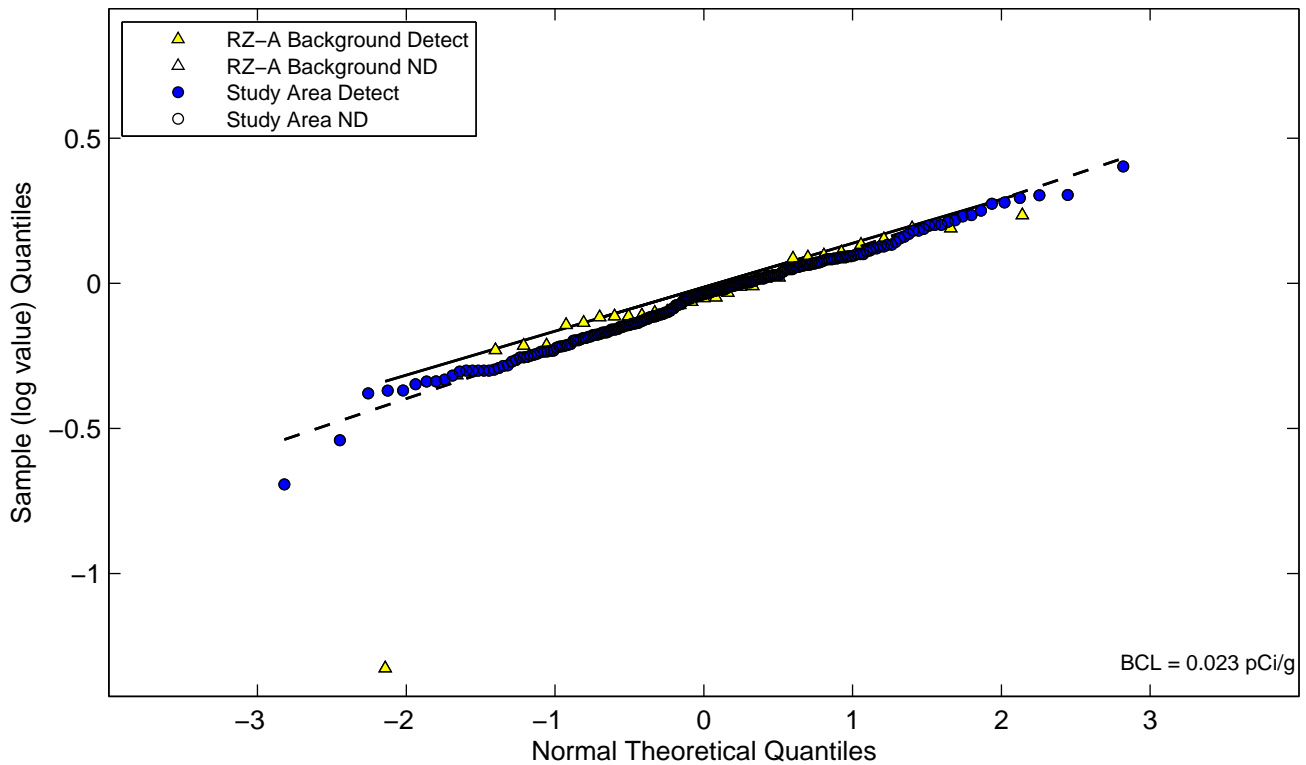
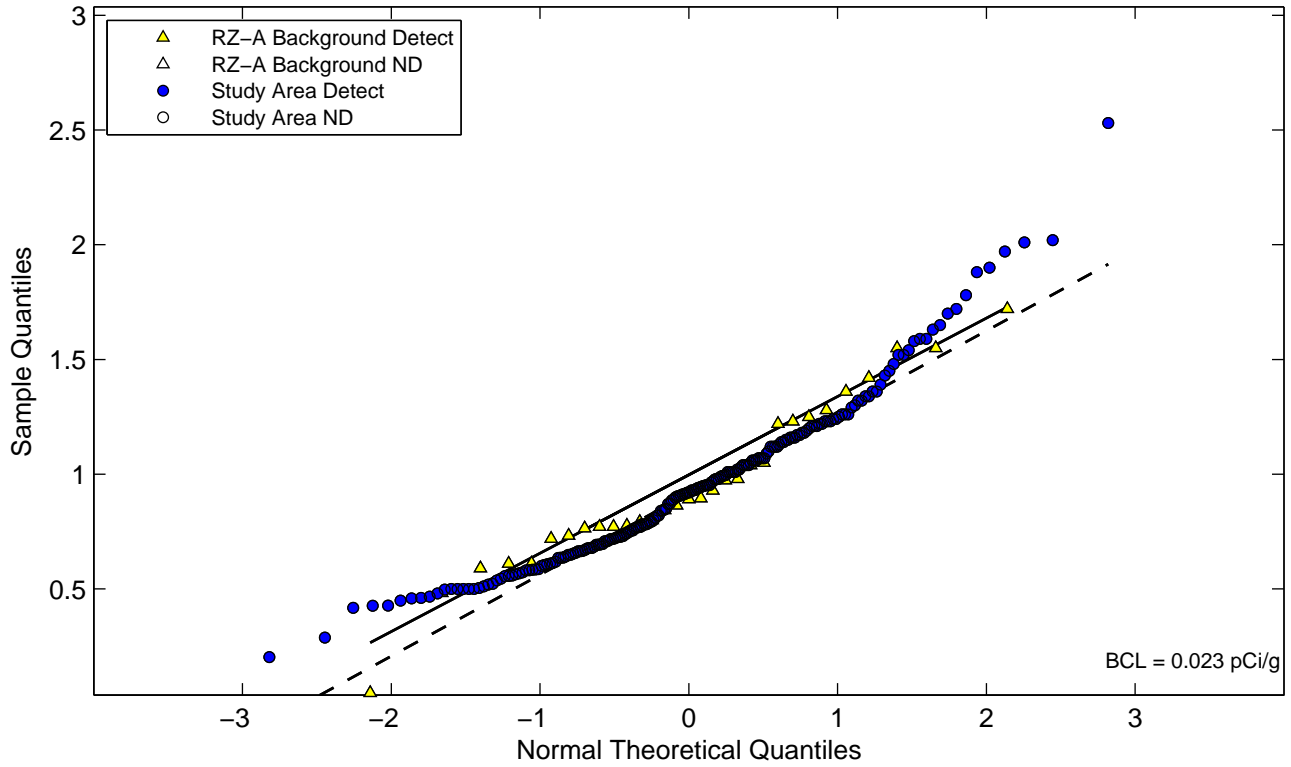
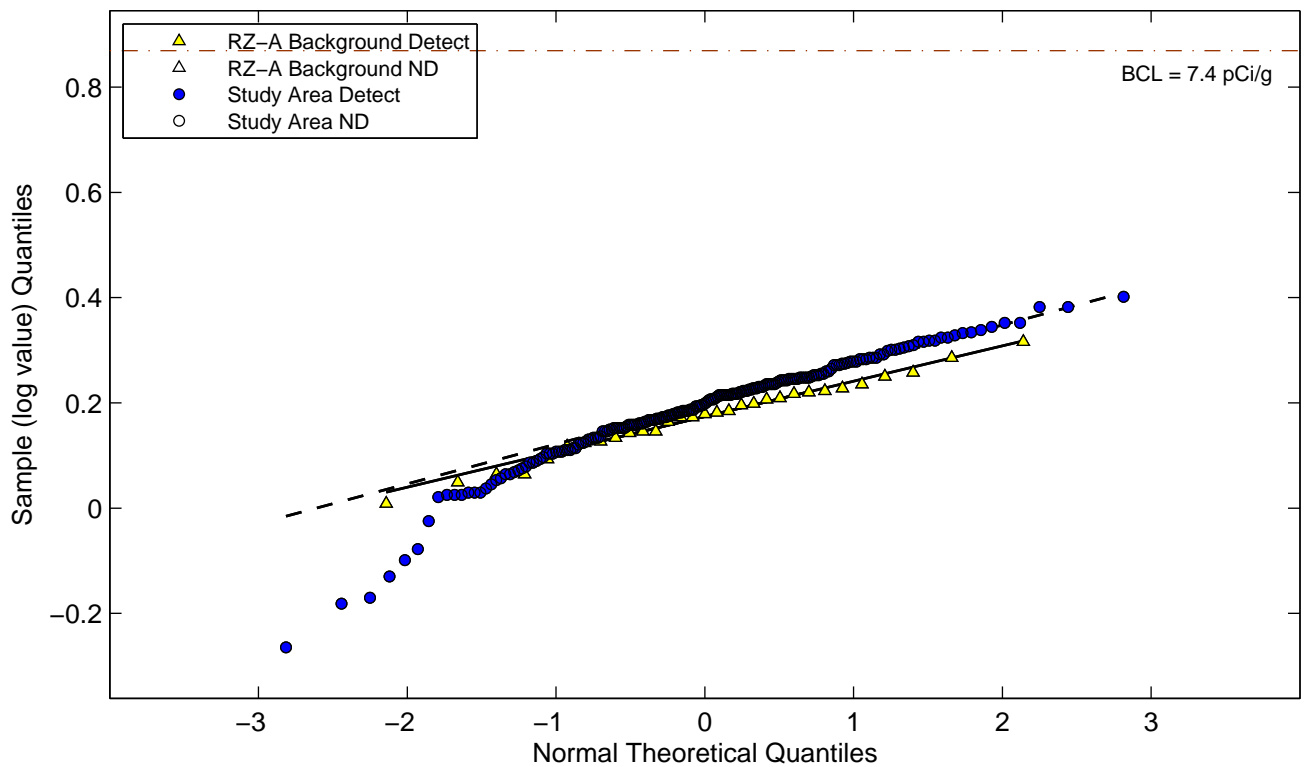
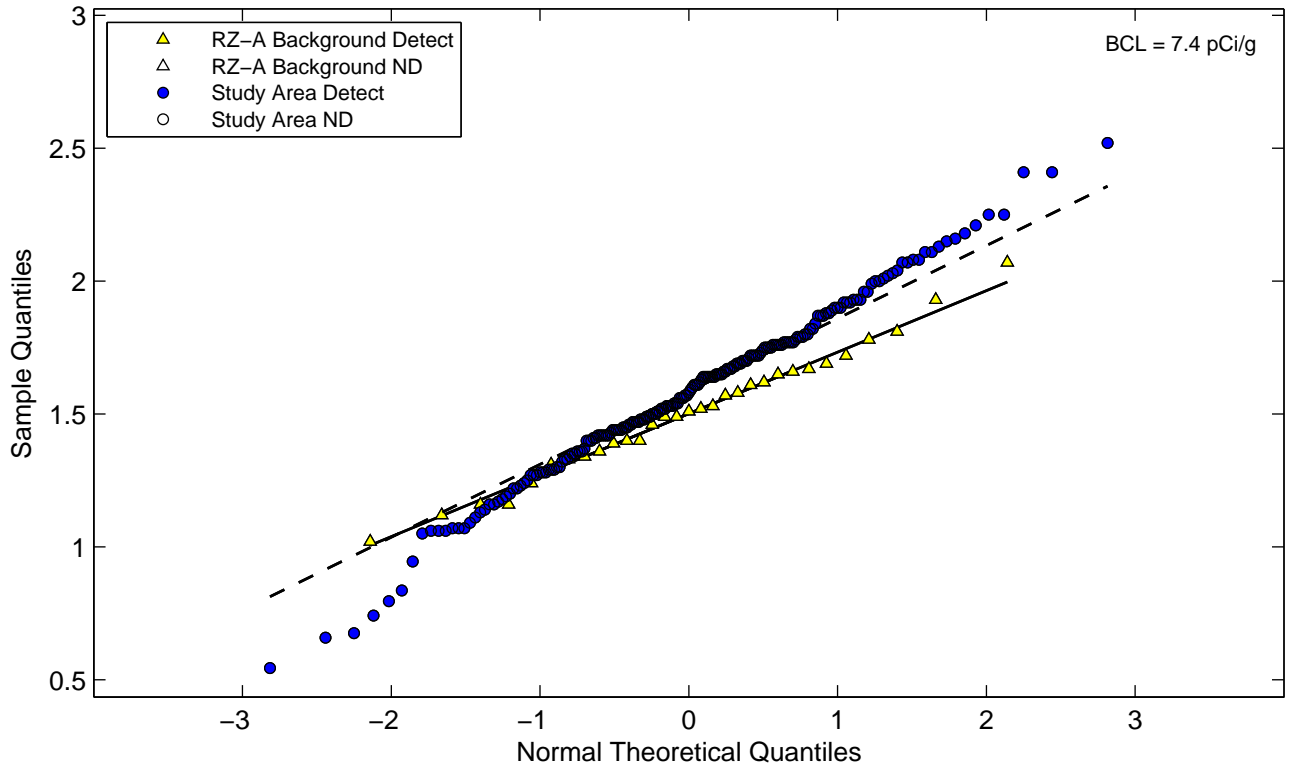


Figure F2-37. Normal and Lognormal Q-Q Plots
Thorium-232



**Figure F2-38. Normal and Lognormal Q-Q Plots
Radium-228**

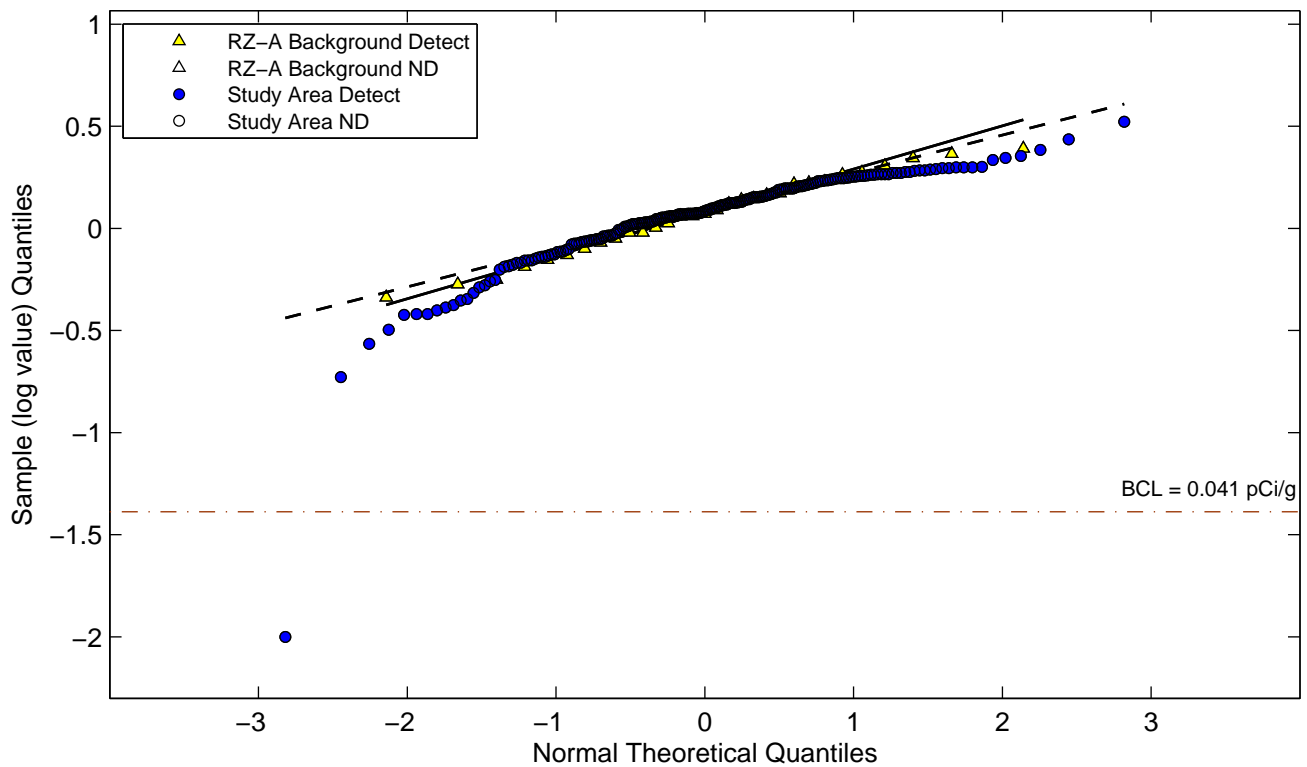
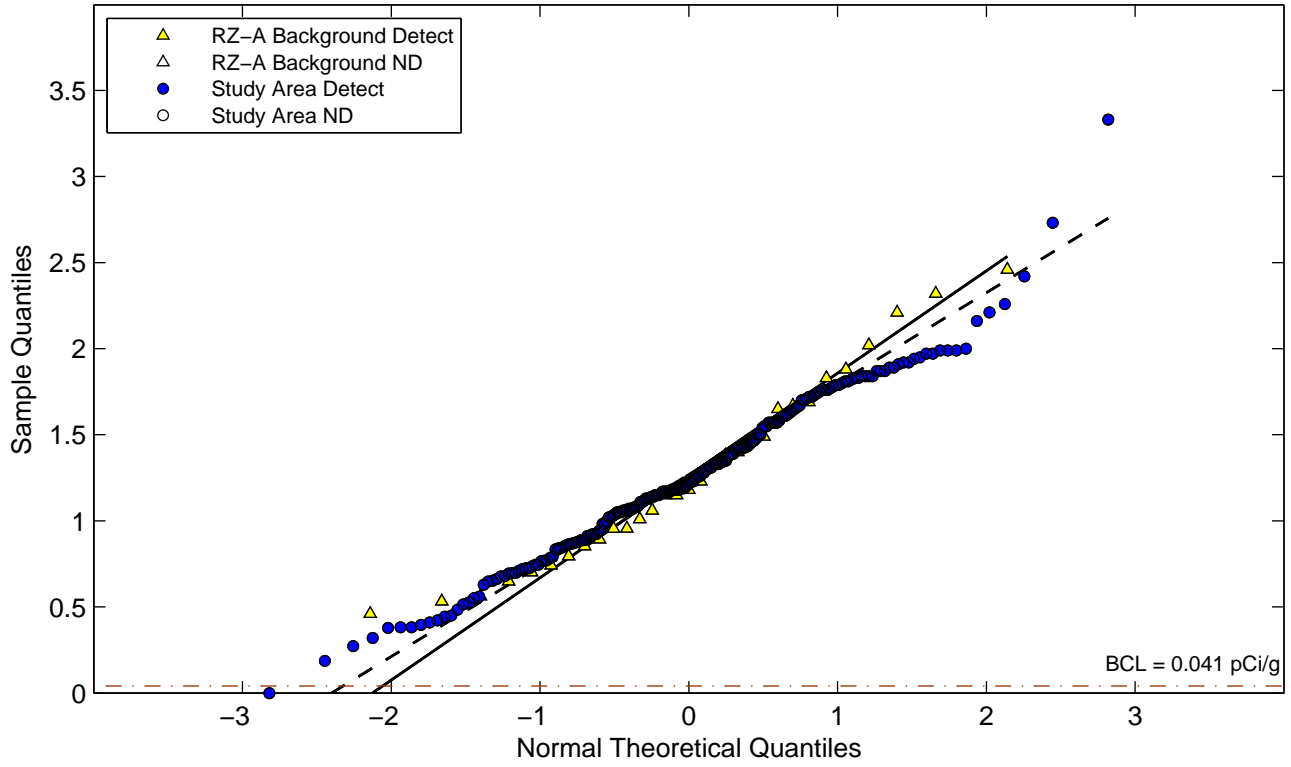


Figure F2-39. Normal and Lognormal Q-Q Plots
Thorium-228

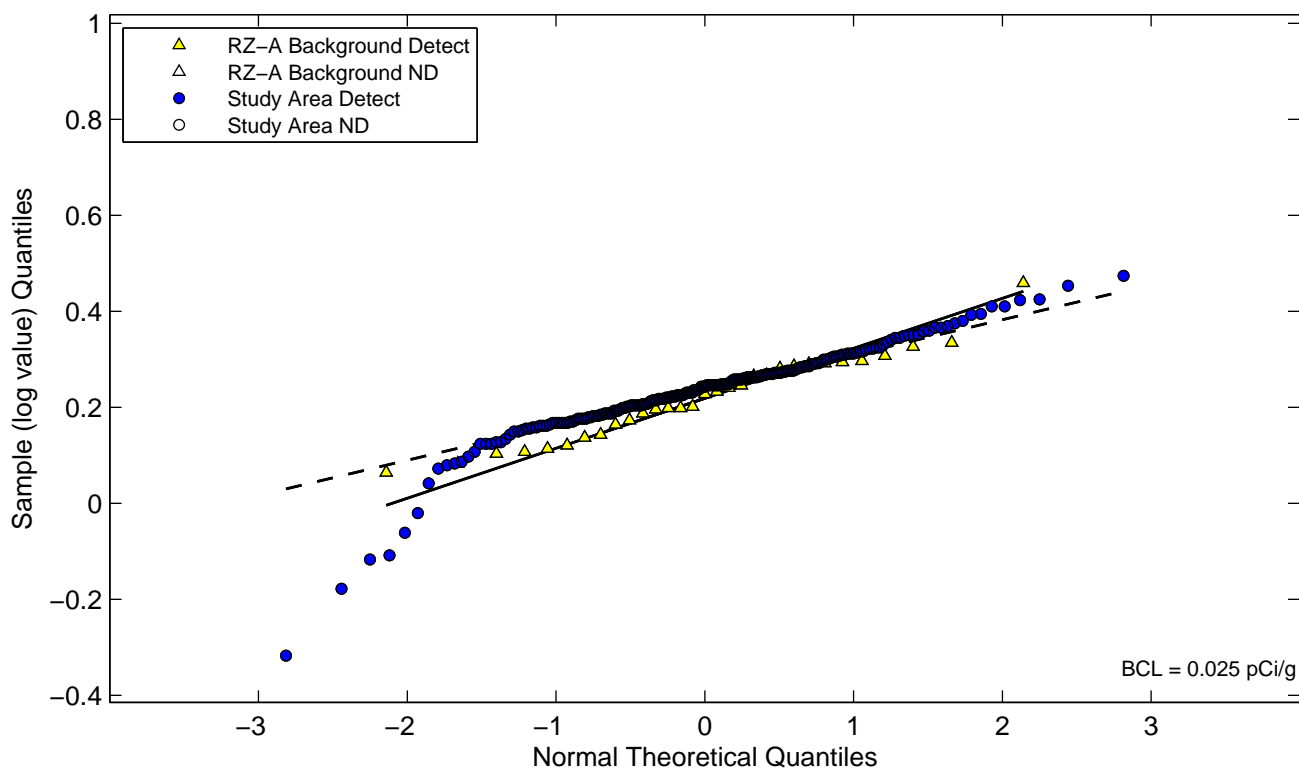
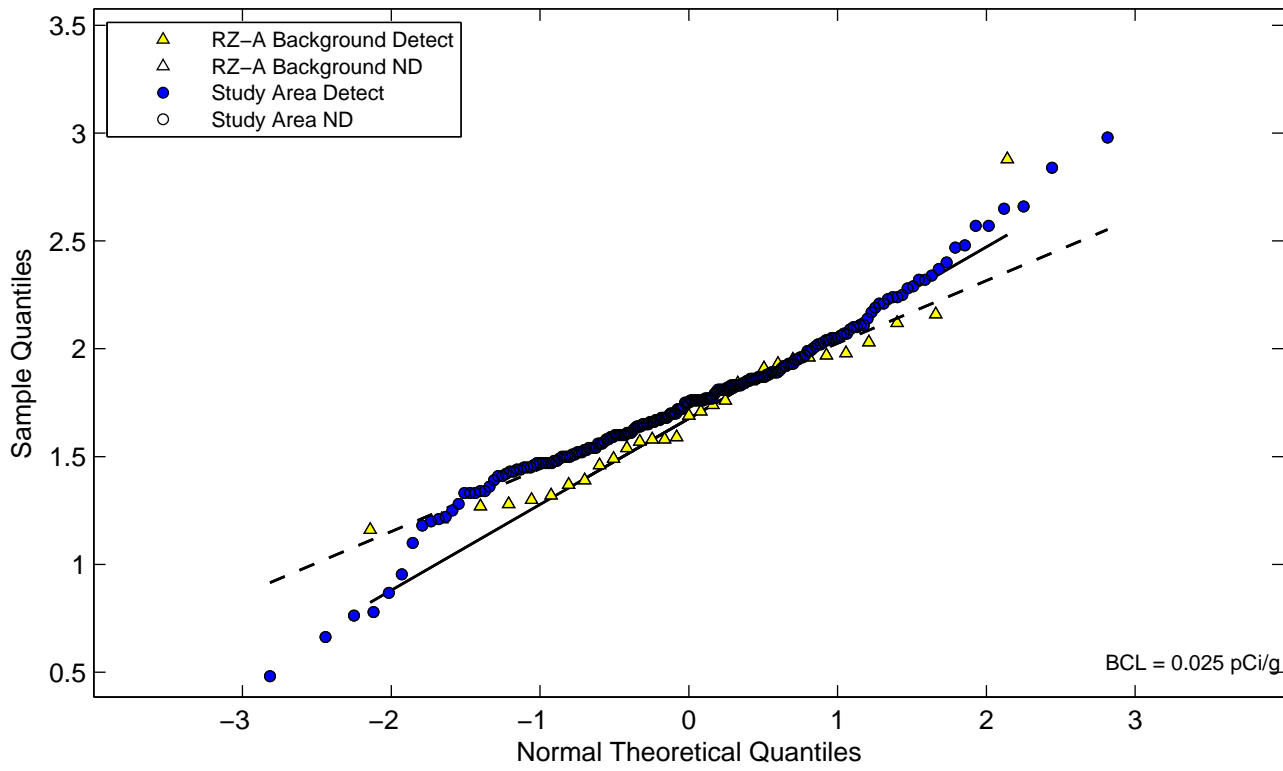
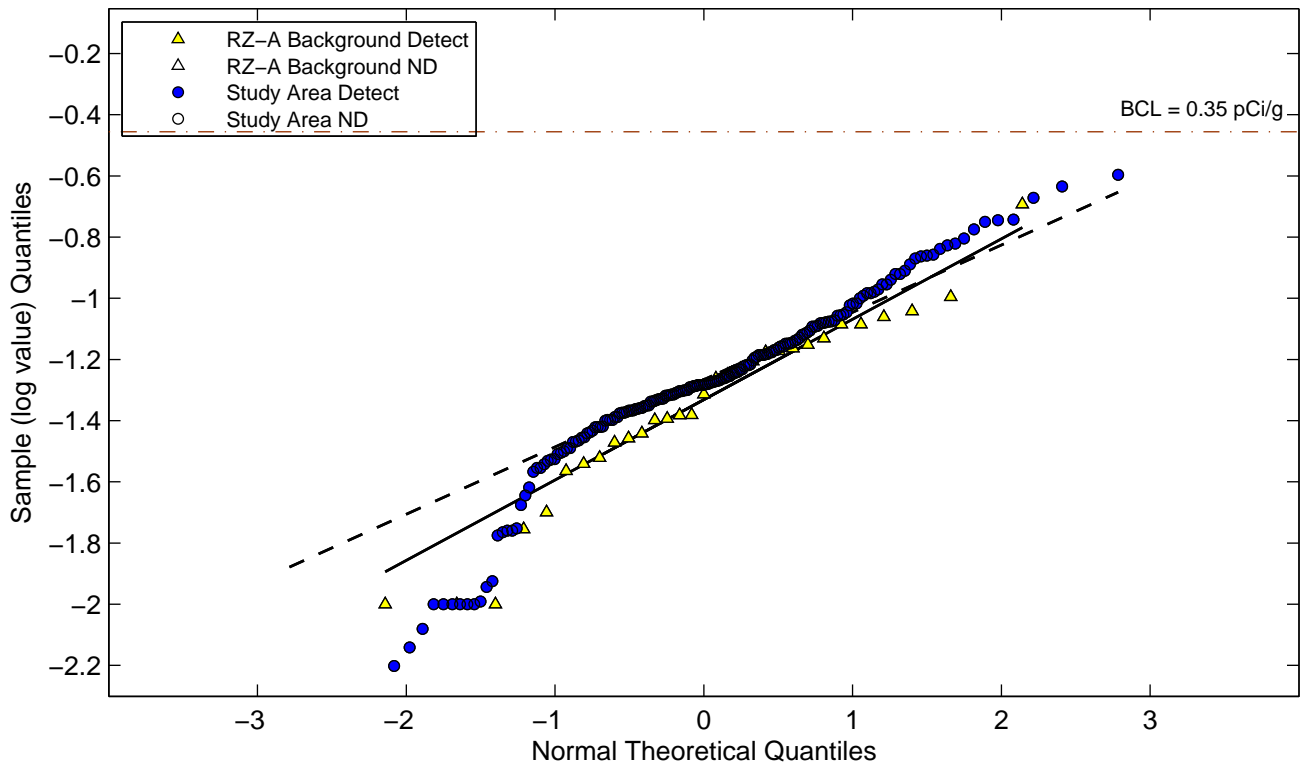
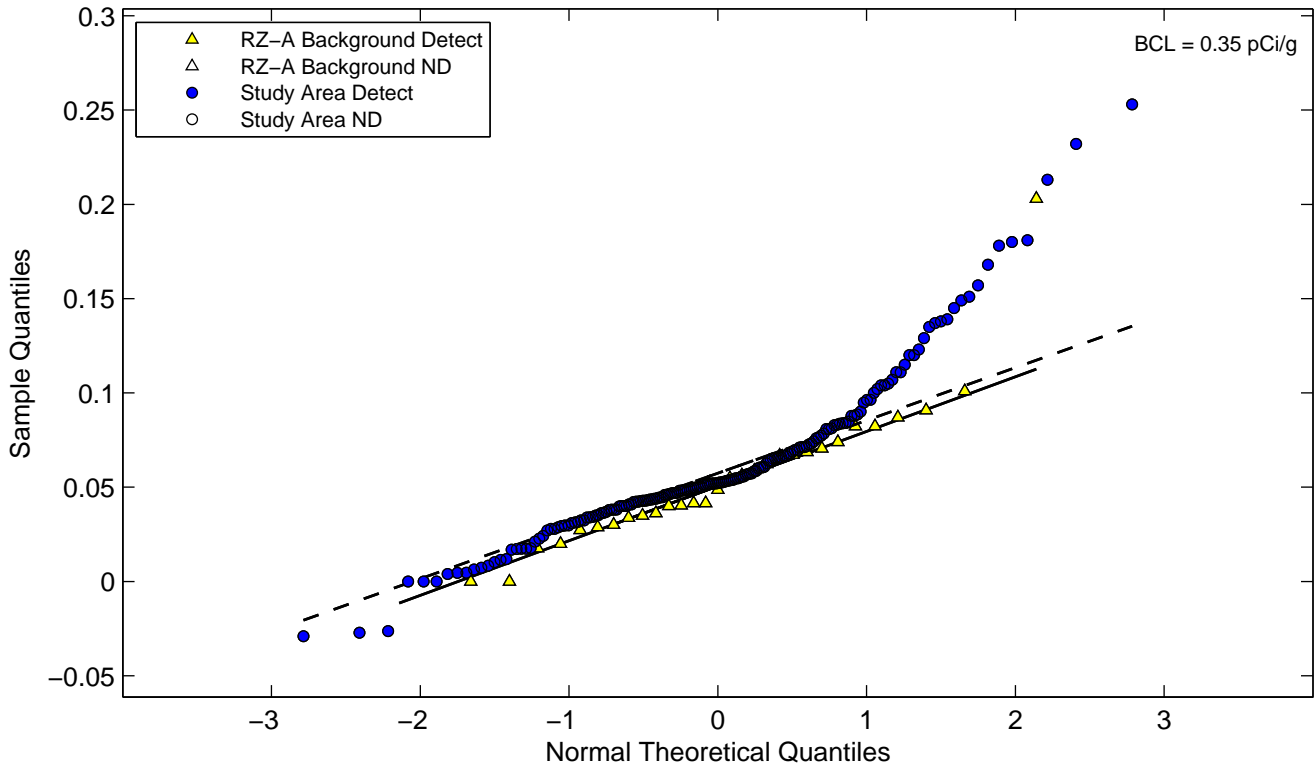
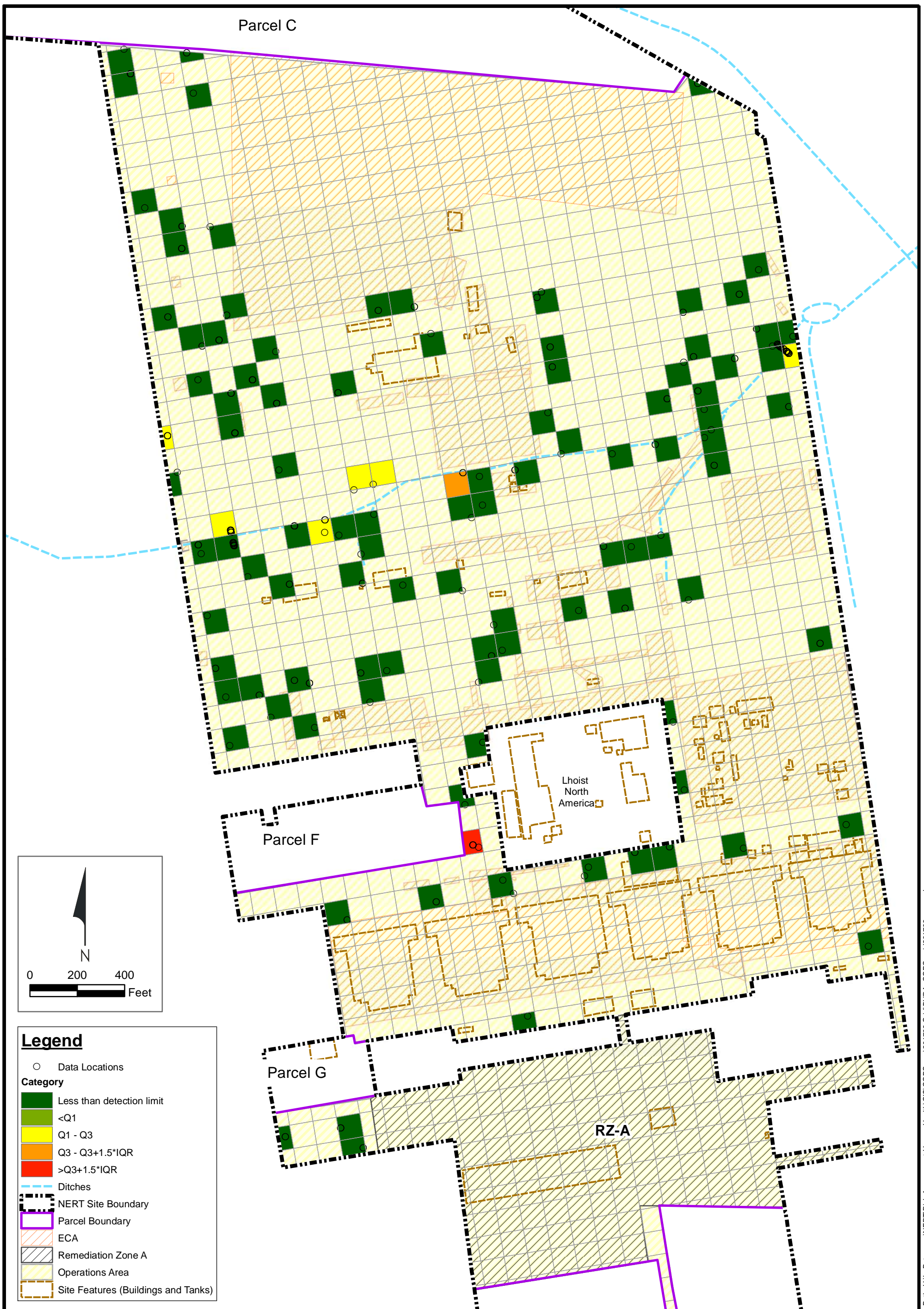


Figure F2-40. Normal and Lognormal Q-Q Plots
Uranium-235

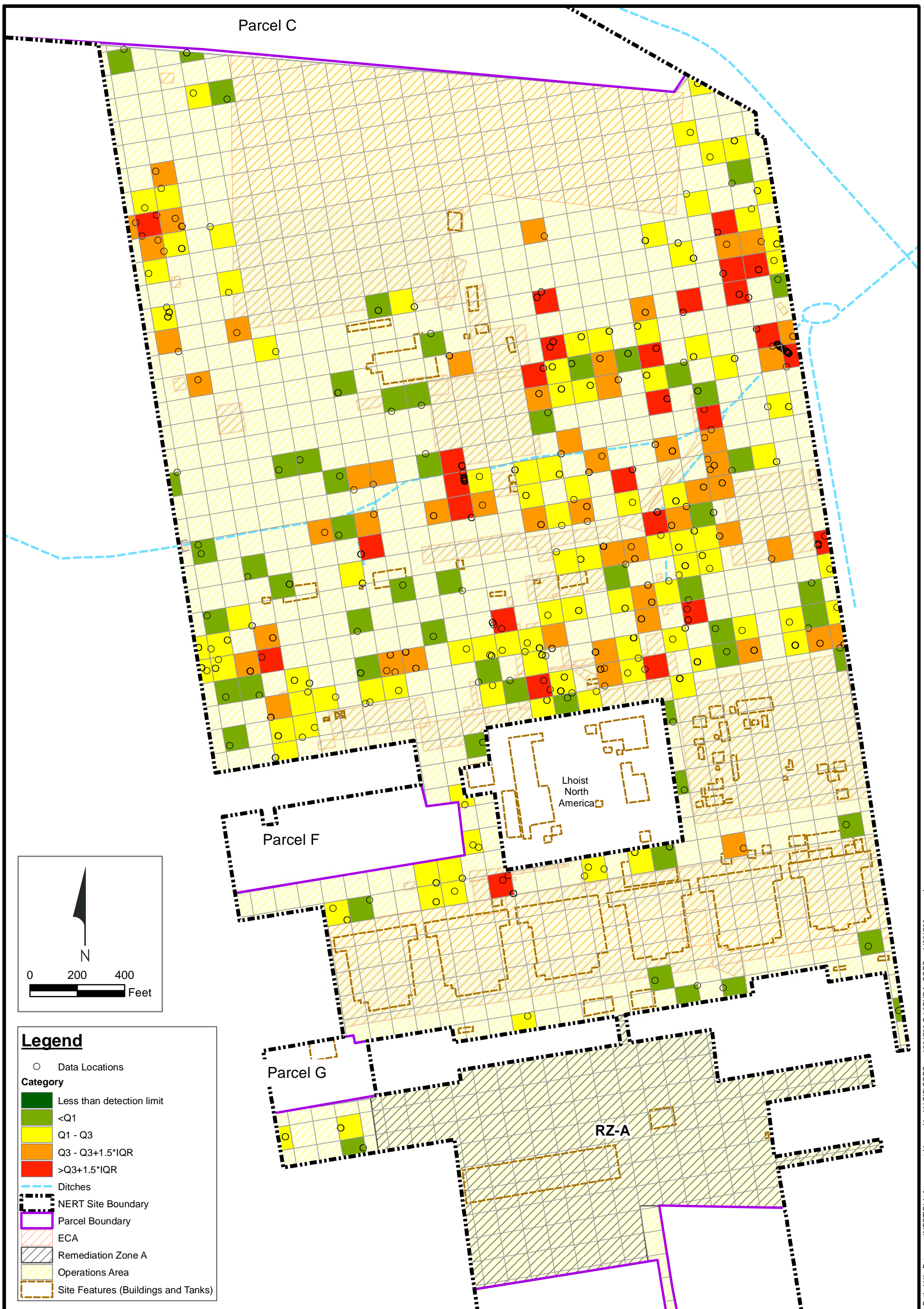


Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

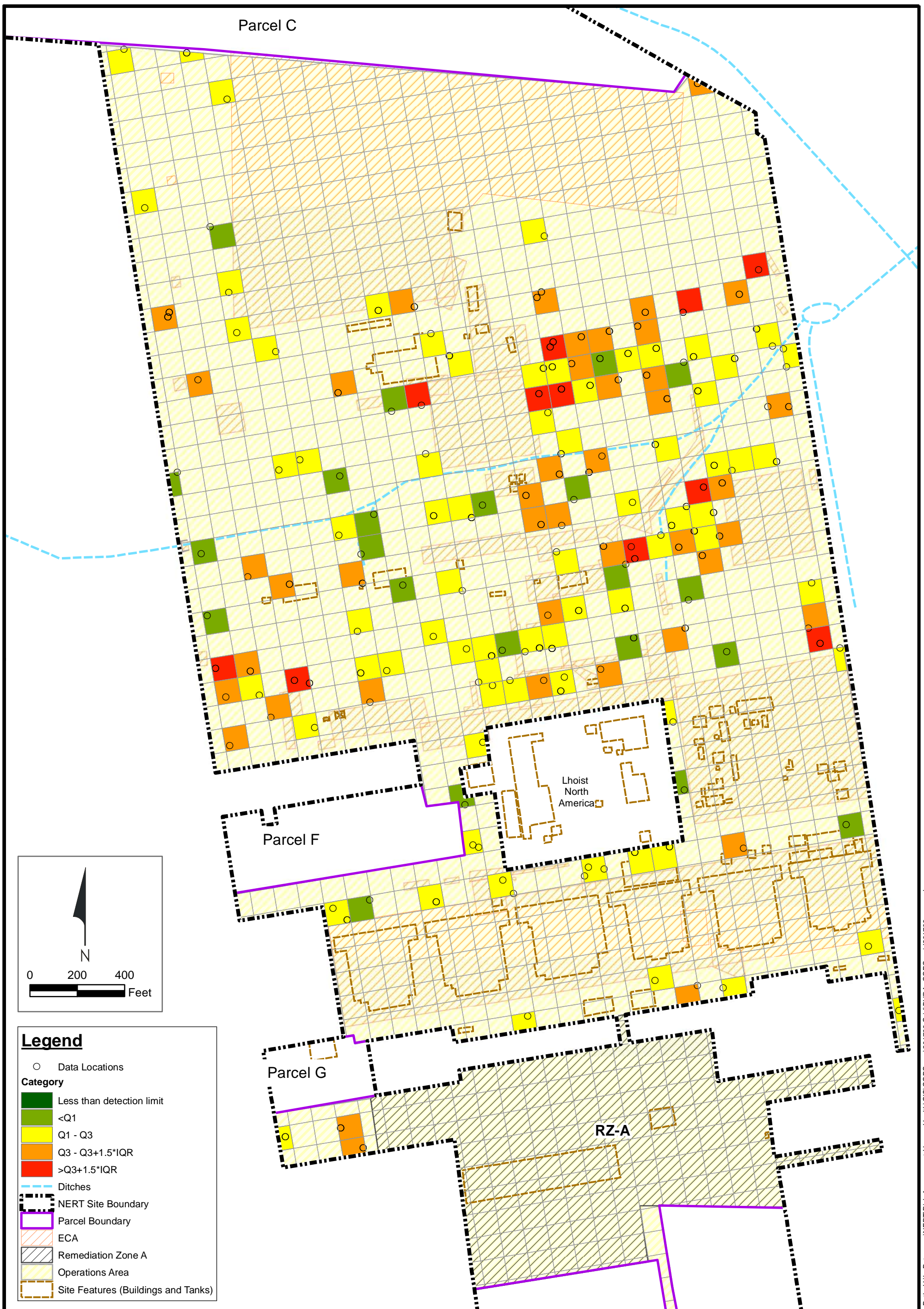
APPENDIX G SPATIAL QUARTILE PLOTS



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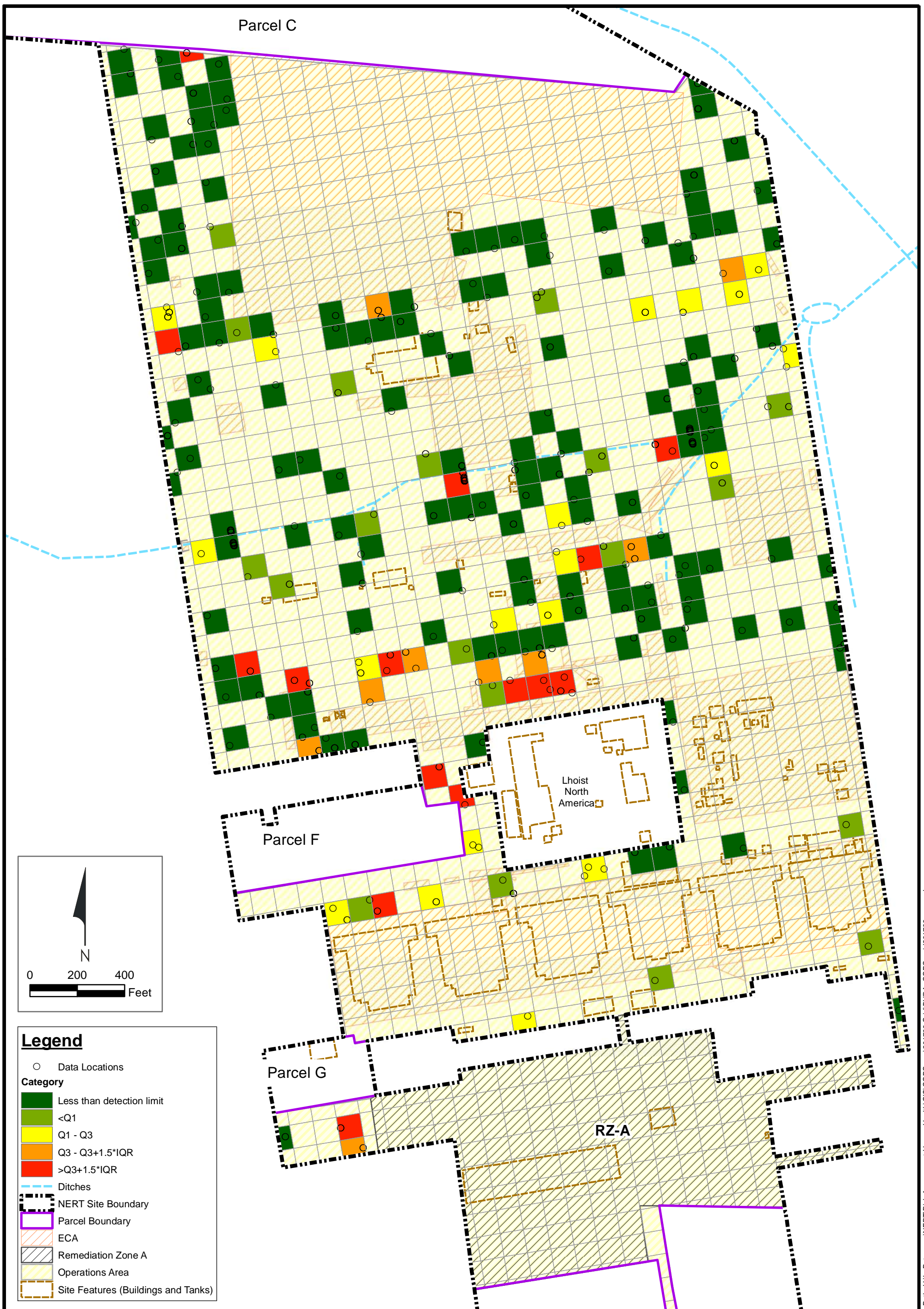
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Legend

- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Barium (mg/kg)**
 [Q1 = 160, Q3 = 199, Q3+1.5*IQR = 258]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-3



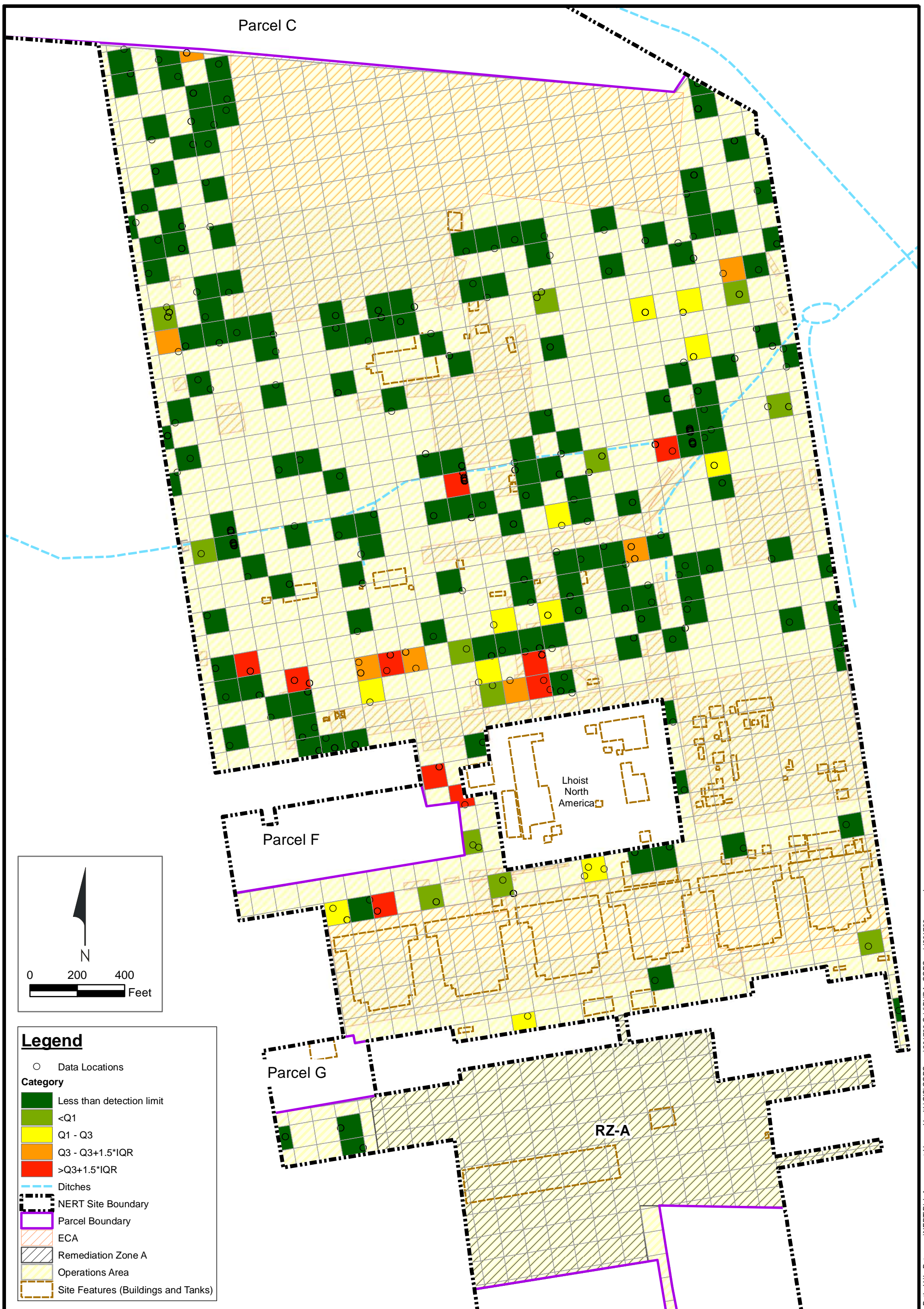
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Legend

- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Benzo(a)pyrene Equivalent (mg/kg)**
 [Q1 = 0.00832, Q3 = 0.0254, Q3+1.5*IQR = 0.0511]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-4



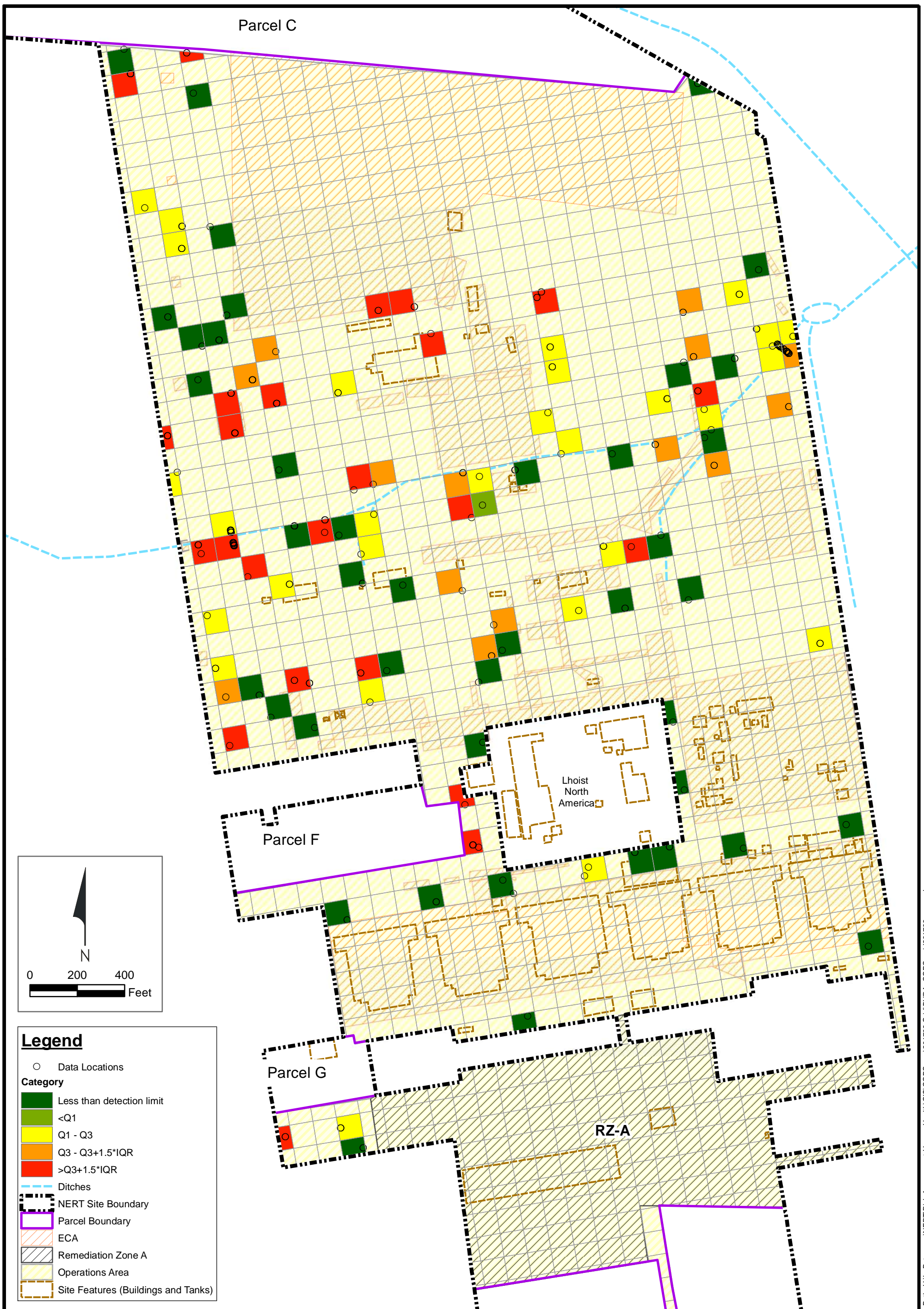
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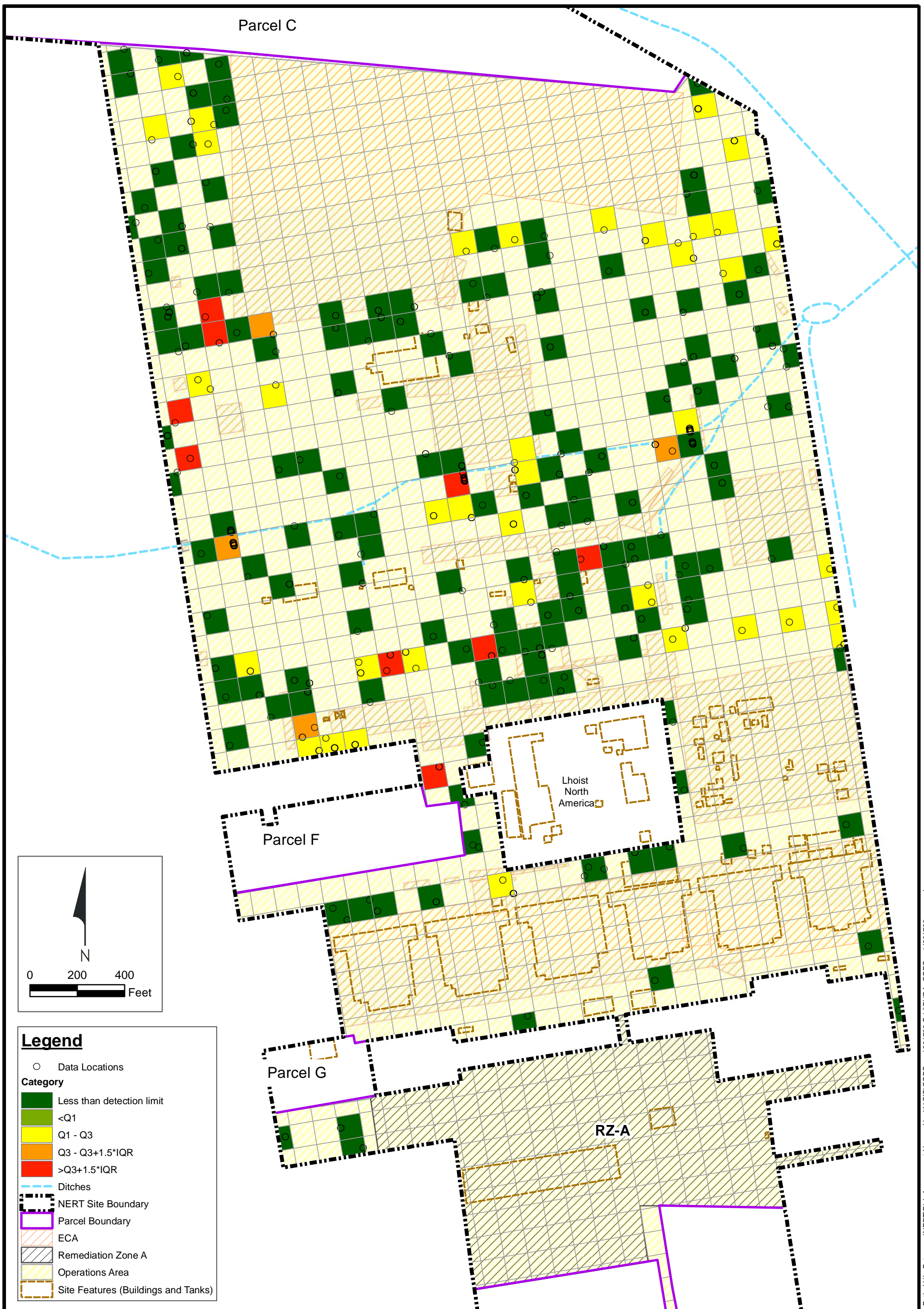
Legend

- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Benzo(g,h,i)perylene (mg/kg)**
 [Q1 = 0.0072, Q3 = 0.017, Q3+1.5*IQR = 0.0317]
 Nevada Environmental Response Trust Site, Henderson, Nevada

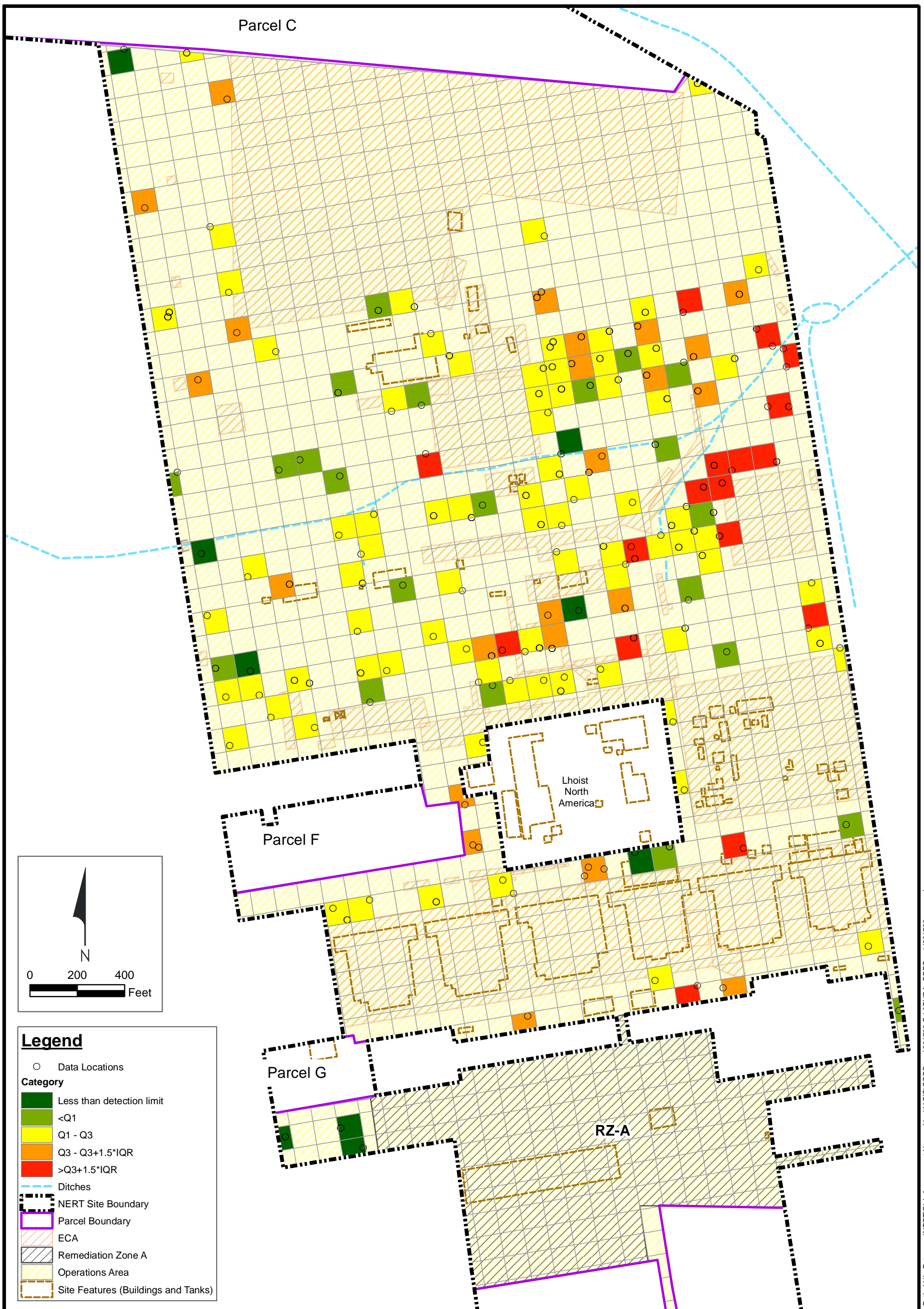
Figure
G-5





Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Bis(2-Ethylhexyl)phthalate (mg/kg)
 [Q1 = 0.049, Q3 = 0.18, Q3+1.5*IQR = 0.376]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-7



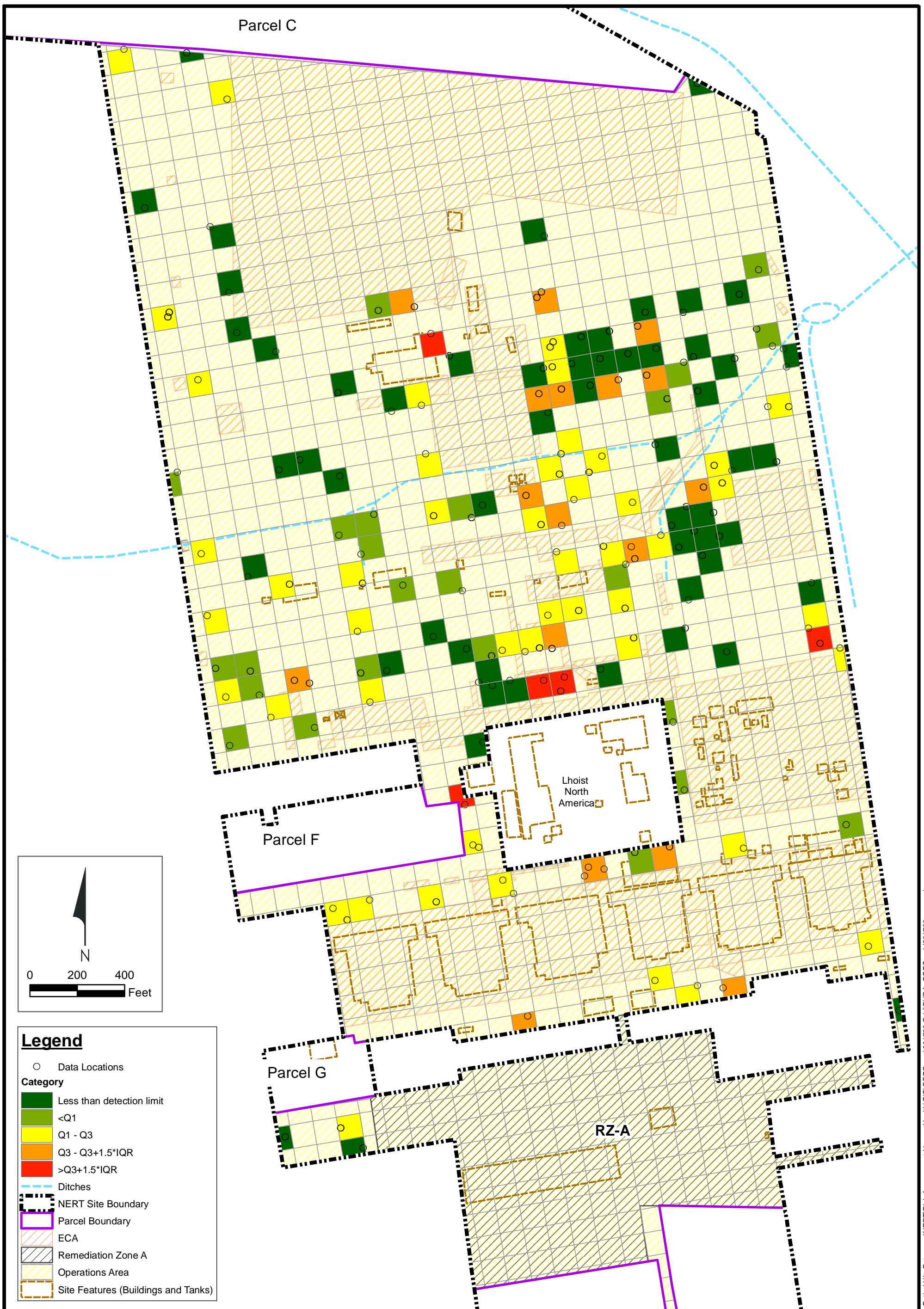
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Legend

- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

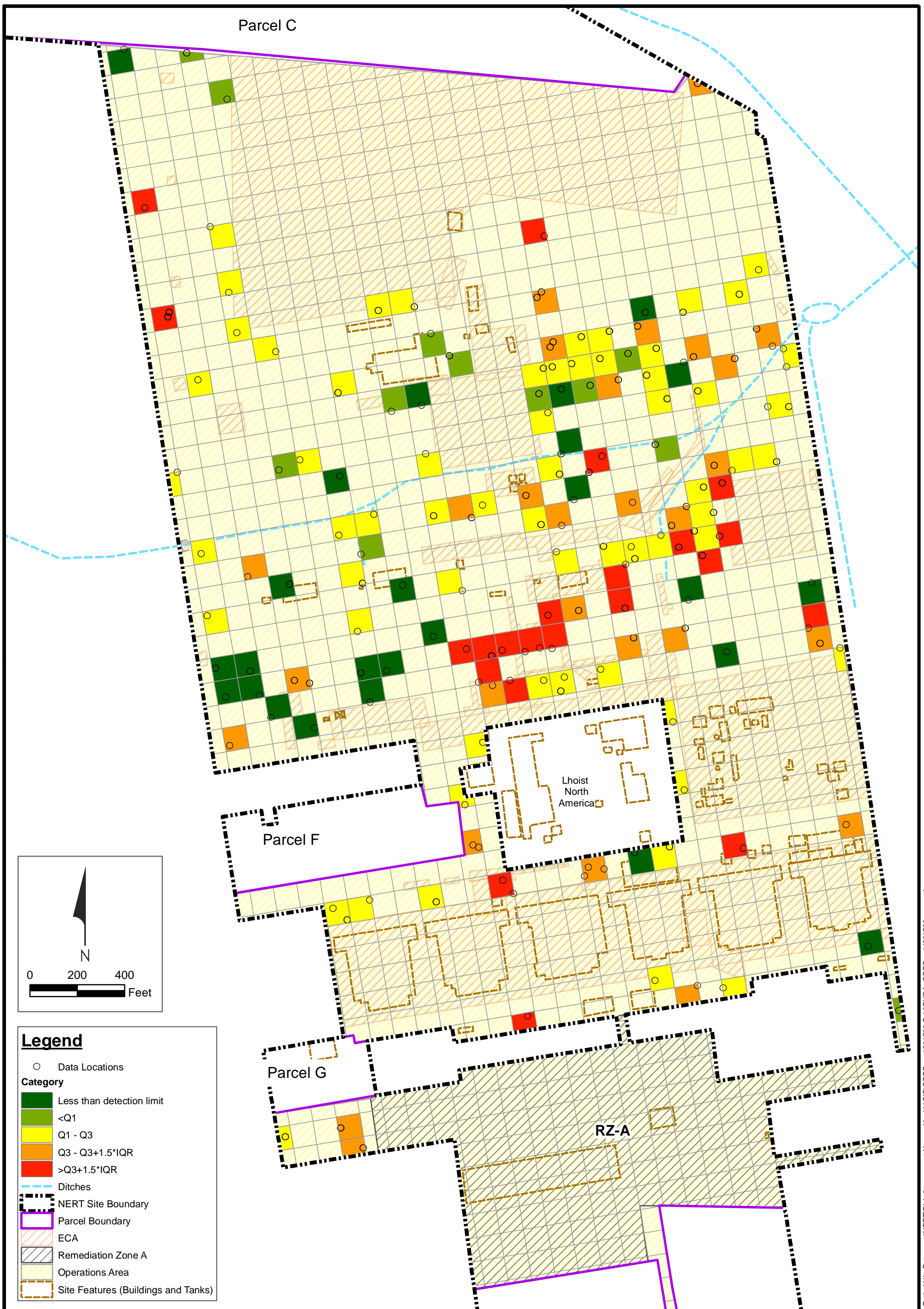
**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Boron (mg/kg)**
 [Q1 = 5.6, Q3 = 10.7, Q3+1.5*IQR = 18.4]
 Nevada Environmental Response Trust Site, Henderson, Nevada

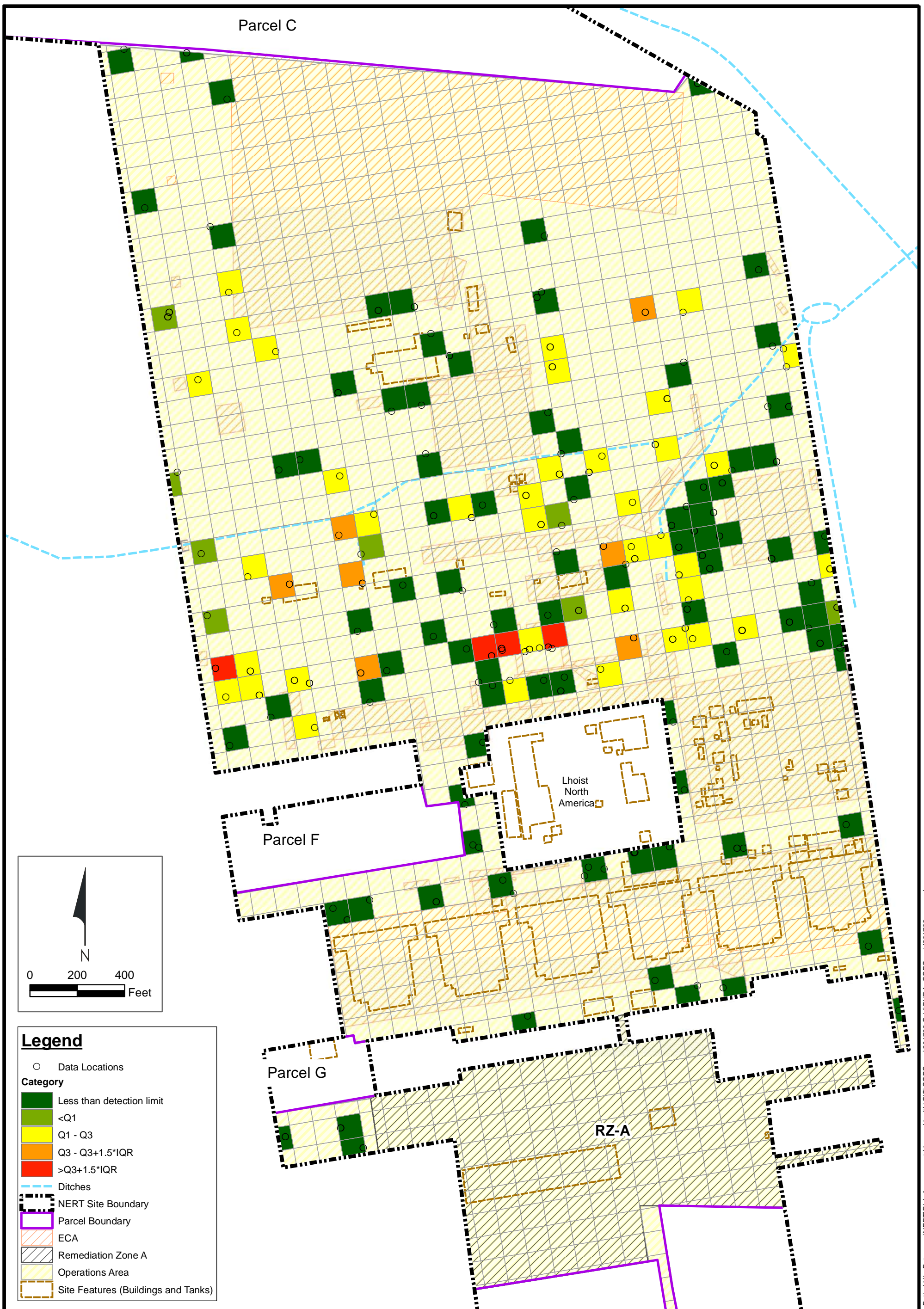
**Figure
G-8**



**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Cadmium (mg/kg)**
[Q1 = 0.1, Q3 = 0.27, Q3+1.5*IQR = 0.525]
Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-9

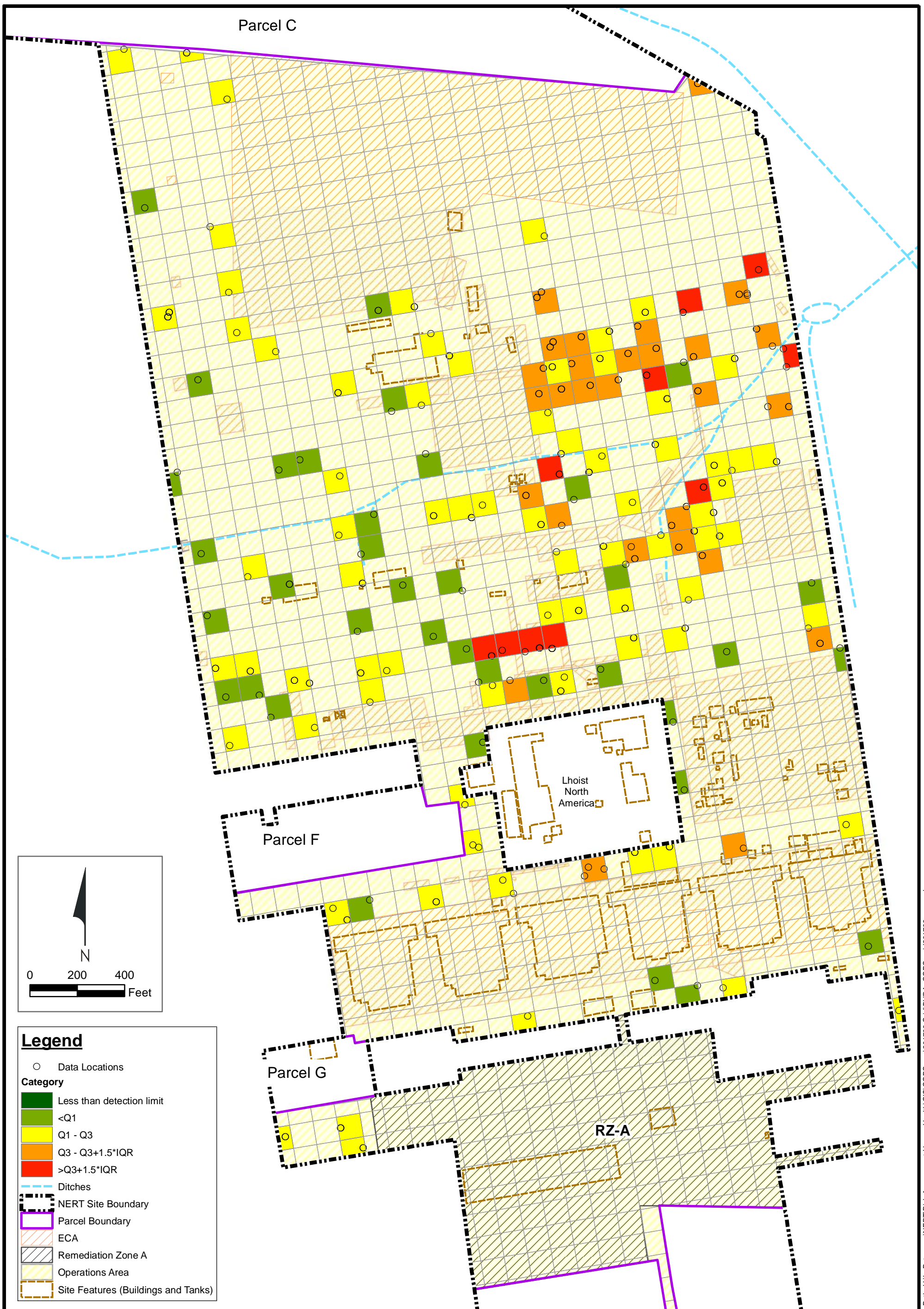




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Legend

- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)



Path: H:\LePetomane\NERTRisk_Assessment-Human_Health\GIS\COPCmap\201709_Grid\BHR_A_COPC_grid\201709new.mxd

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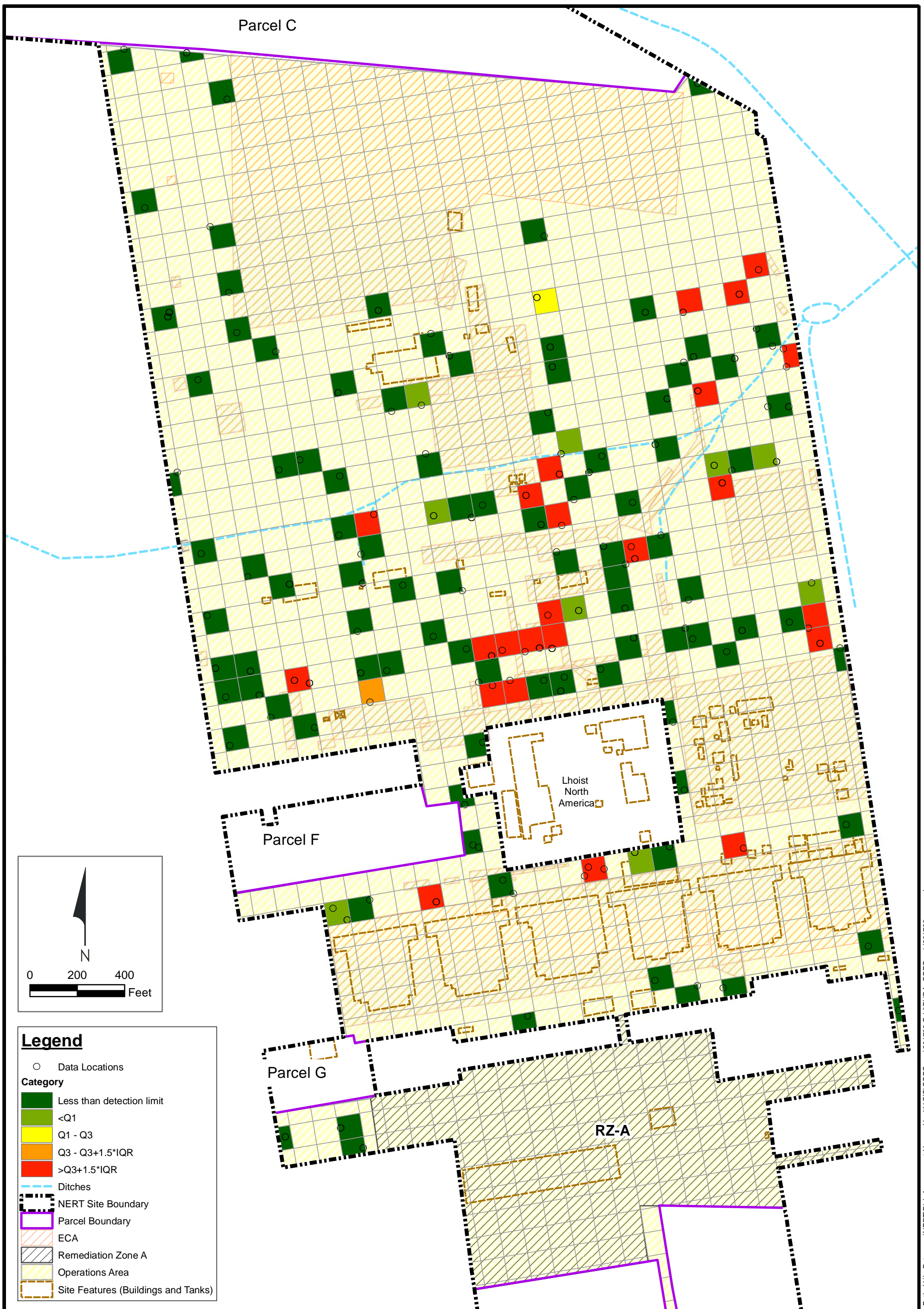
- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)



Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Chromium (total) (mg/kg)
 [Q1 = 7.32, Q3 = 13, Q3+1.5*IQR = 21.5]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-12

Drafter: YZ Date: 9/28/2017 Contract Number: 21-38800C Approved by: Revised:



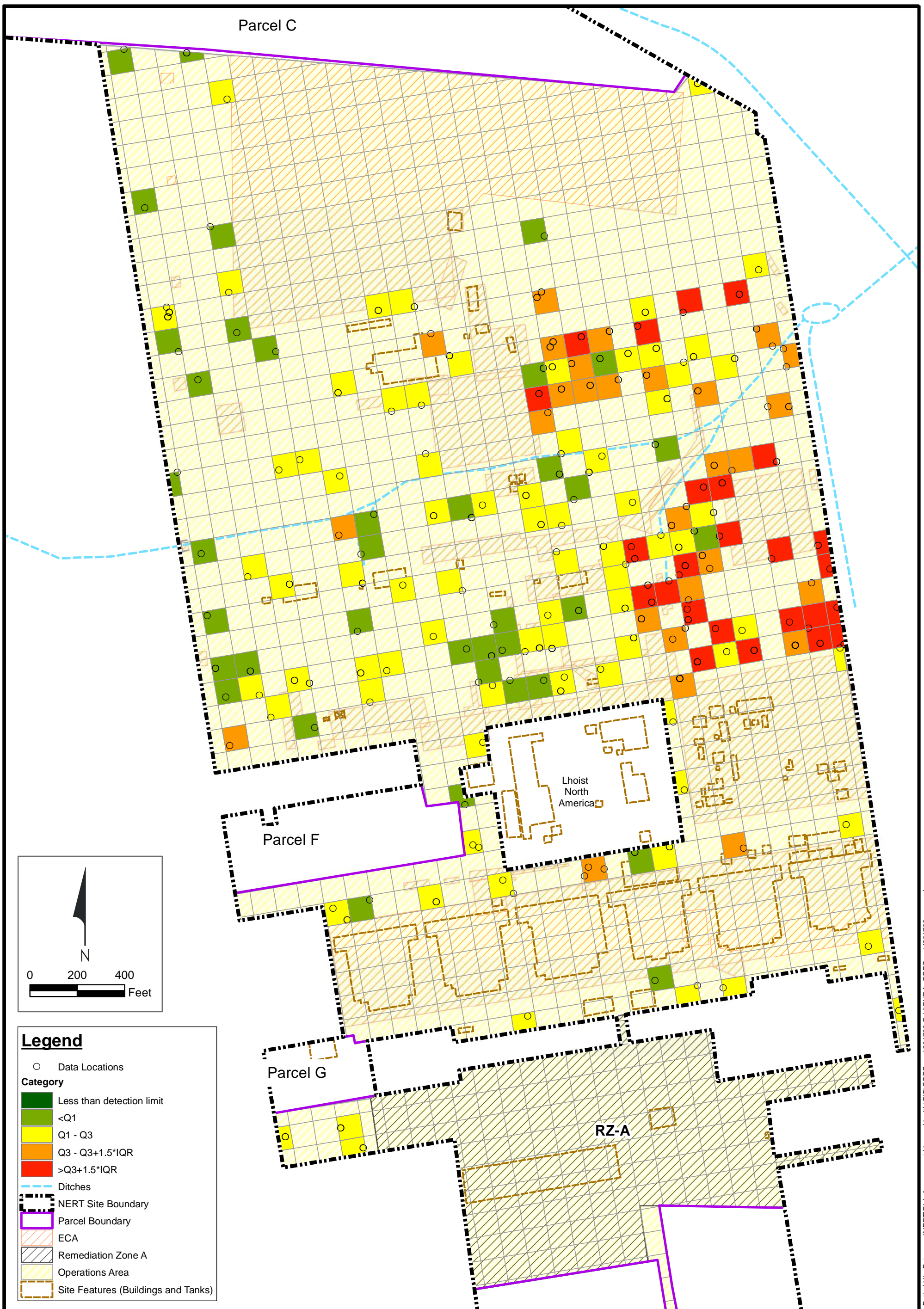
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Legend

- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

Spatial Quartile Plot for Study Area Soils (0-10 ft bgs): Chromium VI (mg/kg)
 [Q1 = 0.41, Q3 = 0.44, Q3+1.5*IQR = 0.485]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-13



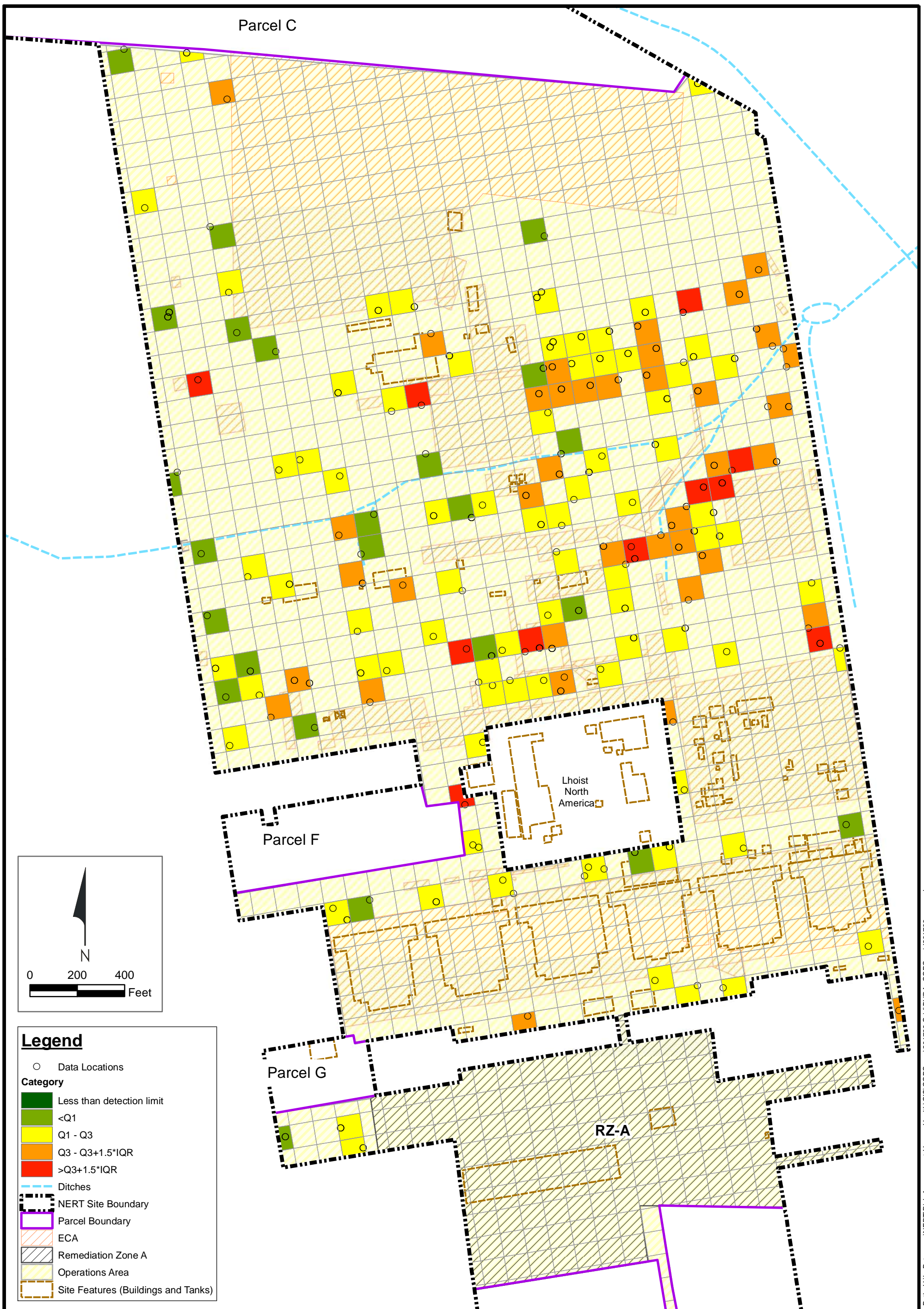
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Legend

- Data Locations
- Category**
- Less than detection limit
- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Cobalt (mg/kg)**
 [Q1 = 6.7, Q3 = 8.48, Q3+1.5*IQR = 11.1]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-14



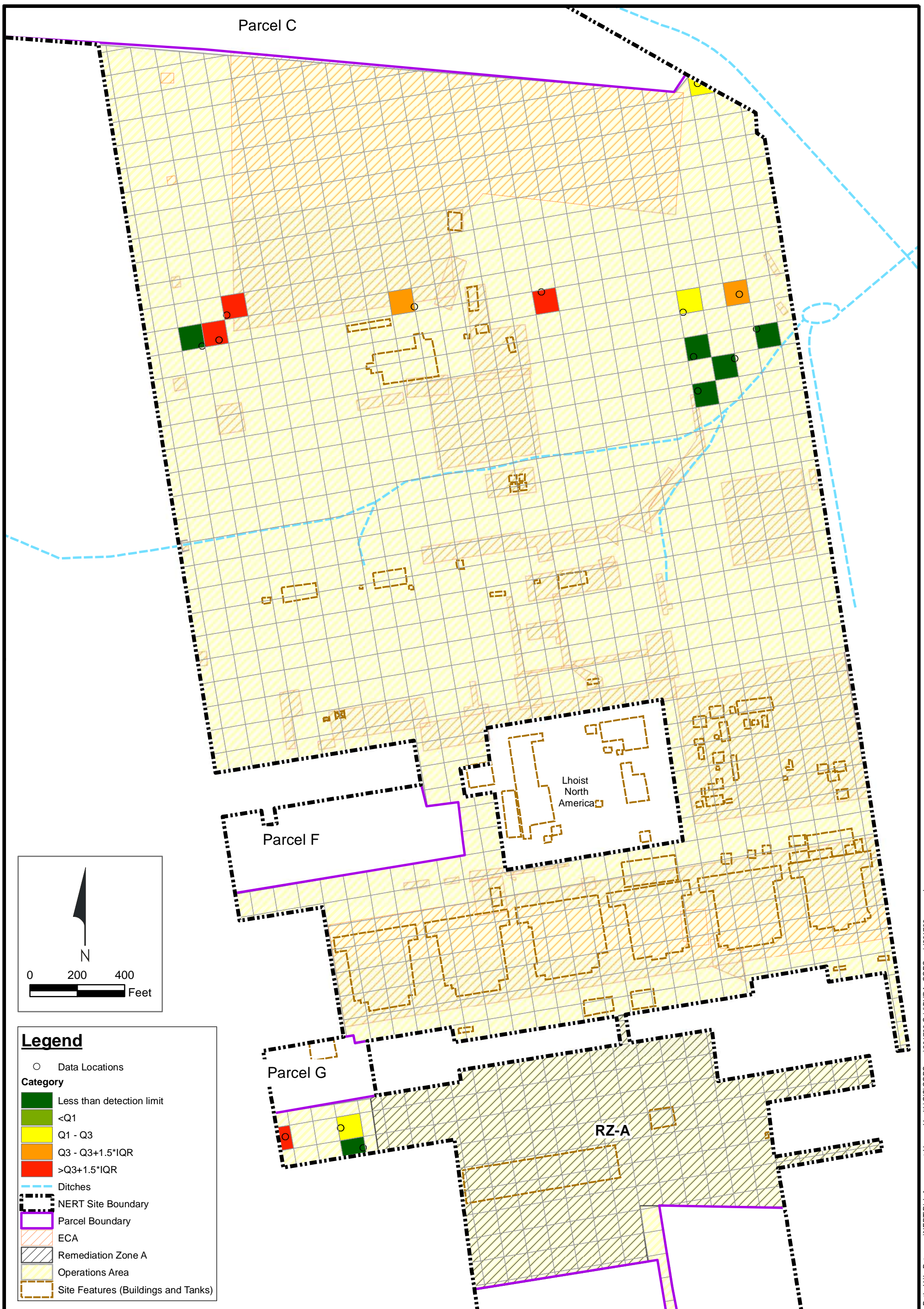
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Legend

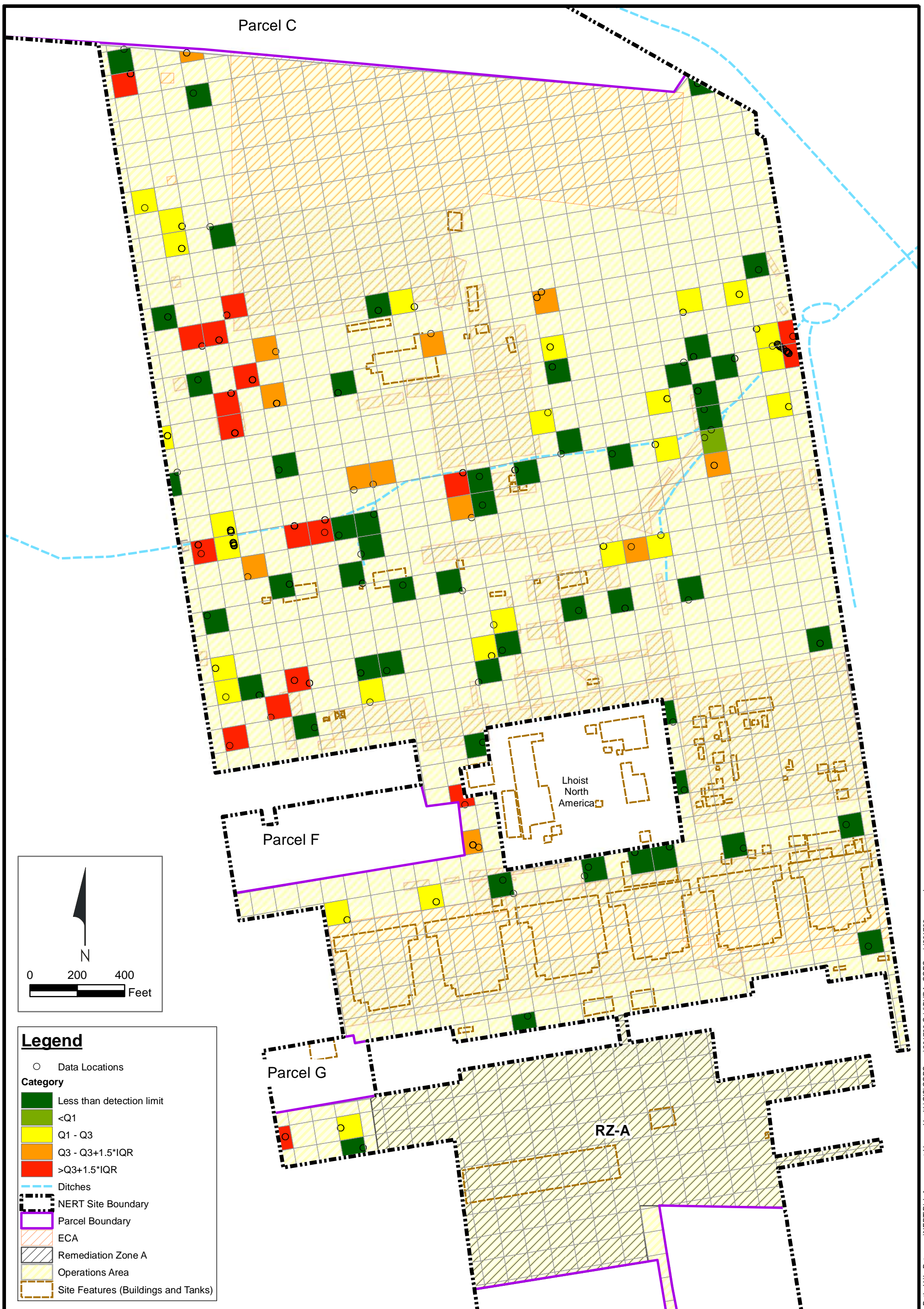
- Data Locations
- Category**
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- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Copper (mg/kg)**
 [Q1 = 16, Q3 = 20, Q3+1.5*IQR = 26]
 Nevada Environmental Response Trust Site, Henderson, Nevada

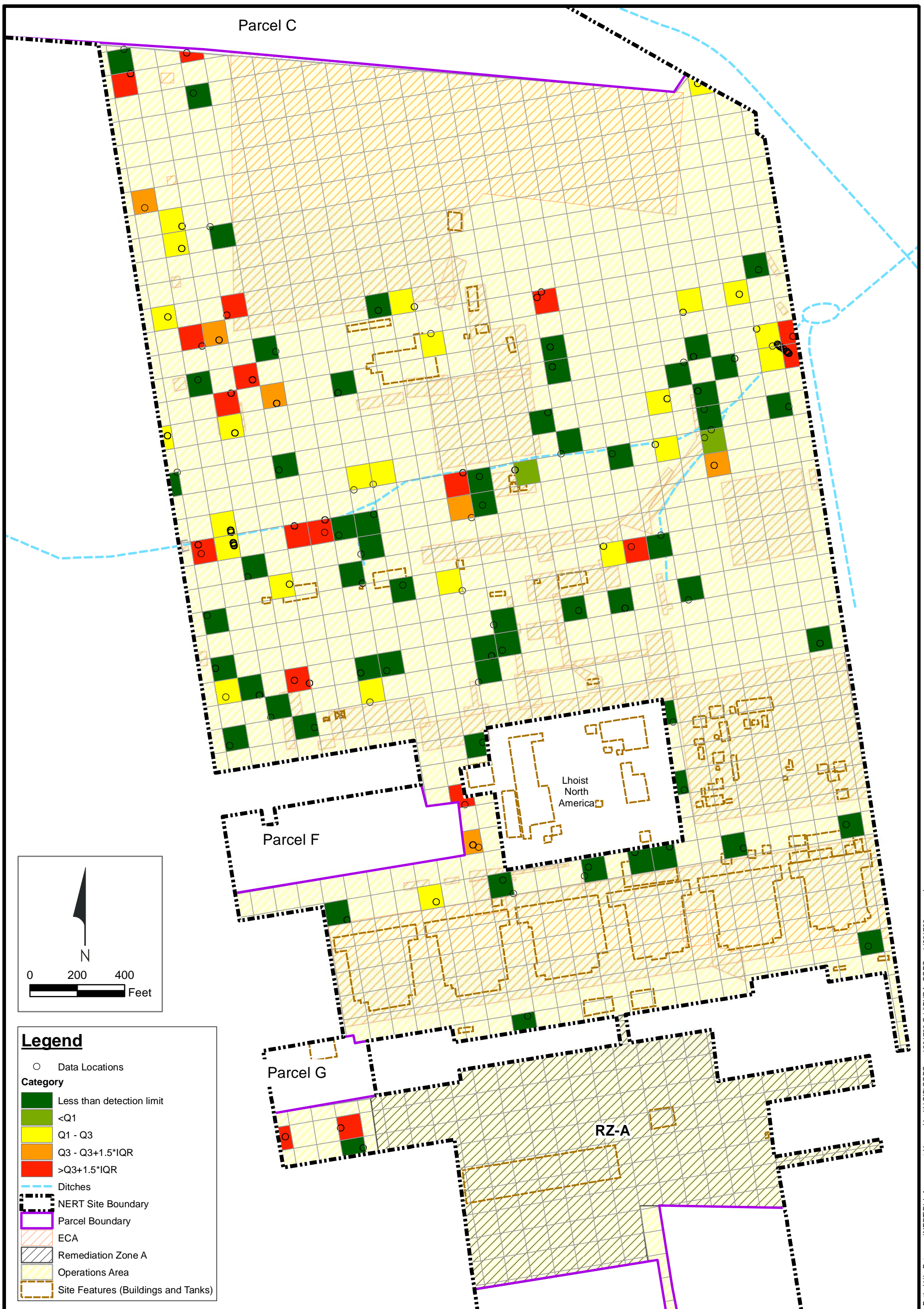
Figure
G-15



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Legend

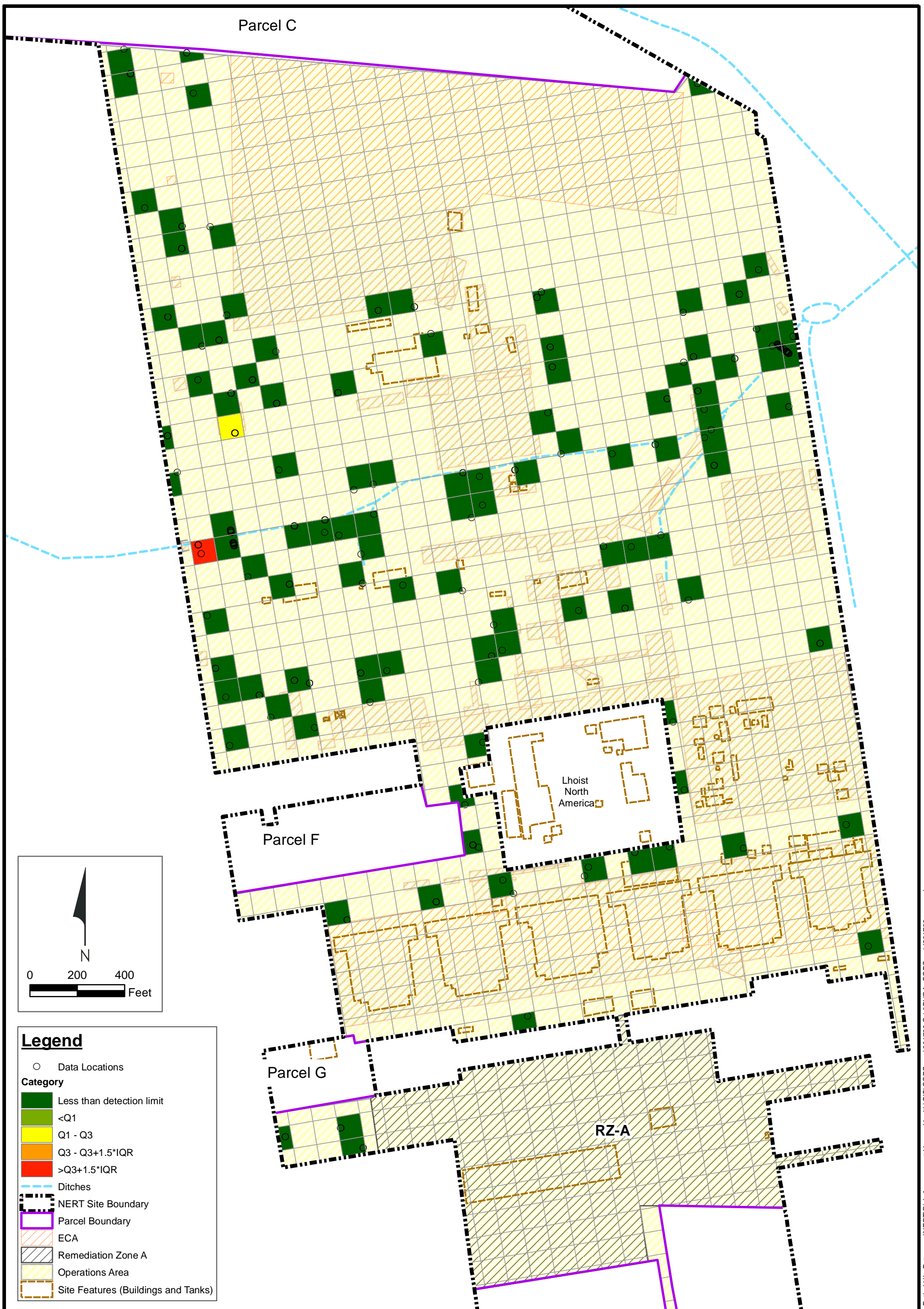
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- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

RAMBOLL ENVIRON
 2200 Powell St., Suite 700, Emeryville, CA 94608

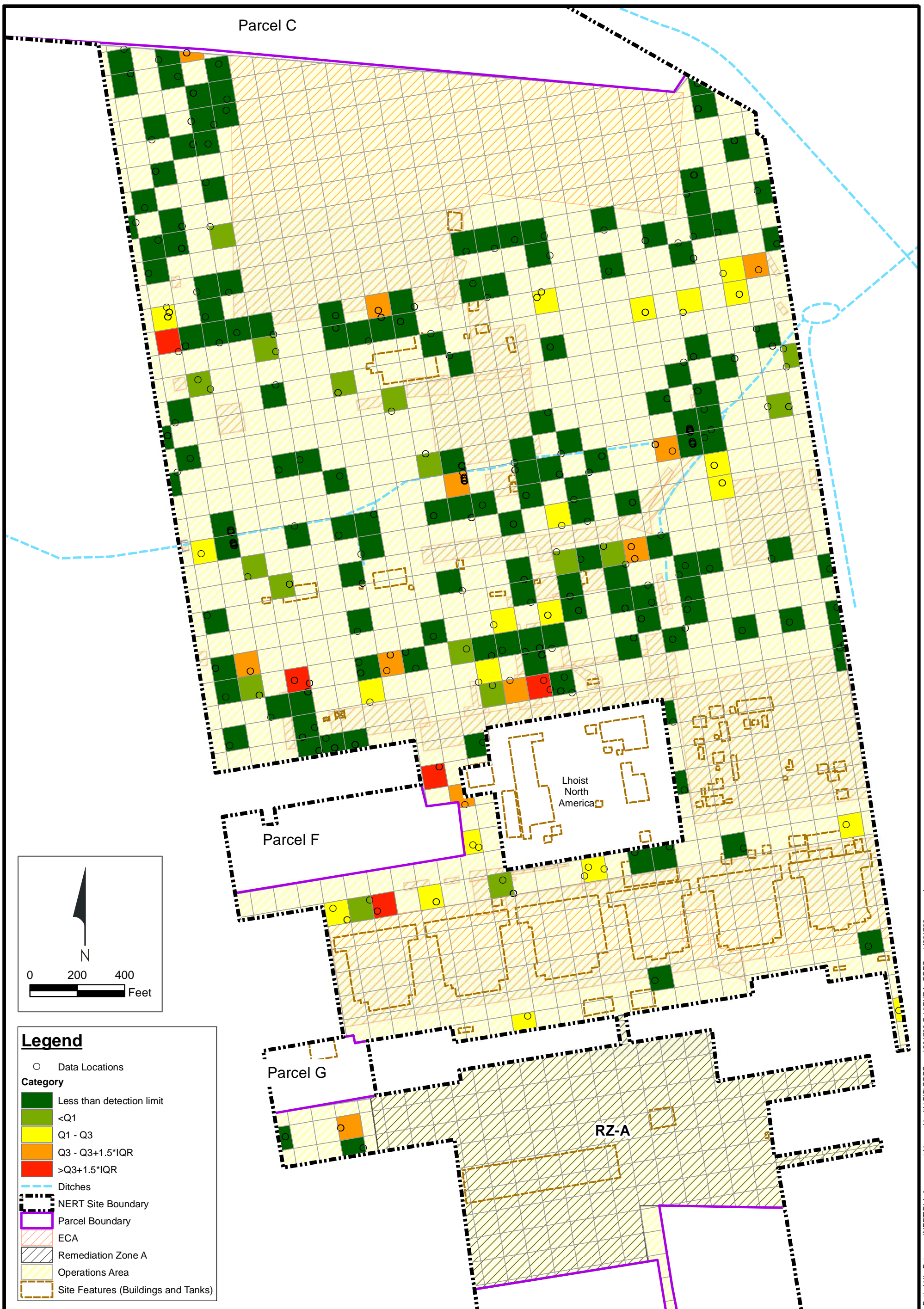
Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
4,4'-DDT (mg/kg)
 [Q1 = 0.0014, Q3 = 0.024, Q3+1.5*IQR = 0.0579]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-18

Drafter: YZ Date: 9/28/2017 Contract Number: 21-38800C Approved by: Revised:



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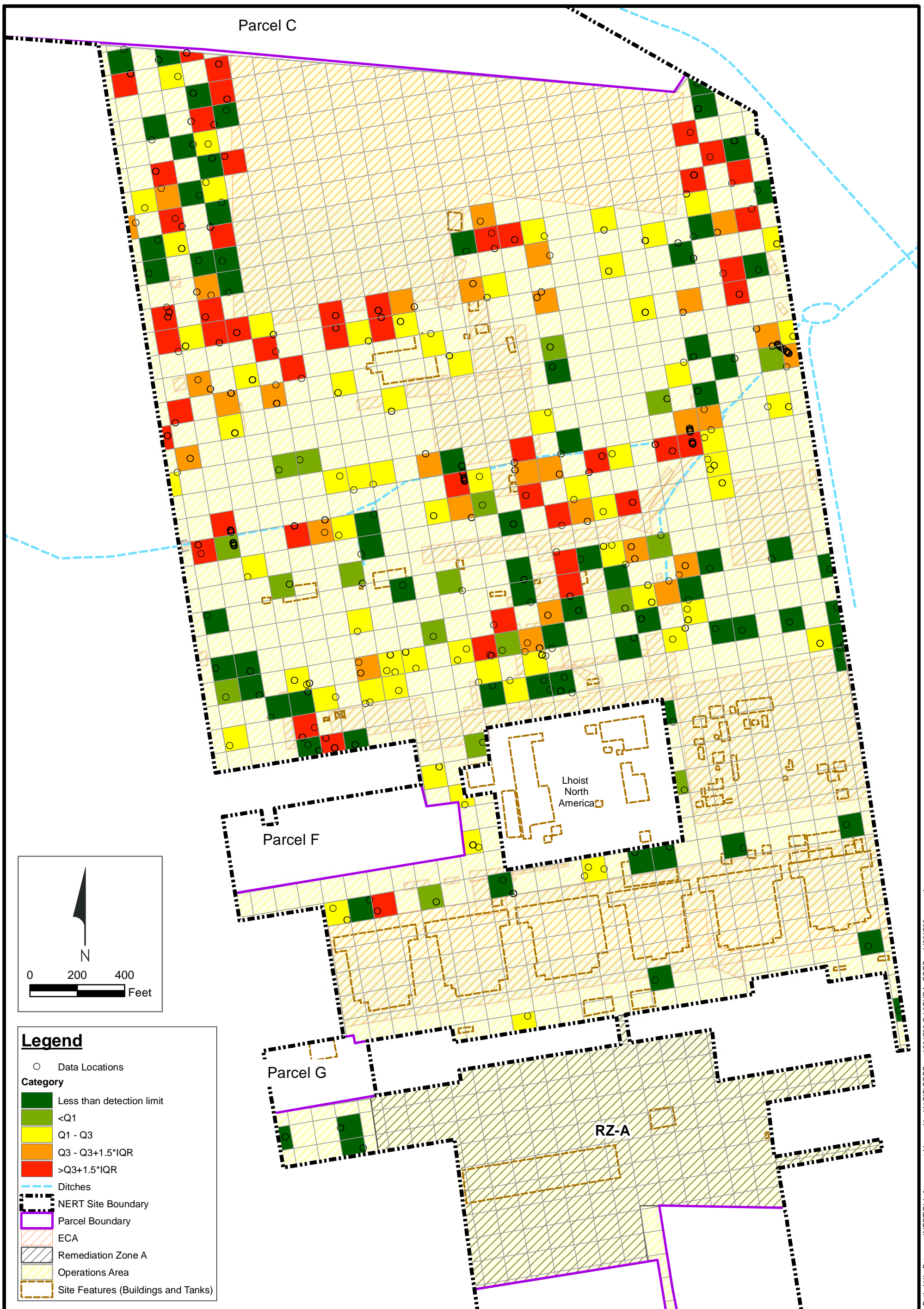
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Legend

- Data Locations
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- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- - - Ditches
- - - NERT Site Boundary
- - - Parcel Boundary
- - - ECA
- - - Remediation Zone A
- - - Operations Area
- - - Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Fluoranthene (mg/kg)**
 [Q1 = 0.0072, Q3 = 0.039, Q3+1.5*IQR = 0.0867]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-20



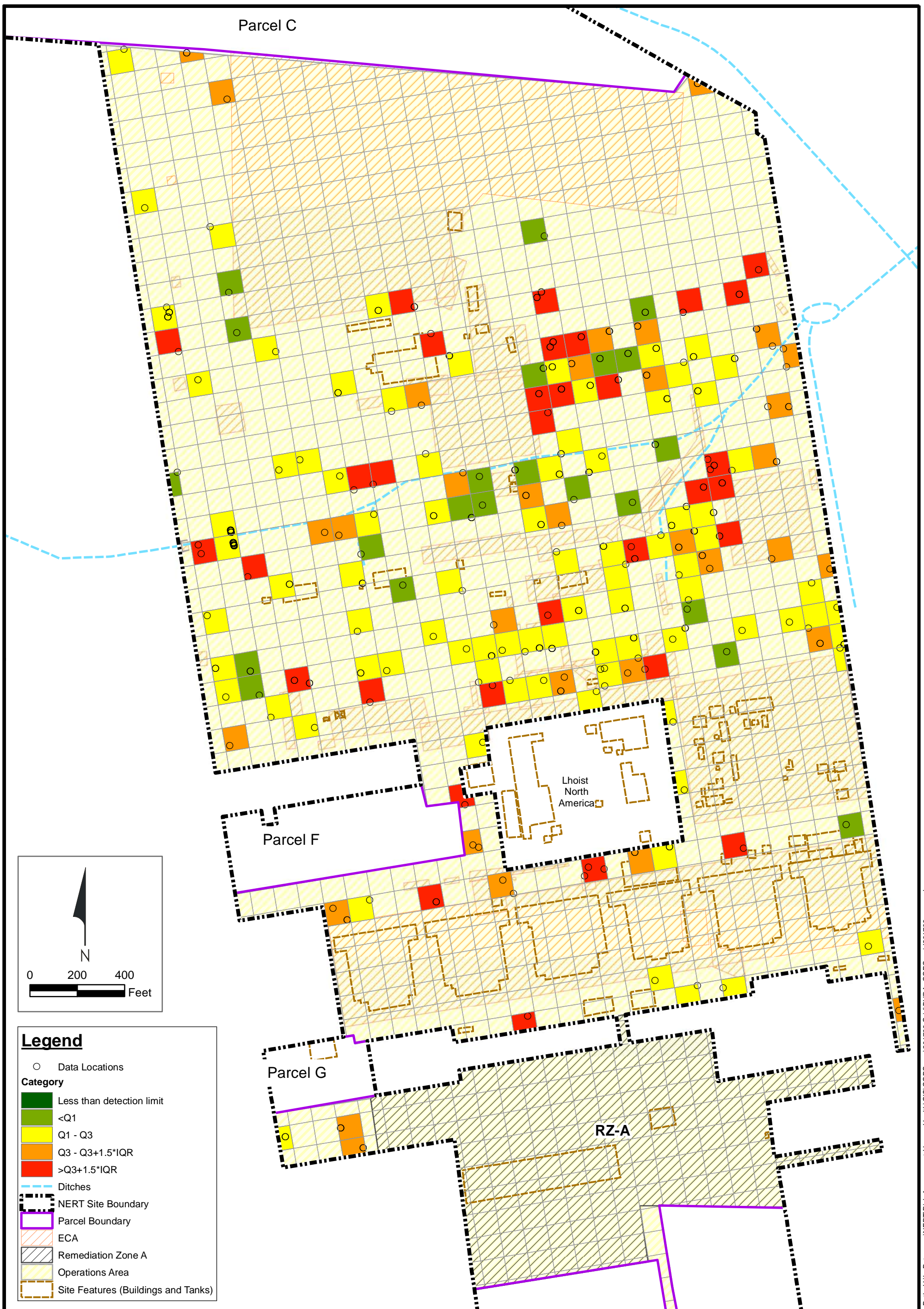
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Legend

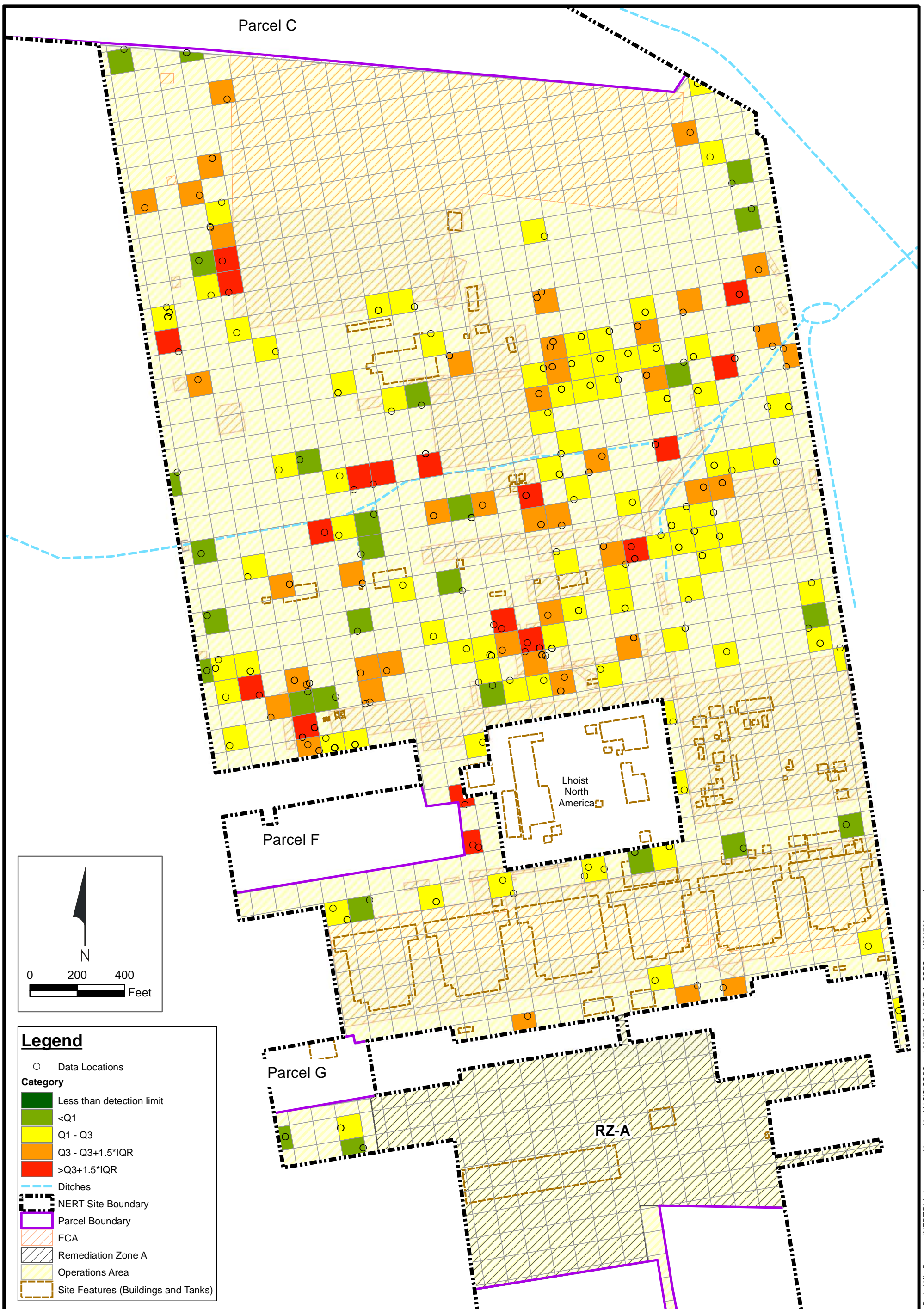
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- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
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**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Hexachlorobenzene (mg/kg)**
 [Q1 = 0.0072, Q3 = 0.098, Q3+1.5*IQR = 0.234]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-21



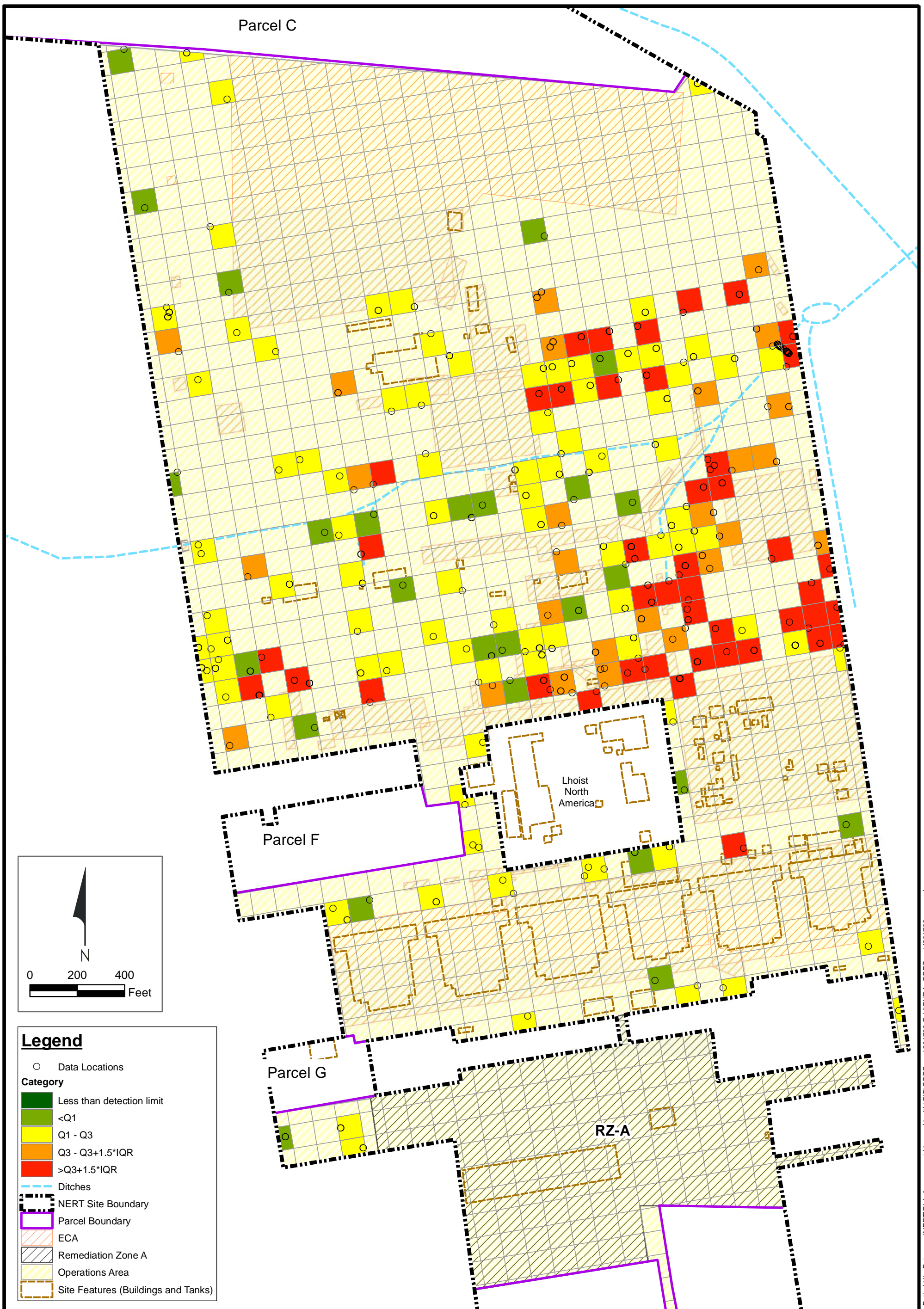
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Legend

- Data Locations
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- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)



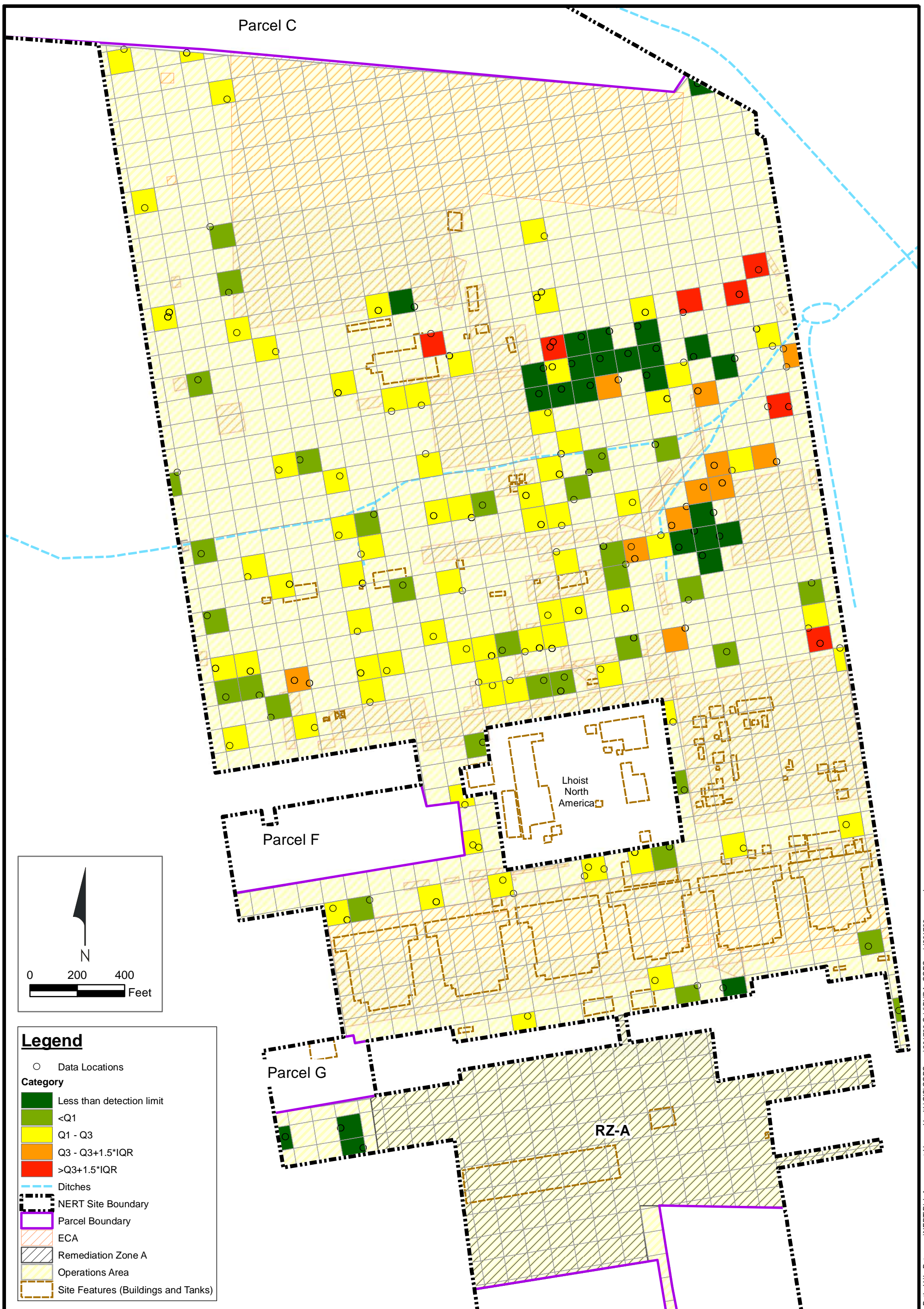
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Legend

- Data Locations
- Category**
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- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

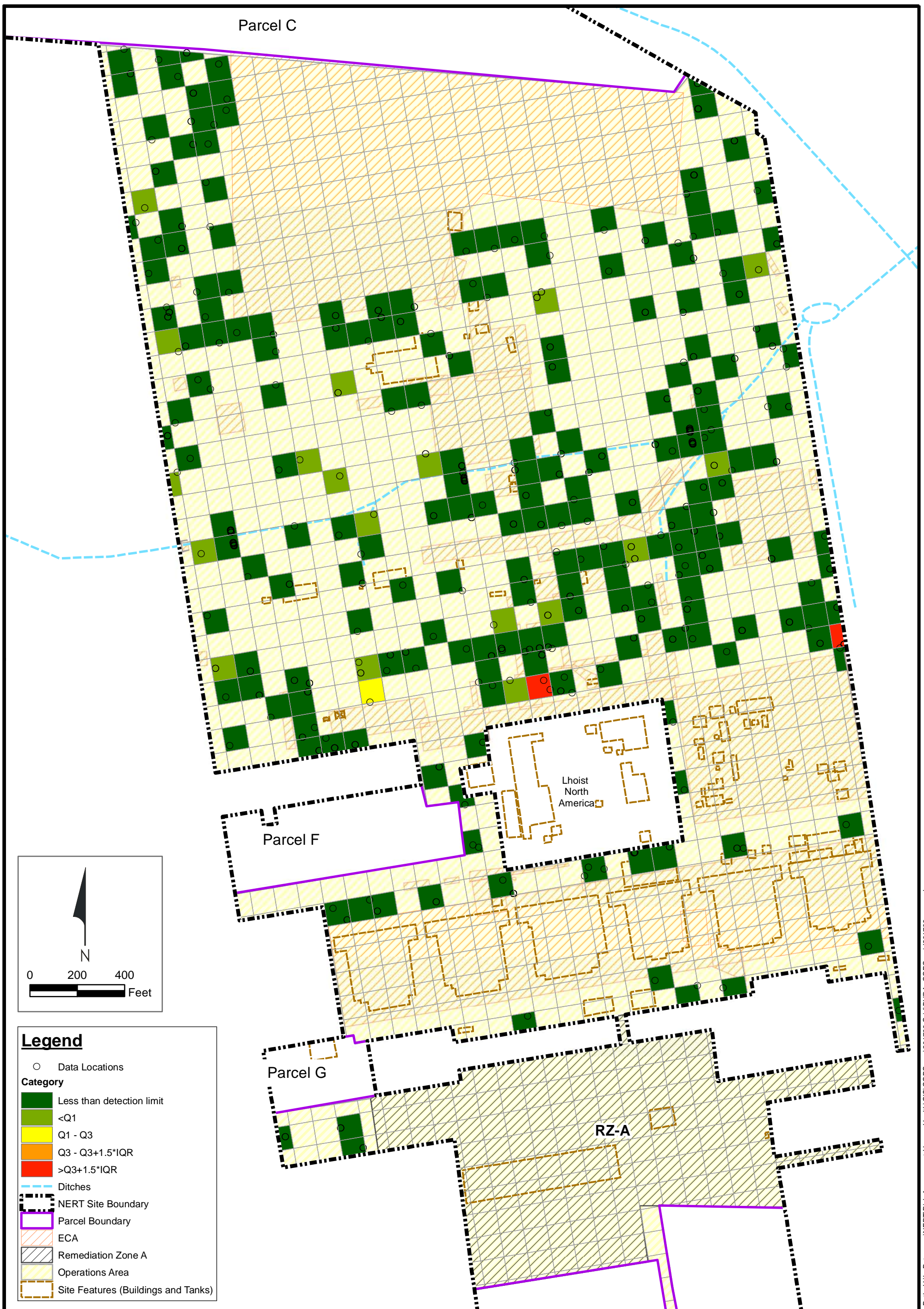
Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Manganese (mg/kg)
 [Q1 = 325, Q3 = 575, Q3+1.5*IQR = 950]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-24



**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Molybdenum (mg/kg)**
 [Q1 = 0.408, Q3 = 1, Q3+1.5*IQR = 1.89]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-25



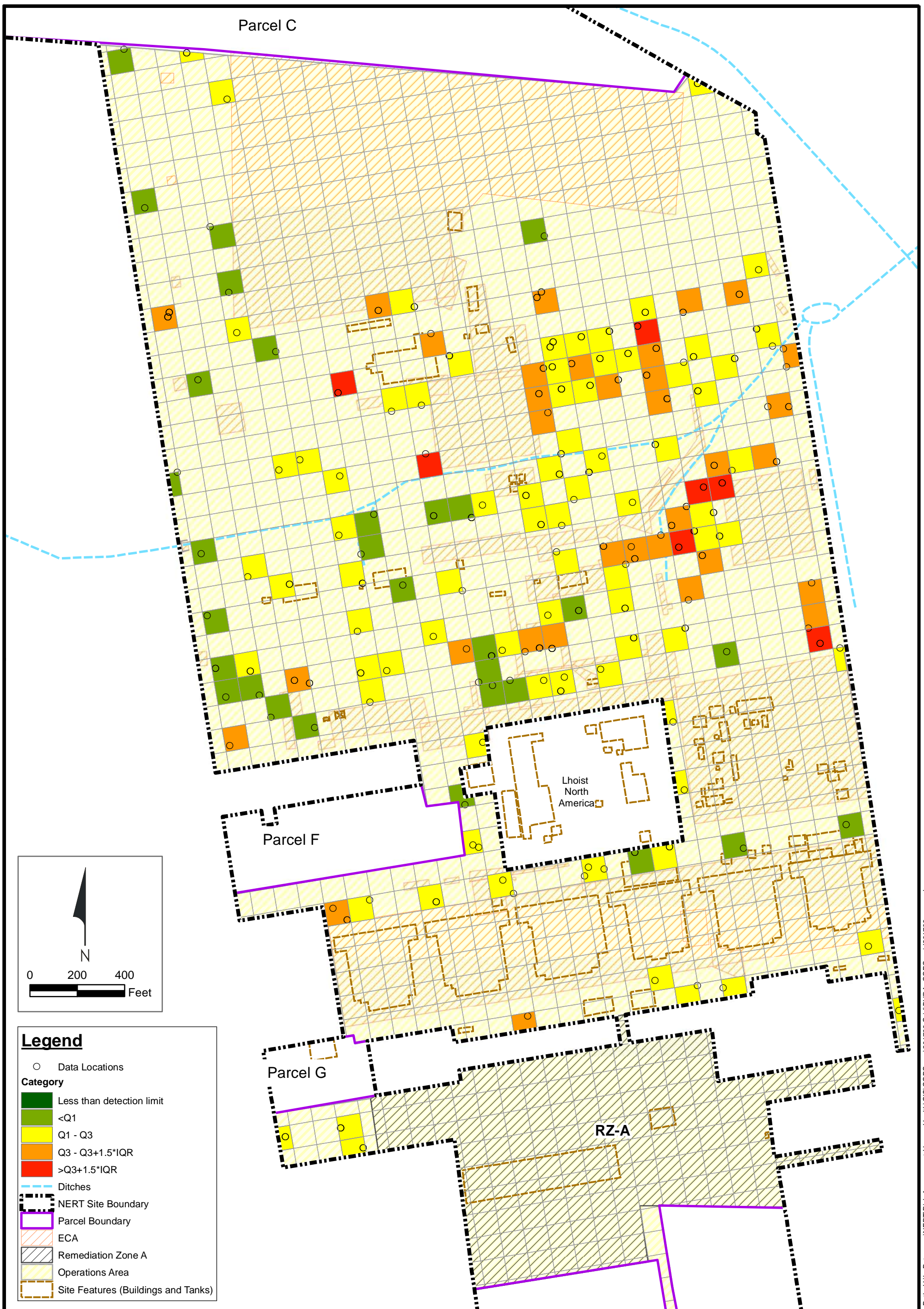
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Legend

- Data Locations
- Category**
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- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Naphthalene (mg/kg)**
 [Q1 = 0.007, Q3 = 0.033, Q3+1.5*IQR = 0.072]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-26



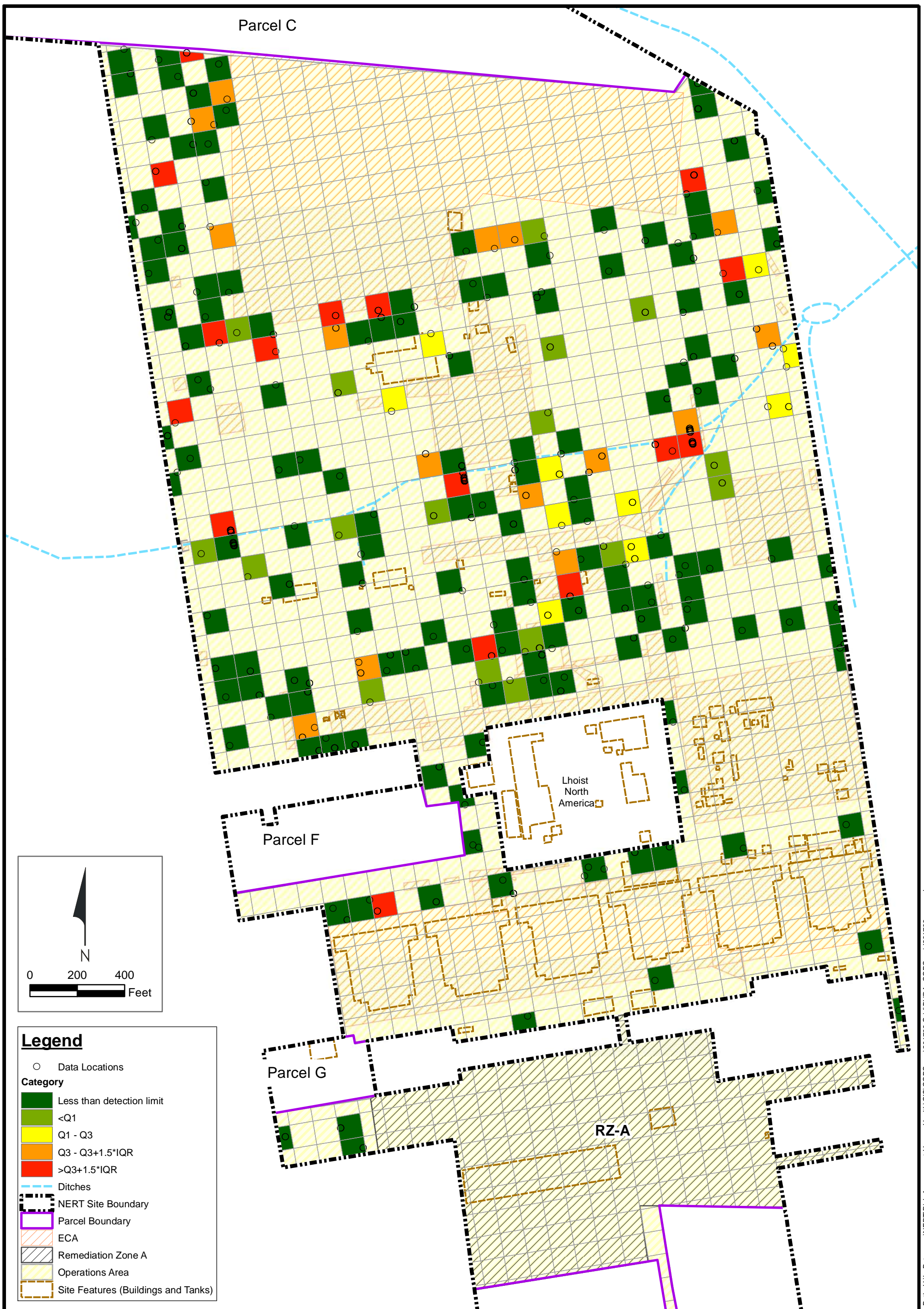
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Legend

- Data Locations
- Category**
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- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Nickel (mg/kg)**
 [Q1 = 13.8, Q3 = 17, Q3+1.5*IQR = 21.8]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-27



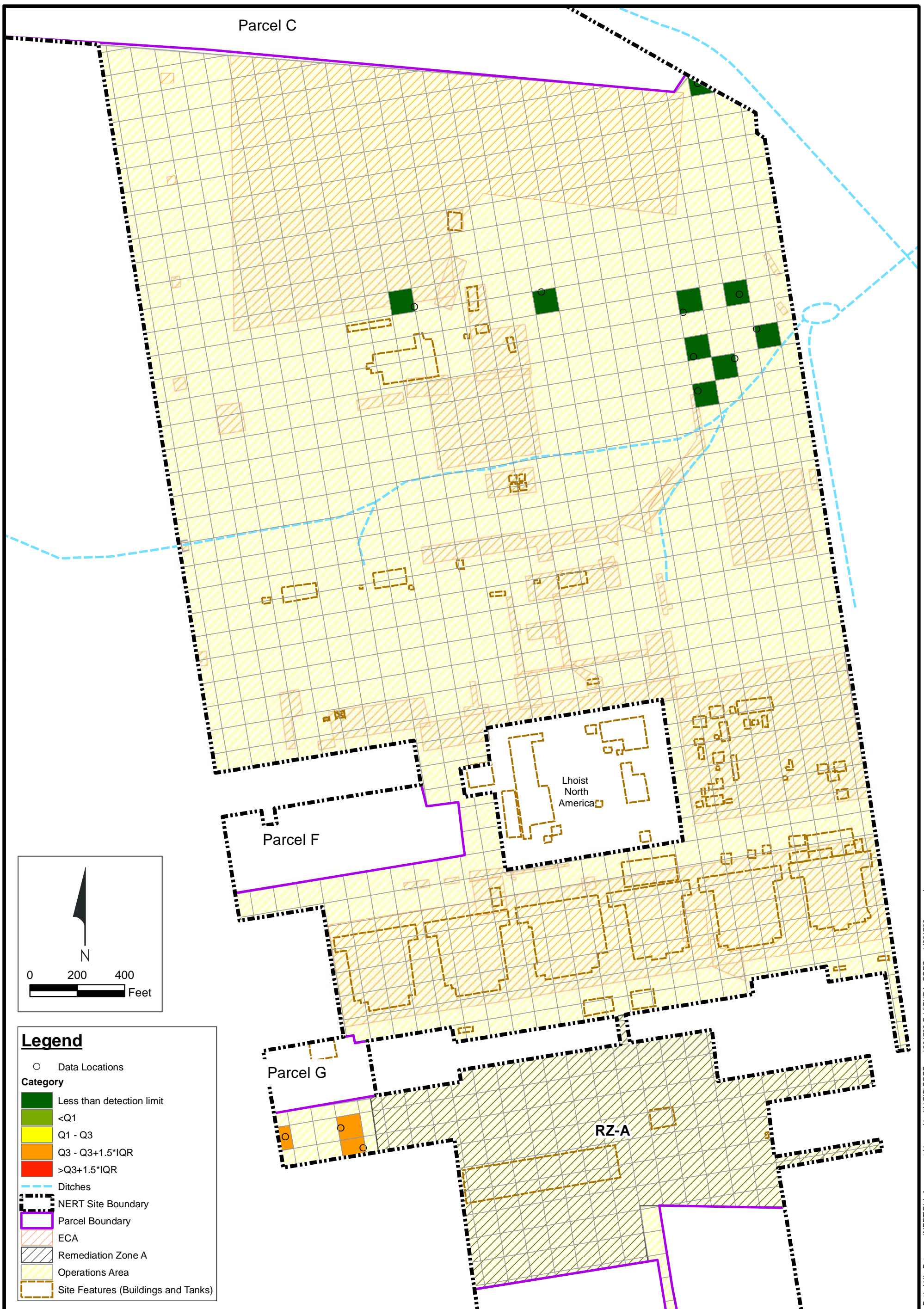
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Legend

- Data Locations
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- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

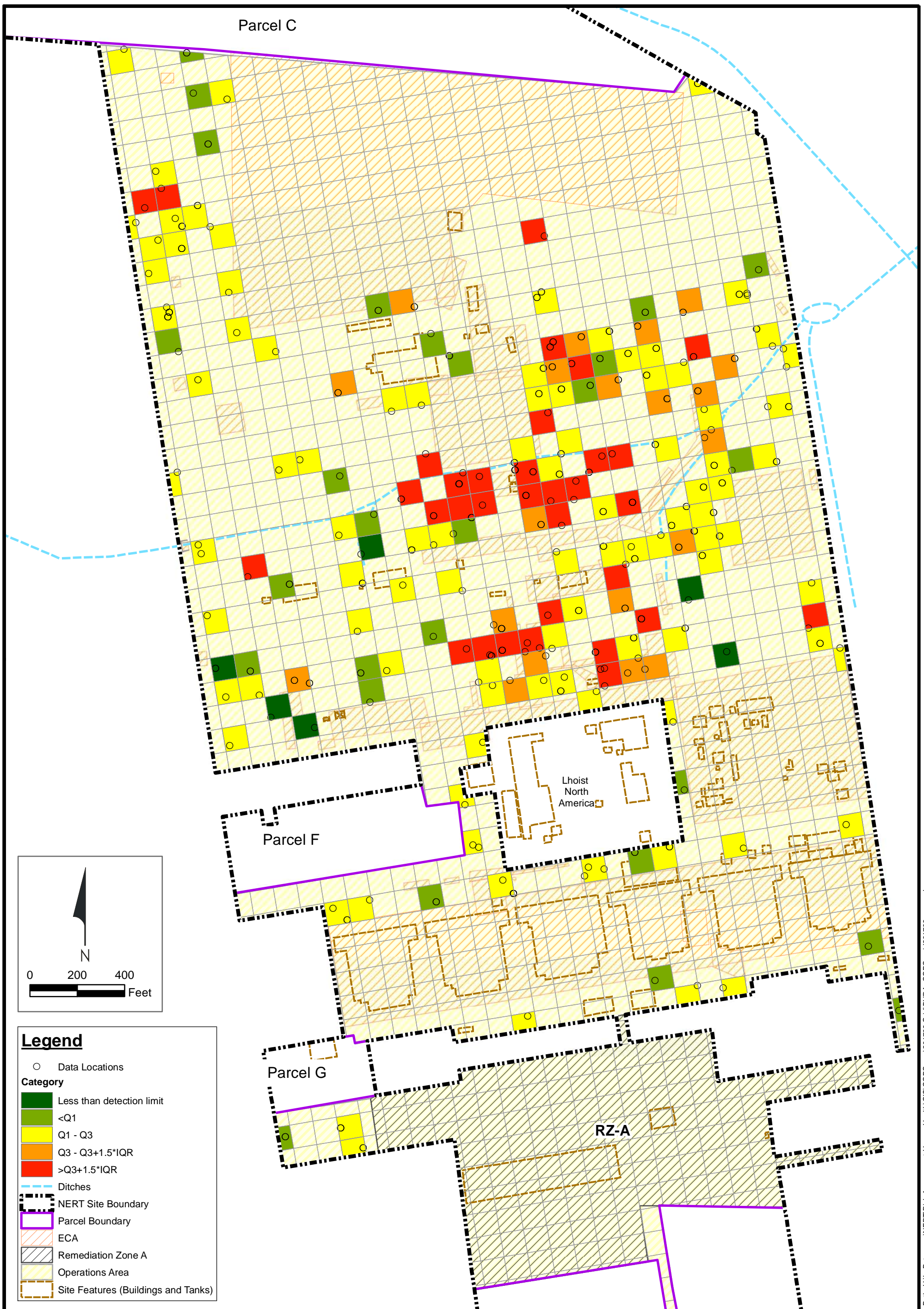
**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Octachlorostyrene (mg/kg)**
 [Q1 = 0.022, Q3 = 0.0625, Q3+1.5*IQR = 0.123]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-28



**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Palladium (mg/kg)**
[Q1 = 0.052, Q3 = 0.33, Q3+1.5*IQR = 0.52]
Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-29



Path: H:\LePetomane\NERTRisk_Assessment-Human_Health\GIS\COPMap\201709_Grid\BHRA_COPC_grid\201709new.mxd

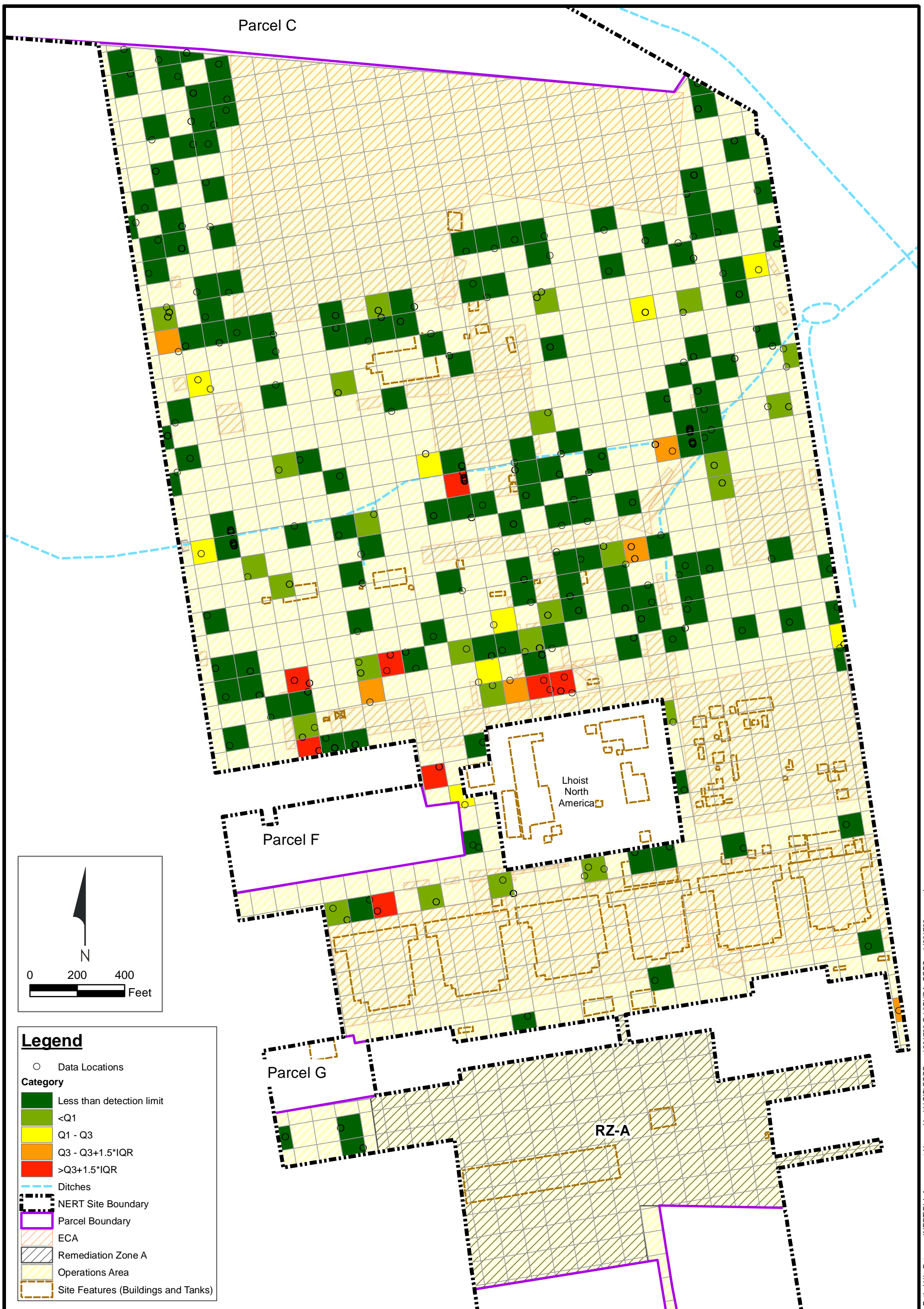
Legend

- Data Locations
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- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
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- Site Features (Buildings and Tanks)

Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Perchlorate (mg/kg)
 [Q1 = 1.02, Q3 = 40, Q3+1.5*IQR = 98.5]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-30





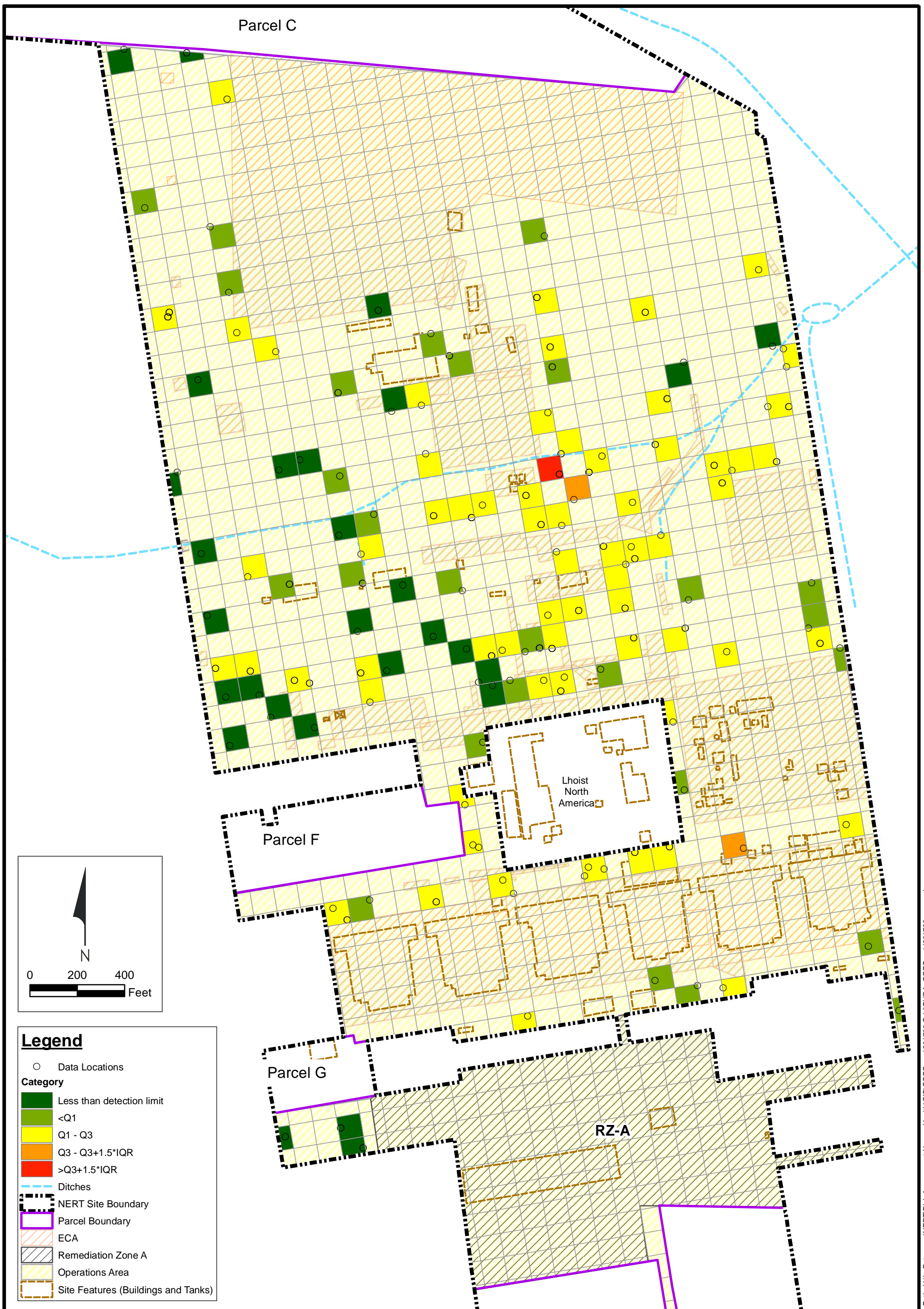
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Legend

- Data Locations
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- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Phenanthrene (mg/kg)**
 [Q1 = 0.0072, Q3 = 0.018, Q3+1.5*IQR = 0.0342]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-31



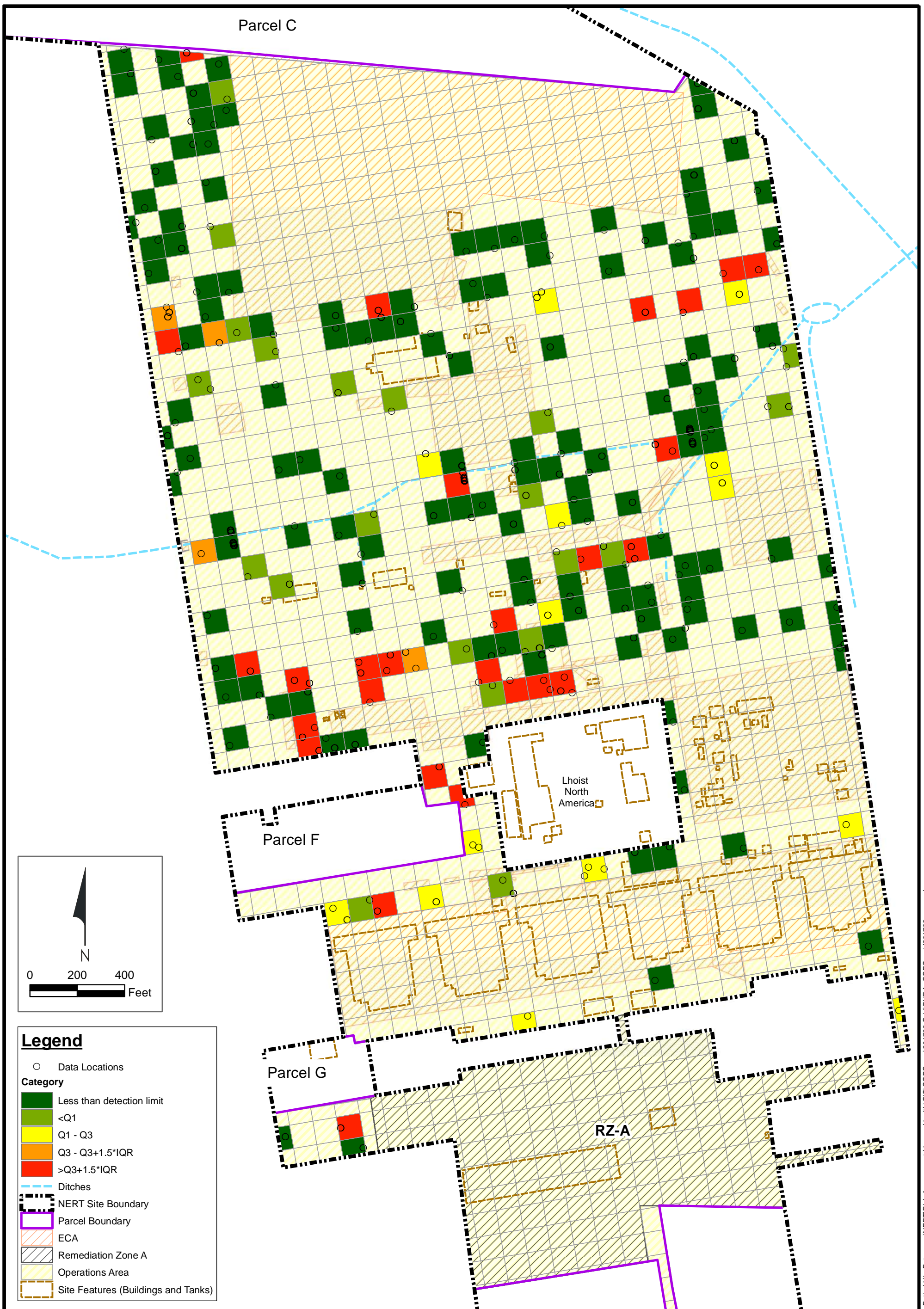
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Legend

- Data Locations
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- <Q1
- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

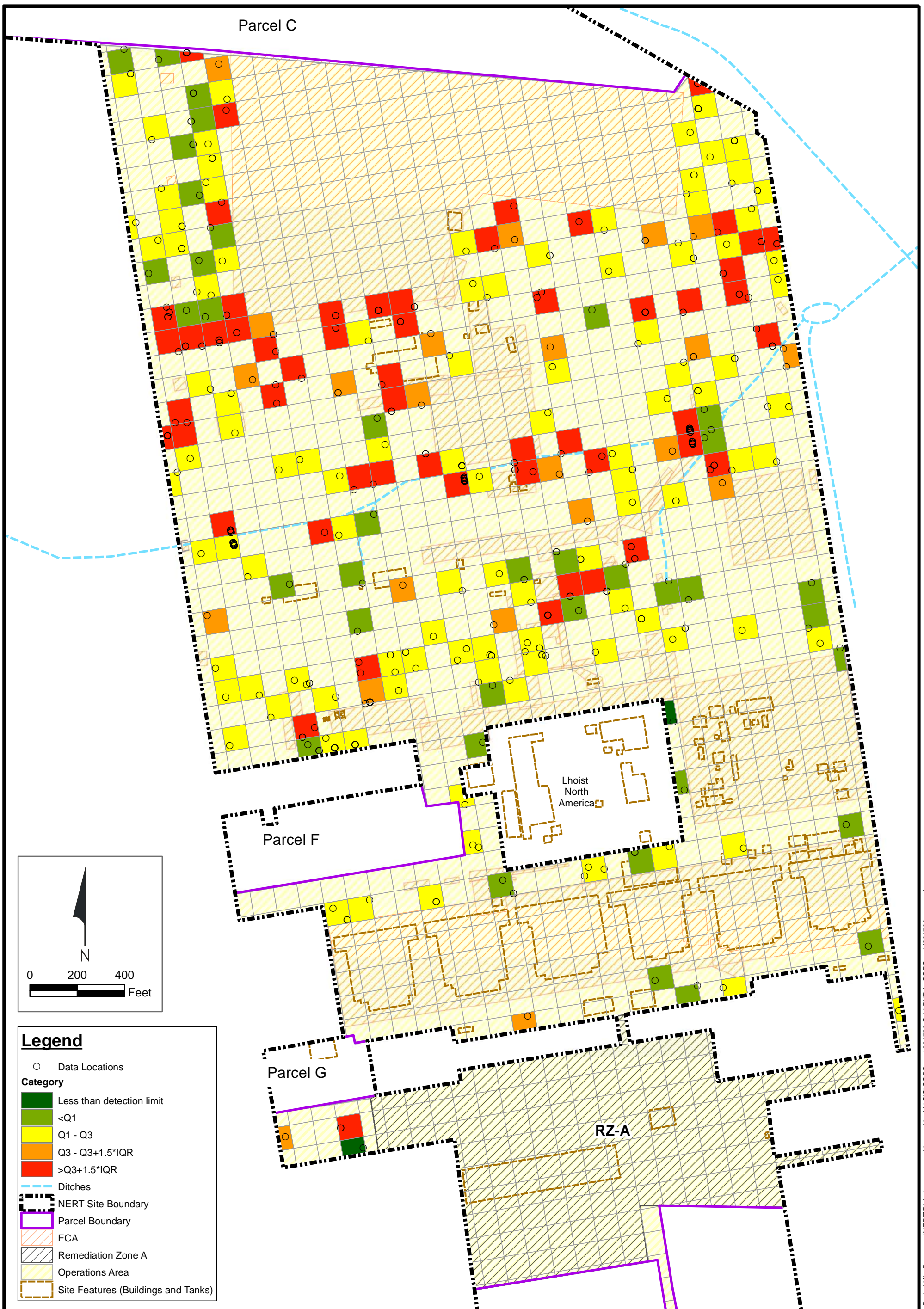
**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Platinum (mg/kg)**
 [Q1 = 0.0095, Q3 = 0.057, Q3+1.5*IQR = 0.128]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-32



**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Pyrene (mg/kg)**
 [Q1 = 0.0072, Q3 = 0.013, Q3+1.5*IQR = 0.0217]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-33



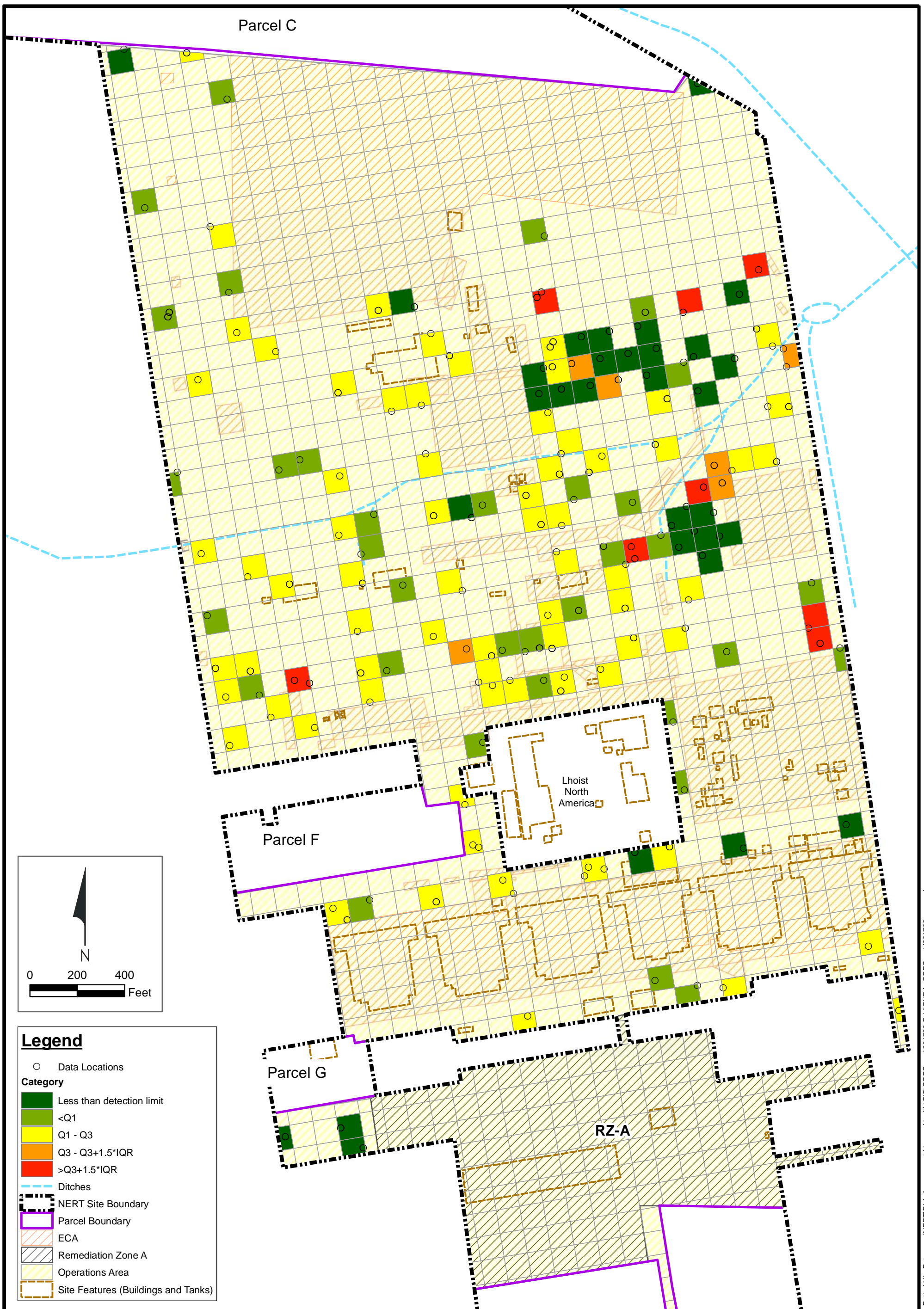
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Legend

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- Q1 - Q3
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- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

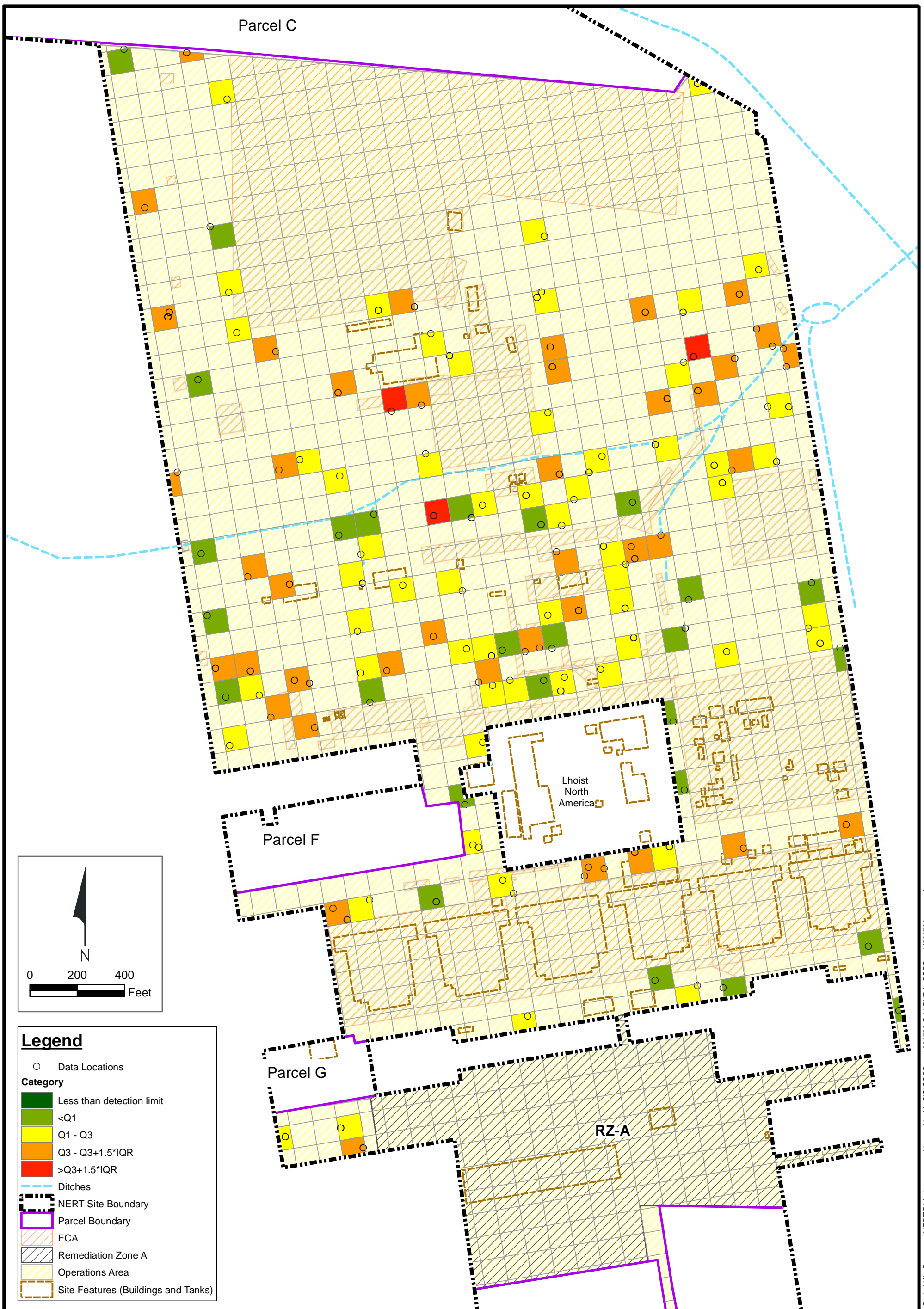
Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
2,3,7,8-TCDD TEQ (mg/kg)
 [Q1 = 0.00000345, Q3 = 0.00017, Q3+1.5*IQR = 0.000419]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-34



**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Thallium (mg/kg)**
 [Q1 = 0.0938, Q3 = 0.26, Q3+1.5*IQR = 0.509]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-35



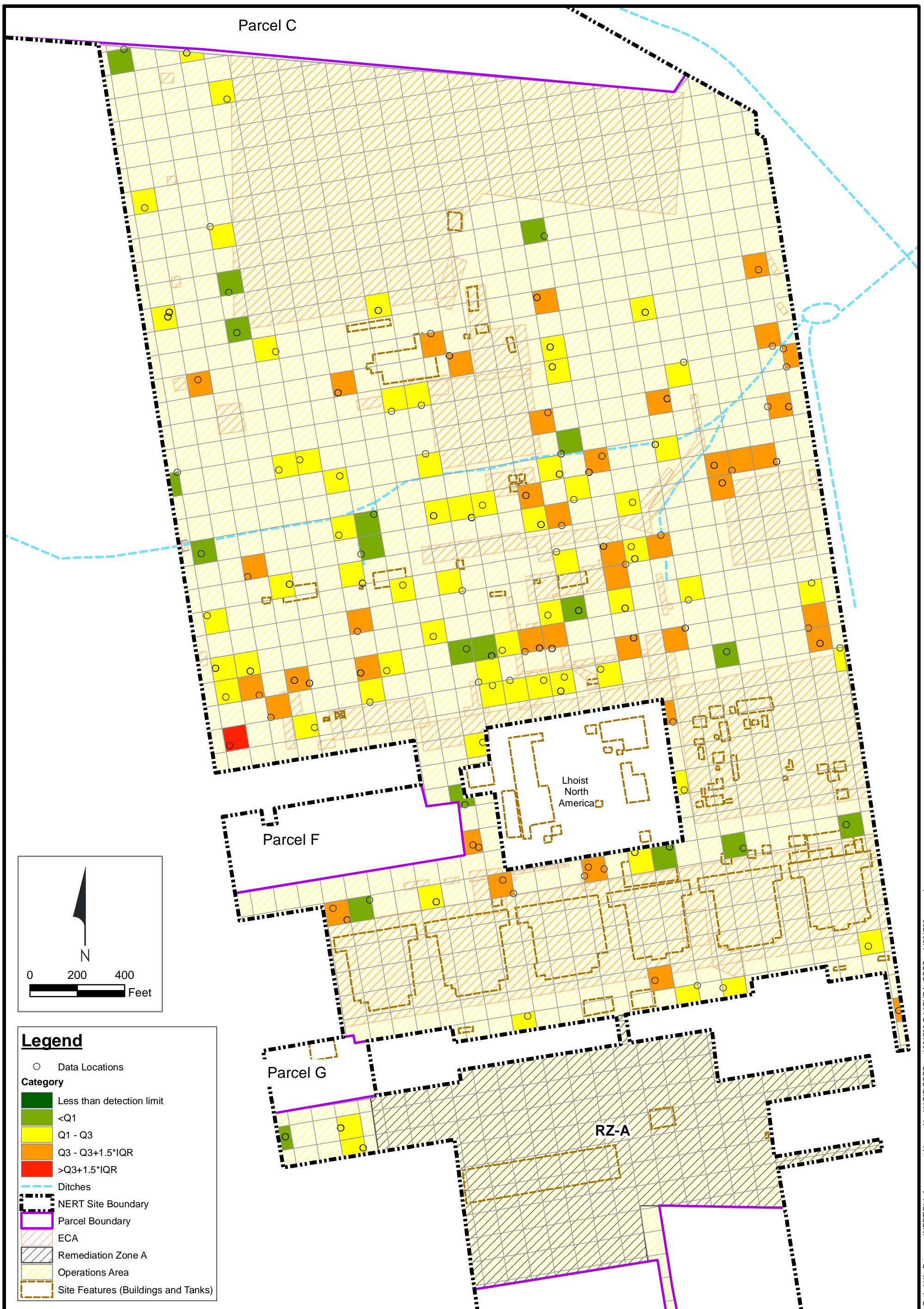
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Legend

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- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- - - Ditches
- - - NERT Site Boundary
- ▭ Parcel Boundary
- ▨ ECA
- ▨ Remediation Zone A
- ▨ Operations Area
- ▭ Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Thorium-232 (pCi/g)**
 [Q1 = 1.4, Q3 = 1.77, Q3+1.5*IQR = 2.32]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-36



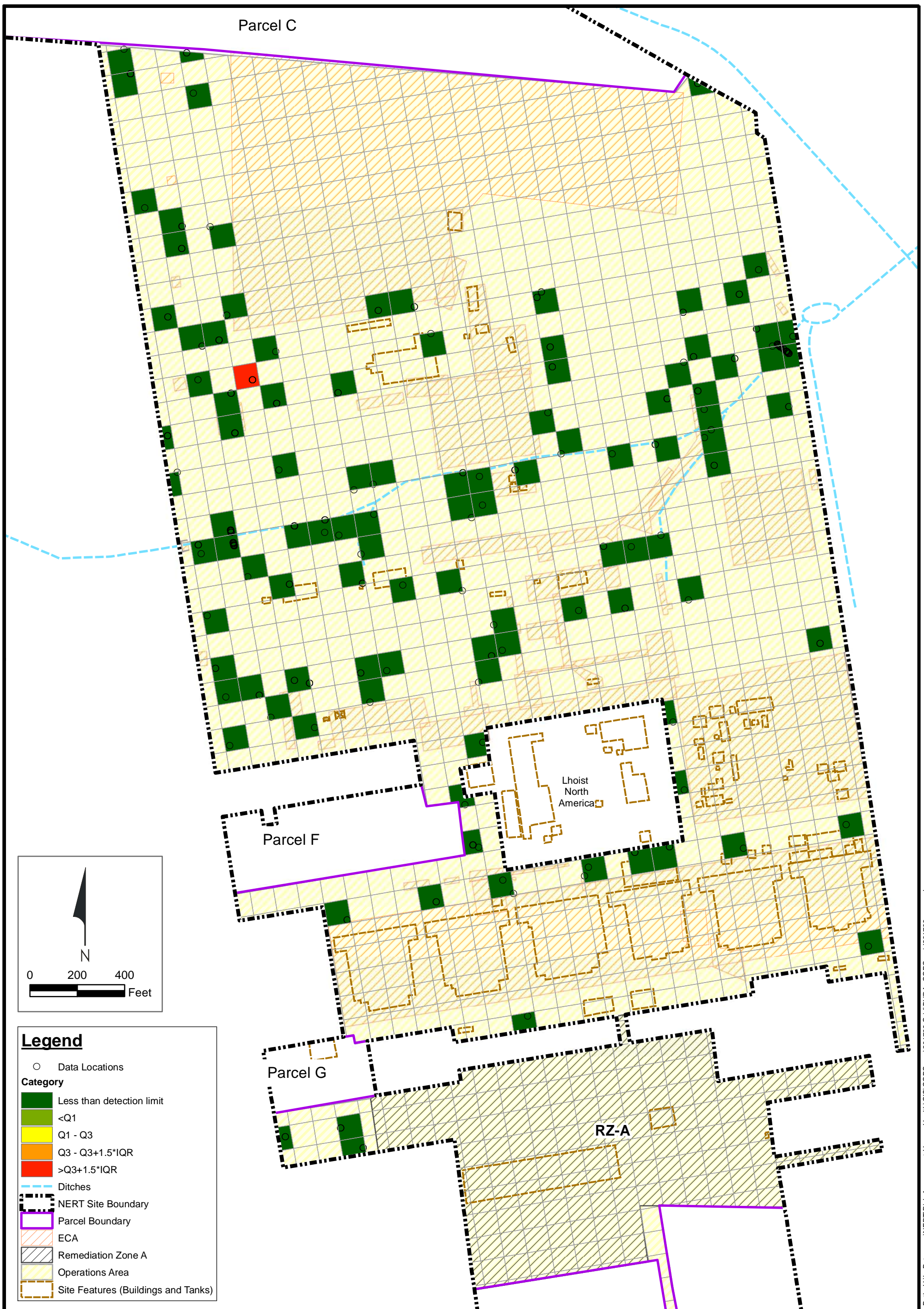
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Legend

- Data Locations
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- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Titanium (mg/kg)**
 [Q1 = 611, Q3 = 859, Q3+1.5*IQR = 1230]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-37



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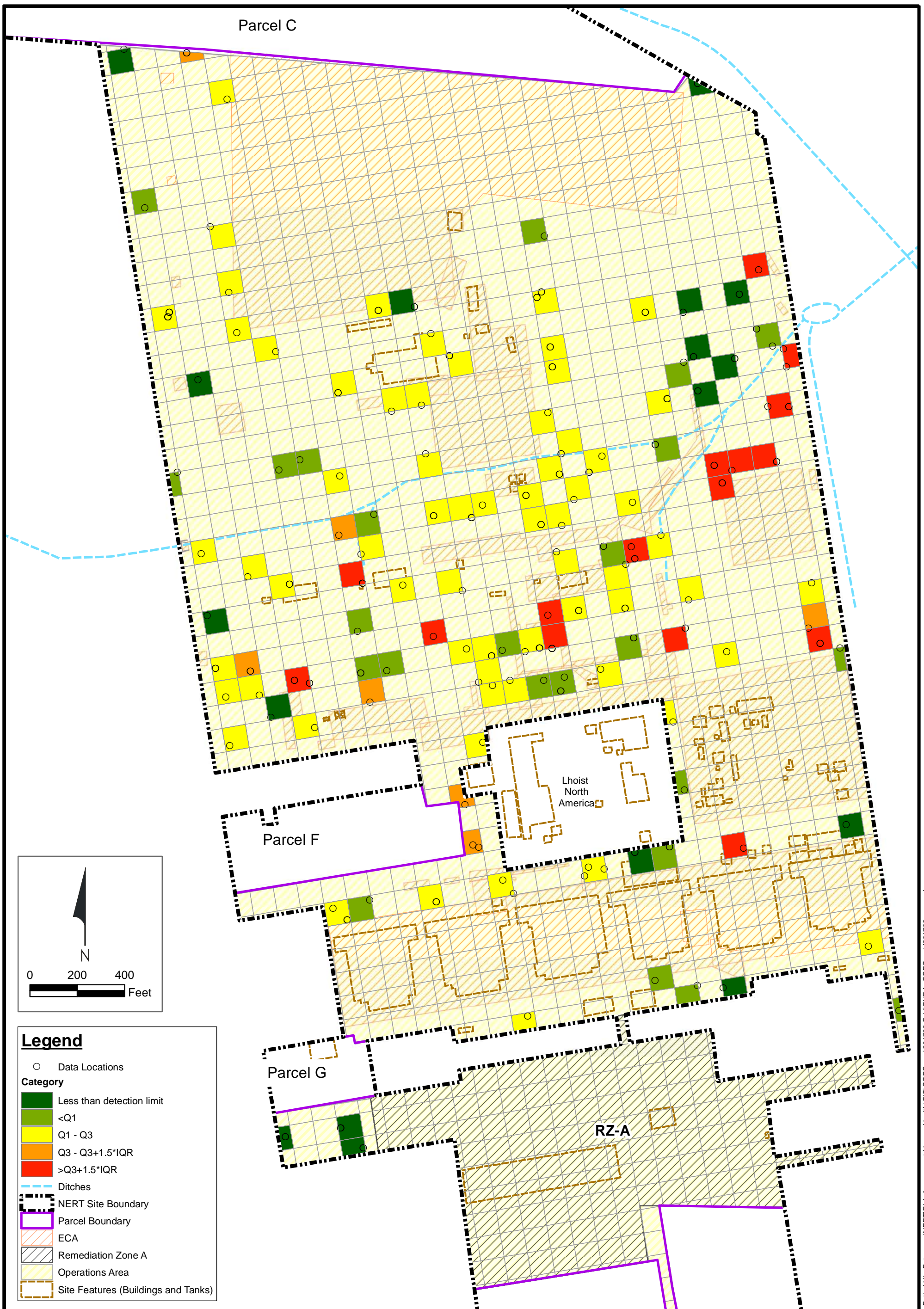
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- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)



**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Toxaphene (mg/kg)**
 [Q1 = 0.017, Q3 = 0.056, Q3+1.5*IQR = 0.114]
 Nevada Environmental Response Trust Site, Henderson, Nevada

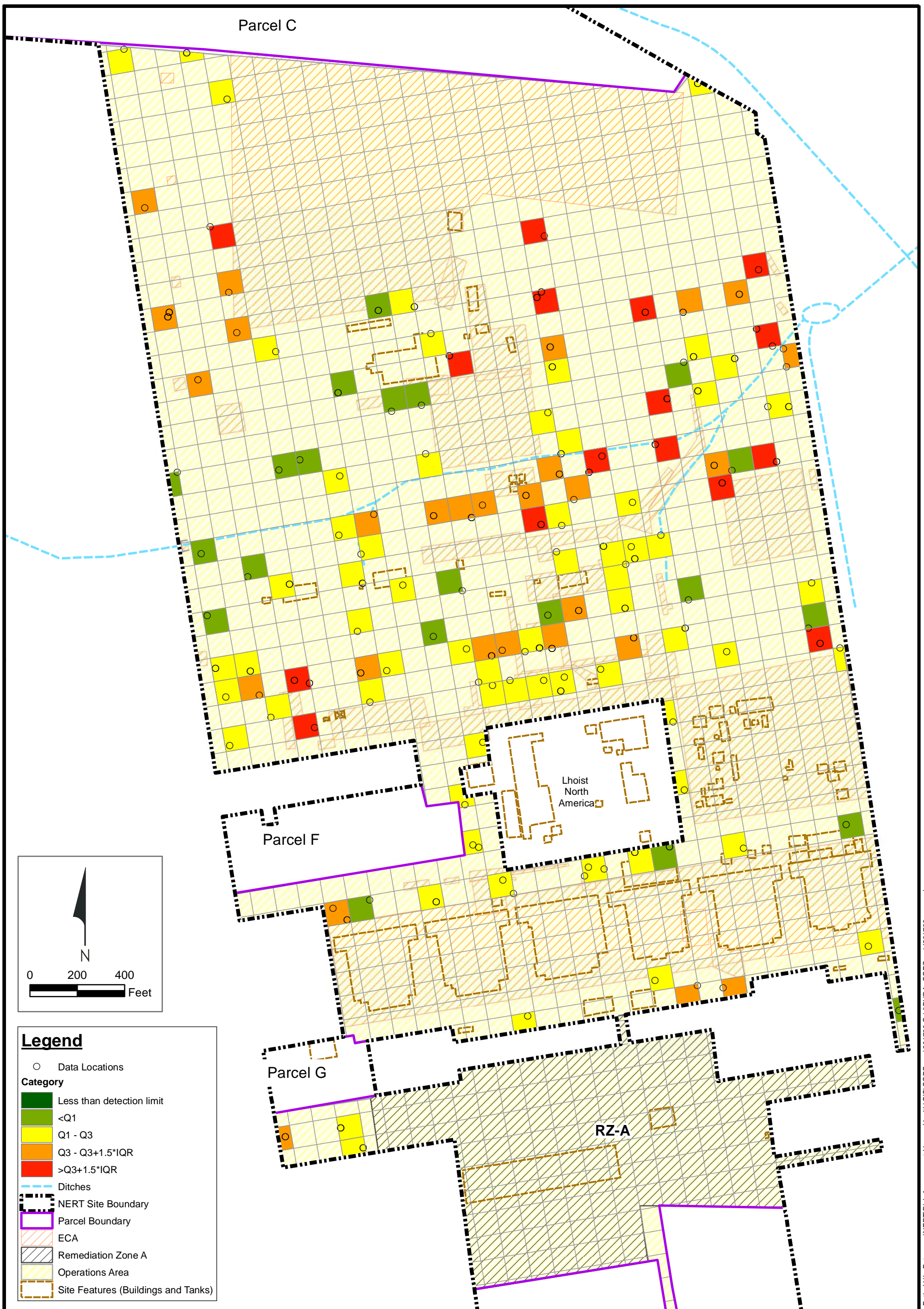
Figure
G-38

Drafter: YZ Date: 9/28/2017 Contract Number: 21-38800C Approved by: Revised:



**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Tungsten (mg/kg)**
 [Q1 = 0.17, Q3 = 0.38, Q3+1.5*IQR = 0.695]
 Nevada Environmental Response Trust Site, Henderson, Nevada

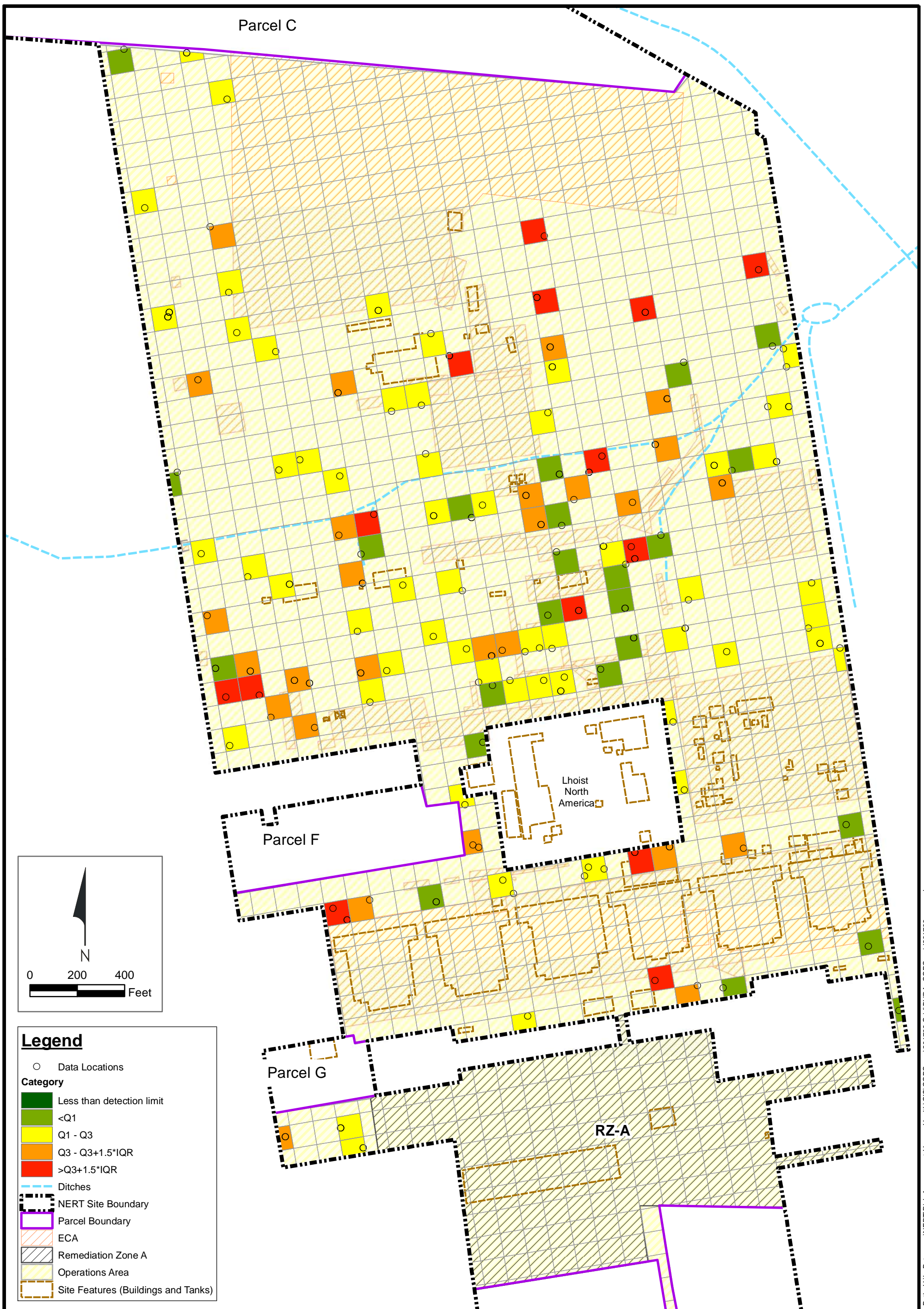
Figure
G-39



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Legend

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- Q3 - Q3+1.5*IQR
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- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)



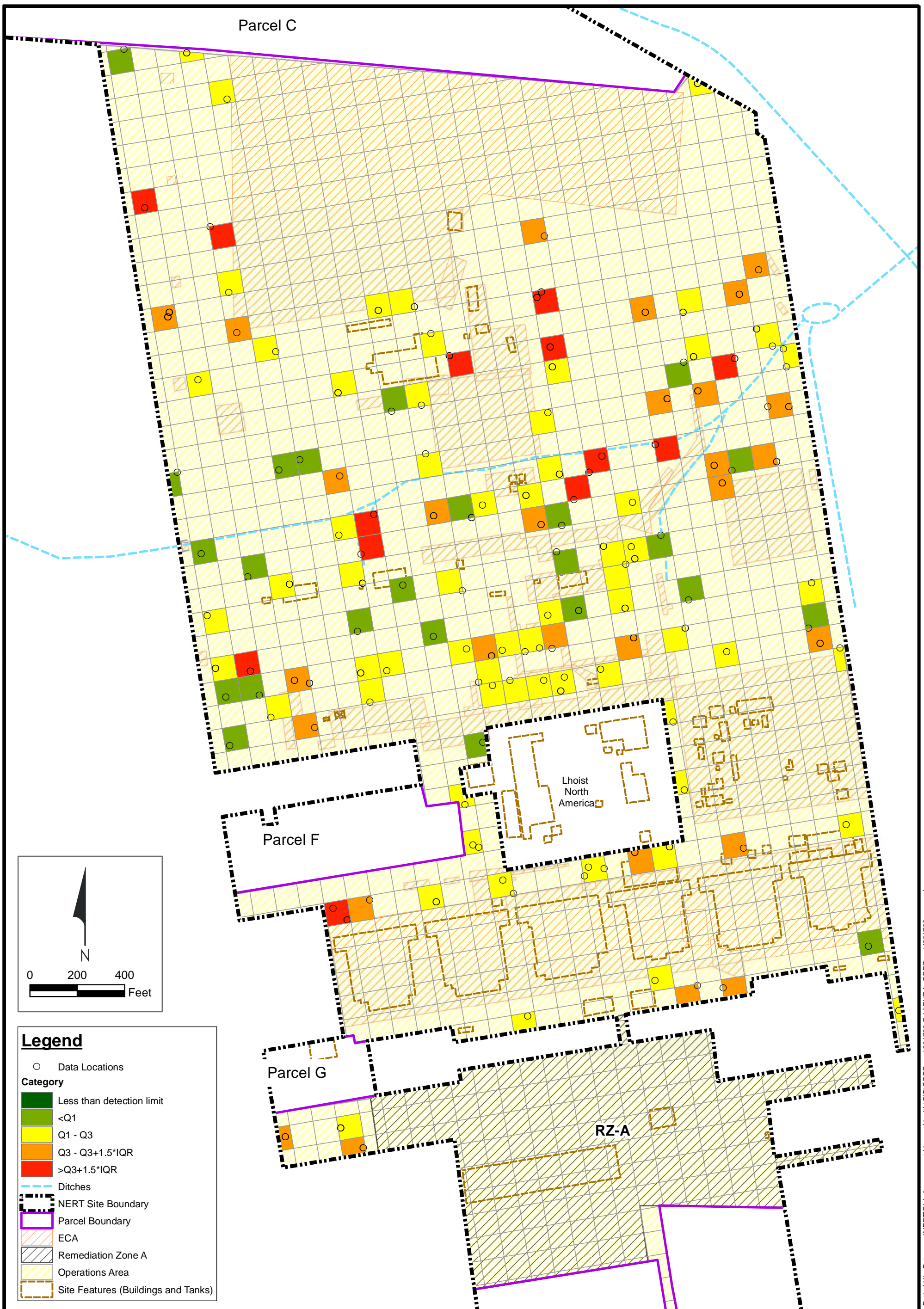
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- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Uranium-235 (pCi/g)**
 [Q1 = 0.039, Q3 = 0.0762, Q3+1.5*IQR = 0.132]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-41



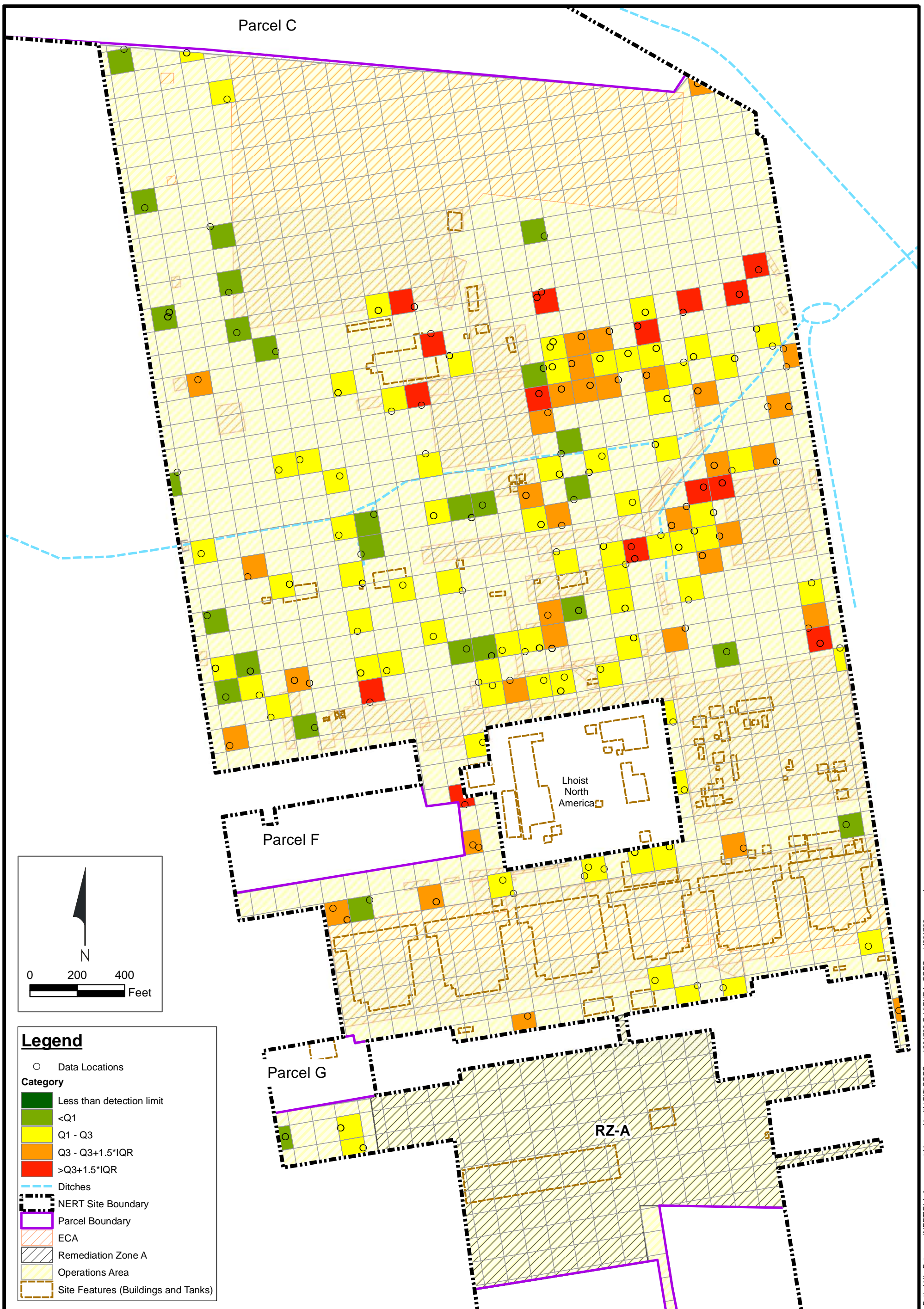
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Legend

- Data Locations
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- Q1 - Q3
- Q3 - Q3+1.5*IQR
- >Q3+1.5*IQR
- Ditches
- NERT Site Boundary
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- Remediation Zone A
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- Site Features (Buildings and Tanks)

**Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Uranium-238 (pCi/g)**
 [Q1 = 0.867, Q3 = 1.12, Q3+1.5*IQR = 1.5]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-42



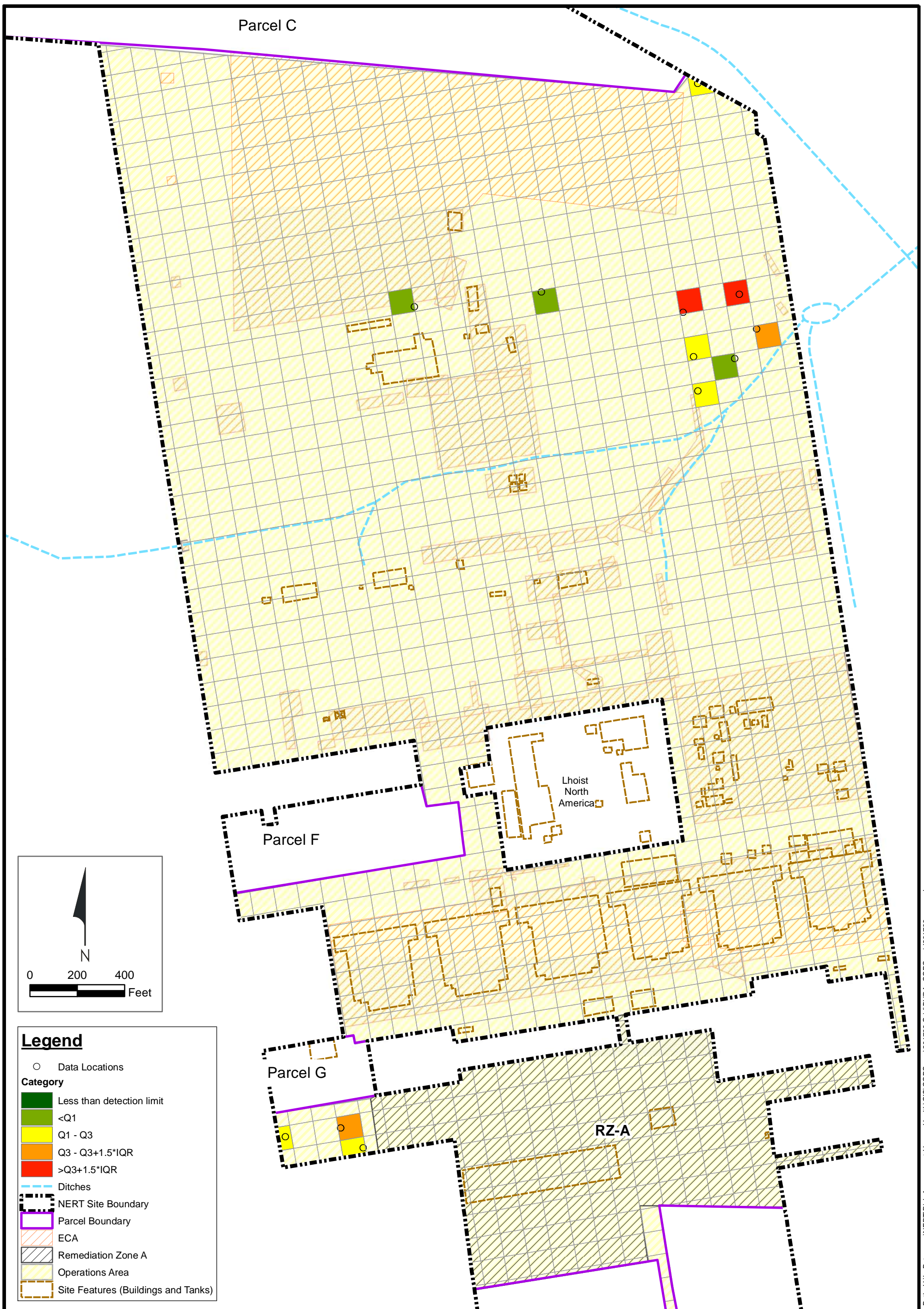
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Legend

- Data Locations
- Category**
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- Q1 - Q3
- Q3 - Q3+1.5*IQR
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- Ditches
- NERT Site Boundary
- Parcel Boundary
- ECA
- Remediation Zone A
- Operations Area
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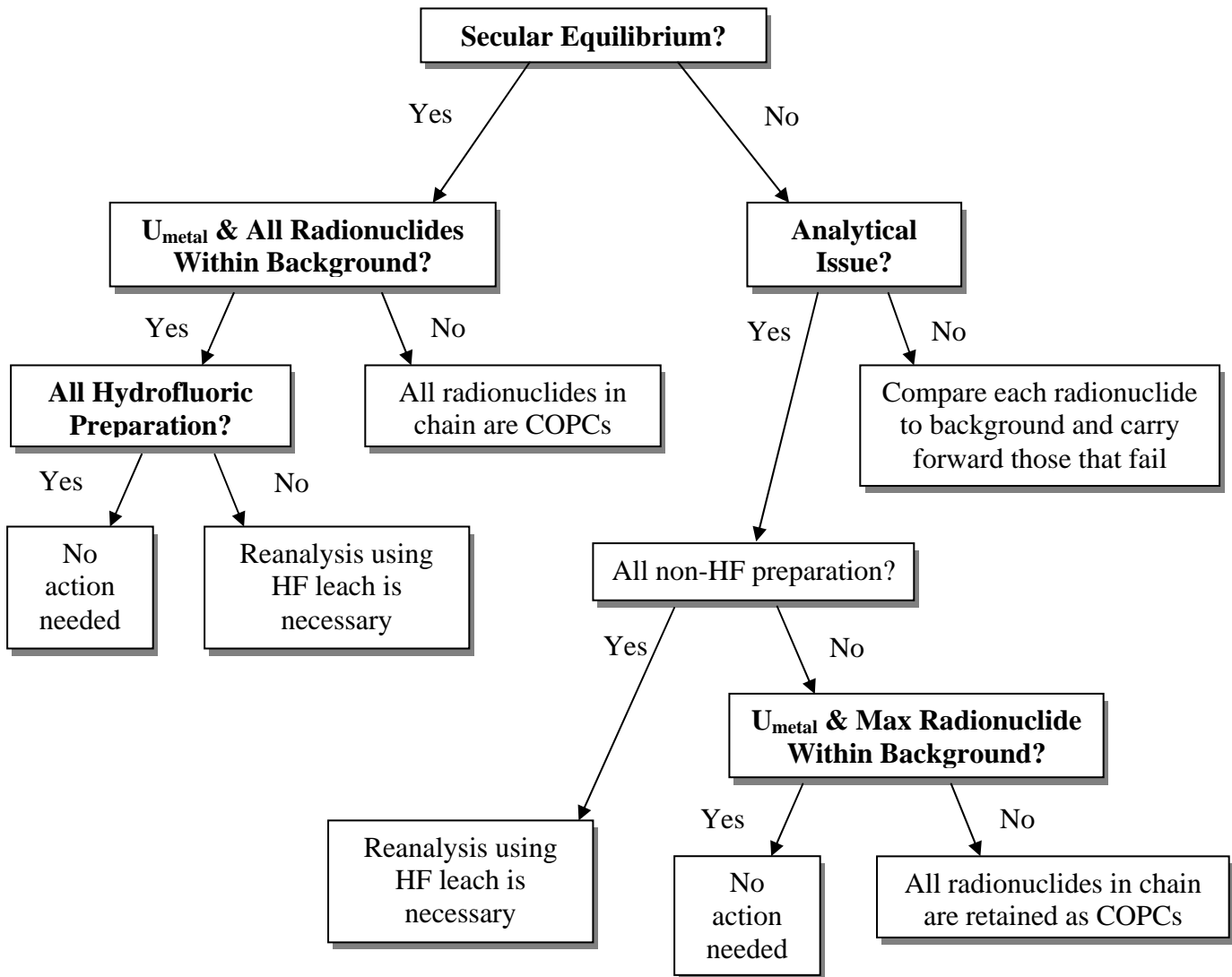
Spatial Quartile Plot for Study Area Soils (0-10 ft bgs):
Zinc (mg/kg)
 [Q1 = 29.5, Q3 = 37, Q3+1.5*IQR = 48.3]
 Nevada Environmental Response Trust Site, Henderson, Nevada

Figure
G-43



Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX H
NDEP FLOWCHART FOR RADIONUCLIDE
DATA USABILITY



COPCs indicates “chemicals of potential concern”.
 U_{metal} denotes metallic uranium.

Figure 1. Flowchart describing the decision framework for radionuclide historical dataset usability for Sites within the BMI Complex and Common Areas, Henderson, NV.

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX I
PROUCL OUTPUT FILES

UCL Statistics for Uncensored Full Data Sets

User Selected Options
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 From File Input.xls
 Full Precision OFF
 Confidence Coefficient 95%
 Number of Bootstrap Operations 10000

final_numeric (brc/timet_radium-226)

General Statistics

Total Number of Observations	104	Number of Distinct Observations	82
		Number of Missing Observations	0
Minimum	0.494	Mean	1.112
Maximum	2.36	Median	1.065
SD	0.347	Std. Error of Mean	0.0341
Coefficient of Variation	0.312	Skewness	0.987

Normal GOF Test

Shapiro Wilk Test Statistic	0.938	Shapiro Wilk GOF Test
5% Shapiro Wilk P Value	1.0574E-4	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.111	Lilliefors GOF Test
5% Lilliefors Critical Value	0.0872	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	1.169	95% Adjusted-CLT UCL (Chen-1995)	1.172
		95% Modified-t UCL (Johnson-1978)	1.169

Gamma GOF Test

A-D Test Statistic	0.643	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.752	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.071	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.0884	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	11.02	k star (bias corrected MLE)	10.71
Theta hat (MLE)	0.101	Theta star (bias corrected MLE)	0.104
nu hat (MLE)	2292	nu star (bias corrected)	2227
MLE Mean (bias corrected)	1.112	MLE Sd (bias corrected)	0.34
		Approximate Chi Square Value (0.05)	2118
Adjusted Level of Significance	0.0477	Adjusted Chi Square Value	2117

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	1.169	95% Adjusted Gamma UCL (use when n<50)	1.17
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.979	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk P Value	0.468	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0658	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.0872	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.705	Mean of logged Data	0.0603
Maximum of Logged Data	0.859	SD of logged Data	0.305

Assuming Lognormal Distribution

95% H-UCL	1.173	90% Chebyshev (MVUE) UCL	1.214
95% Chebyshev (MVUE) UCL	1.261	97.5% Chebyshev (MVUE) UCL	1.325
99% Chebyshev (MVUE) UCL	1.451		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.168	95% Jackknife UCL	1.169
95% Standard Bootstrap UCL	1.167	95% Bootstrap-t UCL	1.174

95% Hall's Bootstrap UCL	1.173	95% Percentile Bootstrap UCL	1.168
95% BCA Bootstrap UCL	1.172		
90% Chebyshev(Mean, Sd) UCL	1.214	95% Chebyshev(Mean, Sd) UCL	1.261
97.5% Chebyshev(Mean, Sd) UCL	1.325	99% Chebyshev(Mean, Sd) UCL	1.451

Suggested UCL to Use

95% Approximate Gamma UCL 1.169

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.

final_numeric (brc/timet_radium-228)

General Statistics			
Total Number of Observations	84	Number of Distinct Observations	66
		Number of Missing Observations	0
Minimum	0.946	Mean	1.916
Maximum	2.94	Median	1.96
SD	0.405	Std. Error of Mean	0.0441
Coefficient of Variation	0.211	Skewness	0.0338

Normal GOF Test		Shapiro Wilk GOF Test	
Shapiro Wilk Test Statistic	0.982	Data appear Normal at 5% Significance Level	
5% Shapiro Wilk P Value	0.677	Lilliefors GOF Test	
Lilliefors Test Statistic	0.0658	Data appear Normal at 5% Significance Level	
5% Lilliefors Critical Value	0.0968		

Data appear Normal at 5% Significance Level

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.989	95% Adjusted-CLT UCL (Chen-1995)	1.988
		95% Modified-t UCL (Johnson-1978)	1.989

Gamma GOF Test		Anderson-Darling Gamma GOF Test	
A-D Test Statistic	0.652	Detected data appear Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.75	Kolmogorov-Smirnov Gamma GOF Test	
K-S Test Statistic	0.0947	Detected data appear Gamma Distributed at 5% Significance Level	
5% K-S Critical Value	0.0972		

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics			
k hat (MLE)	21.49	k star (bias corrected MLE)	20.73
Theta hat (MLE)	0.0892	Theta star (bias corrected MLE)	0.0924
nu hat (MLE)	3610	nu star (bias corrected)	3482
MLE Mean (bias corrected)	1.916	MLE Sd (bias corrected)	0.421
Adjusted Level of Significance	0.0471	Approximate Chi Square Value (0.05)	3346
		Adjusted Chi Square Value	3344

Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.994	95% Adjusted Gamma UCL (use when n<50)	1.995

Lognormal GOF Test		Shapiro Wilk Lognormal GOF Test	
Shapiro Wilk Test Statistic	0.966	Data appear Lognormal at 5% Significance Level	
5% Shapiro Wilk P Value	0.11	Lilliefors Lognormal GOF Test	
Lilliefors Test Statistic	0.108	Data Not Lognormal at 5% Significance Level	
5% Lilliefors Critical Value	0.0968		

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics			
Minimum of Logged Data	-0.0555	Mean of logged Data	0.627
Maximum of Logged Data	1.078	SD of logged Data	0.222

Assuming Lognormal Distribution			
95% H-UCL	2	90% Chebyshev (MVUE) UCL	2.059
95% Chebyshev (MVUE) UCL	2.123	97.5% Chebyshev (MVUE) UCL	2.212
99% Chebyshev (MVUE) UCL	2.386		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.988	95% Jackknife UCL	1.989
95% Standard Bootstrap UCL	1.988	95% Bootstrap-t UCL	1.988
95% Hall's Bootstrap UCL	1.989	95% Percentile Bootstrap UCL	1.988
95% BCA Bootstrap UCL	1.989		
90% Chebyshev(Mean, Sd) UCL	2.048	95% Chebyshev(Mean, Sd) UCL	2.108
97.5% Chebyshev(Mean, Sd) UCL	2.191	99% Chebyshev(Mean, Sd) UCL	2.355

Suggested UCL to Use

95% Student's-t UCL 1.989

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.

final_numeric (brc/timet_thorium-228)

General Statistics

Total Number of Observations	120	Number of Distinct Observations	76
		Number of Missing Observations	0
Minimum	1.07	Mean	1.687
Maximum	2.28	Median	1.705
SD	0.278	Std. Error of Mean	0.0253
Coefficient of Variation	0.165	Skewness	-0.136

Normal GOF Test

Shapiro Wilk Test Statistic	0.96
5% Shapiro Wilk P Value	0.0107
Lilliefors Test Statistic	0.0762
5% Lilliefors Critical Value	0.0812

Shapiro Wilk GOF Test

Data Not Normal at 5% Significance Level

Lilliefors GOF Test

Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL

95% Student's-t UCL 1.729

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	1.728
95% Modified-t UCL (Johnson-1978)	1.729

Gamma GOF Test

A-D Test Statistic	1.132
5% A-D Critical Value	0.75
K-S Test Statistic	0.0899
5% K-S Critical Value	0.0841

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	35.8	k star (bias corrected MLE)	34.91
Theta hat (MLE)	0.0471	Theta star (bias corrected MLE)	0.0483
nu hat (MLE)	8591	nu star (bias corrected)	8378
MLE Mean (bias corrected)	1.687	MLE Sd (bias corrected)	0.285
		Approximate Chi Square Value (0.05)	8166
Adjusted Level of Significance	0.048	Adjusted Chi Square Value	8164

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1.73	95% Adjusted Gamma UCL (use when n<50)	1.731
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.951
5% Shapiro Wilk P Value	9.1661E-4
Lilliefors Test Statistic	0.0966
5% Lilliefors Critical Value	0.0812

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 5% Significance Level

Lilliefors Lognormal GOF Test

Data Not Lognormal at 5% Significance Level

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.0677	Mean of logged Data	0.509
Maximum of Logged Data	0.824	SD of logged Data	0.17

Assuming Lognormal Distribution

95% H-UCL	1.733	90% Chebyshev (MVUE) UCL	1.767
95% Chebyshev (MVUE) UCL	1.802	97.5% Chebyshev (MVUE) UCL	1.852

99% Chebyshev (MVUE) UCL 1.95

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.728	95% Jackknife UCL	1.729
95% Standard Bootstrap UCL	1.728	95% Bootstrap-t UCL	1.728
95% Hall's Bootstrap UCL	1.728	95% Percentile Bootstrap UCL	1.728
95% BCA Bootstrap UCL	1.728		
90% Chebyshev(Mean, Sd) UCL	1.763	95% Chebyshev(Mean, Sd) UCL	1.797
97.5% Chebyshev(Mean, Sd) UCL	1.845	99% Chebyshev(Mean, Sd) UCL	1.939

Suggested UCL to Use

95% Student's-t UCL 1.729

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.

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 positively skewed data sets.

final_numeric (brc/timet_thorium-230)

General Statistics

Total Number of Observations	120	Number of Distinct Observations	82
		Number of Missing Observations	0
Minimum	0.66	Mean	1.246
Maximum	3.01	Median	1.19
SD	0.383	Std. Error of Mean	0.0349
Coefficient of Variation	0.307	Skewness	1.606

Normal GOF Test

Shapiro Wilk Test Statistic	0.89
5% Shapiro Wilk P Value	1.103E-12
Lilliefors Test Statistic	0.131
5% Lilliefors Critical Value	0.0812

Shapiro Wilk GOF Test

Data Not Normal at 5% Significance Level

Lilliefors GOF Test

Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL

95% Student's-t UCL 1.304

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	1.309
95% Modified-t UCL (Johnson-1978)	1.305

Gamma GOF Test

A-D Test Statistic	1.051
5% A-D Critical Value	0.751
K-S Test Statistic	0.0944
5% K-S Critical Value	0.0842

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	12.57	k star (bias corrected MLE)	12.27
Theta hat (MLE)	0.0991	Theta star (bias corrected MLE)	0.102
nu hat (MLE)	3018	nu star (bias corrected)	2944
MLE Mean (bias corrected)	1.246	MLE Sd (bias corrected)	0.356
		Approximate Chi Square Value (0.05)	2819
Adjusted Level of Significance	0.048	Adjusted Chi Square Value	2817

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1.301	95% Adjusted Gamma UCL (use when n<50)	1.302
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.974
5% Shapiro Wilk P Value	0.207
Lilliefors Test Statistic	0.0743

Shapiro Wilk Lognormal GOF Test

Data appear Lognormal at 5% Significance Level

Lilliefors Lognormal GOF Test

5% Lilliefors Critical Value 0.0812 Data appear Lognormal at 5% Significance Level
Data appear Lognormal at 5% Significance Level

Lognormal Statistics
 Minimum of Logged Data -0.416 Mean of logged Data 0.18
 Maximum of Logged Data 1.102 SD of logged Data 0.278

Assuming Lognormal Distribution
 95% H-UCL 1.3 90% Chebyshev (MVUE) UCL 1.34
 95% Chebyshev (MVUE) UCL 1.383 97.5% Chebyshev (MVUE) UCL 1.444
 99% Chebyshev (MVUE) UCL 1.563

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	1.304	95% Jackknife UCL	1.304
95% Standard Bootstrap UCL	1.303	95% Bootstrap-t UCL	1.311
95% Hall's Bootstrap UCL	1.311	95% Percentile Bootstrap UCL	1.306
95% BCA Bootstrap UCL	1.307		
90% Chebyshev(Mean, Sd) UCL	1.351	95% Chebyshev(Mean, Sd) UCL	1.398
97.5% Chebyshev(Mean, Sd) UCL	1.464	99% Chebyshev(Mean, Sd) UCL	1.594

Suggested UCL to Use
 95% Student's-t UCL 1.304 or 95% Modified-t UCL 1.305
 or 95% H-UCL 1.3

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.

final_numeric (brc/timet_thorium-232)

General Statistics

Total Number of Observations	120	Number of Distinct Observations	73
		Number of Missing Observations	0
Minimum	1.05	Mean	1.614
Maximum	2.23	Median	1.57
SD	0.266	Std. Error of Mean	0.0243
Coefficient of Variation	0.165	Skewness	0.178

Normal GOF Test

Shapiro Wilk Test Statistic	0.961	Shapiro Wilk GOF Test
5% Shapiro Wilk P Value	0.0129	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.0827	Lilliefors GOF Test
5% Lilliefors Critical Value	0.0812	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	1.654	95% Adjusted-CLT UCL (Chen-1995)	1.655
		95% Modified-t UCL (Johnson-1978)	1.655

Gamma GOF Test

A-D Test Statistic	0.773	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.75	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0752	Kolmogorov-Smimov Gamma GOF Test
5% K-S Critical Value	0.0841	Detected data appear Gamma Distributed at 5% Significance Level

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

Gamma Statistics

k hat (MLE)	37.02	k star (bias corrected MLE)	36.1
Theta hat (MLE)	0.0436	Theta star (bias corrected MLE)	0.0447
nu hat (MLE)	8885	nu star (bias corrected)	8664
MLE Mean (bias corrected)	1.614	MLE Sd (bias corrected)	0.269

Adjusted Level of Significance	0.048	Approximate Chi Square Value (0.05)	8449
		Adjusted Chi Square Value	8446

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	1.655	95% Adjusted Gamma UCL (use when n<50)	1.656
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.965
5% Shapiro Wilk P Value	0.0349
Lilliefors Test Statistic	0.0794
5% Lilliefors Critical Value	0.0812

Shapiro Wilk Lognormal GOF Test

Data Not Lognormal at 5% Significance Level

Lilliefors Lognormal GOF Test

Data appear Lognormal at 5% Significance Level

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.0488	Mean of logged Data	0.465
Maximum of Logged Data	0.802	SD of logged Data	0.166

Assuming Lognormal Distribution

95% H-UCL	1.657	90% Chebyshev (MVUE) UCL	1.688
95% Chebyshev (MVUE) UCL	1.722	97.5% Chebyshev (MVUE) UCL	1.768
99% Chebyshev (MVUE) UCL	1.859		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.654	95% Jackknife UCL	1.654
95% Standard Bootstrap UCL	1.654	95% Bootstrap-t UCL	1.655
95% Hall's Bootstrap UCL	1.655	95% Percentile Bootstrap UCL	1.654
95% BCA Bootstrap UCL	1.653		
90% Chebyshev(Mean, Sd) UCL	1.687	95% Chebyshev(Mean, Sd) UCL	1.72
97.5% Chebyshev(Mean, Sd) UCL	1.766	99% Chebyshev(Mean, Sd) UCL	1.856

Suggested UCL to Use

95% Approximate Gamma UCL 1.655

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.

final_numeric (brc/timet_uranium-234)

General Statistics

Total Number of Observations	120	Number of Distinct Observations	74
		Number of Missing Observations	0
Minimum	0.47	Mean	1.109
Maximum	2.84	Median	0.99
SD	0.457	Std. Error of Mean	0.0417
Coefficient of Variation	0.412	Skewness	1.792

Normal GOF Test

Shapiro Wilk Test Statistic	0.819
5% Shapiro Wilk P Value	0
Lilliefors Test Statistic	0.195
5% Lilliefors Critical Value	0.0812

Shapiro Wilk GOF Test

Data Not Normal at 5% Significance Level

Lilliefors GOF Test

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	1.178	95% Adjusted-CLT UCL (Chen-1995)	1.185
		95% Modified-t UCL (Johnson-1978)	1.179

Gamma GOF Test

A-D Test Statistic	3.149
5% A-D Critical Value	0.753
K-S Test Statistic	0.14
5% K-S Critical Value	0.0843

Anderson-Darling Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics			
k hat (MLE)	7.606	k star (bias corrected MLE)	7.422
Theta hat (MLE)	0.146	Theta star (bias corrected MLE)	0.149
nu hat (MLE)	1825	nu star (bias corrected)	1781
MLE Mean (bias corrected)	1.109	MLE Sd (bias corrected)	0.407
		Approximate Chi Square Value (0.05)	1684
Adjusted Level of Significance	0.048	Adjusted Chi Square Value	1683
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.173	95% Adjusted Gamma UCL (use when n<50)	1.174

Lognormal GOF Test		Shapiro Wilk Lognormal GOF Test	
Shapiro Wilk Test Statistic	0.947	Data Not Lognormal at 5% Significance Level	
5% Shapiro Wilk P Value	2.4870E-4	Lilliefors Lognormal GOF Test	
Lilliefors Test Statistic	0.115	Data Not Lognormal at 5% Significance Level	
5% Lilliefors Critical Value	0.0812		

Data Not Lognormal at 5% Significance Level

Lognormal Statistics			
Minimum of Logged Data	-0.755	Mean of logged Data	0.0362
Maximum of Logged Data	1.044	SD of logged Data	0.353
Assuming Lognormal Distribution			
95% H-UCL	1.168	90% Chebyshev (MVUE) UCL	1.212
95% Chebyshev (MVUE) UCL	1.262	97.5% Chebyshev (MVUE) UCL	1.331
99% Chebyshev (MVUE) UCL	1.466		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs			
95% CLT UCL	1.178	95% Jackknife UCL	1.178
95% Standard Bootstrap UCL	1.177	95% Bootstrap-t UCL	1.187
95% Hall's Bootstrap UCL	1.188	95% Percentile Bootstrap UCL	1.179
95% BCA Bootstrap UCL	1.186		
90% Chebyshev(Mean, Sd) UCL	1.234	95% Chebyshev(Mean, Sd) UCL	1.291
97.5% Chebyshev(Mean, Sd) UCL	1.37	99% Chebyshev(Mean, Sd) UCL	1.524

Suggested UCL to Use			
95% Student's-t UCL	1.178	or 95% Modified-t UCL	1.179

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.

final_numeric (brc/timet_uranium-235)

General Statistics			
Total Number of Observations	120	Number of Distinct Observations	76
		Number of Missing Observations	0
Minimum	0	Mean	0.0659
Maximum	0.21	Median	0.059
SD	0.0382	Std. Error of Mean	0.00349
Coefficient of Variation	0.579	Skewness	0.82
Normal GOF Test			
Shapiro Wilk Test Statistic	0.953	Shapiro Wilk GOF Test	
5% Shapiro Wilk P Value	0.00163	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.109	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.0812	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Normal UCL		95% Adjusted-CLT UCL (Chen-1995)	0.0719
95% Student's-t UCL	0.0717	95% Modified-t UCL (Johnson-1978)	0.0717

Gamma Statistics Not Available
Lognormal Statistics Not Available

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs			
95% CLT UCL	0.0716	95% Jackknife UCL	0.0717
95% Standard Bootstrap UCL	0.0717	95% Bootstrap-t UCL	0.072
95% Hall's Bootstrap UCL	0.0719	95% Percentile Bootstrap UCL	0.0716
95% BCA Bootstrap UCL	0.0719		
90% Chebyshev(Mean, Sd) UCL	0.0764	95% Chebyshev(Mean, Sd) UCL	0.0811
97.5% Chebyshev(Mean, Sd) UCL	0.0877	99% Chebyshev(Mean, Sd) UCL	0.101
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	0.0811		

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.

final_numeric (brc/timet_uranium-238)

General Statistics			
Total Number of Observations	120	Number of Distinct Observations	75
		Number of Missing Observations	0
Minimum	0.45	Mean	1.085
Maximum	2.37	Median	1.015
SD	0.373	Std. Error of Mean	0.0341
Coefficient of Variation	0.344	Skewness	1.298

Normal GOF Test		Shapiro Wilk GOF Test	
Shapiro Wilk Test Statistic	0.895	Data Not Normal at 5% Significance Level	
5% Shapiro Wilk P Value	5.103E-12	Lilliefors GOF Test	
Lilliefors Test Statistic	0.151	Data Not Normal at 5% Significance Level	
5% Lilliefors Critical Value	0.0812		

Data Not Normal at 5% Significance Level

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.141	95% Adjusted-CLT UCL (Chen-1995)	1.145
		95% Modified-t UCL (Johnson-1978)	1.142

Gamma GOF Test		Anderson-Darling Gamma GOF Test	
A-D Test Statistic	1.449	Data Not Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.752	Kolmogorov-Smirnov Gamma GOF Test	
K-S Test Statistic	0.106	Data Not Gamma Distributed at 5% Significance Level	
5% K-S Critical Value	0.0842		

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics			
k hat (MLE)	9.691	k star (bias corrected MLE)	9.454
Theta hat (MLE)	0.112	Theta star (bias corrected MLE)	0.115
nu hat (MLE)	2326	nu star (bias corrected)	2269
MLE Mean (bias corrected)	1.085	MLE Sd (bias corrected)	0.353
Adjusted Level of Significance	0.048	Approximate Chi Square Value (0.05)	2159
		Adjusted Chi Square Value	2158

Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.14	95% Adjusted Gamma UCL (use when n<50)	1.14

Lognormal GOF Test		Shapiro Wilk Lognormal GOF Test	
Shapiro Wilk Test Statistic	0.973	Data appear Lognormal at 5% Significance Level	
5% Shapiro Wilk P Value	0.158	Lilliefors Lognormal GOF Test	
Lilliefors Test Statistic	0.0861	Data Not Lognormal at 5% Significance Level	
5% Lilliefors Critical Value	0.0812		

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics			
Minimum of Logged Data	-0.799	Mean of logged Data	0.0286
Maximum of Logged Data	0.863	SD of logged Data	0.321

Assuming Lognormal Distribution			
95% H-UCL	1.14	90% Chebyshev (MVUE) UCL	1.18
95% Chebyshev (MVUE) UCL	1.224	97.5% Chebyshev (MVUE) UCL	1.286
99% Chebyshev (MVUE) UCL	1.406		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs			
95% CLT UCL	1.141	95% Jackknife UCL	1.141
95% Standard Bootstrap UCL	1.141	95% Bootstrap-t UCL	1.146
95% Hall's Bootstrap UCL	1.146	95% Percentile Bootstrap UCL	1.141
95% BCA Bootstrap UCL	1.144		
90% Chebyshev(Mean, Sd) UCL	1.187	95% Chebyshev(Mean, Sd) UCL	1.233
97.5% Chebyshev(Mean, Sd) UCL	1.297	99% Chebyshev(Mean, Sd) UCL	1.424

Suggested UCL to Use			
95% Student's-t UCL	1.141	or 95% Modified-t UCL	1.142
or 95% H-UCL	1.14		

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.

final_numeric (rz-a_radium-226)

General Statistics			
Total Number of Observations	31	Number of Distinct Observations	29
		Number of Missing Observations	0
Minimum	0.0472	Mean	0.952
Maximum	1.72	Median	0.891
SD	0.354	Std. Error of Mean	0.0636
Coefficient of Variation	0.372	Skewness	0.101
Normal GOF Test			
Shapiro Wilk Test Statistic	0.966	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.929	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.114	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.156	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.06	95% Adjusted-CLT UCL (Chen-1995)	1.058
		95% Modified-t UCL (Johnson-1978)	1.06

Gamma GOF Test			
A-D Test Statistic	1.162	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.748	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.179	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.158	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	4.548	k star (bias corrected MLE)	4.129
Theta hat (MLE)	0.209	Theta star (bias corrected MLE)	0.231
nu hat (MLE)	282	nu star (bias corrected)	256
MLE Mean (bias corrected)	0.952	MLE Sd (bias corrected)	0.469
		Approximate Chi Square Value (0.05)	220
Adjusted Level of Significance	0.0413	Adjusted Chi Square Value	218.1

Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.108	95% Adjusted Gamma UCL (use when n<50)	1.118

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.669	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.929	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.233	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.156	Data Not Lognormal at 5% Significance Level

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-3.053	Mean of logged Data	-0.163
Maximum of Logged Data	0.542	SD of logged Data	0.62

Assuming Lognormal Distribution

95% H-UCL	1.296	90% Chebyshev (MVUE) UCL	1.387
95% Chebyshev (MVUE) UCL	1.552	97.5% Chebyshev (MVUE) UCL	1.781
99% Chebyshev (MVUE) UCL	2.231		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.057	95% Jackknife UCL	1.06
95% Standard Bootstrap UCL	1.056	95% Bootstrap-t UCL	1.063
95% Hall's Bootstrap UCL	1.061	95% Percentile Bootstrap UCL	1.057
95% BCA Bootstrap UCL	1.06		
90% Chebyshev(Mean, Sd) UCL	1.143	95% Chebyshev(Mean, Sd) UCL	1.23
97.5% Chebyshev(Mean, Sd) UCL	1.35	99% Chebyshev(Mean, Sd) UCL	1.585

Suggested UCL to Use

95% Student's-t UCL 1.06

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.

final_numeric (rz-a_radium-228)

General Statistics

Total Number of Observations	31	Number of Distinct Observations	30
		Number of Missing Observations	0
Minimum	0.46	Mean	1.279
Maximum	2.46	Median	1.18
SD	0.542	Std. Error of Mean	0.0974
Coefficient of Variation	0.424	Skewness	0.51

Normal GOF Test

Shapiro Wilk Test Statistic	0.957	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.929	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.0888	Lilliefors GOF Test
5% Lilliefors Critical Value	0.156	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.445	95% Adjusted-CLT UCL (Chen-1995)	1.449
		95% Modified-t UCL (Johnson-1978)	1.446

Gamma GOF Test

A-D Test Statistic	0.13	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	0.0688	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.158	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	5.597	k star (bias corrected MLE)	5.076
Theta hat (MLE)	0.229	Theta star (bias corrected MLE)	0.252
nu hat (MLE)	347	nu star (bias corrected)	314.7
MLE Mean (bias corrected)	1.279	MLE Sd (bias corrected)	0.568
		Approximate Chi Square Value (0.05)	274.6
Adjusted Level of Significance	0.0413	Adjusted Chi Square Value	272.6

Assuming Gamma Distribution
 95% Approximate Gamma UCL (use when n>=50)) 1.466 95% Adjusted Gamma UCL (use when n<50) 1.477

Lognormal GOF Test
 Shapiro Wilk Test Statistic 0.974 **Shapiro Wilk Lognormal GOF Test**
 5% Shapiro Wilk Critical Value 0.929 Data appear Lognormal at 5% Significance Level
 Lilliefors Test Statistic 0.0712 **Lilliefors Lognormal GOF Test**
 5% Lilliefors Critical Value 0.156 Data appear Lognormal at 5% Significance Level
Data appear Lognormal at 5% Significance Level

Lognormal Statistics
 Minimum of Logged Data -0.777 Mean of logged Data 0.154
 Maximum of Logged Data 0.9 SD of logged Data 0.447

Assuming Lognormal Distribution
 95% H-UCL 1.504 90% Chebyshev (MVUE) UCL 1.606
 95% Chebyshev (MVUE) UCL 1.751 97.5% Chebyshev (MVUE) UCL 1.952
 99% Chebyshev (MVUE) UCL 2.348

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs
 95% CLT UCL 1.44 95% Jackknife UCL 1.445
 95% Standard Bootstrap UCL 1.438 95% Bootstrap-t UCL 1.453
 95% Hall's Bootstrap UCL 1.446 95% Percentile Bootstrap UCL 1.444
 95% BCA Bootstrap UCL 1.444
 90% Chebyshev(Mean, Sd) UCL 1.572 95% Chebyshev(Mean, Sd) UCL 1.704
 97.5% Chebyshev(Mean, Sd) UCL 1.888 99% Chebyshev(Mean, Sd) UCL 2.248

Suggested UCL to Use
 95% Student's-t UCL 1.445

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.

final_numeric (rz-a_thorium-228)

General Statistics
 Total Number of Observations 31 Number of Distinct Observations 30
 Number of Missing Observations 0
 Minimum 1.16 Mean 1.696
 Maximum 2.88 Median 1.69
 SD 0.361 Std. Error of Mean 0.0648
 Coefficient of Variation 0.213 Skewness 1.023

Normal GOF Test
 Shapiro Wilk Test Statistic 0.929 **Shapiro Wilk GOF Test**
 5% Shapiro Wilk Critical Value 0.929 Data Not Normal at 5% Significance Level
 Lilliefors Test Statistic 0.0999 **Lilliefors GOF Test**
 5% Lilliefors Critical Value 0.156 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 1.806 95% Adjusted-CLT UCL (Chen-1995) 1.816
 95% Modified-t UCL (Johnson-1978) 1.808

Gamma GOF Test
 A-D Test Statistic 0.324 **Anderson-Darling Gamma GOF Test**
 5% A-D Critical Value 0.745 Detected data appear Gamma Distributed at 5% Significance Level
 K-S Test Statistic 0.0823 **Kolmogorov-Smirnov Gamma GOF Test**
 5% K-S Critical Value 0.157 Detected data appear Gamma Distributed at 5% Significance Level
Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics
 k hat (MLE) 24.47 k star (bias corrected MLE) 22.12
 Theta hat (MLE) 0.0693 Theta star (bias corrected MLE) 0.0767
 nu hat (MLE) 1517 nu star (bias corrected) 1372

MLE Mean (bias corrected)	1.696	MLE Sd (bias corrected)	0.361
Adjusted Level of Significance	0.0413	Approximate Chi Square Value (0.05)	1287
		Adjusted Chi Square Value	1282

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1.809	95% Adjusted Gamma UCL (use when n<50)	1.815
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.968	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.929	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0781	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.156	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.148	Mean of logged Data	0.508
Maximum of Logged Data	1.058	SD of logged Data	0.204

Assuming Lognormal Distribution

95% H-UCL	1.811	90% Chebyshev (MVUE) UCL	1.884
95% Chebyshev (MVUE) UCL	1.969	97.5% Chebyshev (MVUE) UCL	2.087
99% Chebyshev (MVUE) UCL	2.319		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.803	95% Jackknife UCL	1.806
95% Standard Bootstrap UCL	1.801	95% Bootstrap-t UCL	1.821
95% Hall's Bootstrap UCL	1.836	95% Percentile Bootstrap UCL	1.802
95% BCA Bootstrap UCL	1.813		
90% Chebyshev(Mean, Sd) UCL	1.891	95% Chebyshev(Mean, Sd) UCL	1.979
97.5% Chebyshev(Mean, Sd) UCL	2.101	99% Chebyshev(Mean, Sd) UCL	2.341

Suggested UCL to Use

95% Student's-t UCL 1.806

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.

final_numeric (rz-a_thorium-230)

General Statistics

Total Number of Observations	31	Number of Distinct Observations	29
		Number of Missing Observations	0
Minimum	0.509	Mean	1.079
Maximum	1.71	Median	1.07
SD	0.283	Std. Error of Mean	0.0507
Coefficient of Variation	0.262	Skewness	0.392

Normal GOF Test

Shapiro Wilk Test Statistic	0.975	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.929	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.111	Lilliefors GOF Test
5% Lilliefors Critical Value	0.156	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.165	95% Adjusted-CLT UCL (Chen-1995)	1.166
		95% Modified-t UCL (Johnson-1978)	1.166

Gamma GOF Test

A-D Test Statistic	0.186	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.745	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0809	Kolmogorov-Smirnov Gamma GOF Test

5% K-S Critical Value 0.158 Detected data appear Gamma Distributed at 5% Significance Level
Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics			
k hat (MLE)	14.73	k star (bias corrected MLE)	13.32
Theta hat (MLE)	0.0733	Theta star (bias corrected MLE)	0.081
nu hat (MLE)	913.1	nu star (bias corrected)	826.1
MLE Mean (bias corrected)	1.079	MLE Sd (bias corrected)	0.296
		Approximate Chi Square Value (0.05)	760.4
Adjusted Level of Significance	0.0413	Adjusted Chi Square Value	756.9

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50) 1.172 95% Adjusted Gamma UCL (use when n<50) 1.178

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.977	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.929	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0776	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.156	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.675	Mean of logged Data	0.0418
Maximum of Logged Data	0.536	SD of logged Data	0.271

Assuming Lognormal Distribution

95% H-UCL	1.181	90% Chebyshev (MVUE) UCL	1.24
95% Chebyshev (MVUE) UCL	1.313	97.5% Chebyshev (MVUE) UCL	1.413
99% Chebyshev (MVUE) UCL	1.611		

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.163	95% Jackknife UCL	1.165
95% Standard Bootstrap UCL	1.161	95% Bootstrap-t UCL	1.171
95% Hall's Bootstrap UCL	1.171	95% Percentile Bootstrap UCL	1.161
95% BCA Bootstrap UCL	1.165		
90% Chebyshev(Mean, Sd) UCL	1.231	95% Chebyshev(Mean, Sd) UCL	1.3
97.5% Chebyshev(Mean, Sd) UCL	1.396	99% Chebyshev(Mean, Sd) UCL	1.584

Suggested UCL to Use

95% Student's-t UCL 1.165

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.

final_numeric (rz-a_thorium-232)

General Statistics			
Total Number of Observations	31	Number of Distinct Observations	28
		Number of Missing Observations	0
Minimum	1.02	Mean	1.503
Maximum	2.07	Median	1.51
SD	0.238	Std. Error of Mean	0.0428
Coefficient of Variation	0.159	Skewness	0.137

Normal GOF Test

Shapiro Wilk Test Statistic	0.99	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.929	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.059	Lilliefors GOF Test
5% Lilliefors Critical Value	0.156	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.576	95% Adjusted-CLT UCL (Chen-1995)	1.574
		95% Modified-t UCL (Johnson-1978)	1.576

Gamma GOF Test		Anderson-Darling Gamma GOF Test	
A-D Test Statistic	0.161	Detected data appear Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.744		
K-S Test Statistic	0.0797	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.157	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	40.43	k star (bias corrected MLE)	36.54
Theta hat (MLE)	0.0372	Theta star (bias corrected MLE)	0.0411
nu hat (MLE)	2507	nu star (bias corrected)	2265
MLE Mean (bias corrected)	1.503	MLE Sd (bias corrected)	0.249
		Approximate Chi Square Value (0.05)	2156
Adjusted Level of Significance	0.0413	Adjusted Chi Square Value	2150

Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.579	95% Adjusted Gamma UCL (use when n<50)	1.584

Lognormal GOF Test		Shapiro Wilk Lognormal GOF Test	
Shapiro Wilk Test Statistic	0.985	Data appear Lognormal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.929		
Lilliefors Test Statistic	0.09	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.156	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			

Lognormal Statistics			
Minimum of Logged Data	0.0198	Mean of logged Data	0.395
Maximum of Logged Data	0.728	SD of logged Data	0.161

Assuming Lognormal Distribution			
95% H-UCL	1.582	90% Chebyshev (MVUE) UCL	1.635
95% Chebyshev (MVUE) UCL	1.694	97.5% Chebyshev (MVUE) UCL	1.777
99% Chebyshev (MVUE) UCL	1.939		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs			
95% CLT UCL	1.573	95% Jackknife UCL	1.576
95% Standard Bootstrap UCL	1.572	95% Bootstrap-t UCL	1.576
95% Hall's Bootstrap UCL	1.576	95% Percentile Bootstrap UCL	1.572
95% BCA Bootstrap UCL	1.575		
90% Chebyshev(Mean, Sd) UCL	1.631	95% Chebyshev(Mean, Sd) UCL	1.689
97.5% Chebyshev(Mean, Sd) UCL	1.77	99% Chebyshev(Mean, Sd) UCL	1.929

Suggested UCL to Use
95% Student's-t UCL 1.576

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.

final_numeric (rz-a_uranium-234)

General Statistics			
Total Number of Observations	31	Number of Distinct Observations	27
		Number of Missing Observations	0
Minimum	0.391	Mean	1.062
Maximum	1.74	Median	1.02
SD	0.297	Std. Error of Mean	0.0534
Coefficient of Variation	0.28	Skewness	0.571

Normal GOF Test		Shapiro Wilk GOF Test	
Shapiro Wilk Test Statistic	0.942	Data appear Normal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.929		
Lilliefors Test Statistic	0.135	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.156	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.153	95% Adjusted-CLT UCL (Chen-1995)	1.156
		95% Modified-t UCL (Johnson-1978)	1.154

Gamma GOF Test

A-D Test Statistic	0.518
5% A-D Critical Value	0.746
K-S Test Statistic	0.102
5% K-S Critical Value	0.158

Anderson-Darling Gamma GOF Test
 Detected data appear Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	12.85
Theta hat (MLE)	0.0827
nu hat (MLE)	796.5
MLE Mean (bias corrected)	1.062
Adjusted Level of Significance	0.0413

k star (bias corrected MLE)	11.62
Theta star (bias corrected MLE)	0.0914
nu star (bias corrected)	720.7
MLE Sd (bias corrected)	0.312
Approximate Chi Square Value (0.05)	659.4
Adjusted Chi Square Value	656.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1.161	95% Adjusted Gamma UCL (use when n<50)	1.167
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.933
5% Shapiro Wilk Critical Value	0.929
Lilliefors Test Statistic	0.114
5% Lilliefors Critical Value	0.156

Shapiro Wilk Lognormal GOF Test
 Data appear Lognormal at 5% Significance Level

Lilliefors Lognormal GOF Test

Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.939
Maximum of Logged Data	0.554

Mean of logged Data	0.0212
SD of logged Data	0.293

Assuming Lognormal Distribution

95% H-UCL	1.174
95% Chebyshev (MVUE) UCL	1.313
99% Chebyshev (MVUE) UCL	1.632

90% Chebyshev (MVUE) UCL	1.236
97.5% Chebyshev (MVUE) UCL	1.421

Nonparametric Distribution Free UCL Statistics

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

Nonparametric Distribution Free UCLs

95% CLT UCL	1.15
95% Standard Bootstrap UCL	1.149
95% Hall's Bootstrap UCL	1.161
95% BCA Bootstrap UCL	1.154
90% Chebyshev(Mean, Sd) UCL	1.223
97.5% Chebyshev(Mean, Sd) UCL	1.396

95% Jackknife UCL	1.153
95% Bootstrap-t UCL	1.161
95% Percentile Bootstrap UCL	1.15
95% Chebyshev(Mean, Sd) UCL	1.295
99% Chebyshev(Mean, Sd) UCL	1.594

Suggested UCL to Use

95% Student's-t UCL	1.153
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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.

final_numeric (rz-a_uranium-235)

General Statistics

Total Number of Observations	31
Minimum	-0.0766
Maximum	0.203
SD	0.0442
Coefficient of Variation	0.862

Number of Distinct Observations	29
Number of Missing Observations	0
Mean	0.0513
Median	0.0486
Std. Error of Mean	0.00794
Skewness	0.549

Normal GOF Test

Shapiro Wilk Test Statistic	0.892
5% Shapiro Wilk Critical Value	0.929
Lilliefors Test Statistic	0.132

Shapiro Wilk GOF Test

Data Not Normal at 5% Significance Level

Lilliefors GOF Test

5% Lilliefors Critical Value 0.156 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	0.0648	95% Adjusted-CLT UCL (Chen-1995)	0.0652
		95% Modified-t UCL (Johnson-1978)	0.0649

Gamma Statistics Not Available
Lognormal Statistics Not Available

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0644	95% Jackknife UCL	0.0648
95% Standard Bootstrap UCL	0.0642	95% Bootstrap-t UCL	0.0658
95% Hall's Bootstrap UCL	0.0689	95% Percentile Bootstrap UCL	0.0643
95% BCA Bootstrap UCL	0.0648		
90% Chebyshev(Mean, Sd) UCL	0.0751	95% Chebyshev(Mean, Sd) UCL	0.0859
97.5% Chebyshev(Mean, Sd) UCL	0.101	99% Chebyshev(Mean, Sd) UCL	0.13

Suggested UCL to Use
95% Student's-t UCL 0.0648

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.

final_numeric (rz-a_uranium-238)

General Statistics

Total Number of Observations	31	Number of Distinct Observations	26
		Number of Missing Observations	0
Minimum	0.361	Mean	1.034
Maximum	1.59	Median	1.01
SD	0.214	Std. Error of Mean	0.0384
Coefficient of Variation	0.207	Skewness	-0.157

Normal GOF Test

Shapiro Wilk Test Statistic	0.898	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.929	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.186	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.156	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	1.099	95% Adjusted-CLT UCL (Chen-1995)	1.096
		95% Modified-t UCL (Johnson-1978)	1.099

Gamma GOF Test

A-D Test Statistic	1.524	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.745	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.218	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.157	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	20.22	k star (bias corrected MLE)	18.29
Theta hat (MLE)	0.0511	Theta star (bias corrected MLE)	0.0565
nu hat (MLE)	1254	nu star (bias corrected)	1134
MLE Mean (bias corrected)	1.034	MLE Sd (bias corrected)	0.242
		Approximate Chi Square Value (0.05)	1057
Adjusted Level of Significance	0.0413	Adjusted Chi Square Value	1053

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1.109	95% Adjusted Gamma UCL (use when n<50)	1.113
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Lognormal GOF Test		Shapiro Wilk Lognormal GOF Test	
Shapiro Wilk Test Statistic	0.776	Data Not Lognormal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.929	Lilliefors Lognormal GOF Test	
Lilliefors Test Statistic	0.242	Data Not Lognormal at 5% Significance Level	
5% Lilliefors Critical Value	0.156		

Data Not Lognormal at 5% Significance Level

Lognormal Statistics			
Minimum of Logged Data	-1.019	Mean of logged Data	0.00813
Maximum of Logged Data	0.464	SD of logged Data	0.244

Assuming Lognormal Distribution			
95% H-UCL	1.123	90% Chebyshev (MVUE) UCL	1.175
95% Chebyshev (MVUE) UCL	1.238	97.5% Chebyshev (MVUE) UCL	1.325
99% Chebyshev (MVUE) UCL	1.495		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs			
95% CLT UCL	1.097	95% Jackknife UCL	1.099
95% Standard Bootstrap UCL	1.096	95% Bootstrap-t UCL	1.099
95% Hall's Bootstrap UCL	1.104	95% Percentile Bootstrap UCL	1.095
95% BCA Bootstrap UCL	1.093		
90% Chebyshev(Mean, Sd) UCL	1.149	95% Chebyshev(Mean, Sd) UCL	1.201
97.5% Chebyshev(Mean, Sd) UCL	1.273	99% Chebyshev(Mean, Sd) UCL	1.415

Suggested UCL to Use			
95% Student's-t UCL	1.099	or 95% Modified-t UCL	1.099

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 positively skewed data sets.

Interim Report
Identification of COPCs and Decision Units for OU-1 Soils, Revision 1
Nevada Environmental Response Trust Site
Henderson, Nevada

APPENDIX J
DECISION UNIT-SPECIFIC BACKGROUND
EVALUATION FOR METALS AND
RADIONUCLIDES

TABLE J-1. Summary Statistics for Metals in Background (RZ-A and BRC/TIMET Regional) Soils and Decision Unit Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Name	Location	No. of Samples	No. of Detects	% Detects	Non-Detects (mg/kg)		Detects (mg/kg)					Shapiro-Wilk Test	
					Minimum	Maximum	Minimum	Median	Mean	Maximum	Standard Deviation	Normal (p-value)	Lognormal (p-value)
Arsenic	BRC/TIMET Regional Background	120	120	100%	NA	NA	2.1	3.9	4.1	7.2	1.1	0.002	0.2
	RZ-A Background	31	31	100%	NA	NA	1.6	2.4	2.4	4.3	0.54	0.02	0.5
	DU-1	457	457	100%	NA	NA	0.58	3.2	3.6	34	2.3	<0.001	<0.001
	DU-2	48	48	100%	NA	NA	1.2	2.8	2.9	6.3	0.89	<0.001	0.3
	DU-3	66	66	100%	NA	NA	1.7	4.5	4.9	11	1.8	<0.001	0.9
Chromium VI	BRC/TIMET Regional Background	104	0	0%	0.25	0.25	NA	NA	NA	NA	NA	NA	NA
	RZ-A Background	31	1	3.2%	0.41	0.43	0.29	0.29	0.29	0.29	NA	<0.001	<0.001
	DU-1	154	34	22%	0.11	0.49	0.13	1.3	7.9	106	21	<0.001	<0.001
	DU-2	36	6	17%	0.11	0.43	0.11	0.39	0.83	2.4	0.95	<0.001	<0.001
	DU-3	25	8	32%	0.11	0.44	0.12	0.54	0.54	1.3	0.36	<0.001	0.003
Cobalt	BRC/TIMET Regional Background	120	120	100%	NA	NA	3.7	8.3	8.2	16	2.5	0.05	0.01
	RZ-A Background	31	31	100%	NA	NA	5.4	7.3	7.3	9.1	0.76	0.5	0.4
	DU-1	249	249	100%	NA	NA	4.6	7.8	14	284	32	<0.001	<0.001
	DU-2	36	36	100%	NA	NA	5.4	7.1	7.1	8.8	0.95	0.3	0.2
	DU-3	25	25	100%	NA	NA	3.2	6.7	6.4	8.4	1.4	0.09	0.004
Manganese	BRC/TIMET Regional Background	120	120	100%	NA	NA	151	419	425	1,090	135	<0.001	0.003
	RZ-A Background	31	31	100%	NA	NA	262	360	366	537	61	0.03	0.4
	DU-1	347	347	100%	NA	NA	133	407	1,070	29,200	2,400	<0.001	<0.001
	DU-2	36	36	100%	NA	NA	249	368	395	1,290	168	<0.001	<0.001
	DU-3	27	27	100%	NA	NA	151	302	347	1,500	251	<0.001	0.007
Palladium	BRC/TIMET Regional Background	104	104	100%	NA	NA	0.14	0.40	0.46	1.5	0.24	<0.001	0.5
	RZ-A Background	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	DU-1	18	0	0%	0.048	0.060	NA	NA	NA	NA	NA	0.5	0.5
	DU-2	7	7	100%	NA	NA	0.33	0.44	0.43	0.52	0.072	0.7	0.6
	DU-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	BRC/TIMET Regional Background	120	42	35%	0.20	1.1	0.10	1.1	0.92	1.8	0.62	<0.001	<0.001
	RZ-A Background	31	31	100%	NA	NA	0.071	0.092	0.11	0.19	0.033	<0.001	0.003
	DU-1	199	133	67%	0.21	0.28	0.060	0.10	0.22	8.4	0.73	<0.001	<0.001
	DU-2	36	22	61%	0.10	0.26	0.074	0.10	0.11	0.15	0.025	0.04	0.001
	DU-3	25	21	84%	0.22	0.24	0.054	0.095	0.097	0.18	0.028	0.1	0.6

**TABLE J-1. Summary Statistics for Metals in Background (RZ-A and BRC/TIMET Regional) Soils and Decision Unit Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chemical Name	Location	No. of Samples	No. of Detects	% Detects	Non-Detects (mg/kg)		Detects (mg/kg)					Shapiro-Wilk Test	
					Minimum	Maximum	Minimum	Median	Mean	Maximum	Standard Deviation	Normal (p-value)	Lognormal (p-value)
Zirconium	BRC/TIMET Regional Background	104	104	100%	NA	NA	60	125	126	179	27	0.3	<i><0.001</i>
	RZ-A Background	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	DU-1	18	18	100%	NA	NA	15	22	22	31	4.6	0.2	0.5
	DU-2	7	7	100%	NA	NA	21	22	22	25	1.5	0.8	0.9
	DU-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

bgs = below ground surface

mg/kg = milligram per kilogram

DU = Decision unit

NA = value not available

p-values < 0.01 are shown in italic.

RZ-A Background dataset is from RZ-A, excluding the six borings in LOU 62.

Shapiro Wilk tests use 1/2 the detection limit (DL) for non-detects.

TABLE J-2. Background Comparisons for Metals in Decision Unit Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chemical Name	Location	Distribution	t-test	t-test (logged data)	Gehan Test	Quantile Test (0.8)	Slippage Test	Fail Statistical Testing for Background Consistency?
			(p-value)	(p-value)	(p-value)	(p-value)	(p-value)	
Arsenic	DU-1	NP	1	1	1	1	0.05	No
	DU-2	LN	0.001	0.001	0.001	0.002	0.4	Yes
	DU-3	LN	0.001	0.002	0.002	0.05	0.005	Yes
Chromium VI	DU-1	NP	0.02	<0.001	<0.001	<0.001	NA	LDF
	DU-2	NP	0.2	0.8	0.8	0.2	0.8	LDF
	DU-3	NP	0.001	<0.001	<0.001	<0.001	NA	LDF
Cobalt	DU-1	NP	0.002	0.002	0.6	0.8	<0.001	Yes
	DU-2	N, LN	0.9	0.9	0.9	0.4	1	No
	DU-3	N	1	1	1	1	1	No
Manganese	DU-1	NP	<0.001	<0.001	0.1	<0.001	<0.001	Yes
	DU-2	NP	0.2	0.2	0.4	0.5	0.5	No
	DU-3	NP	0.9	1	1	1	0.2	No
Palladium	DU-1	N, LN	1	1	1	1	1	LDF
	DU-2	NA	NA	NA	NA	NA	NA	NA
	DU-3	NA	NA	NA	NA	NA	NA	NA
Thallium	DU-1	NP	1	1	1	1	0.6	No
	DU-2	N	0.9	0.9	0.02	0.7	1	Yes
	DU-3	N, LN	1	1	1	1	1	No

**TABLE J-2. Background Comparisons for Metals in Decision Unit Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chemical Name	Location	Distribution	t-test	t-test (logged data)	Gehan Test	Quantile Test (0.8)	Slippage Test	Fail Statistical Testing for Background Consistency?
			(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	
Zirconium	DU-1	N, LN	1	1	1	1	1	No
	DU-2	NA	NA	NA	NA	NA	NA	NA
	DU-3	NA	NA	NA	NA	NA	NA	NA

Notes:

bgs = below ground surface

DU = Decision unit

LDF = Low detection frequency (<25%) in either site or background datasets. Background comparison results may not be applicable.

NA = value not available

p-values in italics indicate $p < 0.025$

Background comparison tests use 1/2 the detection limit (DL) for non-detects in the parametric test (t-test) and the DL for non-parametric tests (Gehan test, quantile test, and slippage test).

RZ-A background dataset (excluding the six borings in LOU 62) is used for the southern portion of the Site (DU-2). BRC/TIMET regional background dataset is used for the northern portion of the Site (DU-1 and DU-3).

For large sample size (>100), final background determination is based only on non-parametric testing results. And for small sample size (<=100), final background determination is based on both parametric and non-parametric testing results.

Distribution:

N = Study area data and background data consistent with normal distribution

LN = Study area data and background data consistent with log-normal distribution

NP = Study area data or background data is not consistent with both normal distribution and log-normal distribution.

**TABLE J-3. Summary Statistics for Radionuclides in Background (RZ-A and BRC/TIMET Regional) Soils and Decision Unit Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chain	Chemical Name	Location	No. of Samples	No. of Detects	% Detects	Detects (pCi/g)					Shapiro-Wilk Test	
						Minimum	Median	Mean	Maximum	Standard Deviation	Normal (p-value)	Lognormal (p-value)
Uranium-238	Uranium-238	BRC/TIMET Regional Background	120	120	100%	0.45	1.0	1.1	2.4	0.37	<0.001	0.1
		RZ-A Background	31	31	100%	0.36	1.0	1.0	1.6	0.21	0.004	<0.001
		DU-1	147	147	100%	0.24	0.95	1.0	2.5	0.31	<0.001	<0.001
		DU-2	36	36	100%	0.34	0.96	1.0	1.7	0.25	0.05	<0.001
		DU-3	22	22	100%	0.38	1.1	1.3	3.3	0.75	0.03	0.3
	Uranium-234	BRC/TIMET Regional Background	120	120	100%	0.47	0.99	1.1	2.8	0.46	<0.001	<0.001
		RZ-A Background	31	31	100%	0.39	1.0	1.1	1.7	0.30	0.09	0.04
		DU-1	129	129	100%	0.27	0.98	1.1	2.8	0.37	<0.001	<0.001
		DU-2	36	36	100%	0.77	1.0	1.1	1.9	0.27	<0.001	0.01
		DU-3	22	22	100%	0.37	1.3	1.4	3.4	0.80	0.2	0.3
	Thorium-230	BRC/TIMET Regional Background	120	120	100%	0.66	1.2	1.2	3.0	0.38	<0.001	0.07
		RZ-A Background	31	31	100%	0.51	1.1	1.1	1.7	0.28	0.7	0.7
		DU-1	147	147	100%	0.43	1.1	1.2	4.3	0.38	<0.001	<0.001
		DU-2	36	36	100%	0.74	1.1	1.1	2.0	0.22	<0.001	0.01
		DU-3	22	22	100%	0.53	1.3	1.6	3.3	0.77	0.03	0.3
	Radium-226	BRC/TIMET Regional Background	104	104	100%	0.49	1.1	1.1	2.4	0.35	<0.001	0.4
		RZ-A Background	31	31	100%	0.047	0.89	0.95	1.7	0.35	0.4	<0.001
		DU-1	147	147	100%	0.20	0.91	0.93	2.5	0.36	<0.001	0.2
		DU-2	36	36	100%	0.46	0.89	0.86	1.3	0.23	0.3	0.06
		DU-3	25	25	100%	0.45	1.2	1.2	2.0	0.43	0.8	0.6
Thorium-232	Thorium-232	BRC/TIMET Regional Background	120	120	100%	1.1	1.6	1.6	2.2	0.27	0.03	0.07
		RZ-A Background	31	31	100%	1.0	1.5	1.5	2.1	0.24	1	1
		DU-1	147	147	100%	0.66	1.6	1.6	2.5	0.32	0.2	<0.001
		DU-2	36	36	100%	1.1	1.4	1.5	2.3	0.32	0.01	0.2
		DU-3	22	22	100%	0.54	1.6	1.5	2.4	0.42	0.1	0.004
	Thorium-228	BRC/TIMET Regional Background	120	120	100%	1.1	1.7	1.7	2.3	0.28	0.03	0.004
		RZ-A Background	31	31	100%	1.2	1.7	1.7	2.9	0.36	0.03	0.5
		DU-1	147	147	100%	0.48	1.8	1.8	2.8	0.36	<0.001	<0.001
		DU-2	36	36	100%	1.2	1.7	1.6	2.2	0.23	0.5	0.2
		DU-3	22	22	100%	0.78	1.6	1.7	3.0	0.47	0.2	0.2
	Radium-228	BRC/TIMET Regional Background	84	84	100%	0.95	2.0	1.9	2.9	0.40	0.7	0.06
		RZ-A Background	31	31	100%	0.46	1.2	1.3	2.5	0.54	0.3	0.8
		DU-1	147	147	100%	0	1.2	1.2	3.3	0.50	0.01	NA
		DU-2	36	36	100%	0.32	1.5	1.5	2.4	0.49	0.5	0.001
		DU-3	25	25	100%	0.45	1.2	1.2	1.9	0.44	0.4	0.2

**TABLE J-3. Summary Statistics for Radionuclides in Background (RZ-A and BRC/TIMET Regional) Soils and Decision Unit Soils (0-10 feet bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chain	Chemical Name	Location	No. of Samples	No. of Detects	% Detects	Detects (pCi/g)					Shapiro-Wilk Test	
						Minimum	Median	Mean	Maximum	Standard Deviation	Normal (p-value)	Lognormal (p-value)
Uranium-235	Uranium-235	BRC/TIMET Regional Background	120	120	100%	0	0.059	0.066	0.21	0.038	<0.001	NA
		RZ-A Background	31	31	100%	-0.077	0.049	0.051	0.20	0.044	0.003	NA
		DU-1	129	129	100%	-0.026	0.053	0.061	0.25	0.041	<0.001	NA
		DU-2	36	36	100%	-0.029	0.047	0.056	0.21	0.048	0.02	NA
		DU-3	22	22	100%	0.0047	0.075	0.076	0.17	0.047	0.6	0.02

Notes:

bgs = below ground surface

pCi/g = picocurie per gram

DU = Decision unit

NA = value not available

p-values < 0.01 are shown in italic.

RZ-A Background dataset is from RZ-A, excluding the six borings in LOU 62.

Shapiro Wilk tests use 1/2 the detection limit (DL) for non-detects.

TABLE J-4. Background Comparisons for Radionuclides in Decision Unit Soils (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada

Chain	Chemical Name	Location	Distribution	<i>t</i> -test	<i>t</i> -test (logged data)	Gehan Test	Quantile Test (0.8)	Slippage Test	Fail Statistical Testing for Background Consistency?
				(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	
Uranium-238	Uranium-238	DU-1	NP	1	1	0.9	1	0.6	No
		DU-2	N	0.6	0.6	0.8	0.5	0.5	No
		DU-3	N, LN	0.09	0.3	0.08	0.1	0.02	Yes
	Uranium-234	DU-1	NP	0.8	0.8	0.6	0.7	1	No
		DU-2	LN	0.2	0.1	0.2	0.8	0.3	No
		DU-3	N, LN	0.04	0.1	0.02	0.01	0.2	Yes
	Thorium-230	DU-1	NP	1	1	1	1	0.6	No
		DU-2	LN	0.5	0.4	0.5	1	0.5	No
		DU-3	N, LN	0.02	0.03	0.03	0.01	0.2	Yes
	Radium-226	DU-1	LN	1	1	1	1	0.6	No
		DU-2	N, LN	0.9	0.6	0.8	1	1	No
		DU-3	N, LN	0.2	0.3	0.2	0.09	1	No
Thorium-232	Thorium-232	DU-1	N	0.6	0.7	0.4	0.6	0.3	No
		DU-2	NA	0.5	0.6	0.8	0.3	0.1	No
		DU-3	NA	0.8	0.9	0.8	0.9	0.02	Yes
	Thorium-228	DU-1	NP	0.003	0.02	0.005	0.008	<0.001	Yes
		DU-2	N, LN	0.8	0.8	0.8	1	1	No
		DU-3	N, LN	0.6	0.7	0.7	0.9	0.02	Yes
	Radium-228	DU-1	NP	1	1	1	1	0.6	No
		DU-2	NA	0.07	0.07	0.04	0.3	1	No
		DU-3	NA	1	1	1	1	1	No

**TABLE J-4. Background Comparisons for Radionuclides in Decision Unit Soils (0-10 ft bgs)
Nevada Environmental Response Trust Site
Henderson, Nevada**

Chain	Chemical Name	Location	Distribution	<i>t</i> -test	<i>t</i> -test (logged data)	Gehan Test	Quantile Test (0.8)	Slippage Test	Fail Statistical Testing for Background Consistency?
				(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	(<i>p</i> -value)	
Uranium-235	Uranium-235	DU-1	NA	0.8	0.5	0.9	1	0.3	No
		DU-2	NA	0.3	0.6	0.4	0.5	0.5	No
		DU-3	NA	0.2	0.3	0.2	0.1	1	No

Notes:

bgs = below ground surface

DU = Decision unit

LDF = Low detection frequency (<25%) in either site or background datasets. Background comparison results may not be applicable.

p-values in italics indicate $p < 0.025$

Background comparison tests use 1/2 the detection limit (DL) for non-detects in the parametric test (*t*-test) and the DL for non-parametric tests (Gehan test, quantile test, and slippage test).

RZ-A background dataset (excluding the six borings in LOU 62) is used for the southern portion of the Site (DU-2). BRC/TIMET regional background dataset is used for the northern portion of the Site (DU-1 and DU-3).

For large sample size (>100), final background determination is based only on non-parametric testing results. And for small sample size (<=100), final background determination is based on both parametric and non-parametric testing results.

Distribution:

N = Study area data and background data consistent with normal distribution

LN = Study area data and background data consistent with log-normal distribution

NP = Study area data or background data is not consistent with both normal distribution and log-normal distribution.

Table J-5A. Equivalence Test for Secular Equilibrium of Uranium Decay Series (U-238 Chain)¹
Nevada Environmental Response Trust Remediation Project Site
Henderson, Nevada

Location	p-value	Conclusion ²	Delta	Sample Size ³	Number Missing ⁴	Analyte	Mean Proportions of Radioactivity	95% Confid. Intervals		Shifts ⁵
								Lower	Upper	
BRC/TIMET Regional Background	<0.0001	in Secular Equilibrium	0.1	104	16	Ra-226	0.2401	0.2272	0.2529	0
						Th-230	0.2720	0.2608	0.2831	0
						U-234	0.2448	0.2341	0.2555	0
						U-238	0.2431	0.2339	0.2524	0
RZ-A Background	<0.0001	in Secular Equilibrium	0.1	31	0	Ra-226	0.2267	0.1909	0.2625	0
						Th-230	0.2626	0.2314	0.2939	0
						U-234	0.2572	0.2283	0.2861	0
						U-238	0.2534	0.2276	0.2793	0
DU-1	<0.0001	in Secular Equilibrium	0.1	129	18	Ra-226	0.2215	0.1996	0.2434	0
						Th-230	0.2831	0.2677	0.2985	0
						U-234	0.2551	0.2427	0.2674	0
						U-238	0.2402	0.2279	0.2526	0
DU-2	<0.0001	in Secular Equilibrium	0.1	36	0	Ra-226	0.2108	0.1865	0.2351	0
						Th-230	0.2639	0.2460	0.2819	0
						U-234	0.2750	0.2560	0.2941	0
						U-238	0.2502	0.2276	0.2728	0
DU-3	0.0352	in Secular Equilibrium	0.1	22	3	Ra-226	0.2317	0.1591	0.3043	0
						Th-230	0.2920	0.2518	0.3322	0
						U-234	0.2481	0.1999	0.2963	0
						U-238	0.2283	0.1872	0.2693	0

Notes:

DU = Decision unit

1. Analyzed in top 10 feet bgs using the EnviroGISdT software tool from Neptune & Company, Inc.
2. Tool states "in Secular Equilibrium" if the computed *p*-value is less than a standard significance level of 0.05.
3. Sample dataset includes field duplicates
4. Count of samples for which one or more results are unavailable. These samples are not counted in the sample size and are not included in the secular equilibrium calculation.
5. Data Shift - Lists the values of the data shift utilized by the tool in case of negative radioactivity measurements. All measurements values for that radioisotope are shifted upwards by the shift value so that all values are non-negative. A zero shift value indicates lack of negative measurements.

Table J-5B. Equivalence Test for Secular Equilibrium of Thorium Decay Series (Th-232 Chain)¹
Nevada Environmental Response Trust Remediation Project Site
Henderson, Nevada

Location	p-value	Conclusion ²	Delta	Sample Size ³	Number Missing ⁴	Analyte	Mean Proportions of Radioactivity	95% Confid. Intervals		Shifts ⁵
								Lower	Upper	
BRC/TIMET Regional Background	<0.0001	in Secular Equilibrium	0.1	84	36	Ra-228	0.3599	0.3446	0.3752	0
						Th-228	0.3270	0.3174	0.3366	0
						Th-232	0.3130	0.3039	0.3222	0
RZ-A Background	0.164	Not in Secular Equilibrium	0.1	31	0	Ra-228	0.2779	0.2341	0.3218	0
						Th-228	0.3808	0.3557	0.4060	0
						Th-232	0.3413	0.3141	0.3684	0
DU-1	0.3894	Not in Secular Equilibrium	0.1	147	0	Ra-228	0.2610	0.2393	0.2828	0
						Th-228	0.3901	0.3757	0.4046	0
						Th-232	0.3489	0.3377	0.3600	0
DU-2	<0.0001	in Secular Equilibrium	0.1	36	0	Ra-228	0.3131	0.2785	0.3478	0
						Th-228	0.3592	0.3351	0.3832	0
						Th-232	0.3277	0.3085	0.3469	0
DU-3	0.3869	Not in Secular Equilibrium	0.1	22	3	Ra-228	0.2720	0.1943	0.3496	0
						Th-228	0.3790	0.3425	0.4155	0
						Th-232	0.3491	0.3022	0.3959	0

Notes:

DU = Decision unit

1. Analyzed in top 10 feet bgs using the EnviroGISdT software tool from Neptune & Company, Inc.
2. Tool states "in Secular Equilibrium" if the computed *p*-value is less than a standard significance level of 0.05.
3. Sample dataset includes field duplicates
4. Count of samples for which one or more results are unavailable. These samples are not counted in the sample size and are not included in the secular equilibrium calculation.
5. Data Shift - Lists the values of the data shift utilized by the tool in case of negative radioactivity measurements. All measurements values for that radioisotope are shifted upwards by the shift value so that all values are non-negative. A zero shift value indicates lack of negative measurements.

**Table J-6. Correlation Matrices for the Uranium Decay Series and the Thorium Decay Series
Nevada Environmental Response Trust Remediation Project Site
Henderson, Nevada**

i) BRC/TIMET Regional Background Soils

Uranium Decay Chain				
Correl.	Ra-226	Th-230	U-234	U-238
Ra-226	1	0.663	0.691	0.707
Th-230	0.663	1	0.762	0.756
U-234	0.691	0.762	1	0.880
U-238	0.707	0.756	0.880	1

Thorium Decay Chain			
Correl.	Ra-228	Th-228	Th-232
Ra-228	1	0.297	0.305
Th-228	0.297	1	0.765
Th-232	0.305	0.765	1

ii) RZ-A Background Soils

Uranium Decay Chain				
Correl.	Ra-226	Th-230	U-234	U-238
Ra-226	1	0.680	0.313	0.321
Th-230	0.680	1	0.351	0.271
U-234	0.313	0.351	1	0.886
U-238	0.321	0.271	0.886	1

Thorium Decay Chain			
Correl.	Ra-228	Th-228	Th-232
Ra-228	1	0.297	0.119
Th-228	0.297	1	0.627
Th-232	0.119	0.627	1

iii) DU-1 Soils

Uranium Decay Chain				
Correl.	Ra-226	Th-230	U-234	U-238
Ra-226	1	0.295	0.279	0.237
Th-230	0.295	1	0.594	0.547
U-234	0.279	0.594	1	0.854
U-238	0.237	0.547	0.854	1

Thorium Decay Chain			
Correl.	Ra-228	Th-228	Th-232
Ra-228	1	-0.104	0.040
Th-228	-0.104	1	0.653
Th-232	0.040	0.653	1

**Table J-6. Correlation Matrices for the Uranium Decay Series and the Thorium Decay Series
Nevada Environmental Response Trust Remediation Project Site
Henderson, Nevada**

iv) DU-2 Soils

Uranium Decay Chain				
Correl.	Ra-226	Th-230	U-234	U-238
Ra-226	1	0.384	0.353	0.162
Th-230	0.384	1	0.532	0.385
U-234	0.353	0.532	1	0.553
U-238	0.162	0.385	0.553	1

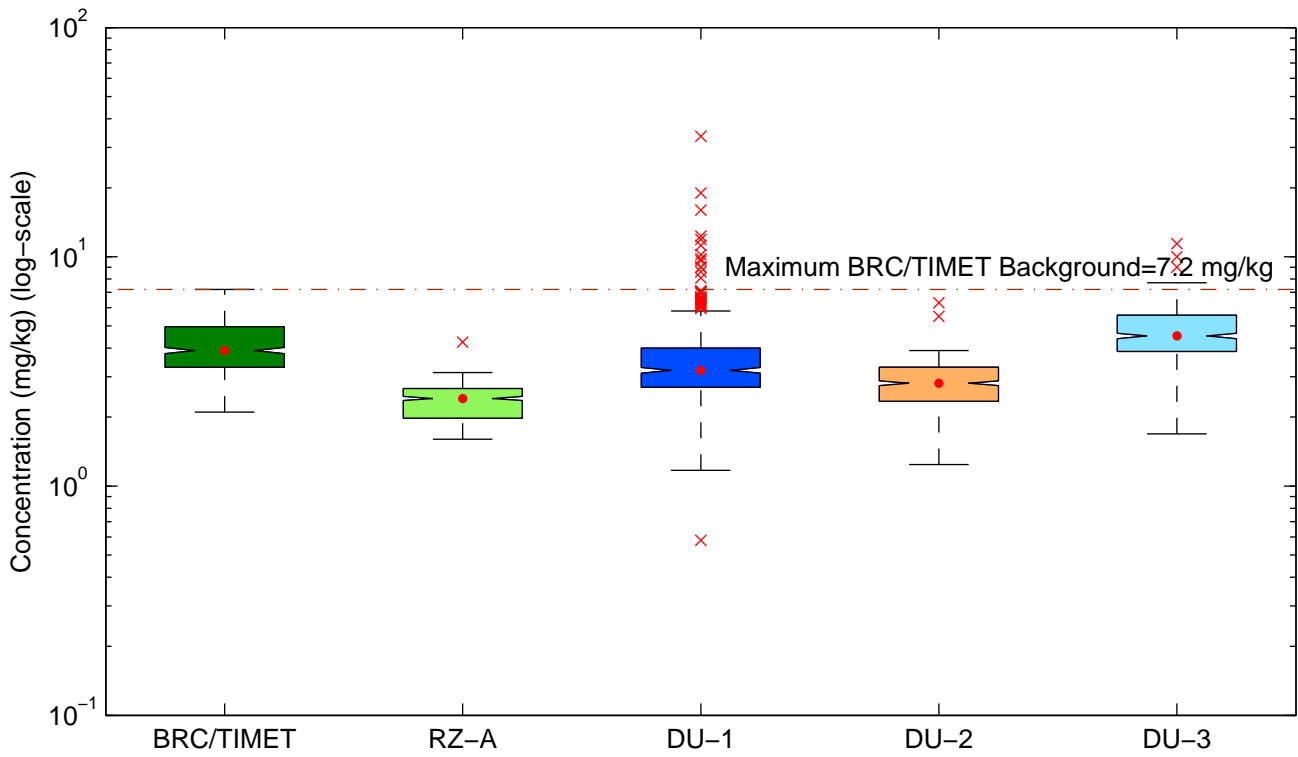
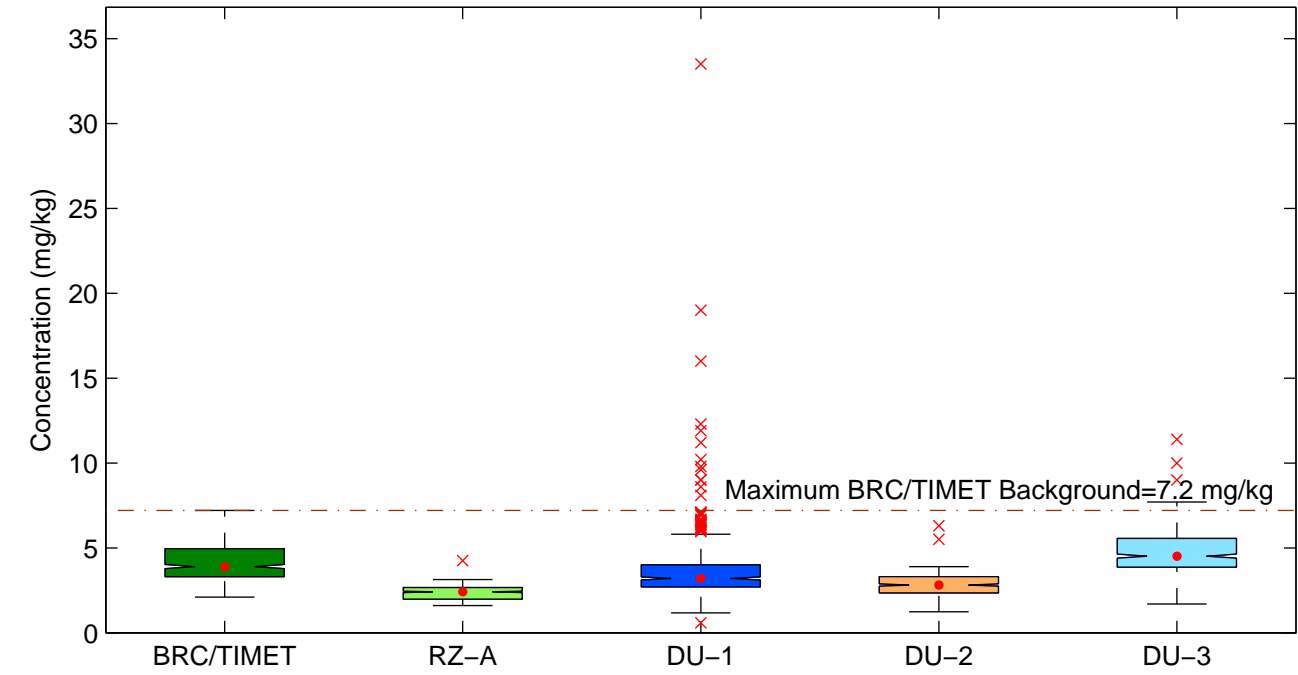
Thorium Decay Chain			
Correl.	Ra-228	Th-228	Th-232
Ra-228	1	0.385	0.470
Th-228	0.385	1	0.607
Th-232	0.470	0.607	1

v) DU-3 Soils

Uranium Decay Chain				
Correl.	Ra-226	Th-230	U-234	U-238
Ra-226	1	0.736	0.389	0.407
Th-230	0.736	1	0.796	0.830
U-234	0.389	0.796	1	0.989
U-238	0.407	0.830	0.989	1

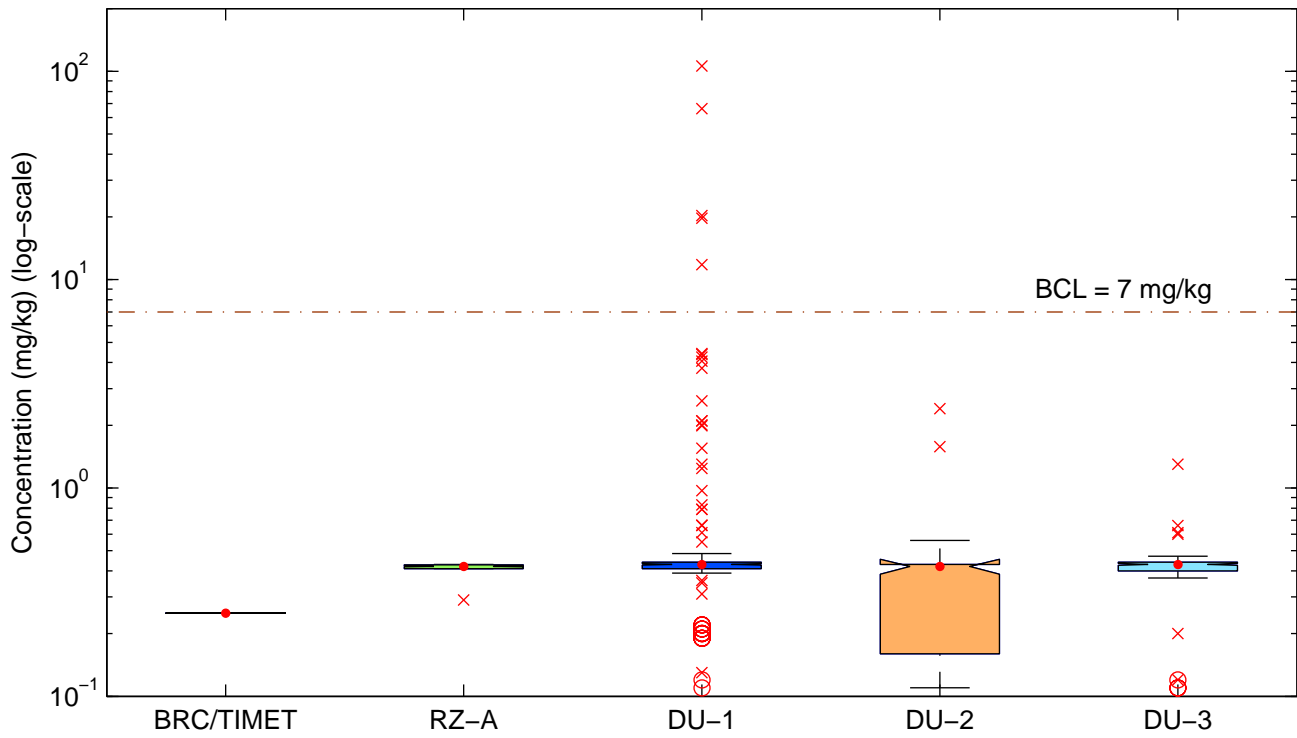
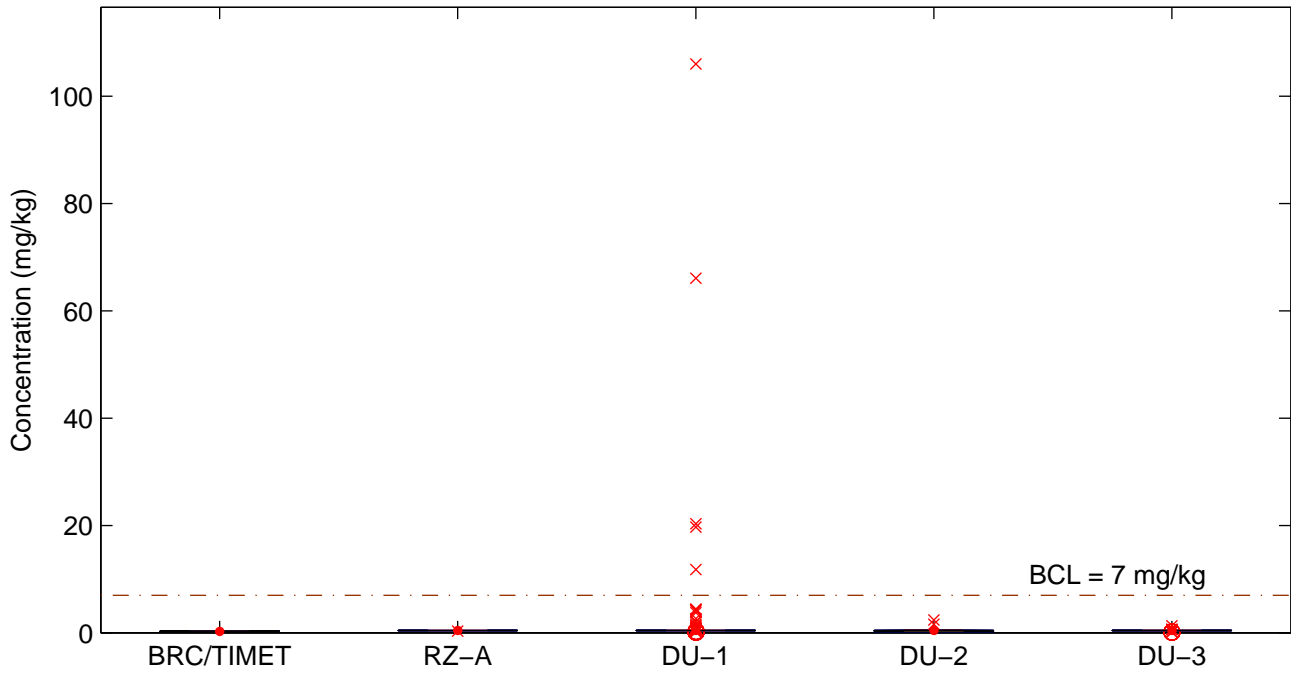
Thorium Decay Chain			
Correl.	Ra-228	Th-228	Th-232
Ra-228	1	-0.358	-0.646
Th-228	-0.358	1	0.878
Th-232	-0.646	0.878	1

**Figure J1-1. Background vs. Decision Unit Boxplots
Arsenic**



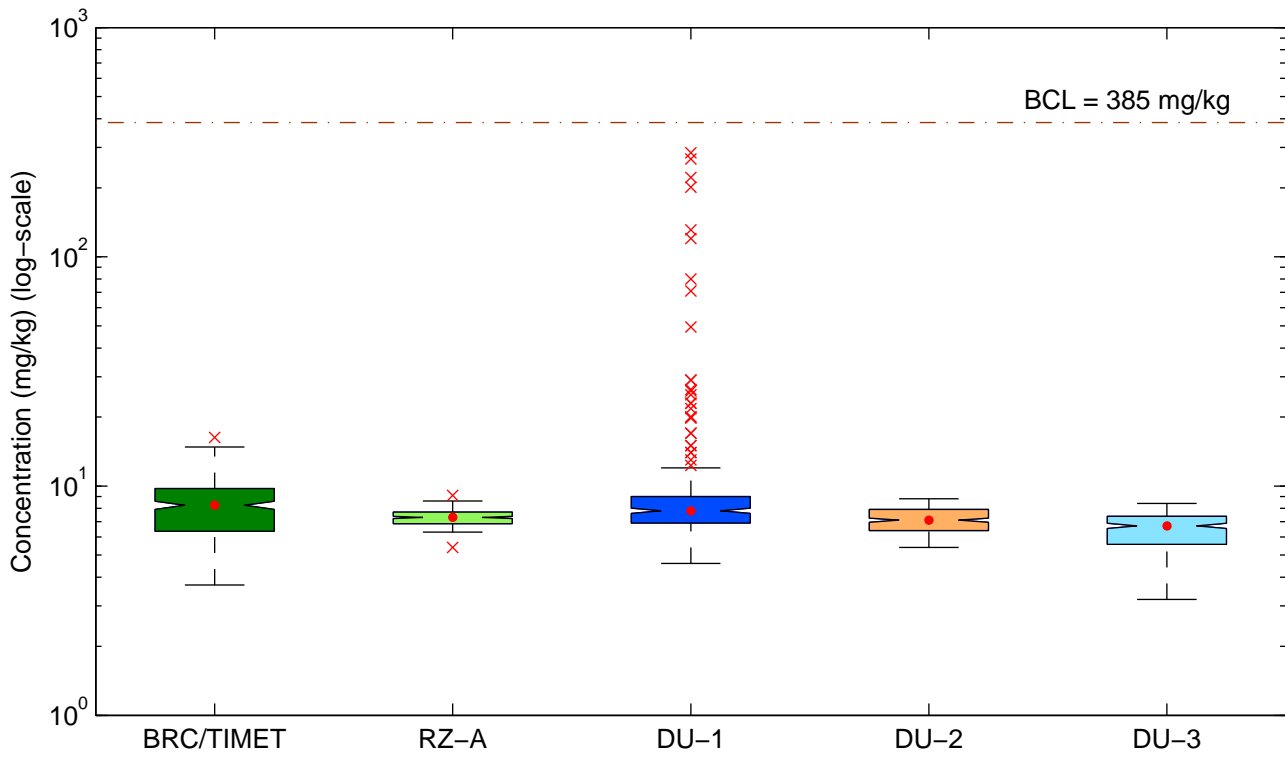
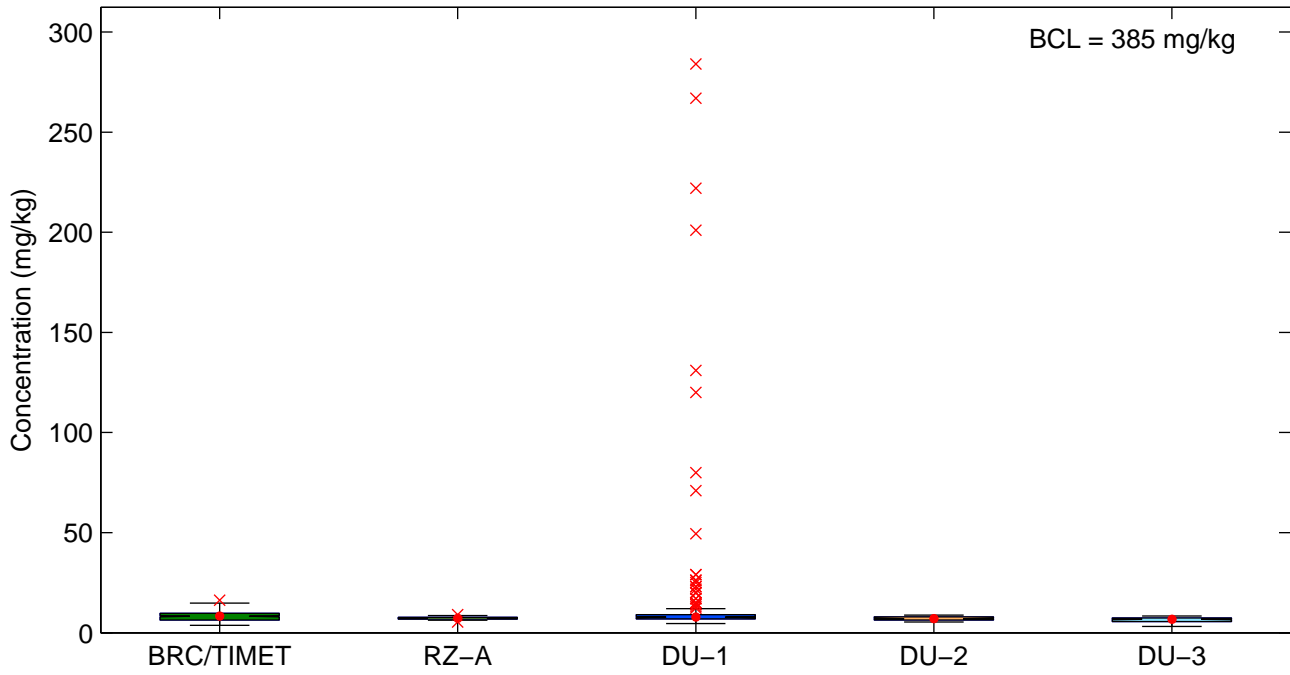
BRC/TIMET = BRC/TIMET regional background
RZ-A = RZ-A background

**Figure J1-2. Background vs. Decision Unit Boxplots
Chromium VI**



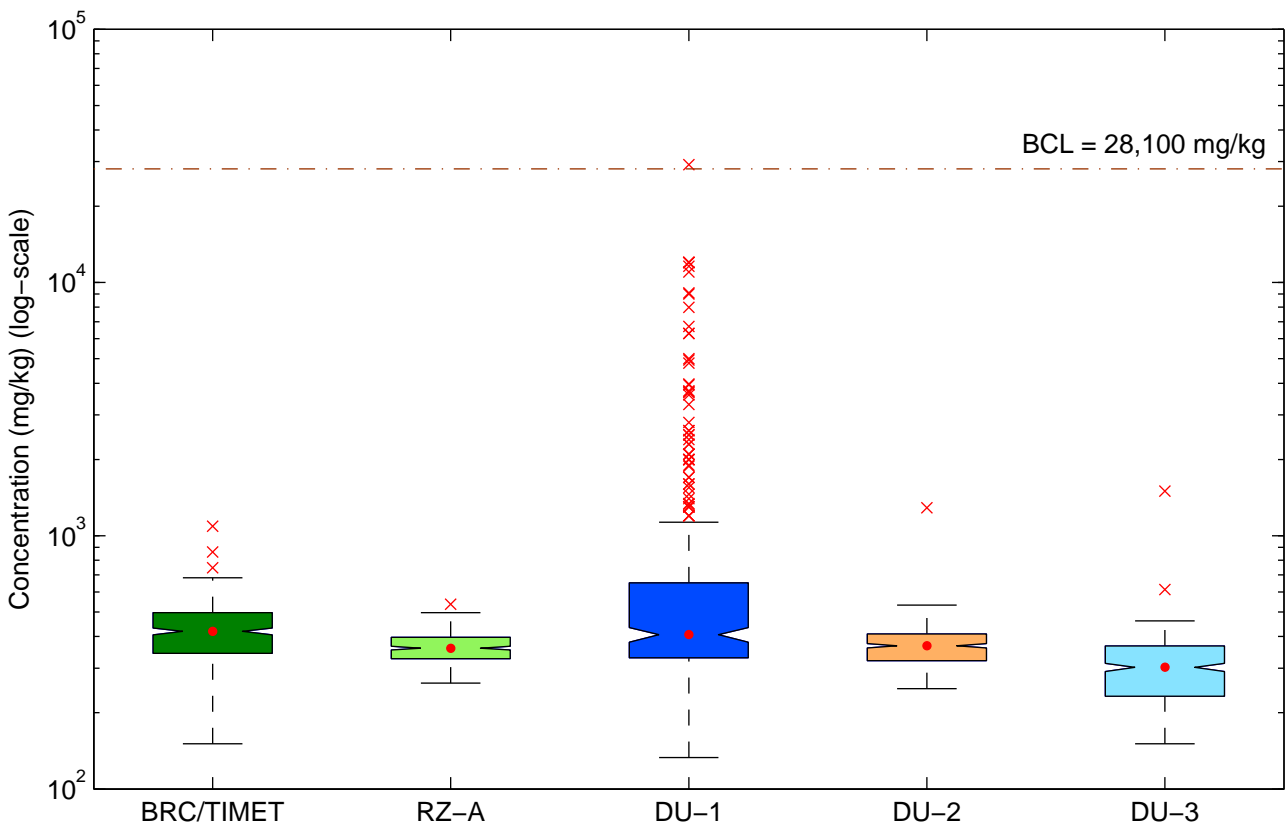
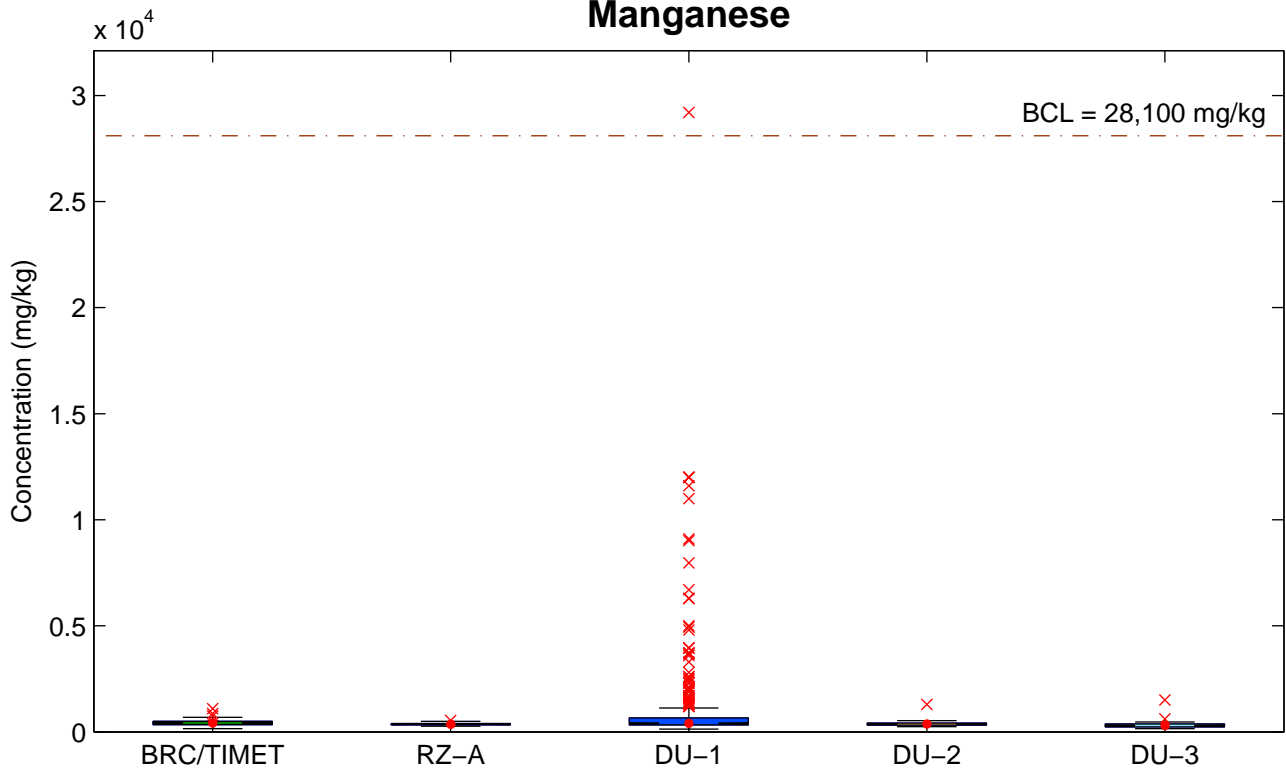
BRC/TIMET = BRC/TIMET regional background
RZ-A = RZ-A background

**Figure J1-3. Background vs. Decision Unit Boxplots
Cobalt**



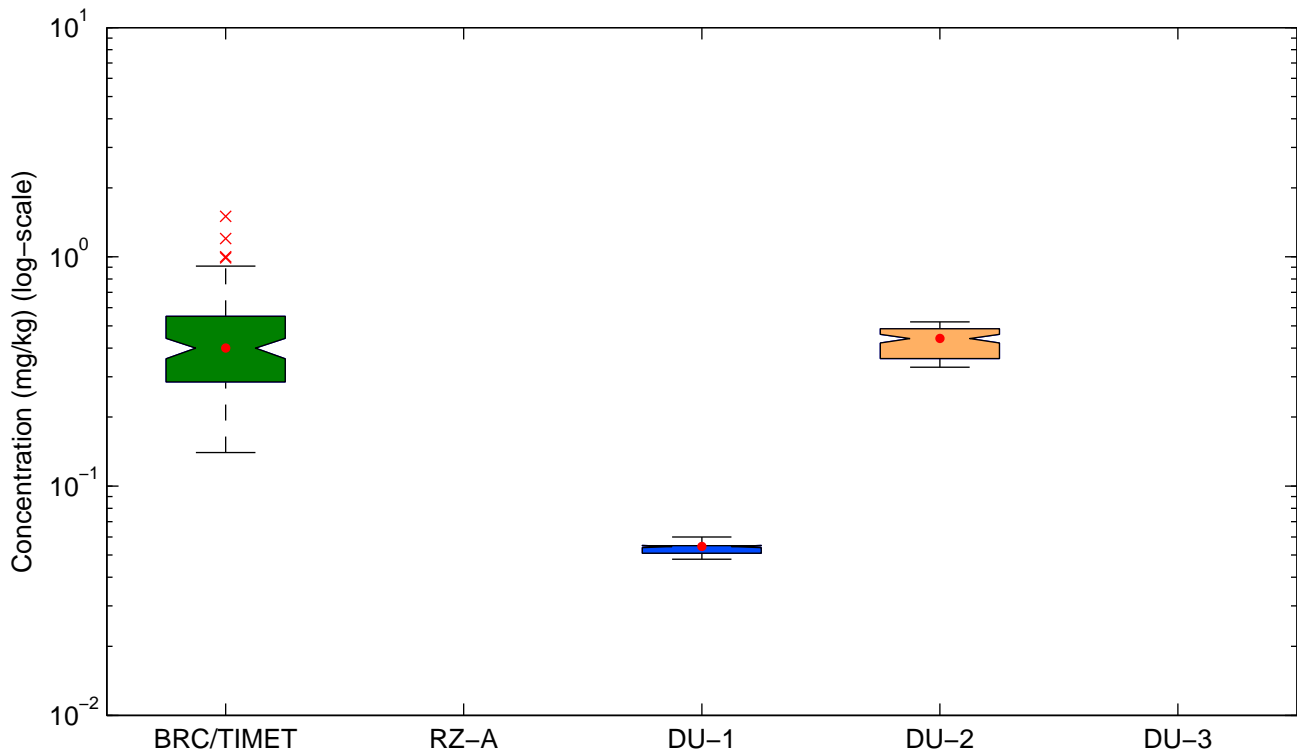
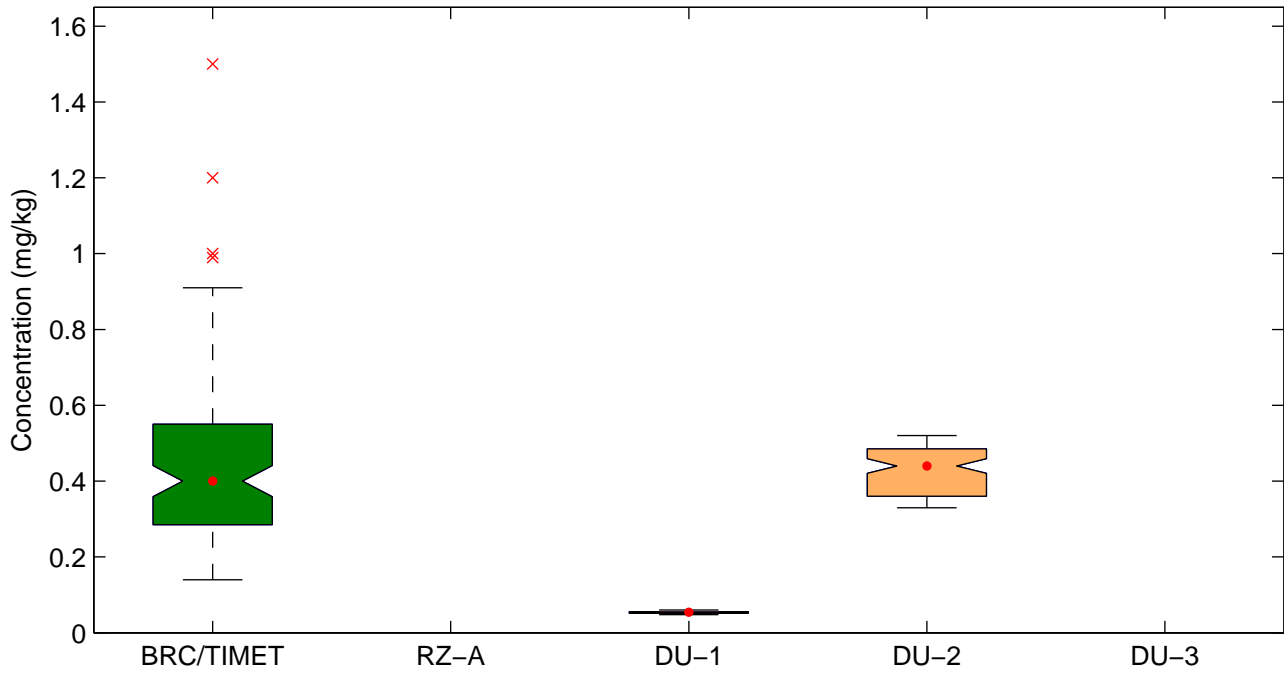
BRC/TIMET = BRC/TIMET regional background
RZ-A = RZ-A background

**Figure J1-4. Background vs. Decision Unit Boxplots
Manganese**



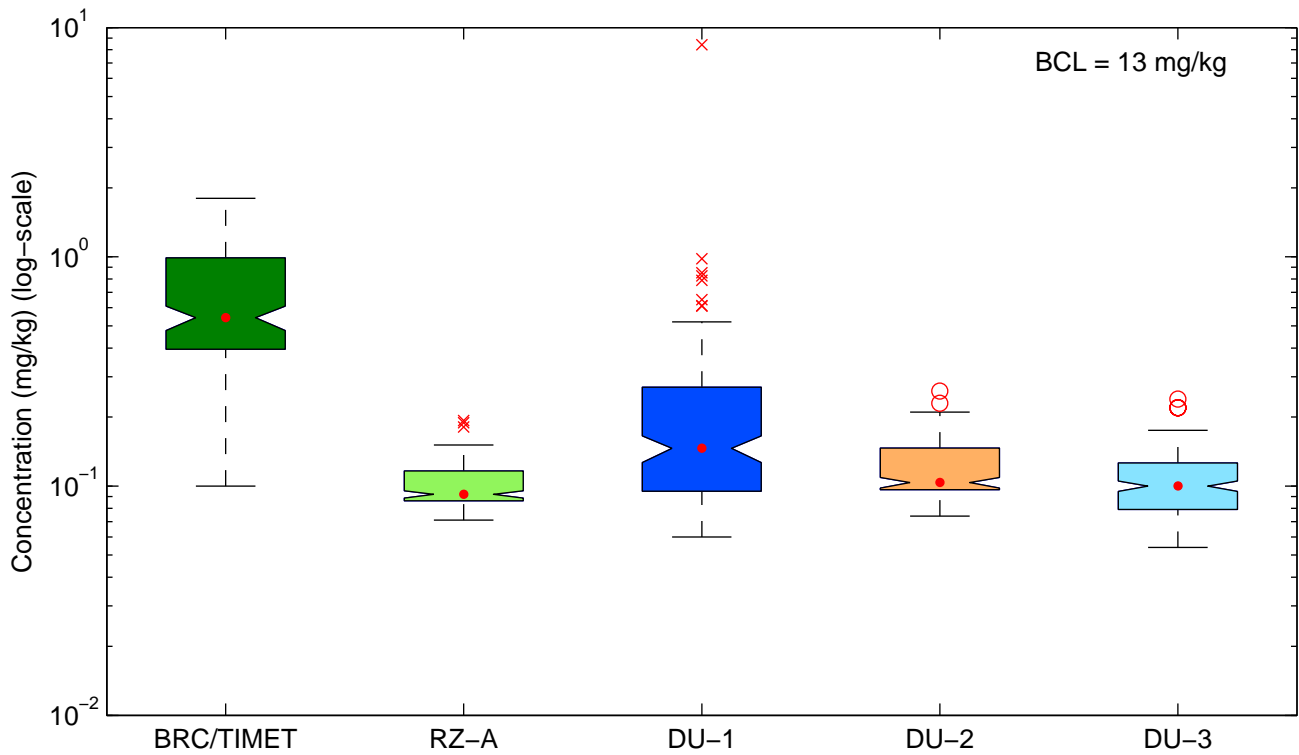
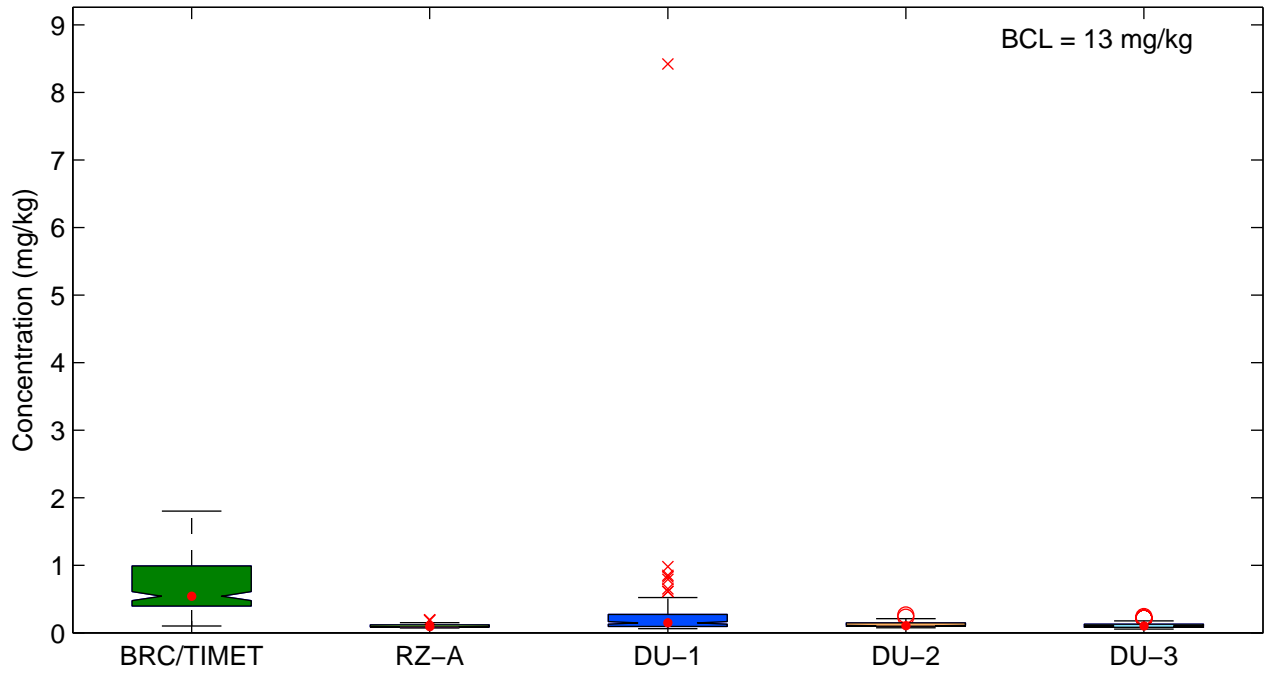
BRC/TIMET = BRC/TIMET regional background
RZ-A = RZ-A background

**Figure J1-5. Background vs. Decision Unit Boxplots
Palladium**



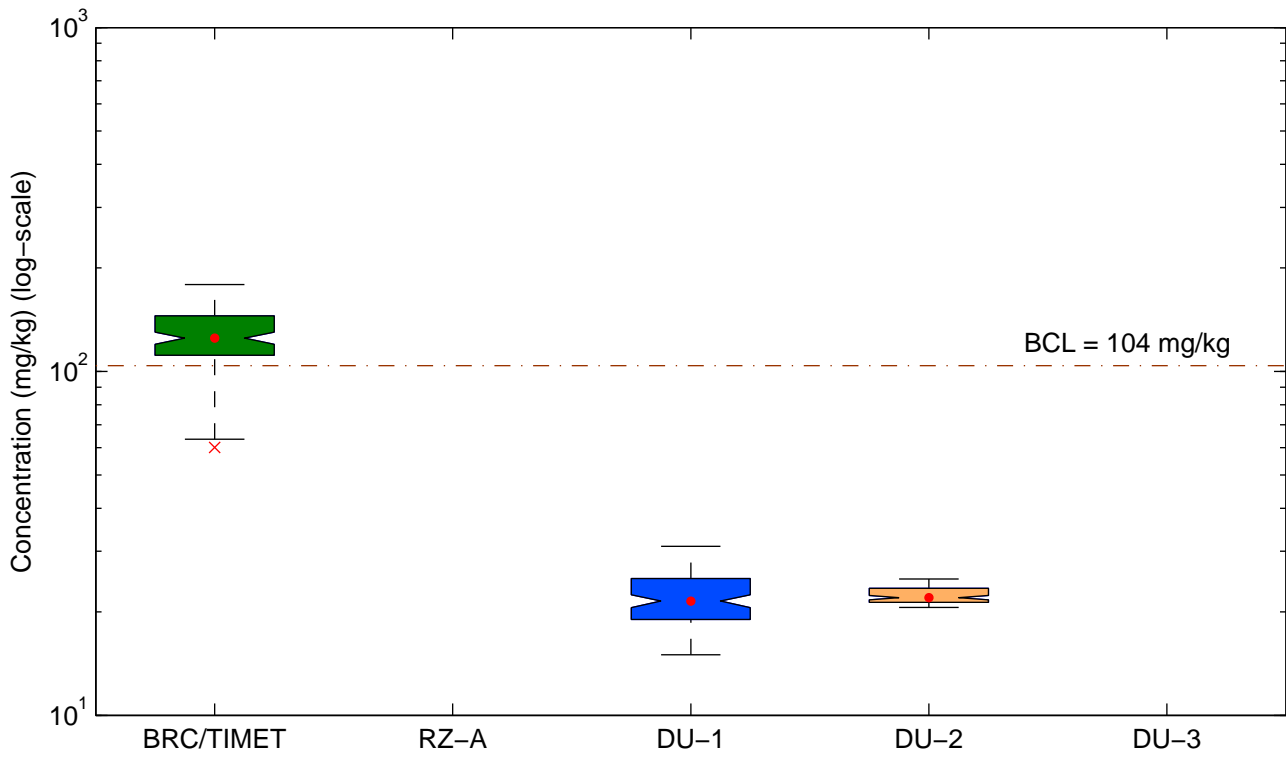
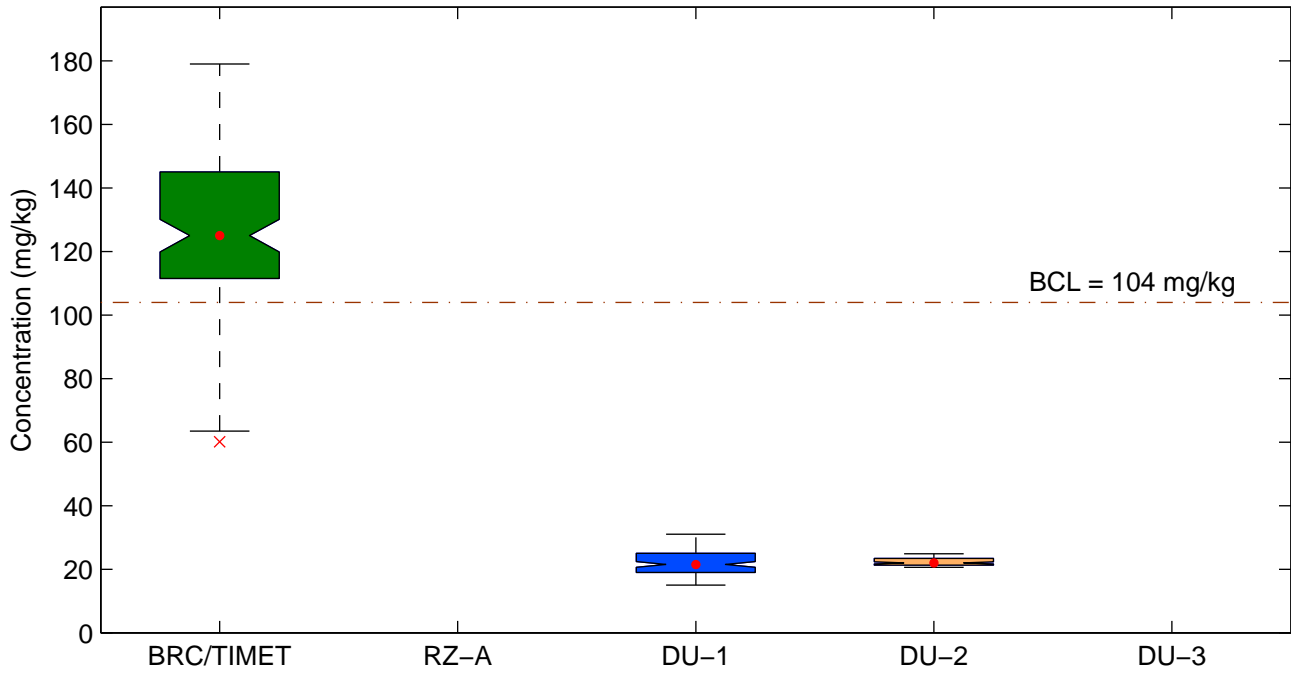
BRC/TIMET = BRC/TIMET regional background
RZ-A = RZ-A background

**Figure J1-6. Background vs. Decision Unit Boxplots
Thallium**



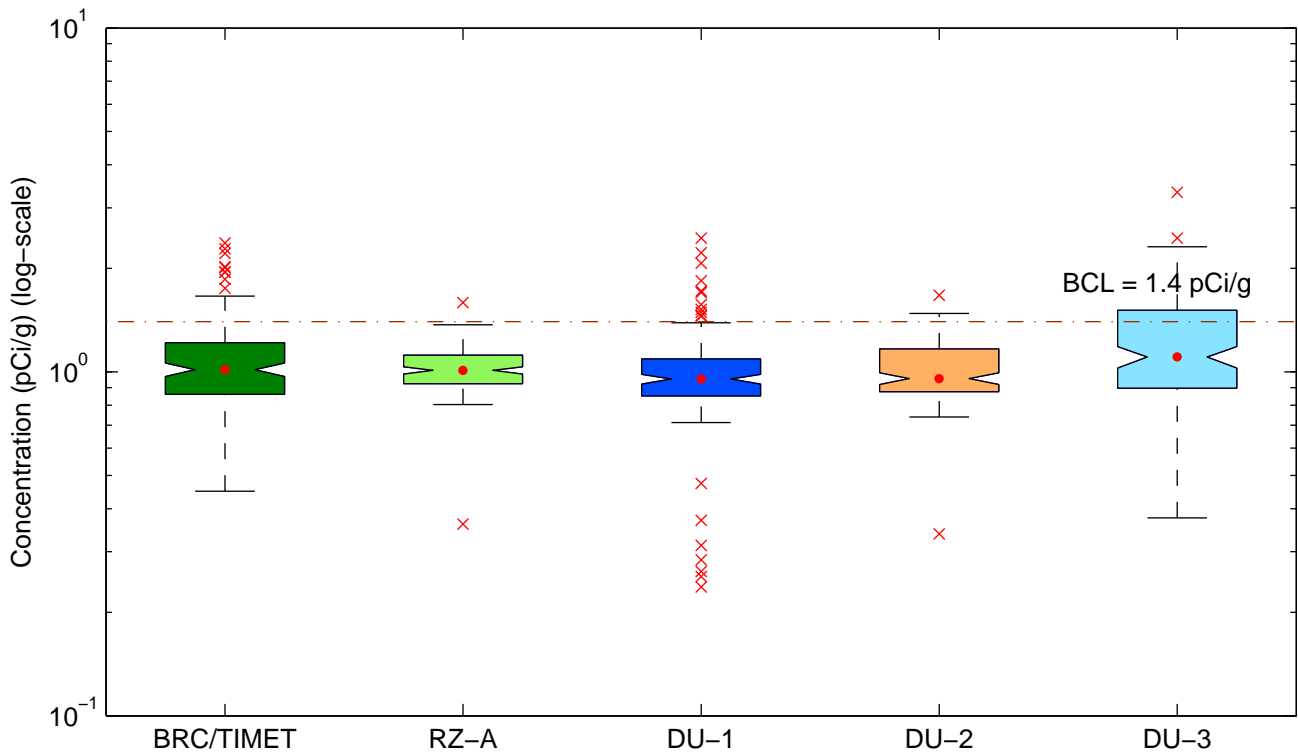
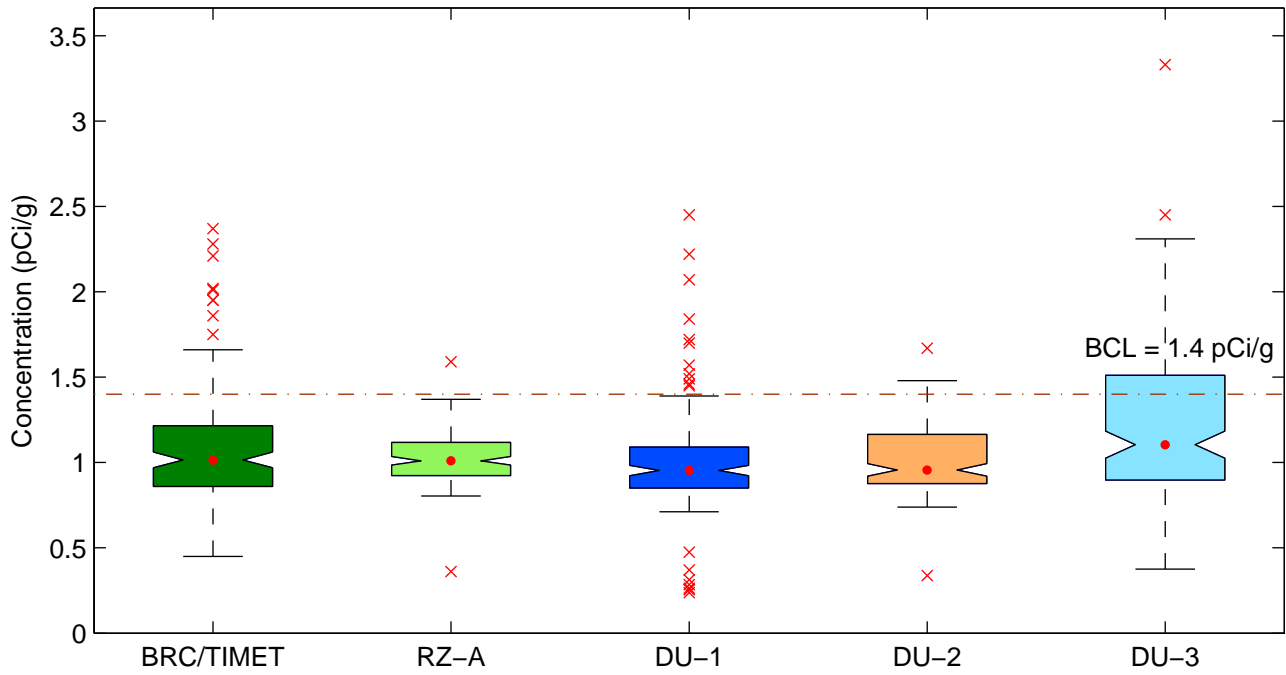
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RZ-A = RZ-A background

Figure J1-7. Background vs. Decision Unit Boxplots
Zirconium



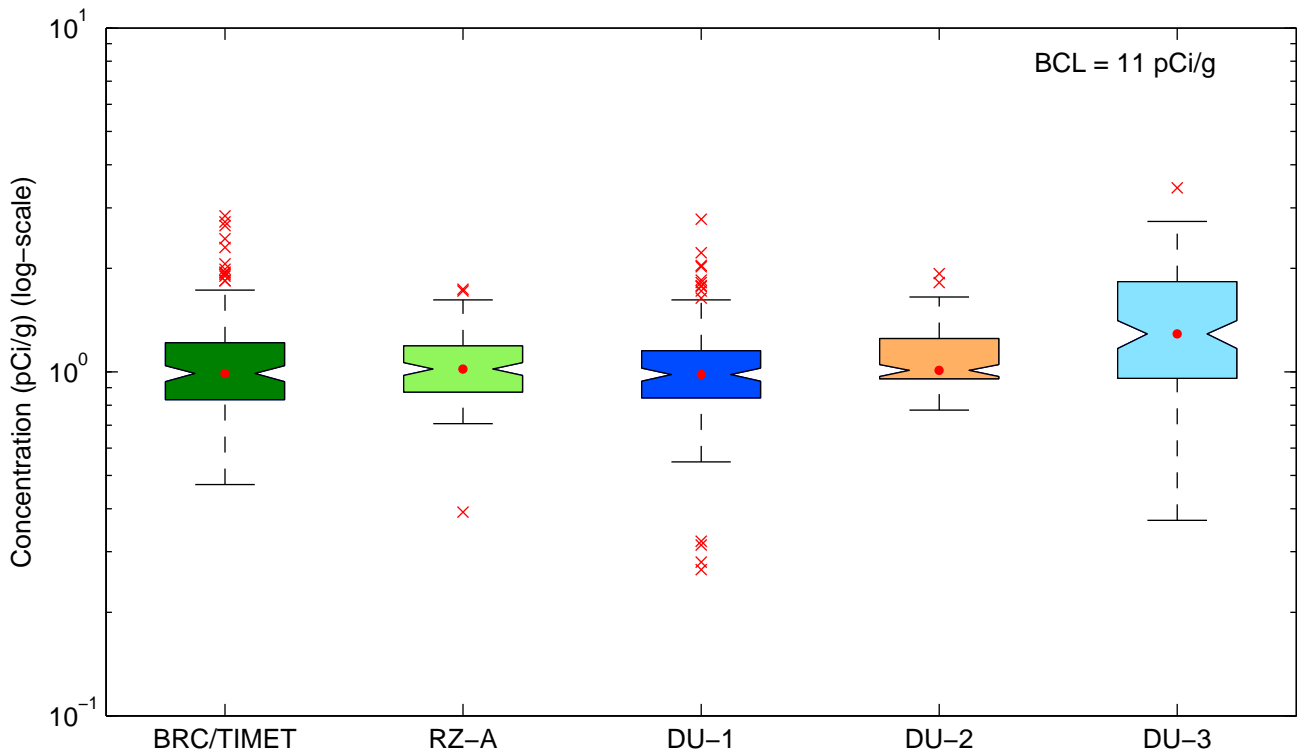
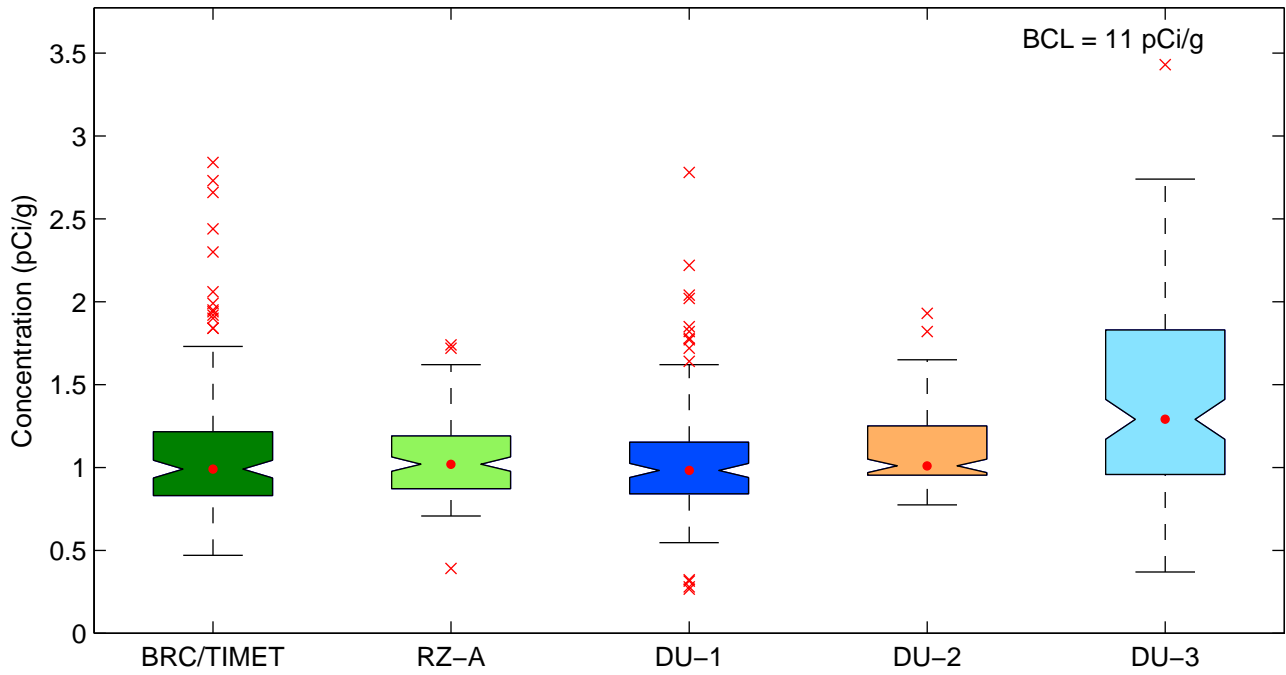
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RZ-A = RZ-A background

**Figure J1-8. Background vs. Decision Unit Boxplots
Uranium-238**



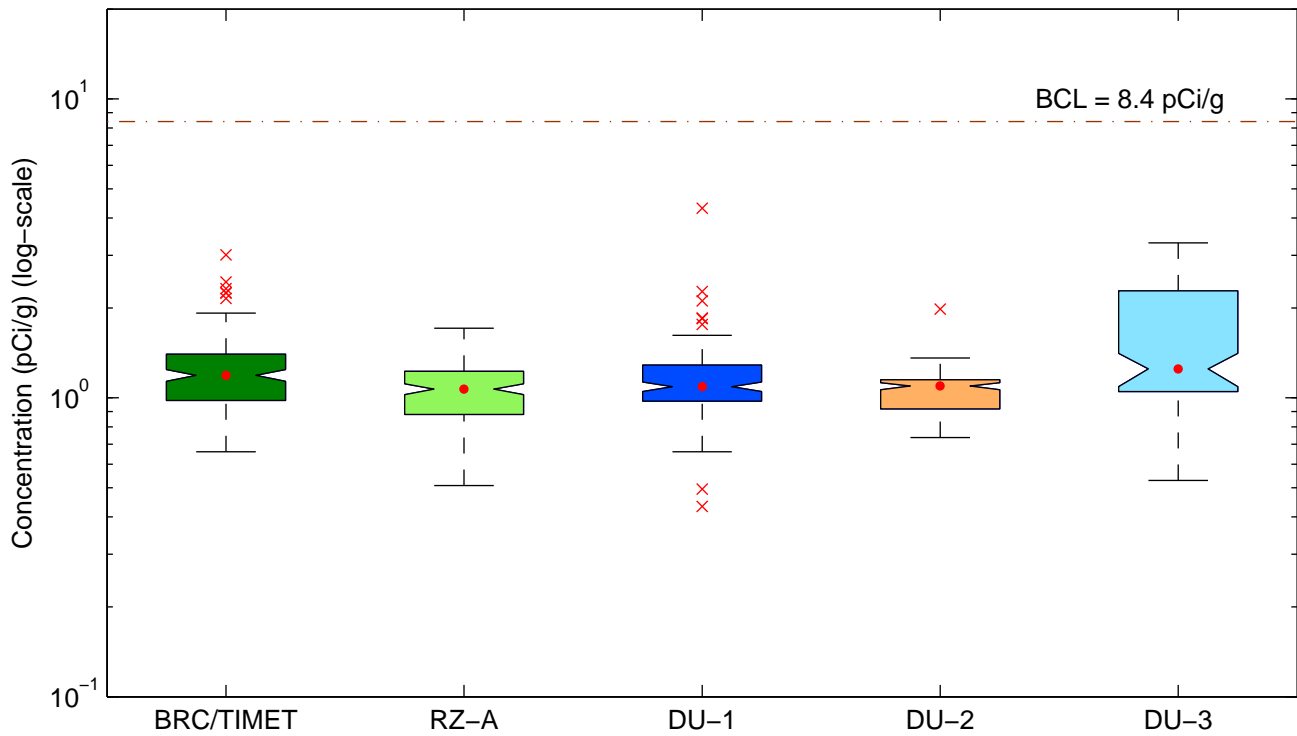
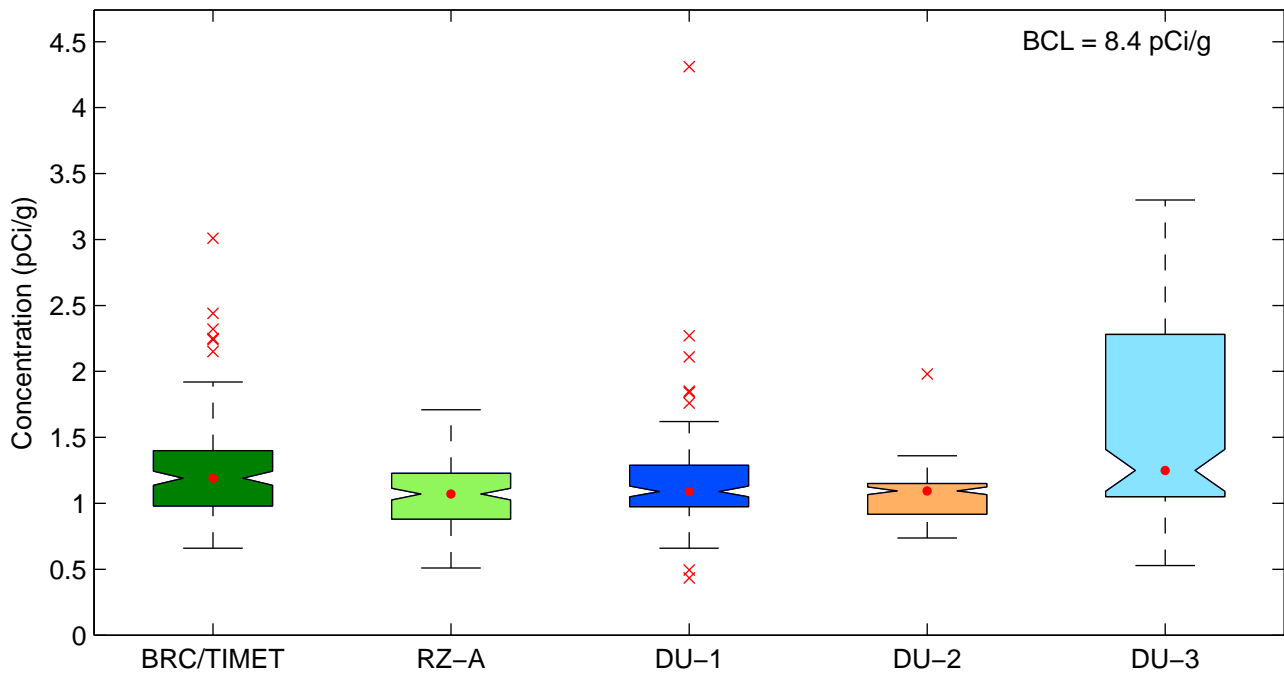
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RZ-A = RZ-A background

**Figure J1-9. Background vs. Decision Unit Boxplots
Uranium-234**



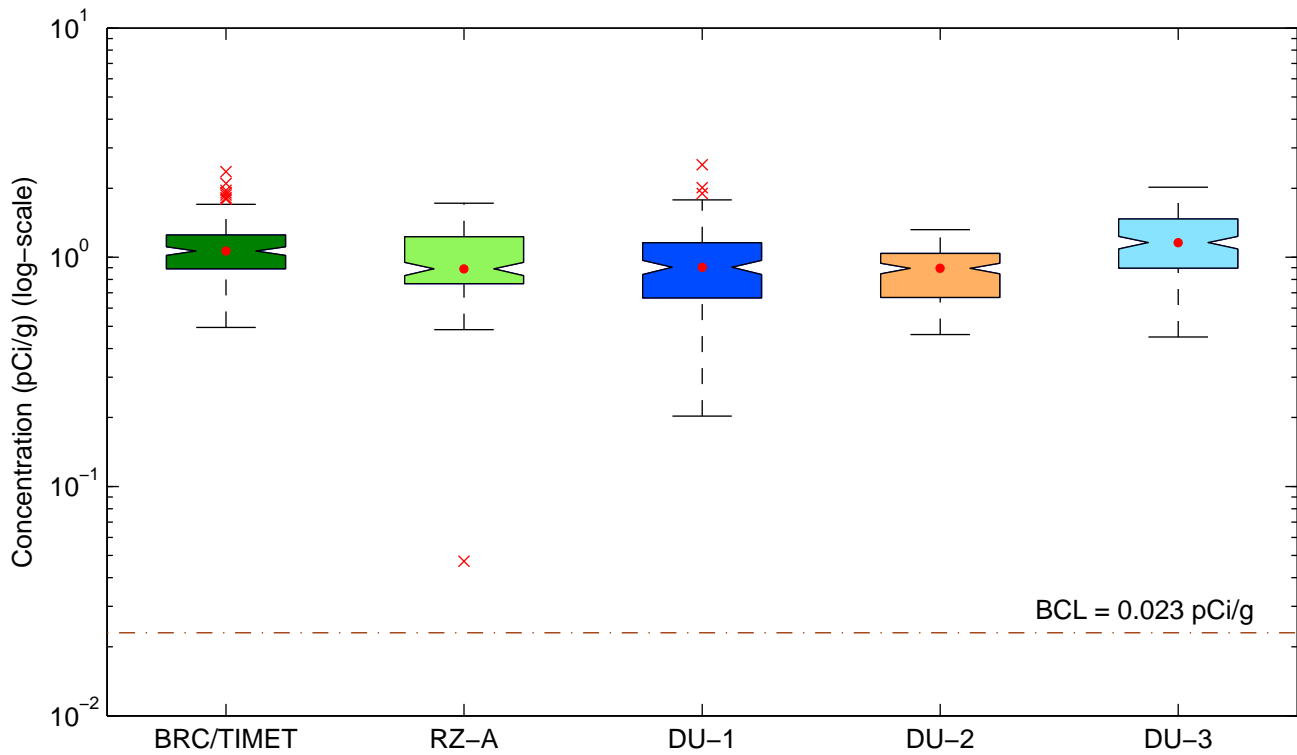
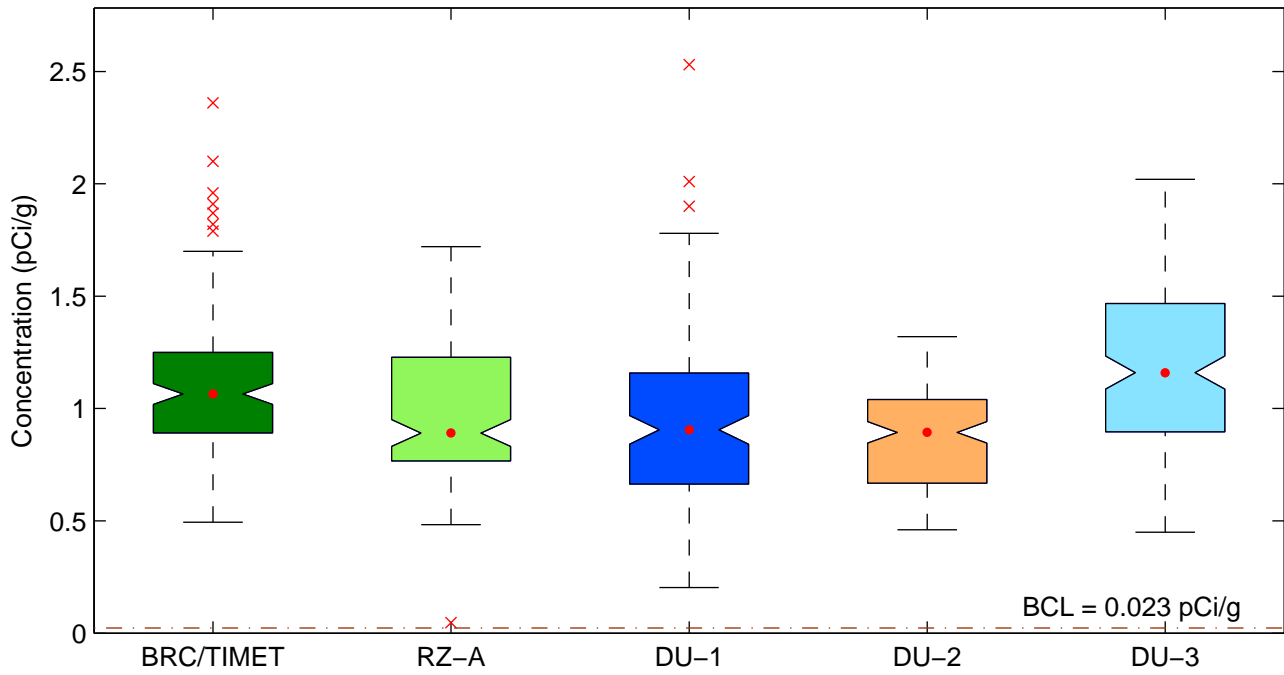
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RZ-A = RZ-A background

**Figure J1-10. Background vs. Decision Unit Boxplots
Thorium-230**



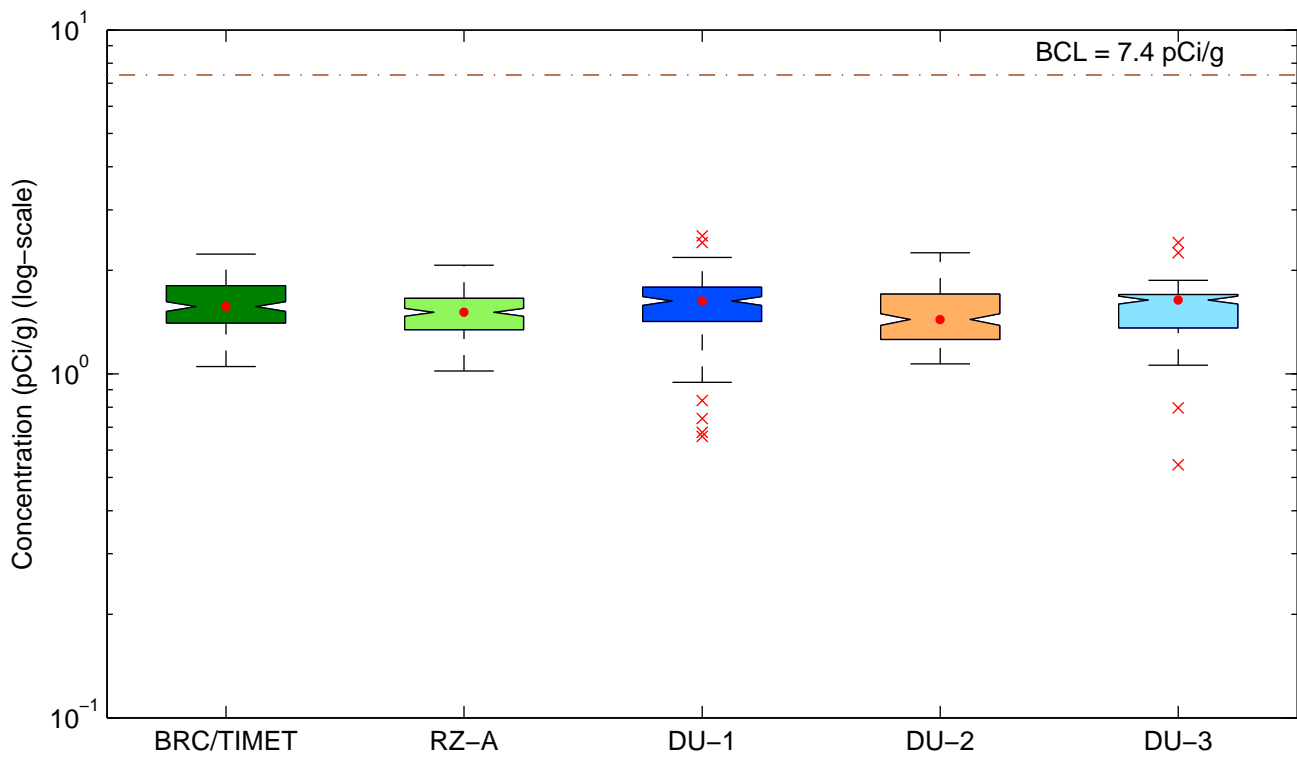
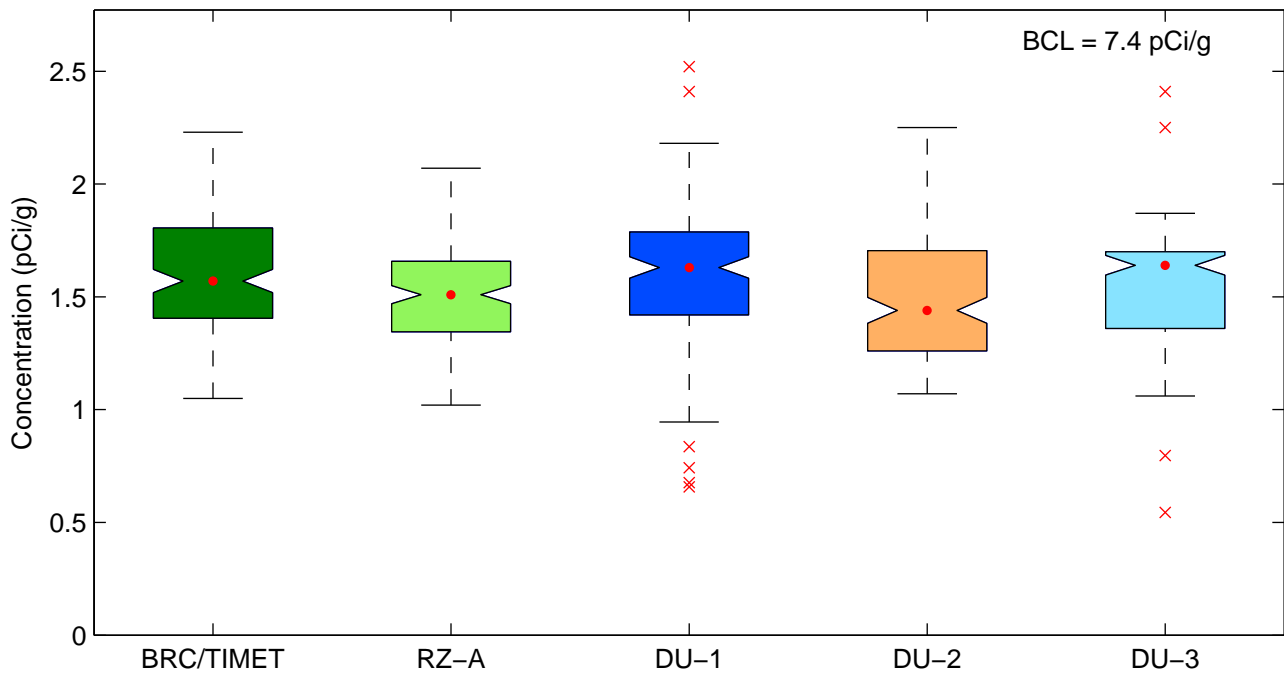
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RZ-A = RZ-A background

**Figure J1-11. Background vs. Decision Unit Boxplots
Radium-226**



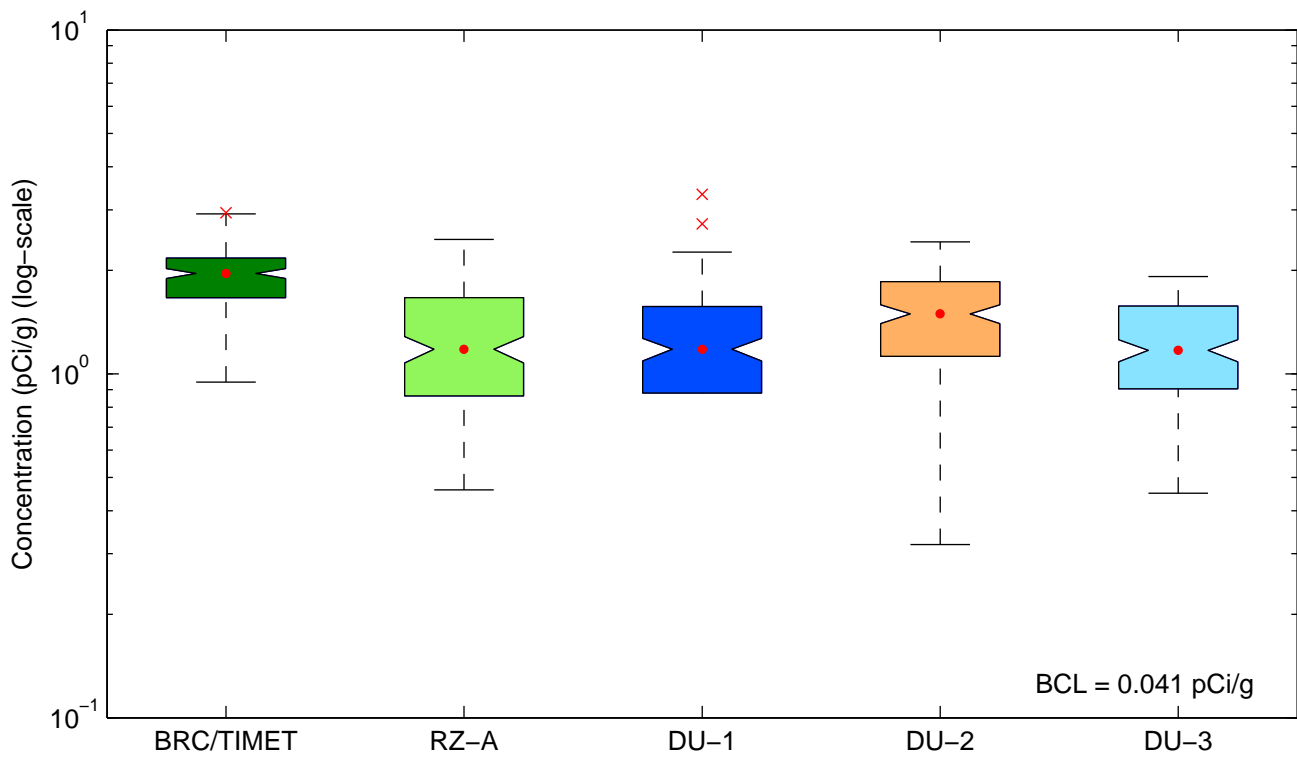
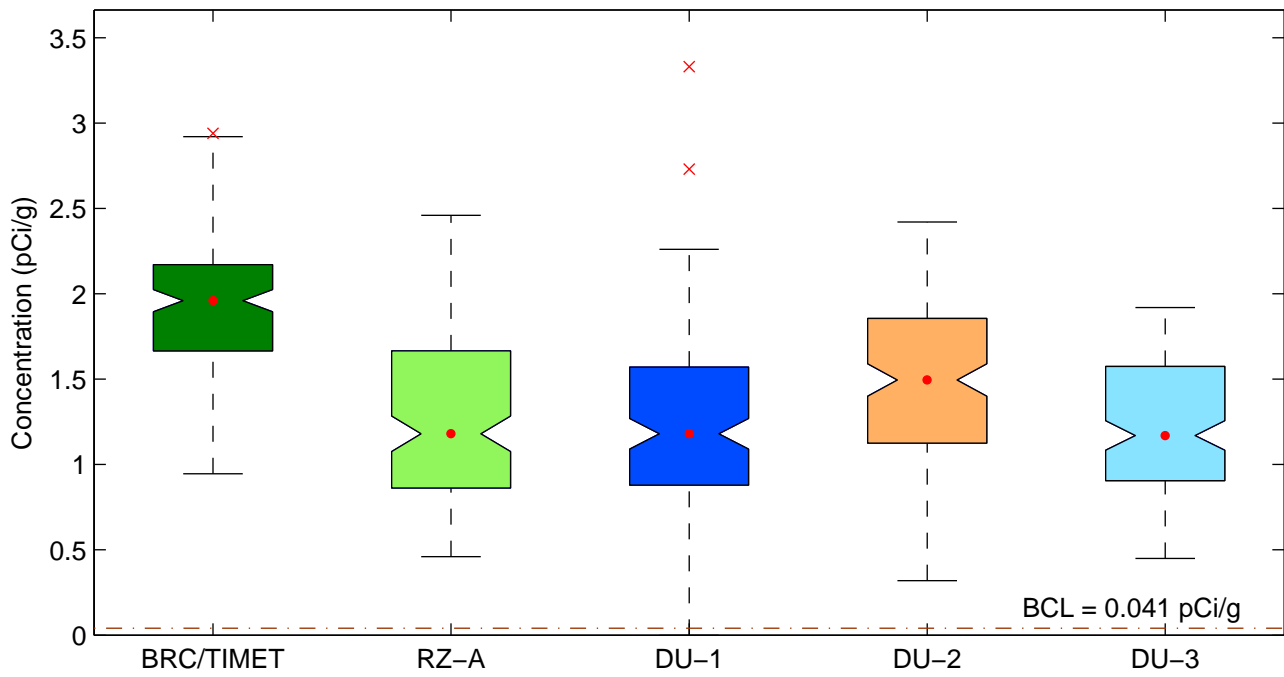
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RZ-A = RZ-A background

**Figure J1-12. Background vs. Decision Unit Boxplots
Thorium-232**



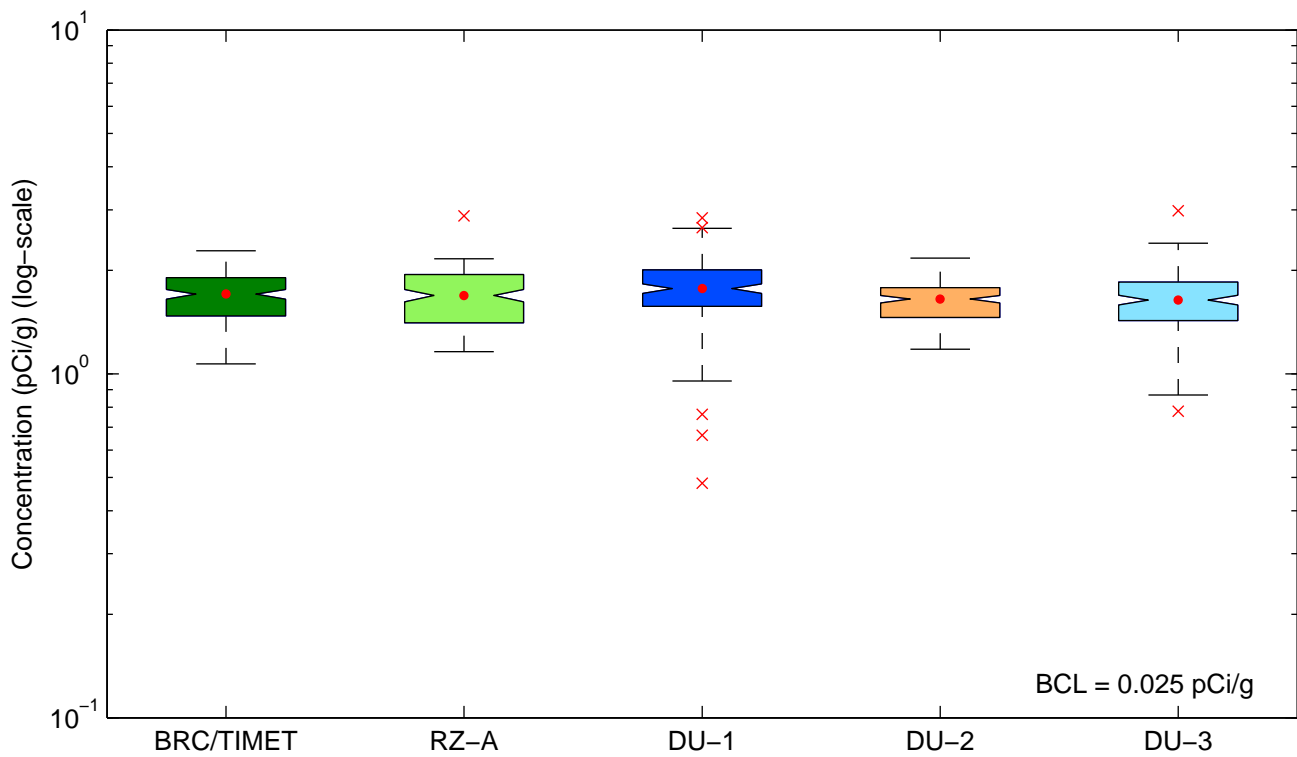
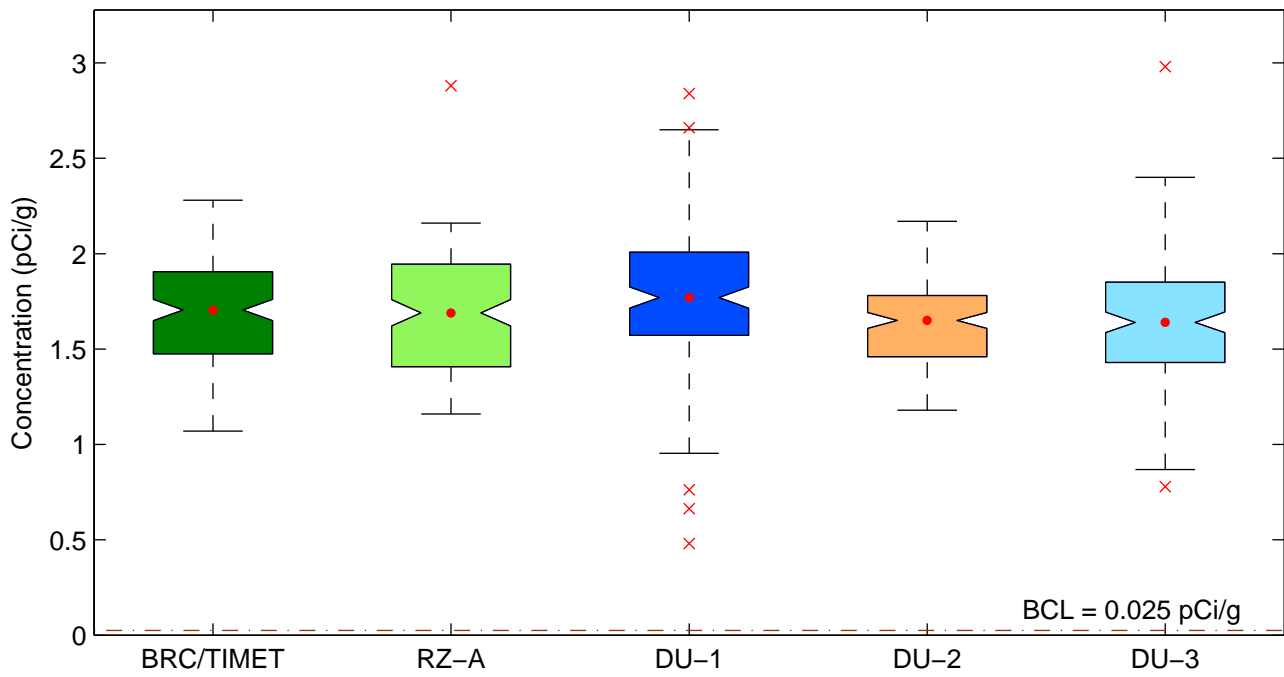
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RZ-A = RZ-A background

**Figure J1-13. Background vs. Decision Unit Boxplots
Radium-228**



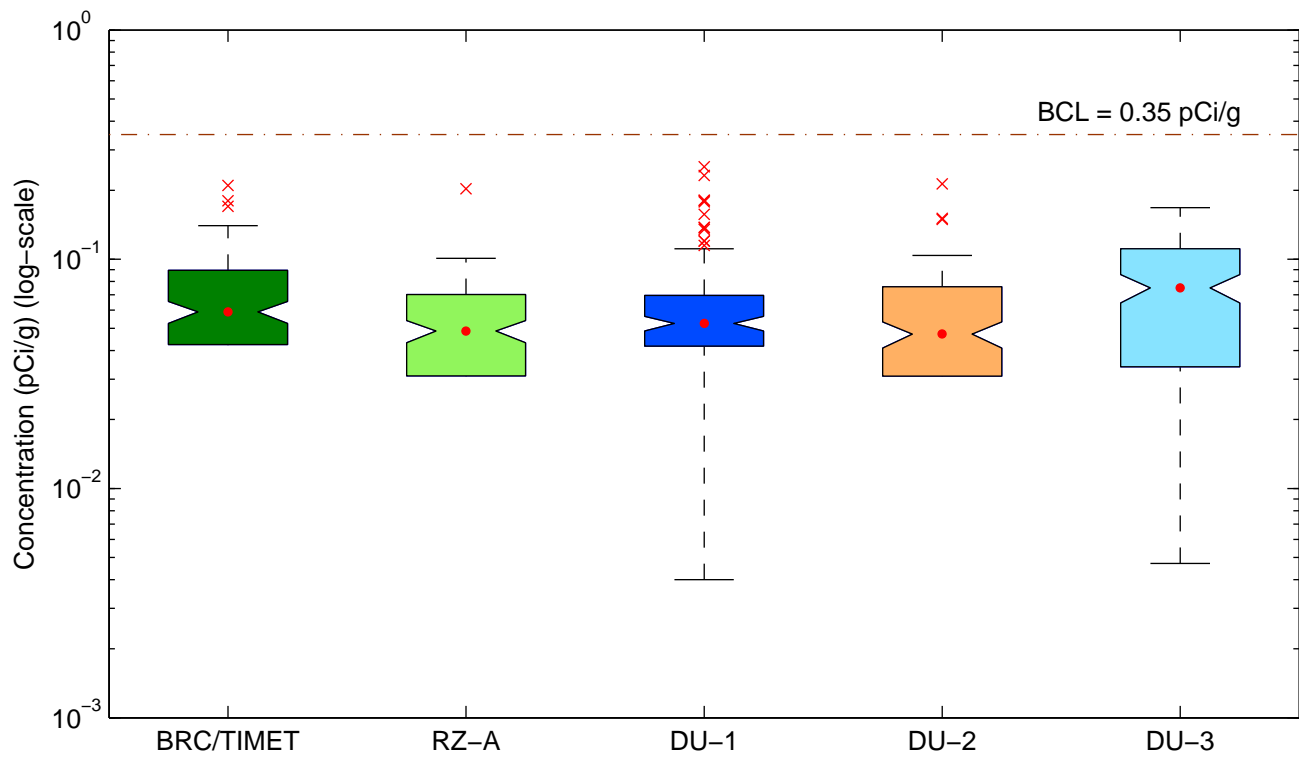
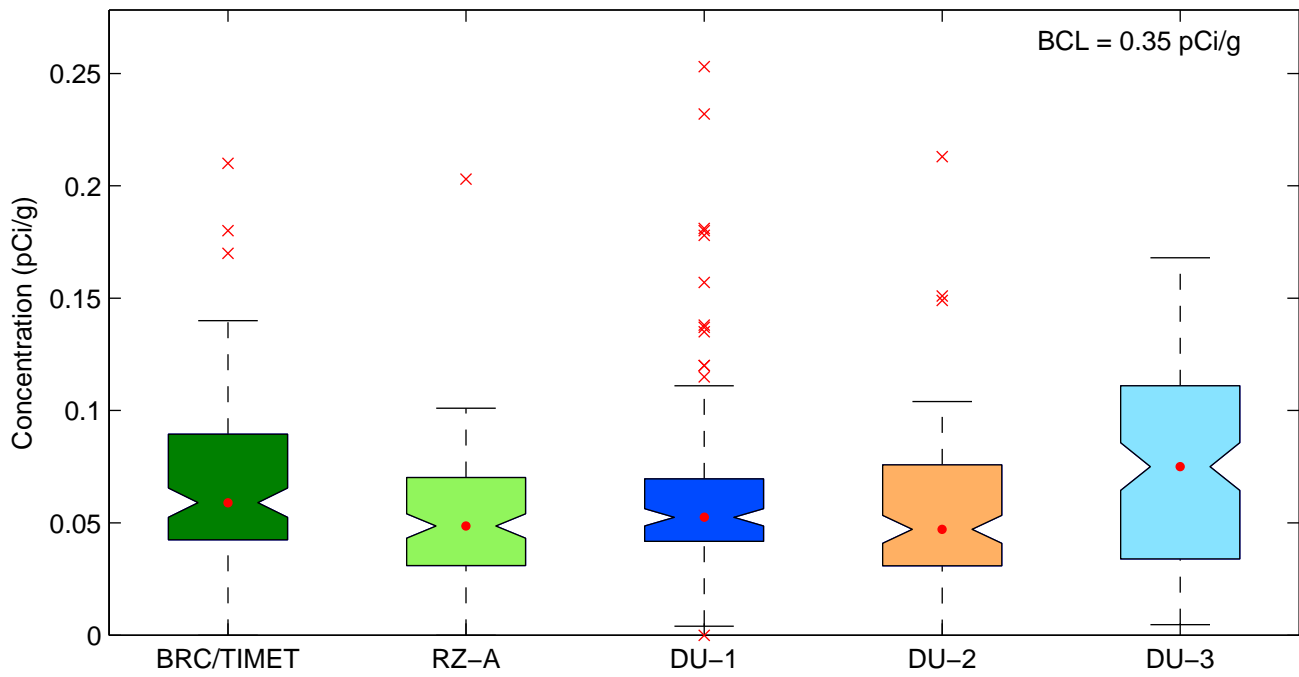
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RZ-A = RZ-A background

**Figure J1-14. Background vs. Decision Unit Boxplots
Thorium-228**



BRC/TIMET = BRC/TIMET regional background
RZ-A = RZ-A background

**Figure J1-15. Background vs. Decision Unit Boxplots
Uranium-235**



BRC/TIMET = BRC/TIMET regional background
RZ-A = RZ-A background

Figure J2-1A. Normal Q-Q Plots
Arsenic

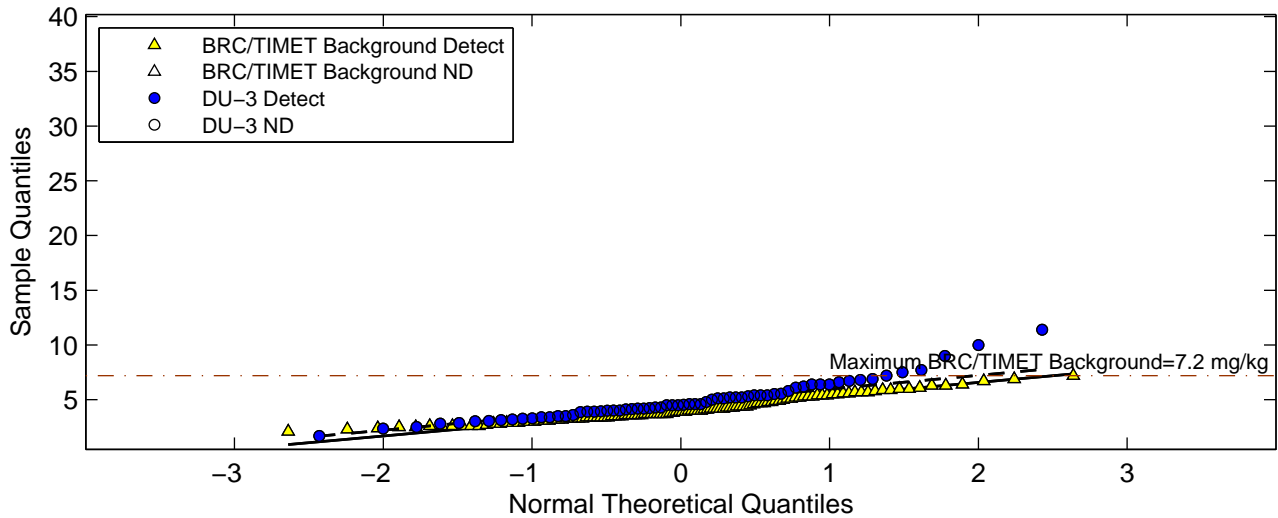
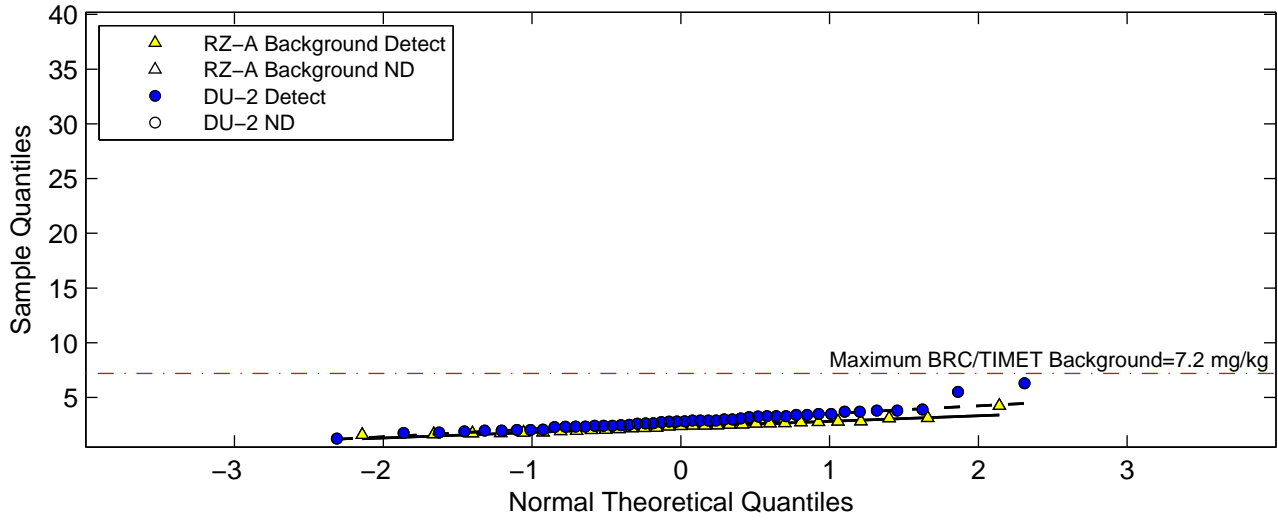
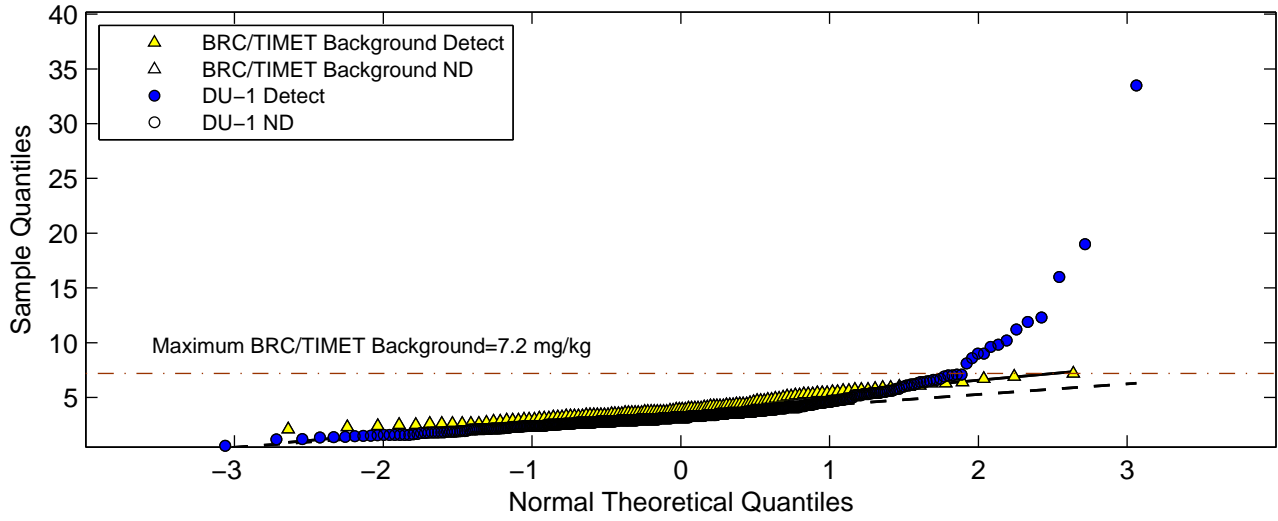


Figure J2-1B. Lognormal Q-Q Plots
Arsenic

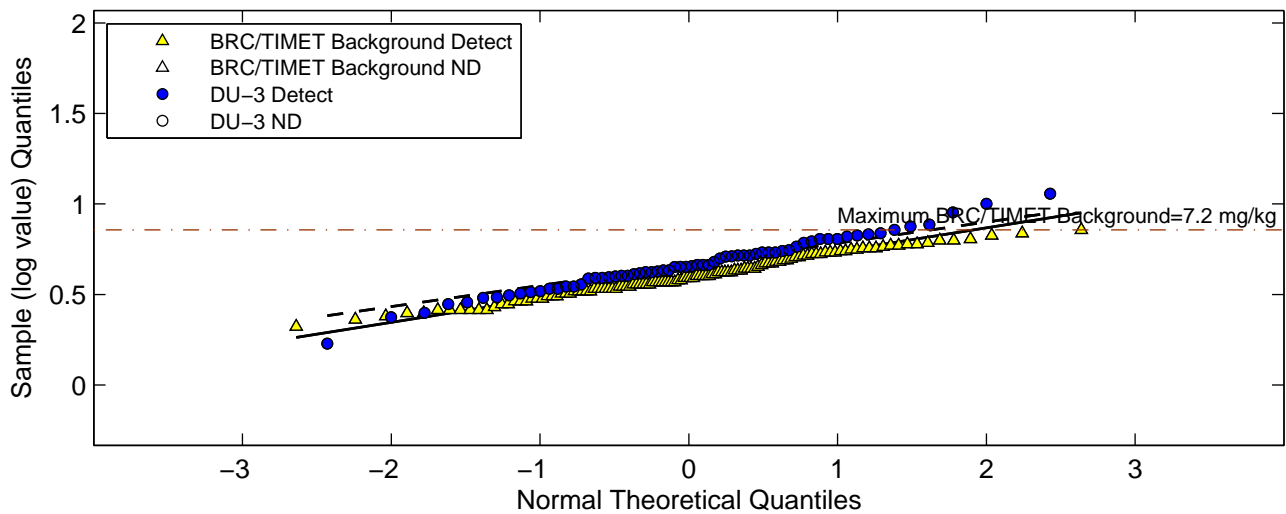
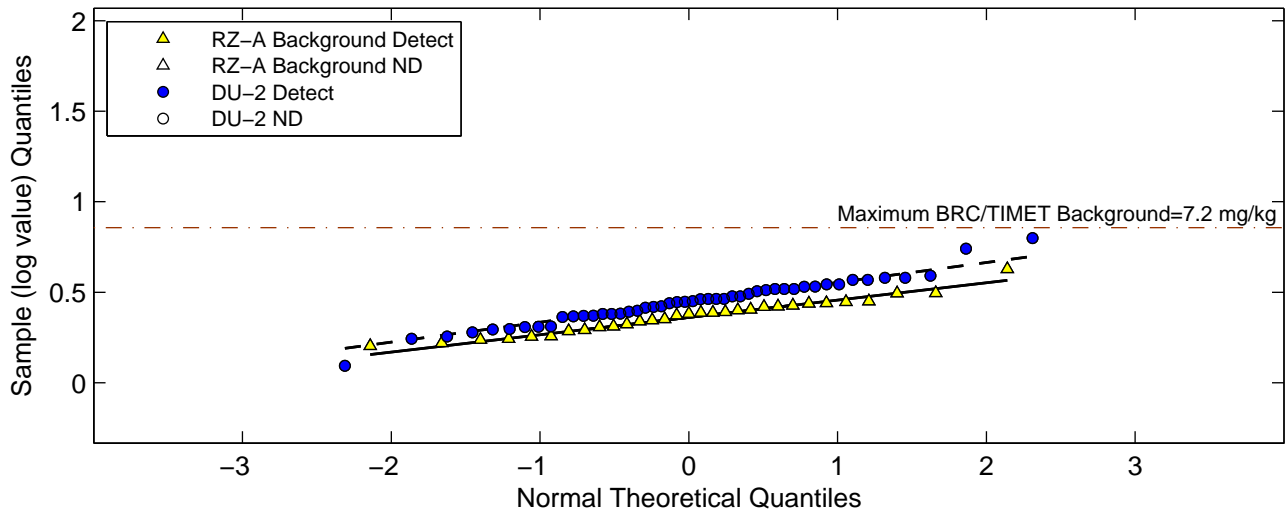
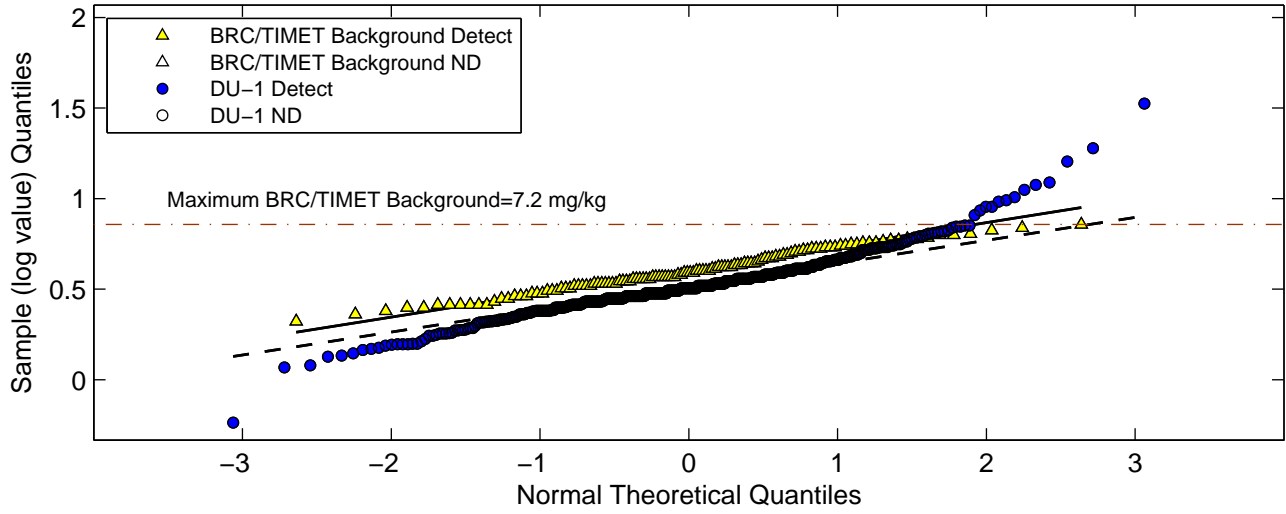


Figure J2-2A. Normal Q-Q Plots
Chromium VI

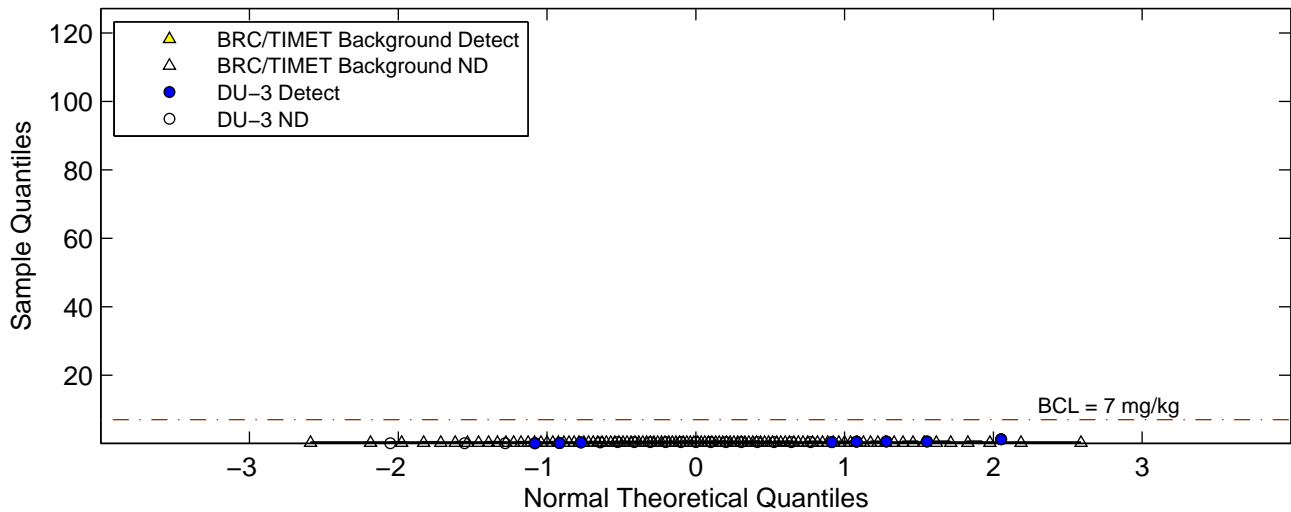
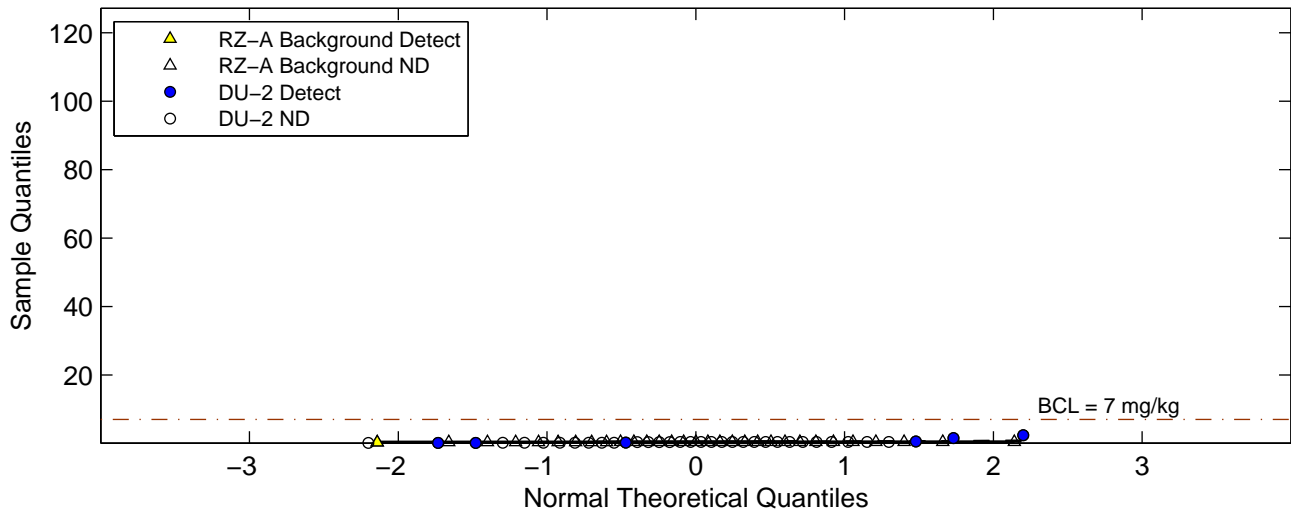
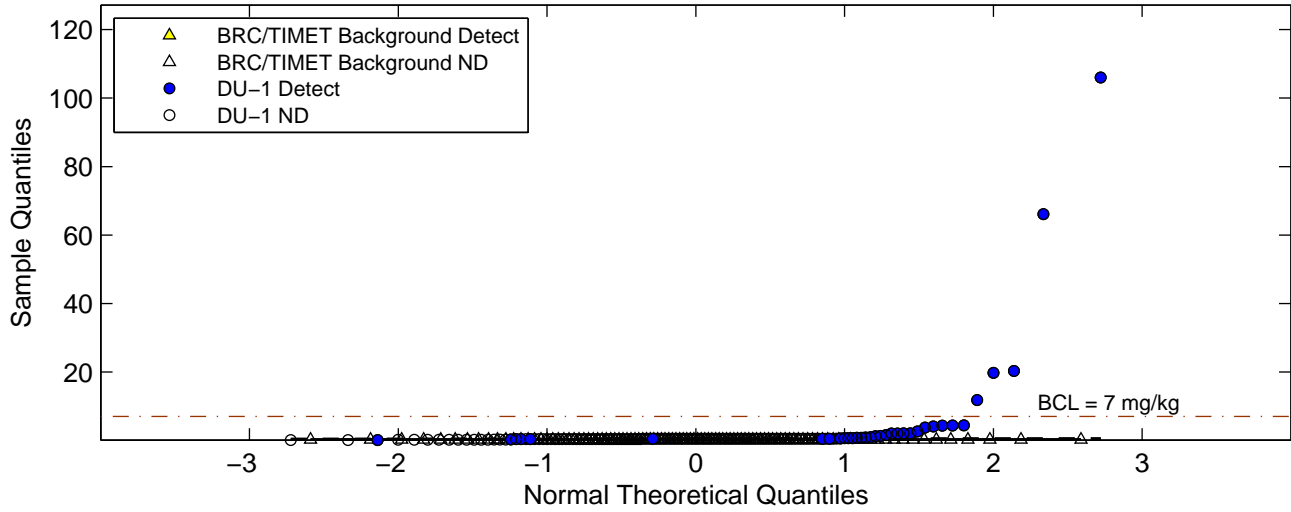


Figure J2-2B. Lognormal Q-Q Plots
Chromium VI

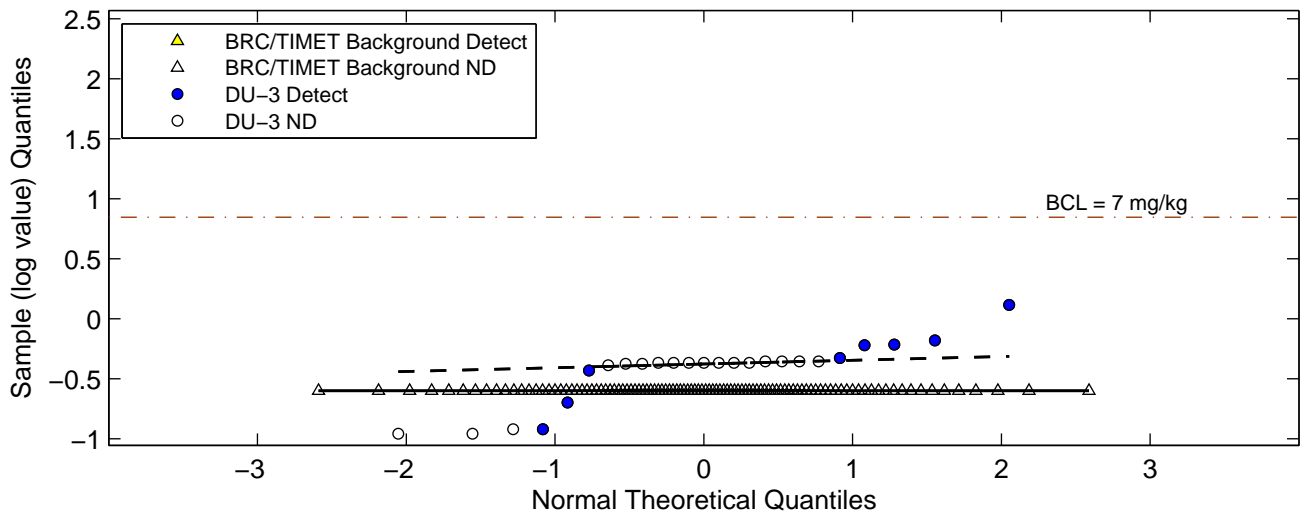
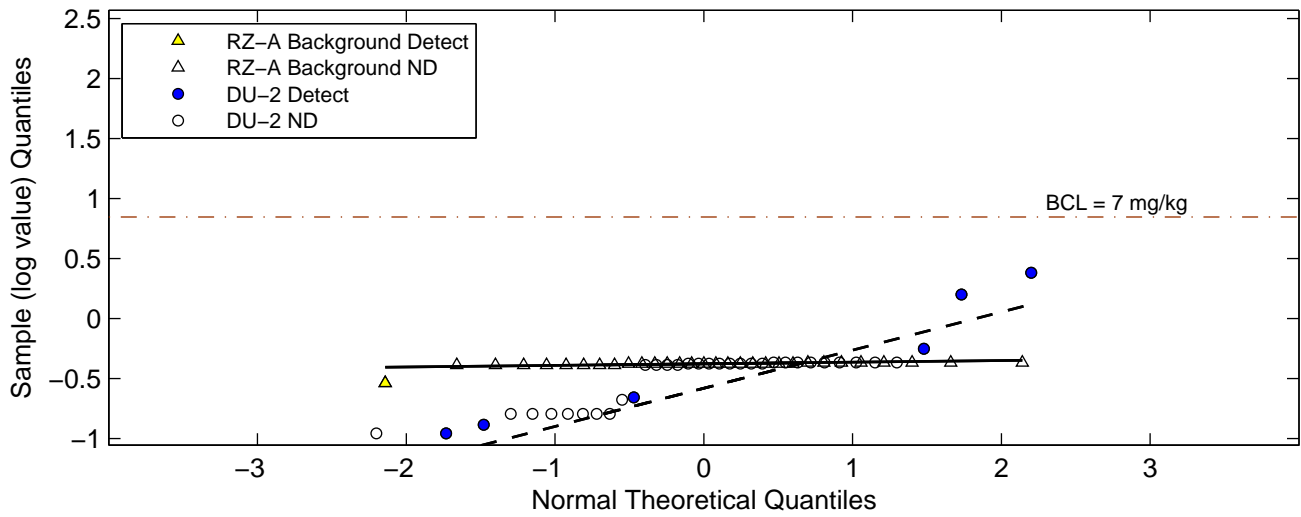
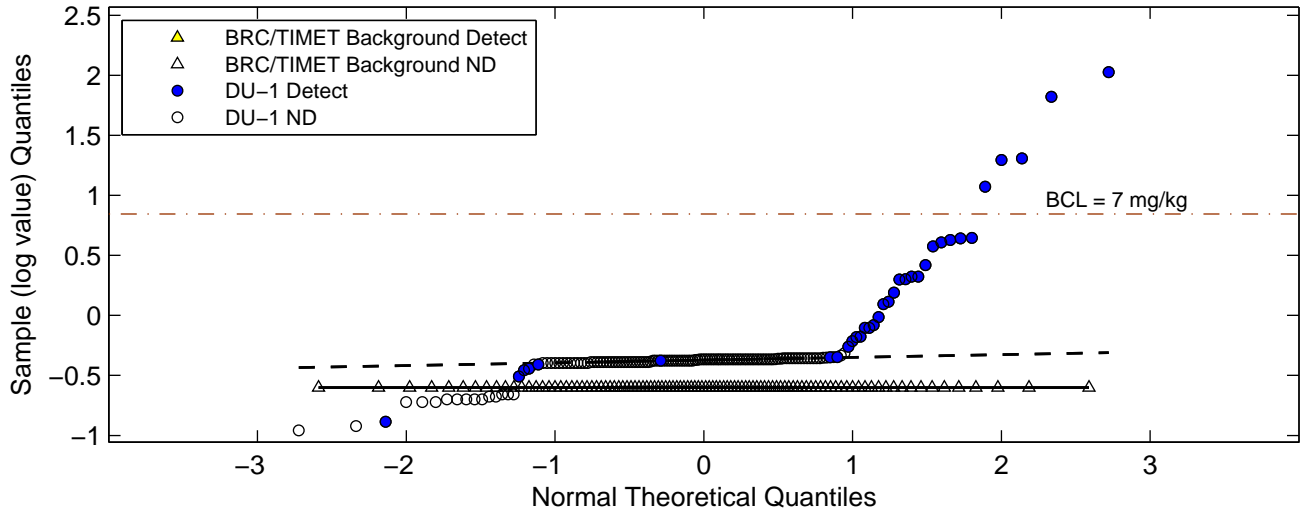


Figure J2-3A. Normal Q-Q Plots
Cobalt

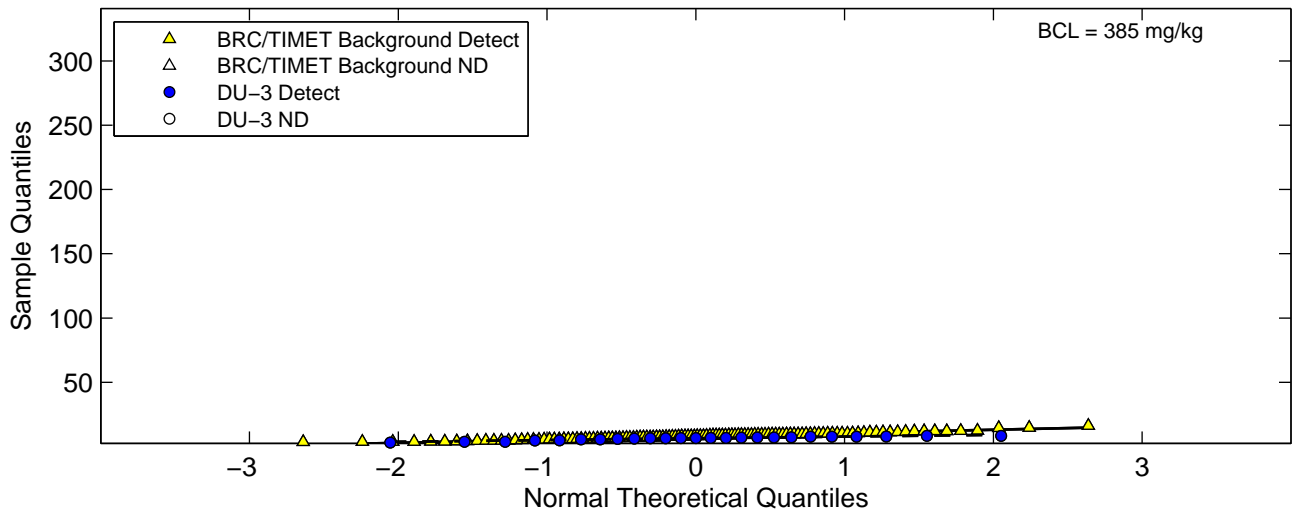
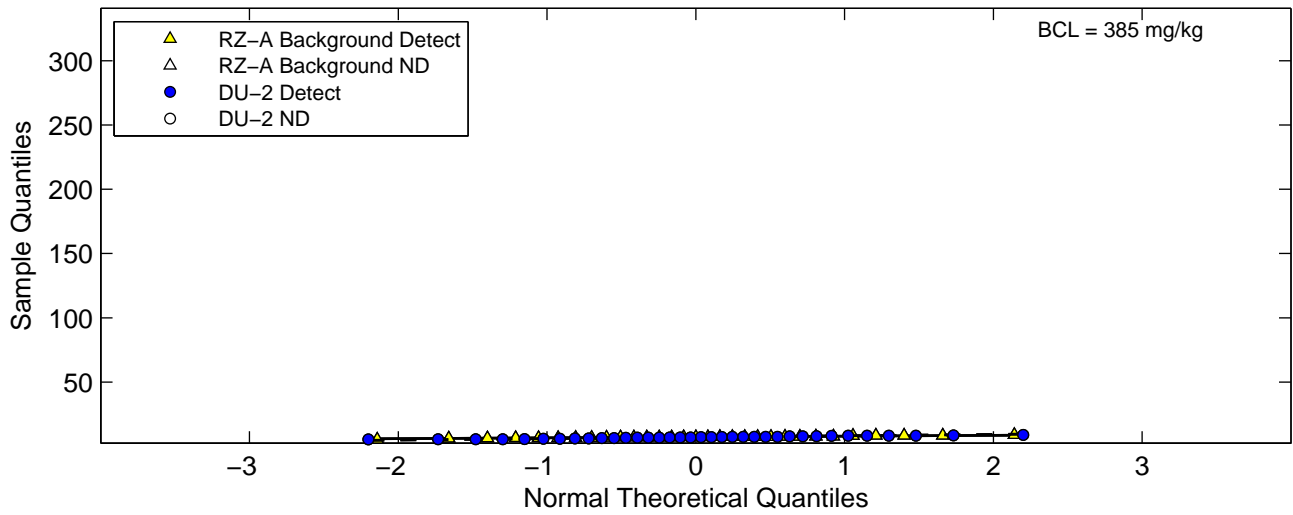
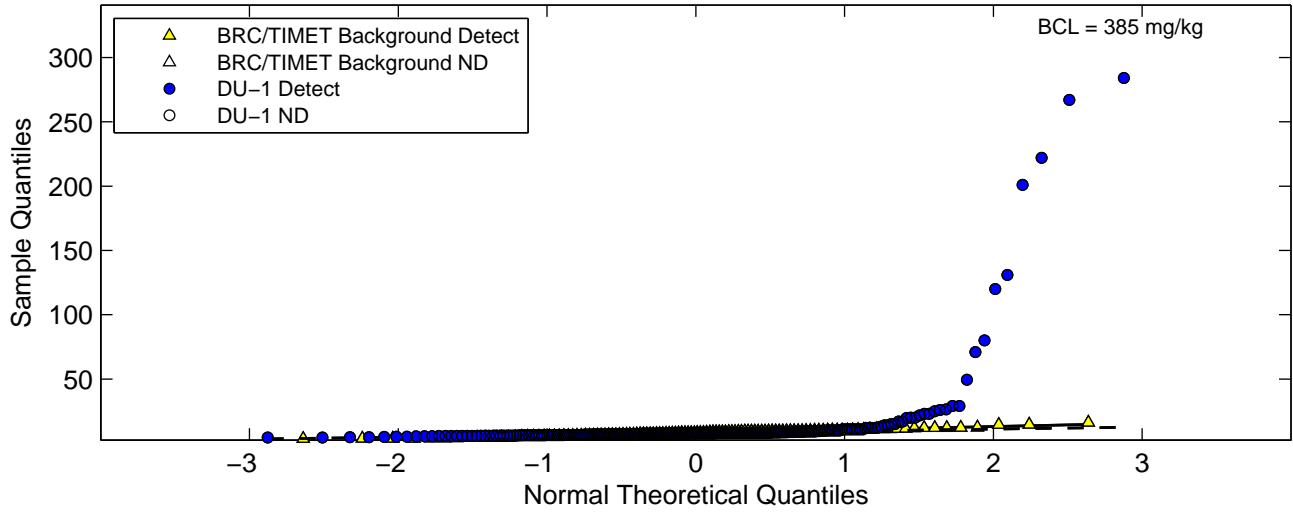


Figure J2-3B. Lognormal Q-Q Plots
Cobalt

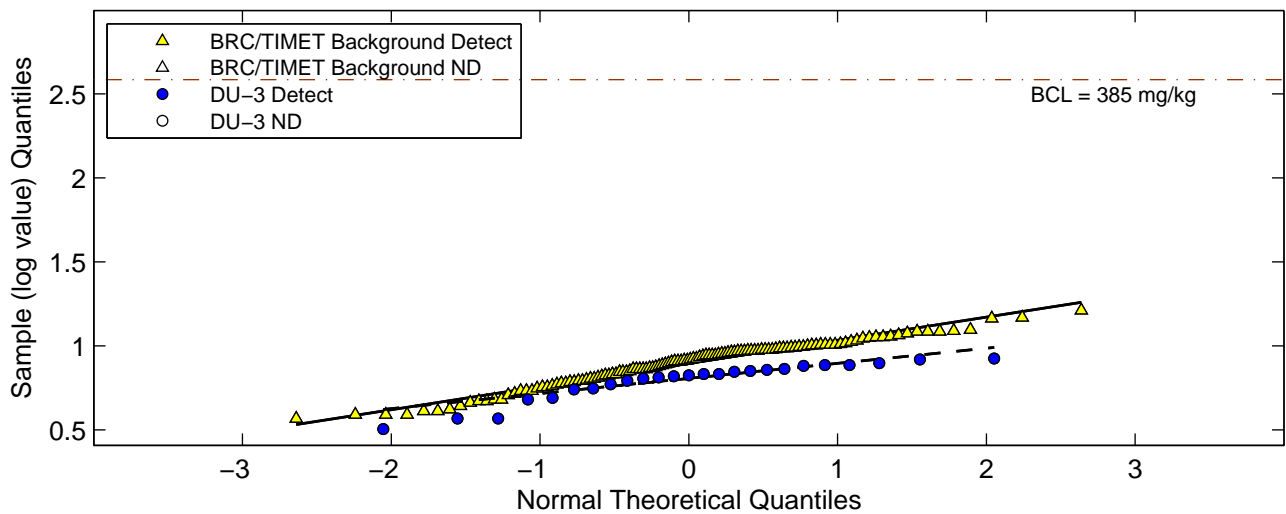
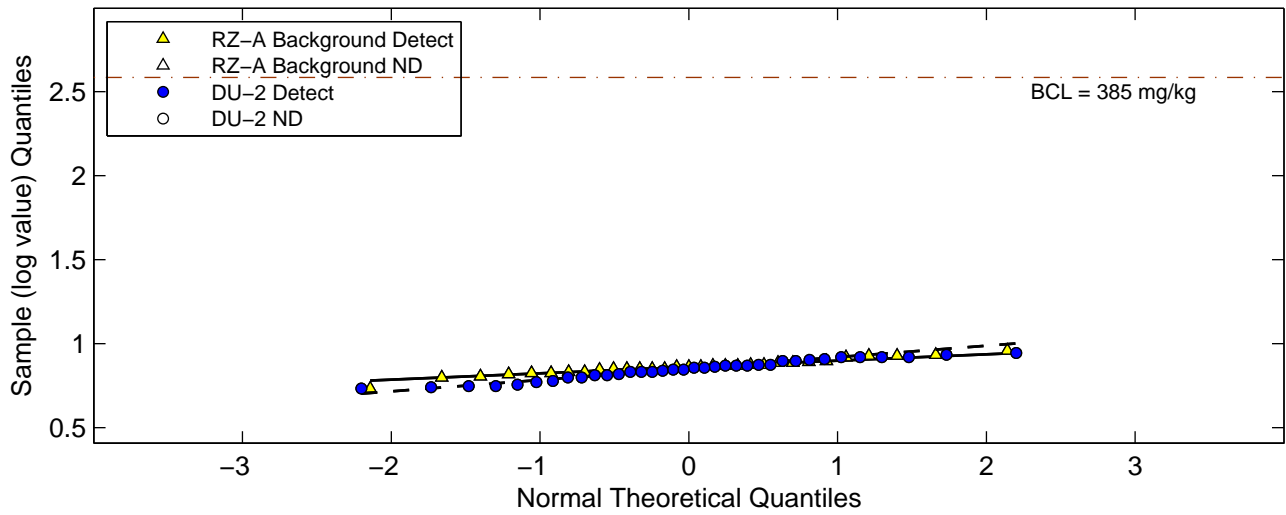
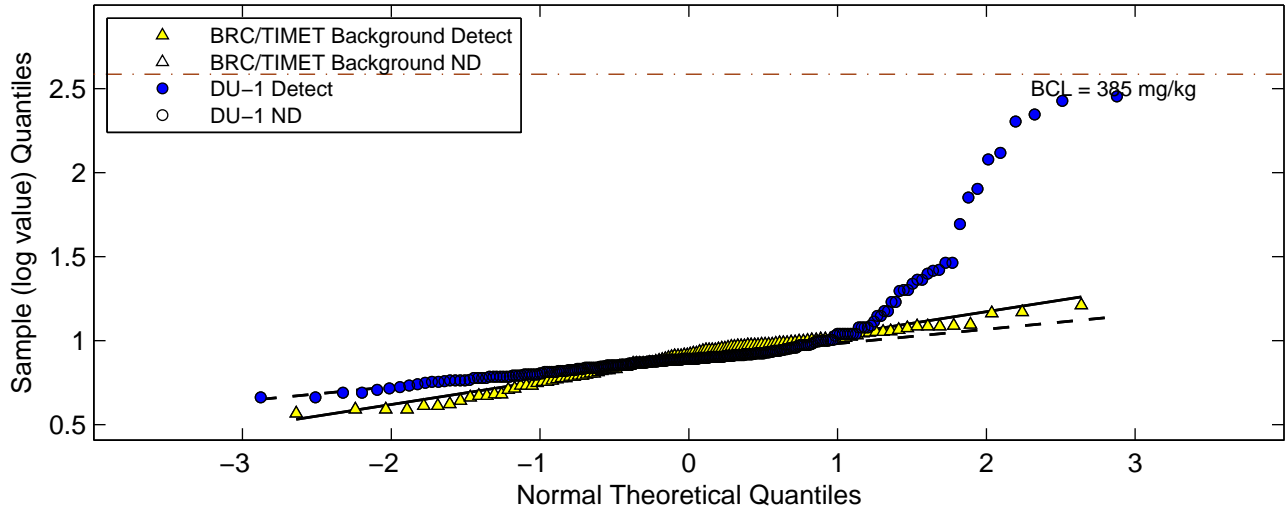


Figure J2-4A. Normal Q-Q Plots
Manganese

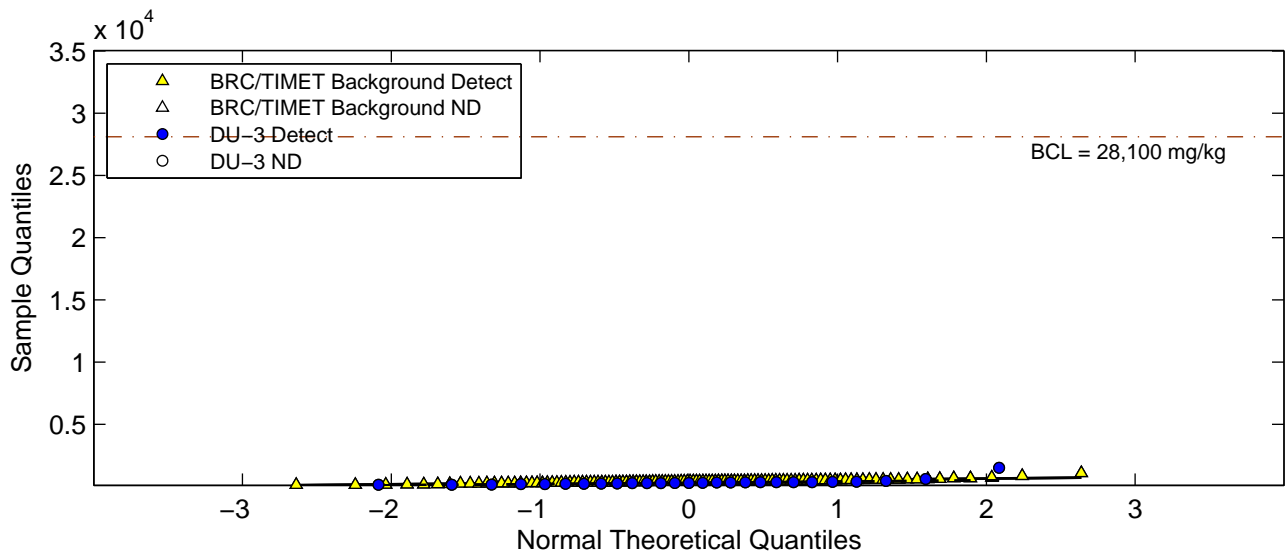
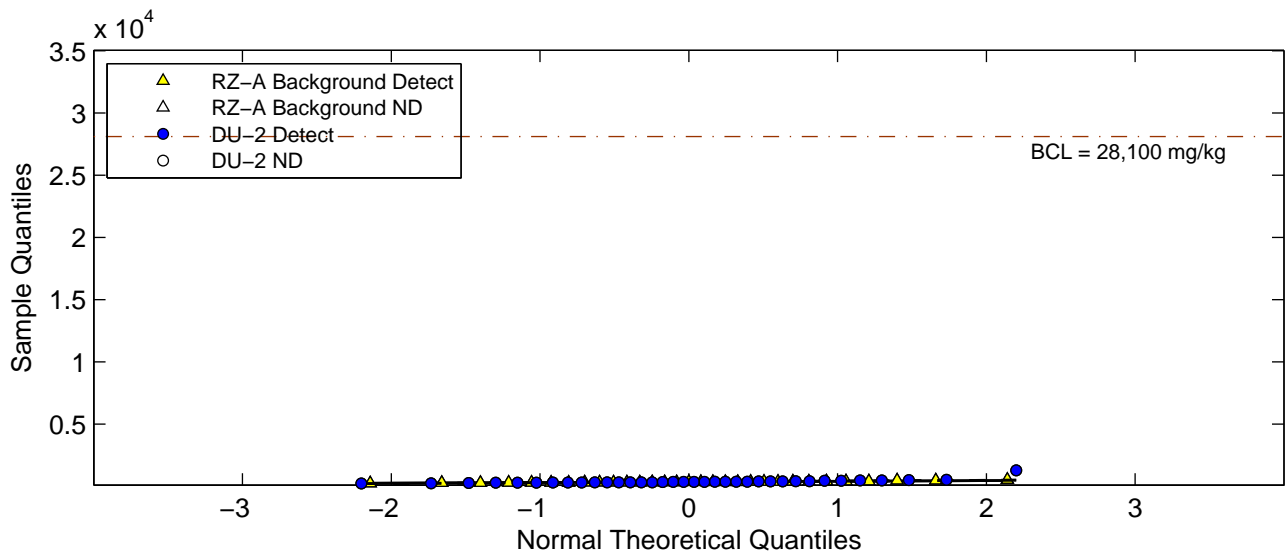
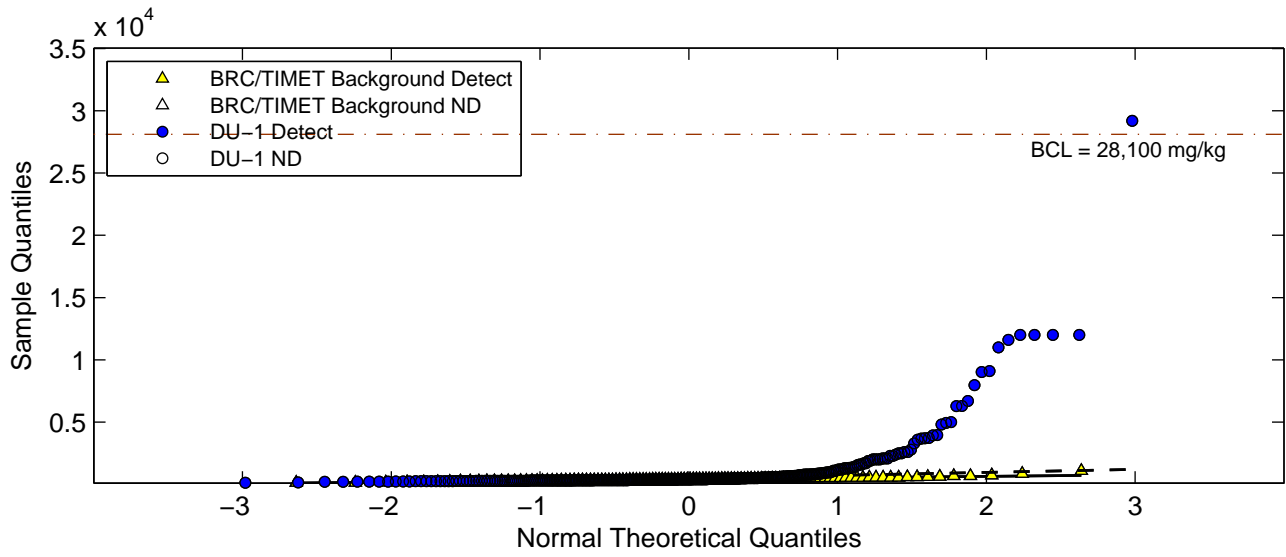
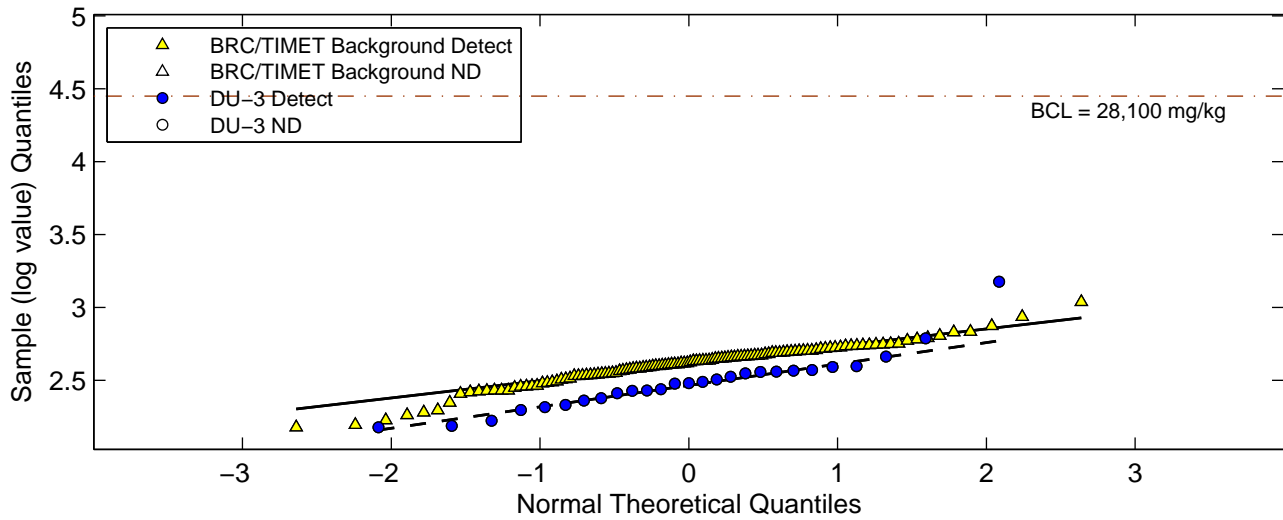
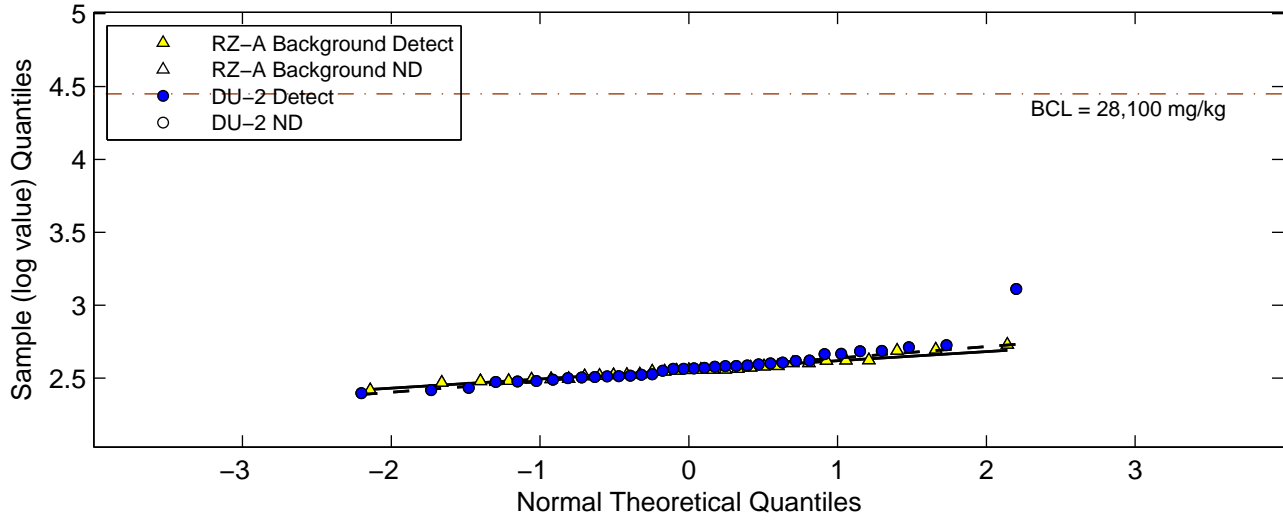
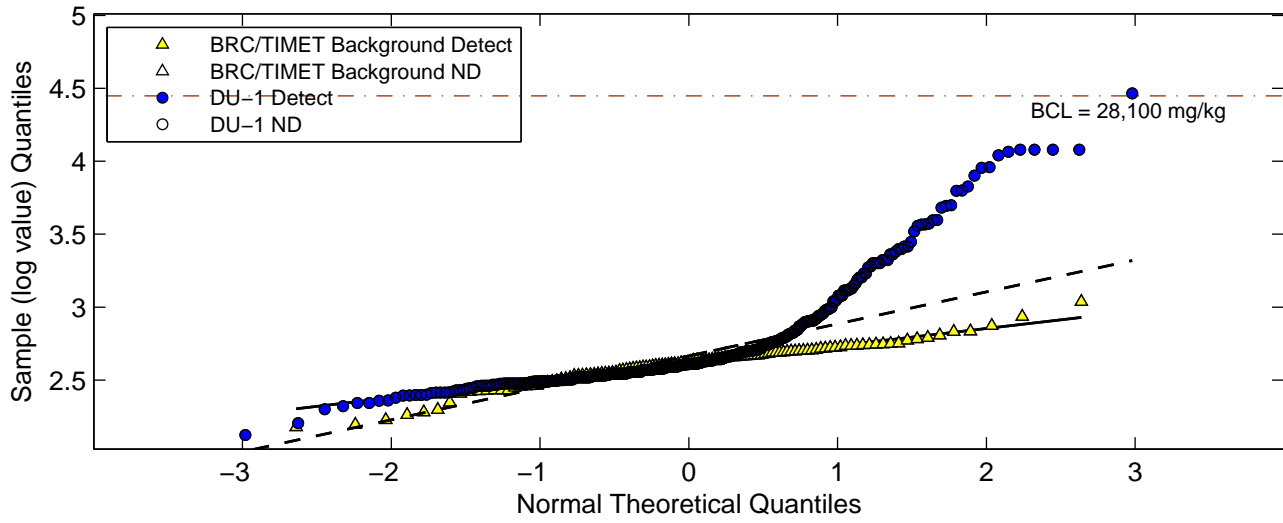
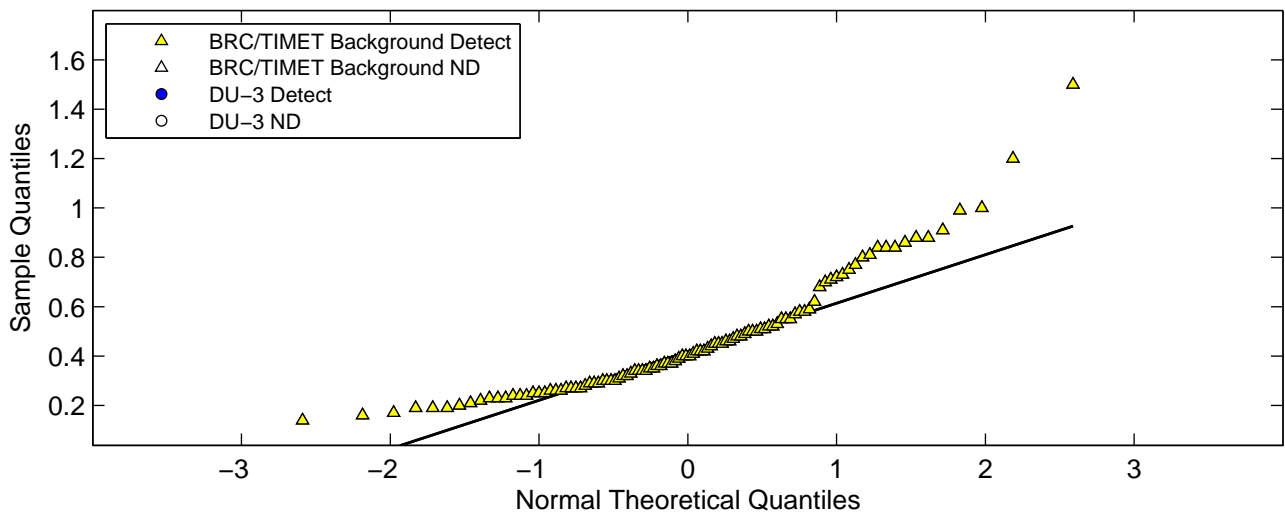
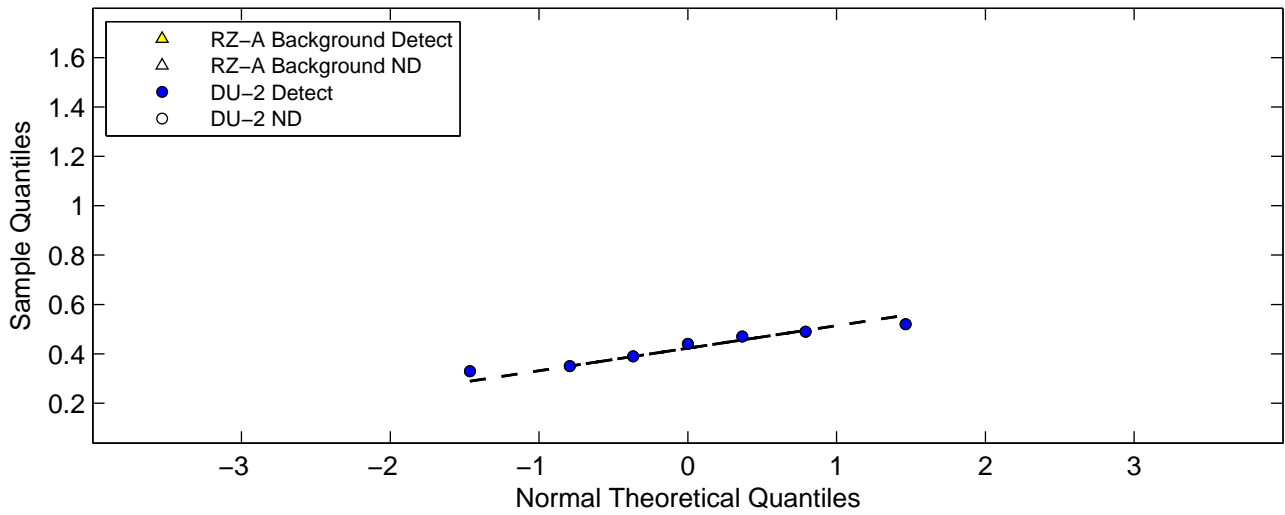
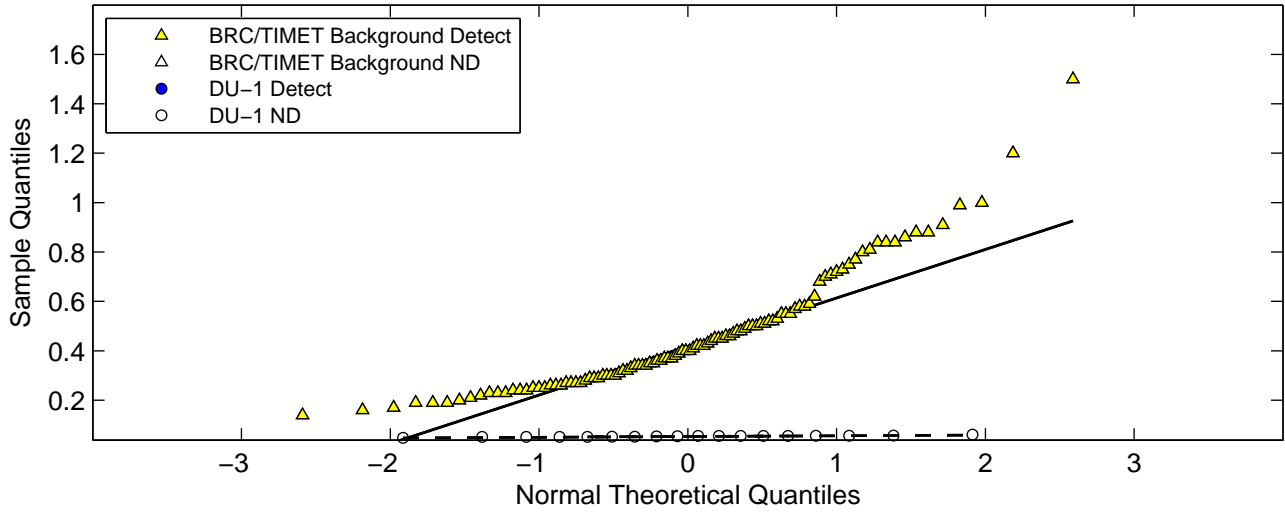


Figure J2-4B. Lognormal Q-Q Plots
Manganese



**Figure J2-5A. Normal Q-Q Plots
Palladium**



**Figure J2-5B. Lognormal Q-Q Plots
Palladium**

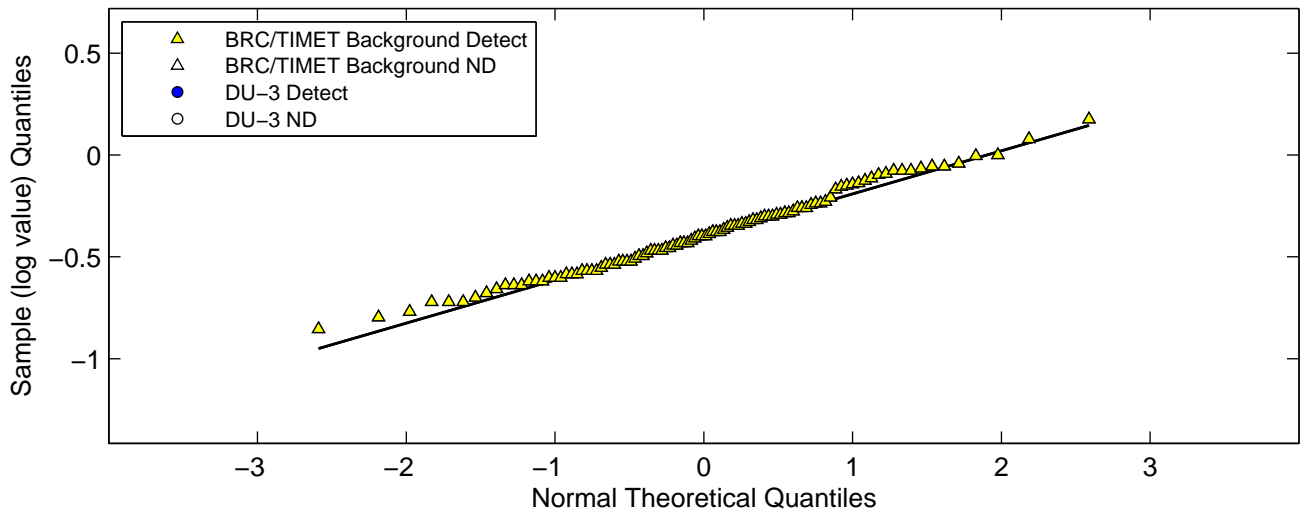
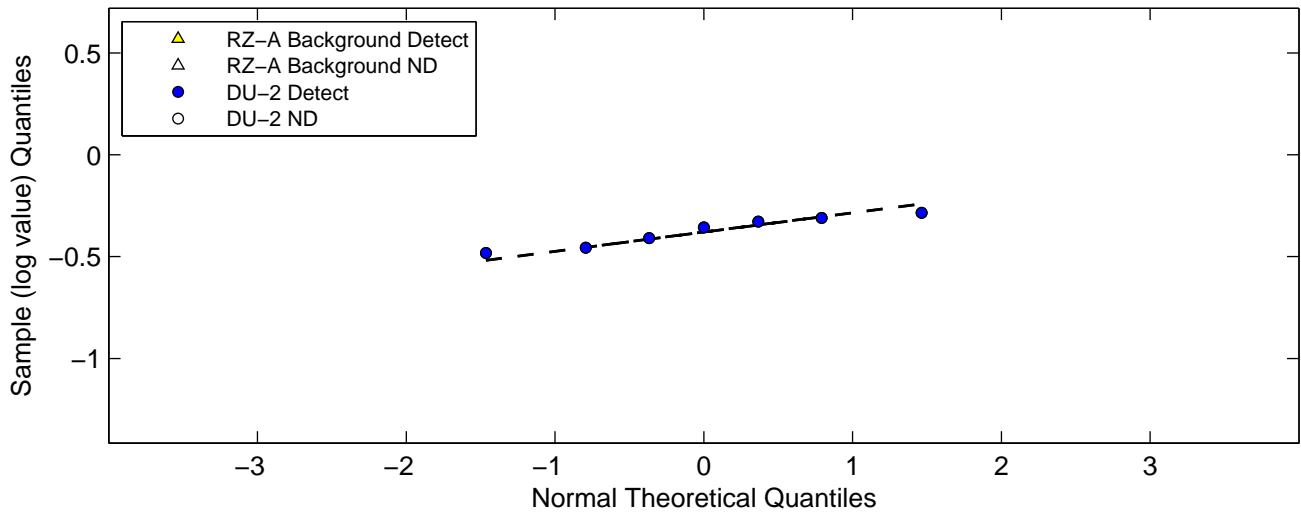
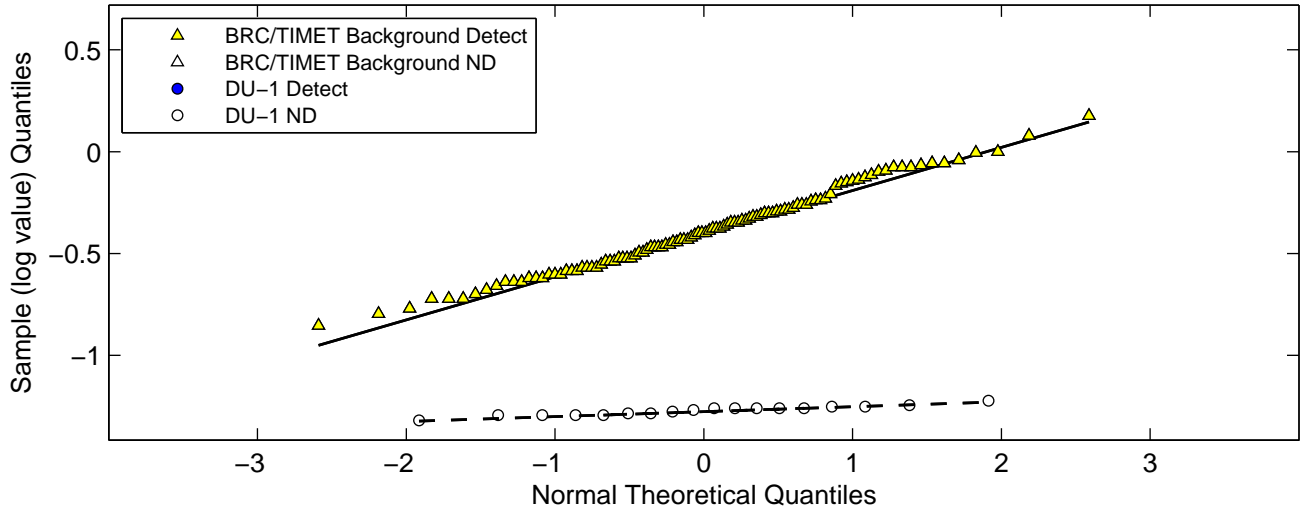


Figure J2-6A. Normal Q-Q Plots
Thallium

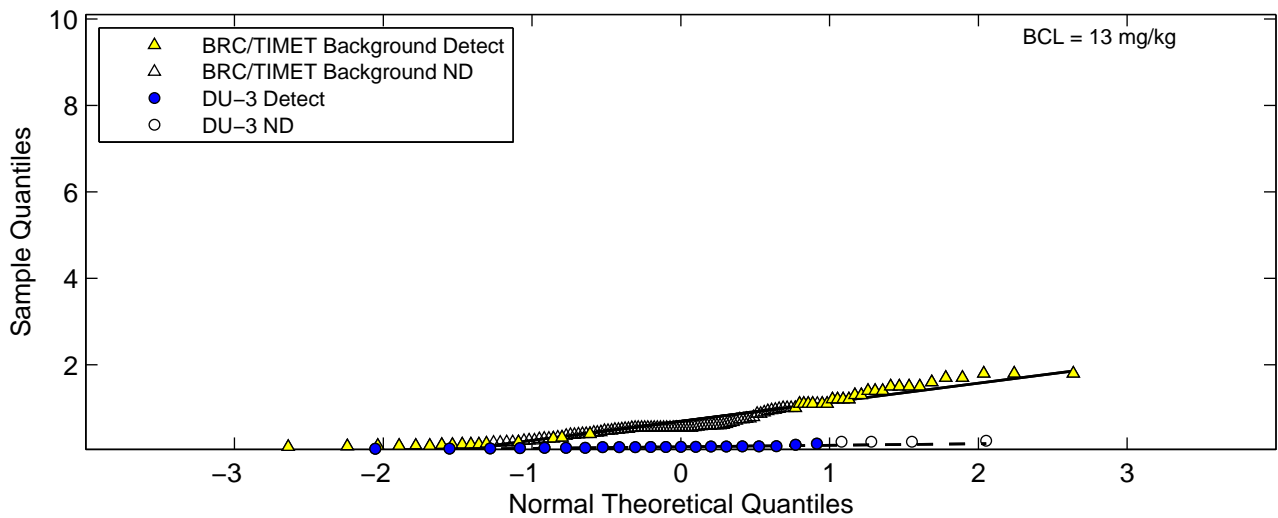
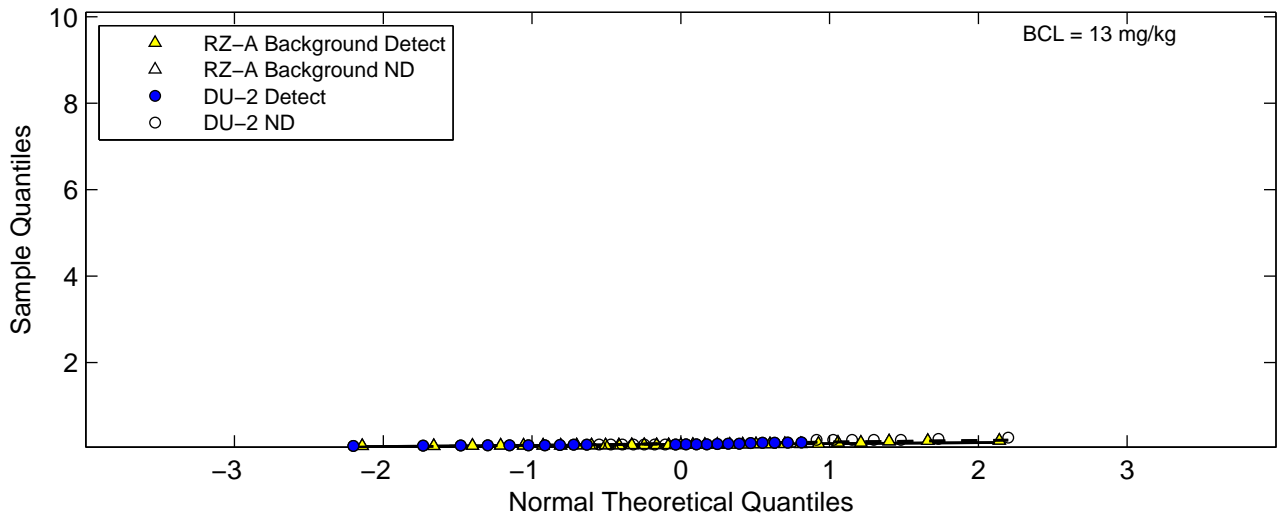
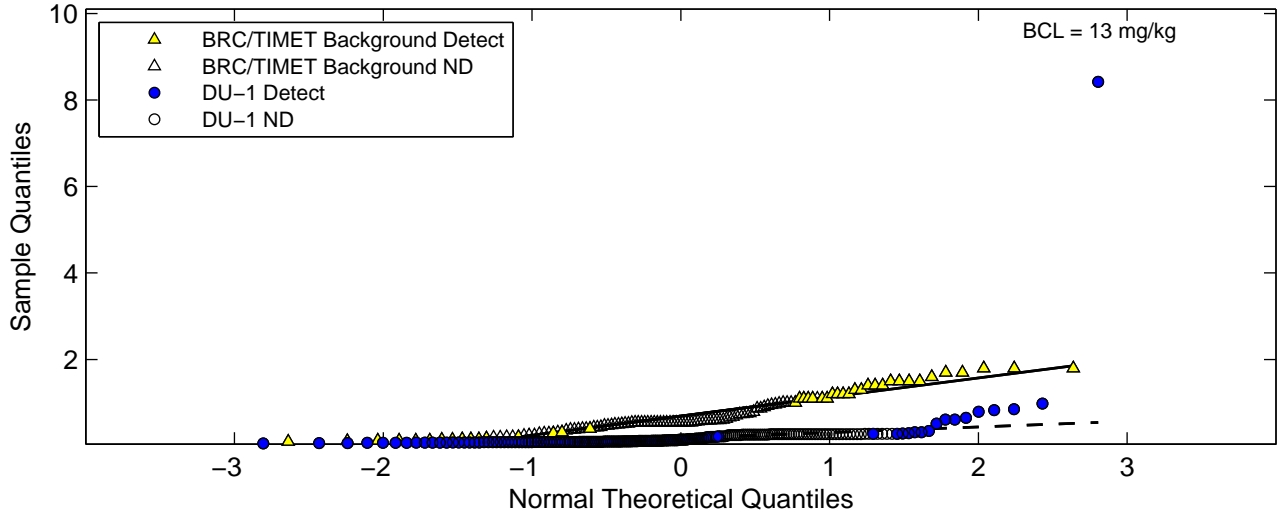
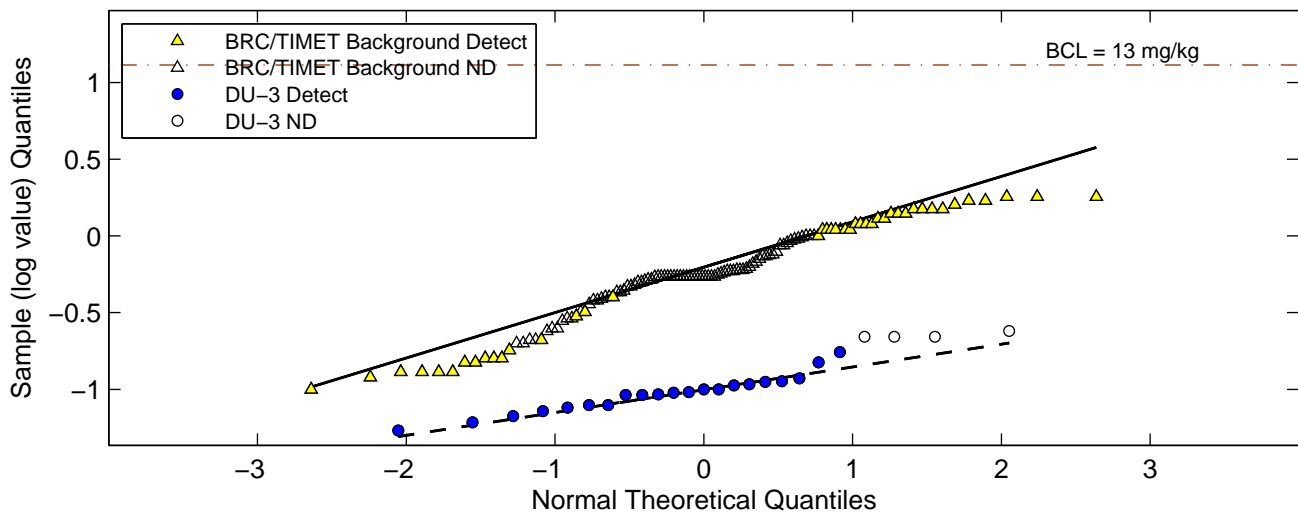
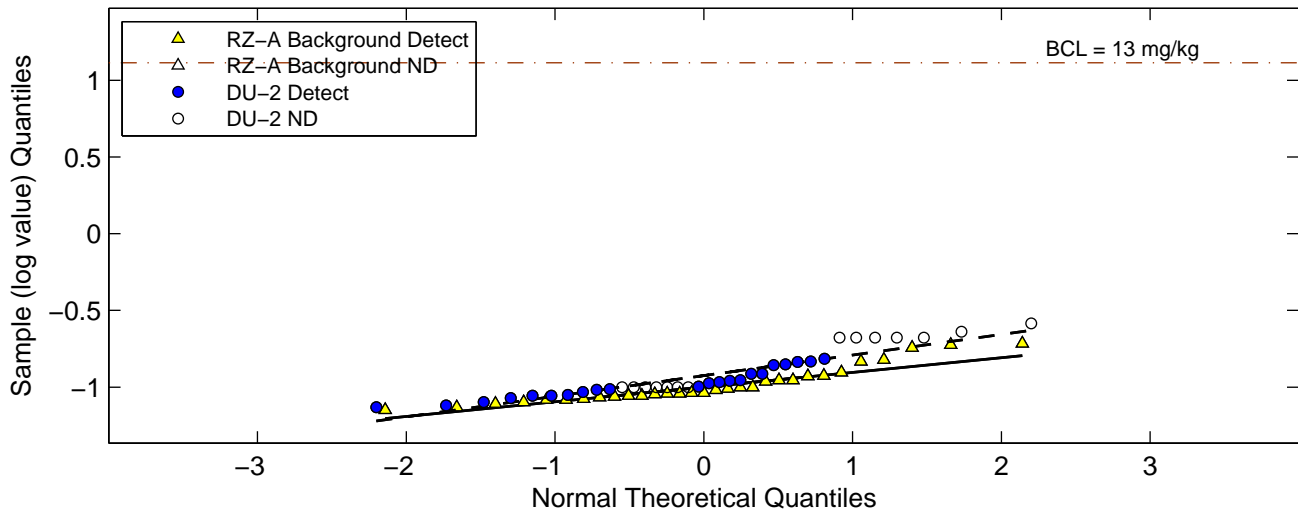
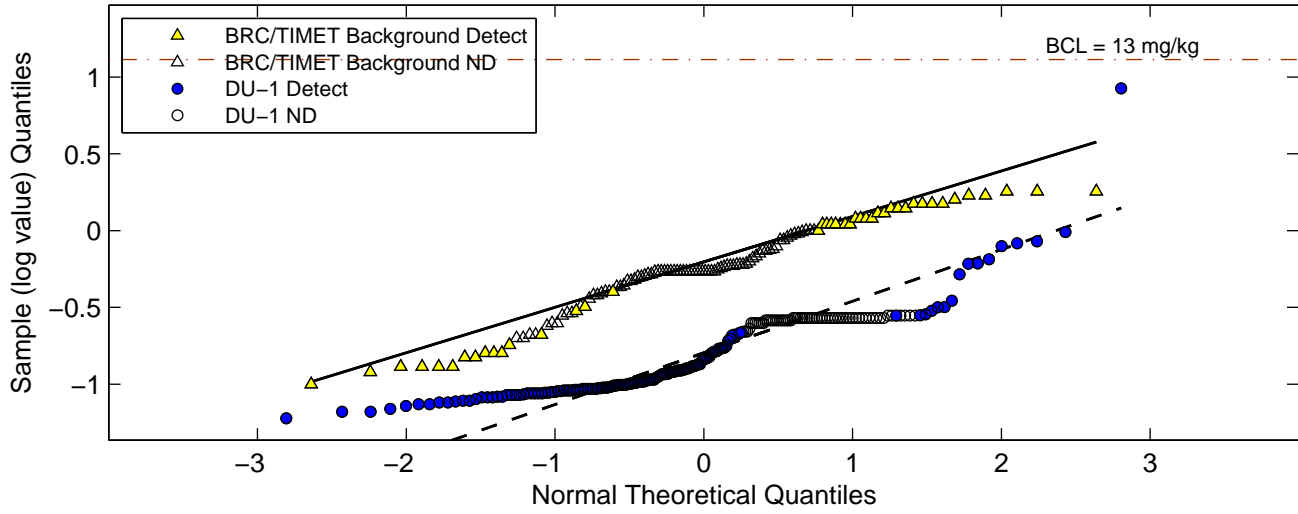


Figure J2-6B. Lognormal Q-Q Plots
Thallium



**Figure J2-7A. Normal Q-Q Plots
Zirconium**

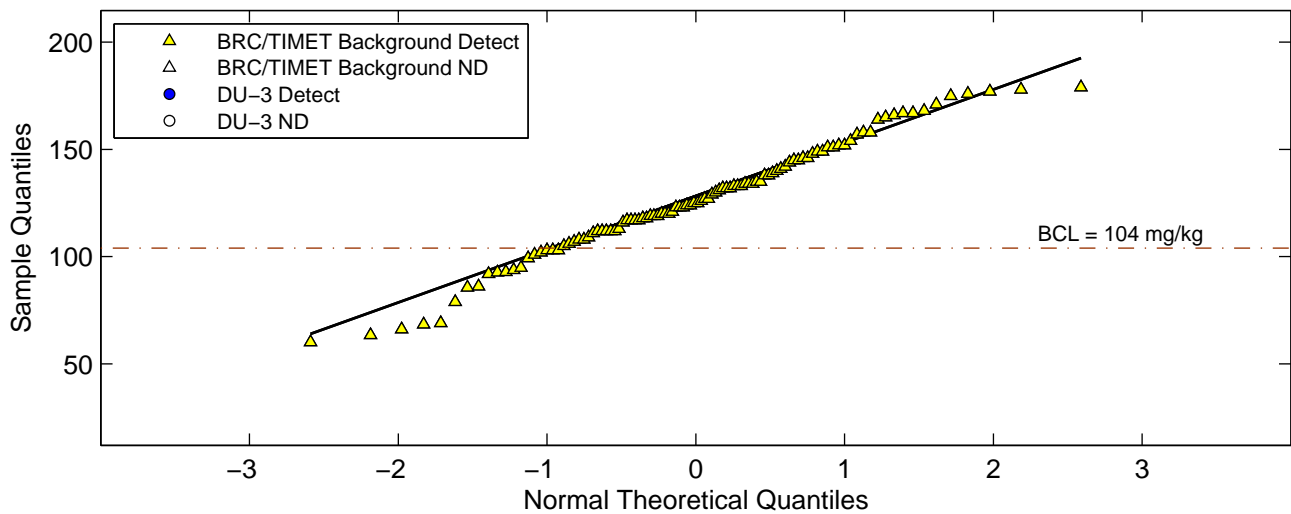
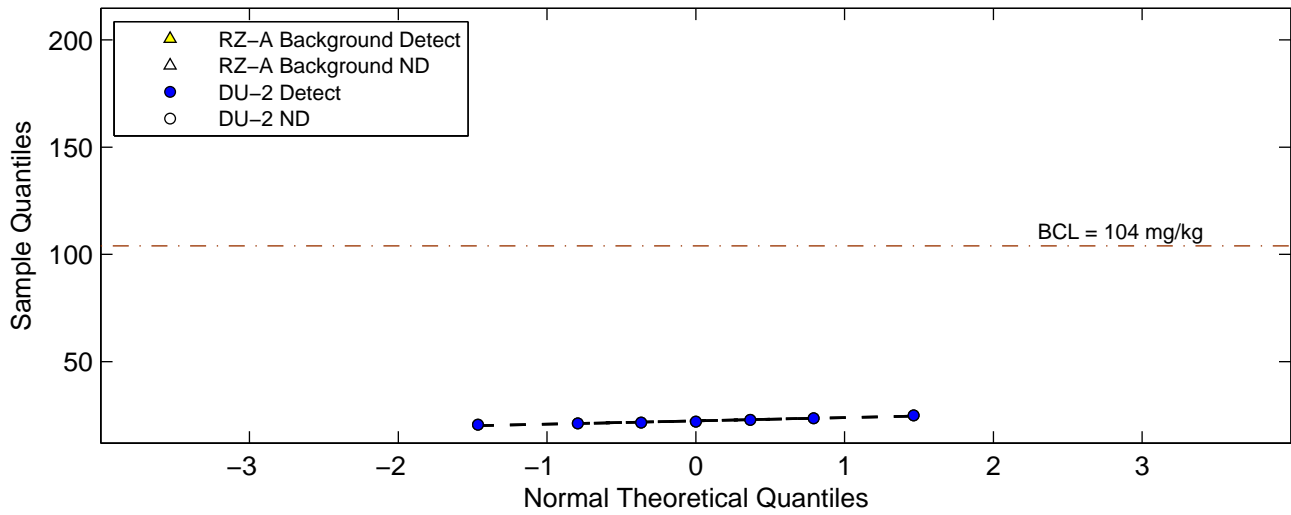
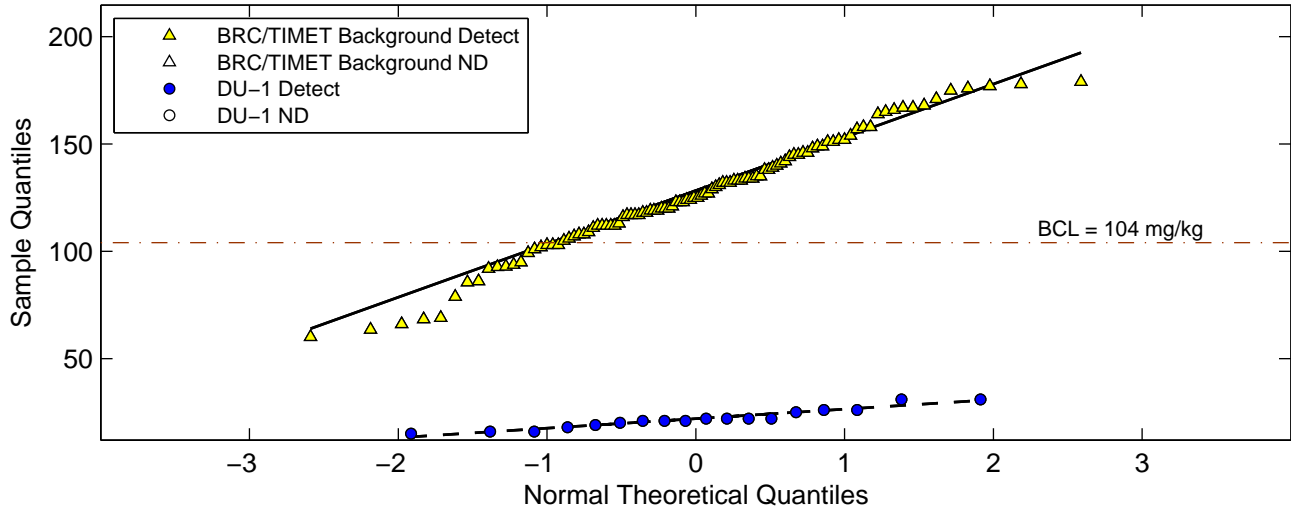


Figure J2-7B. Lognormal Q-Q Plots
Zirconium

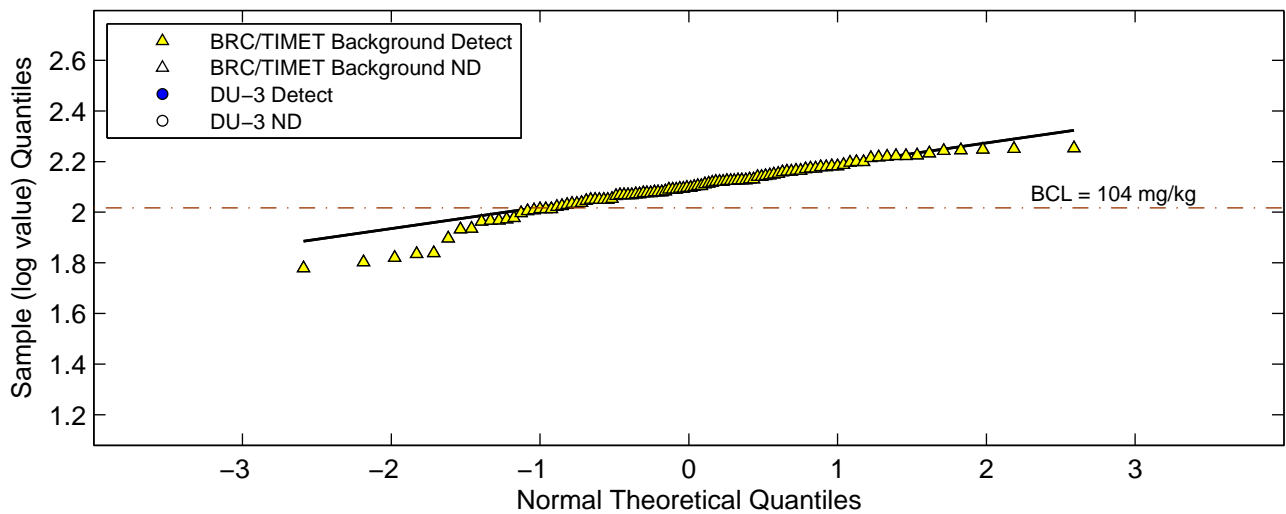
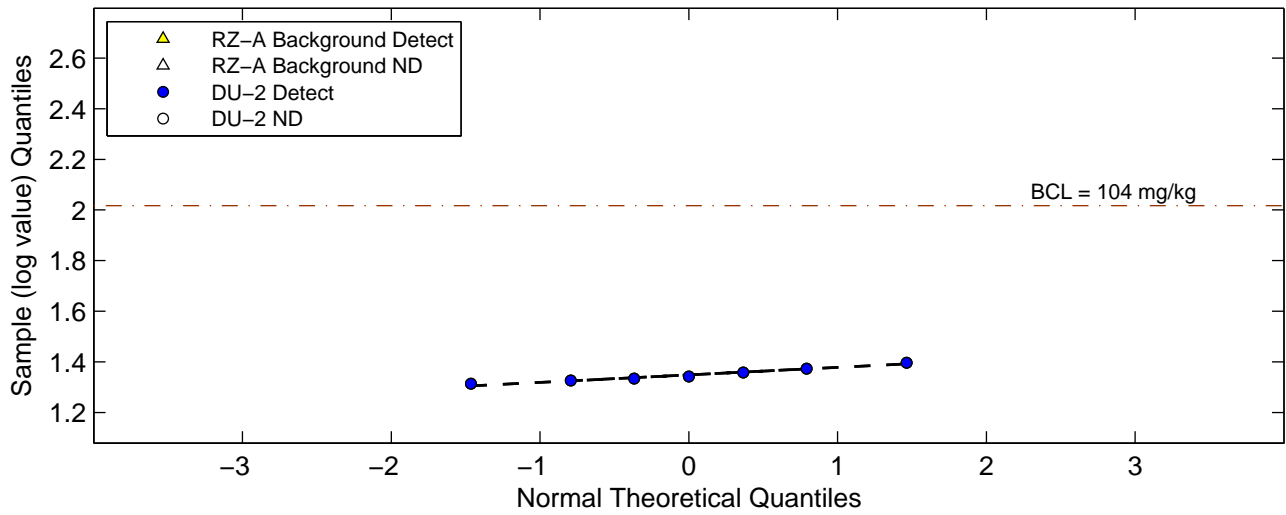
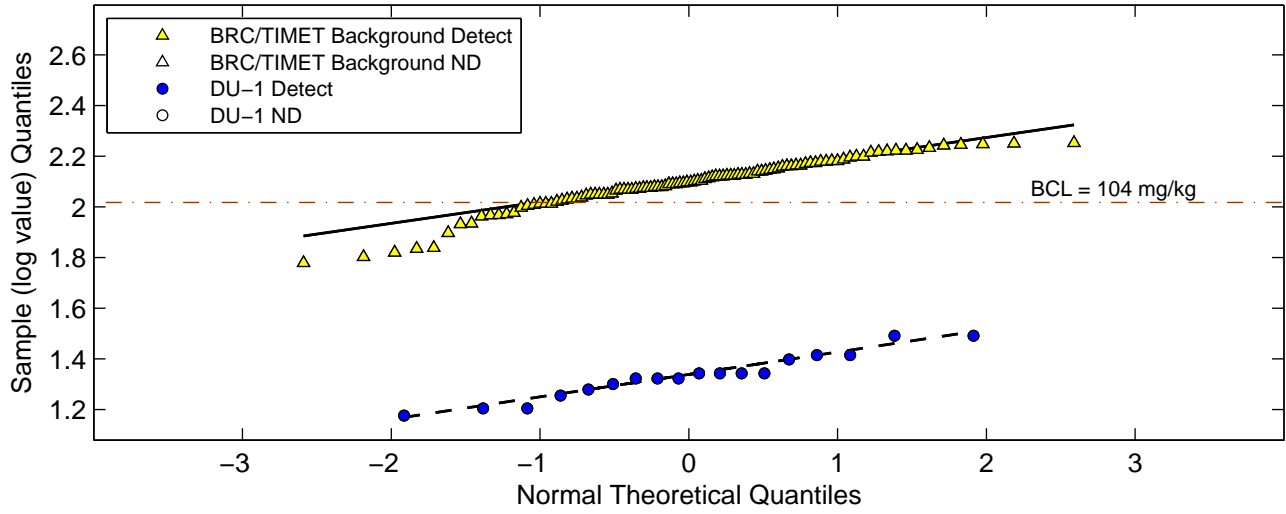


Figure J2-8A. Normal Q-Q Plots
Uranium-238

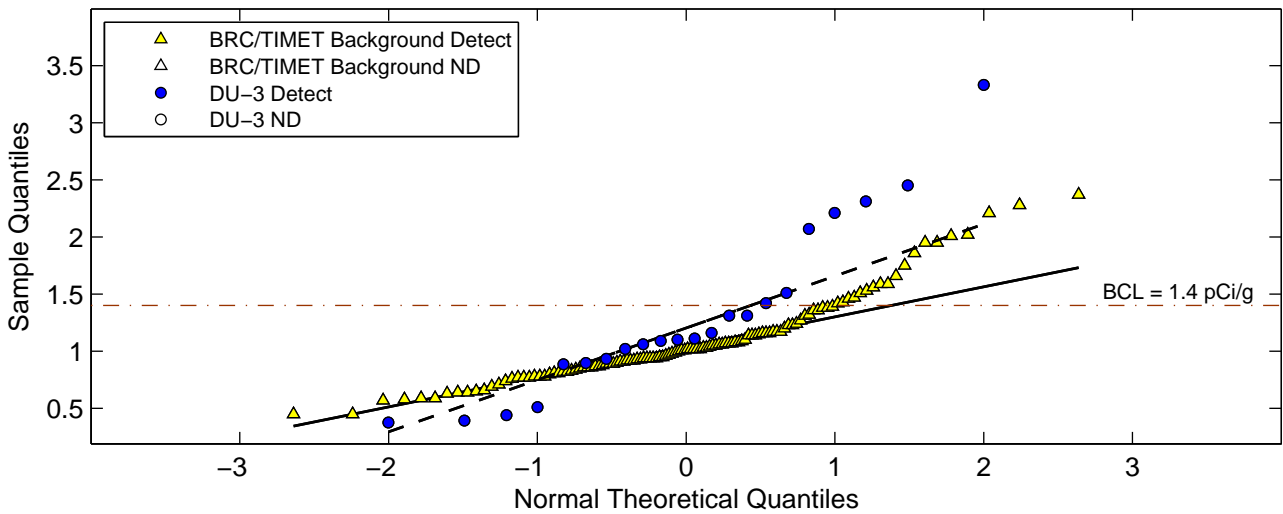
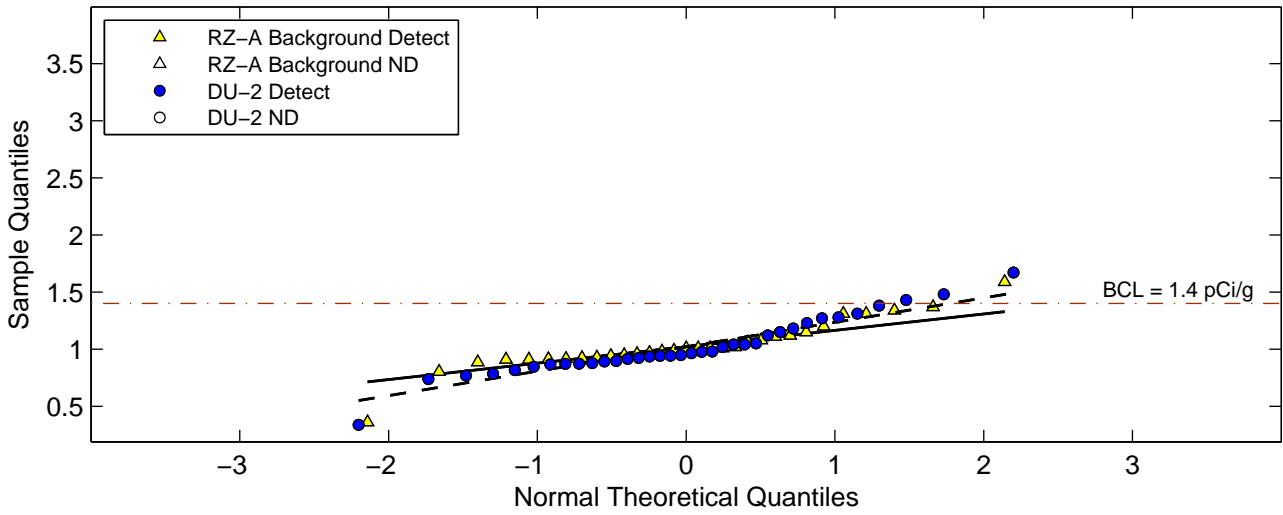
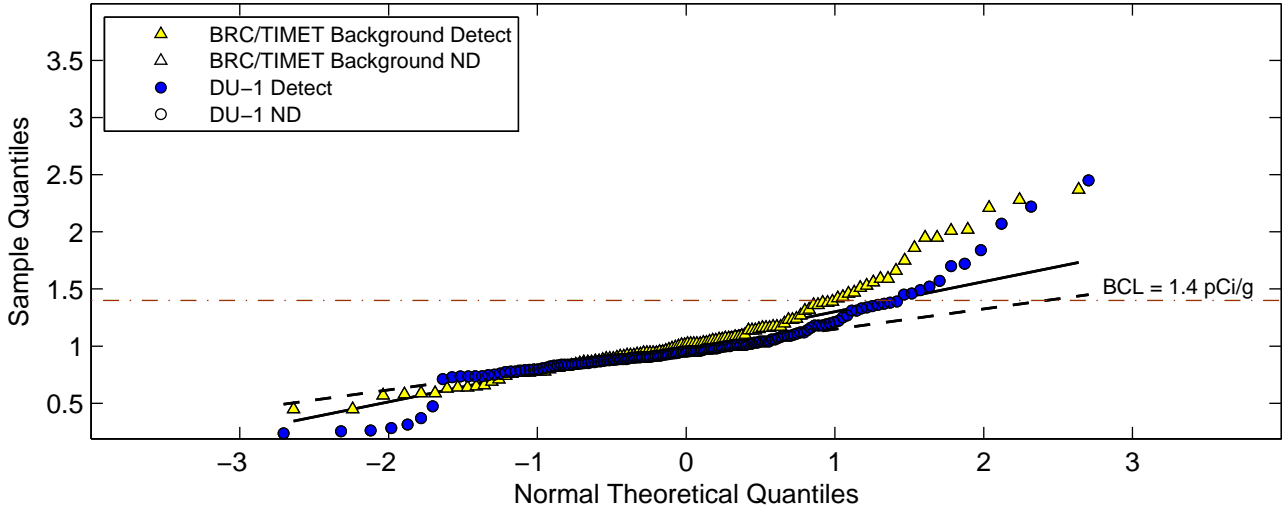


Figure J2-8B. Lognormal Q-Q Plots
Uranium-238

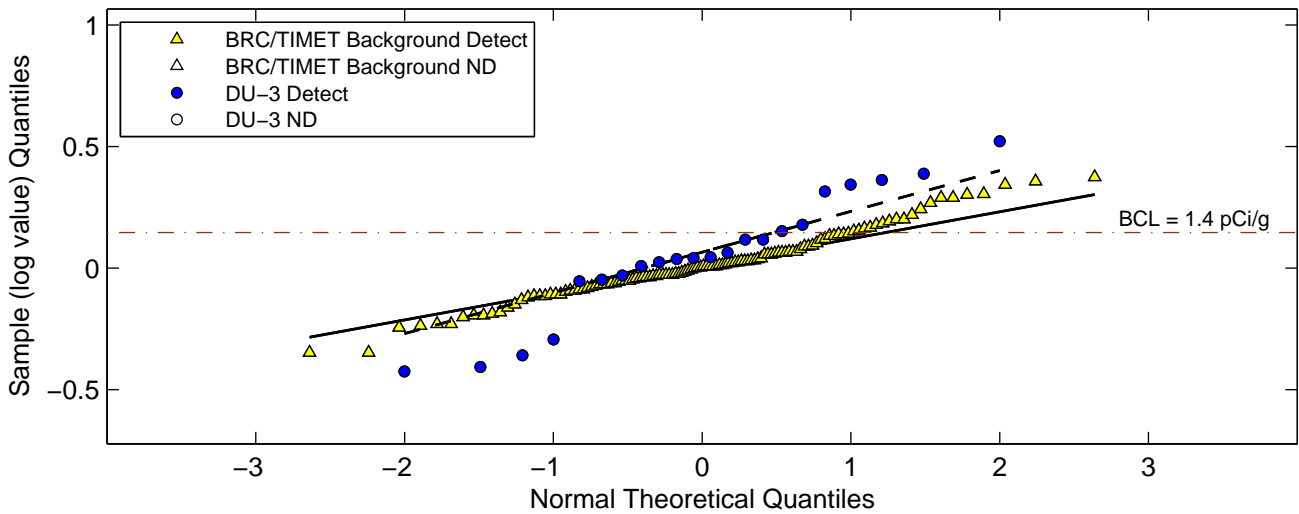
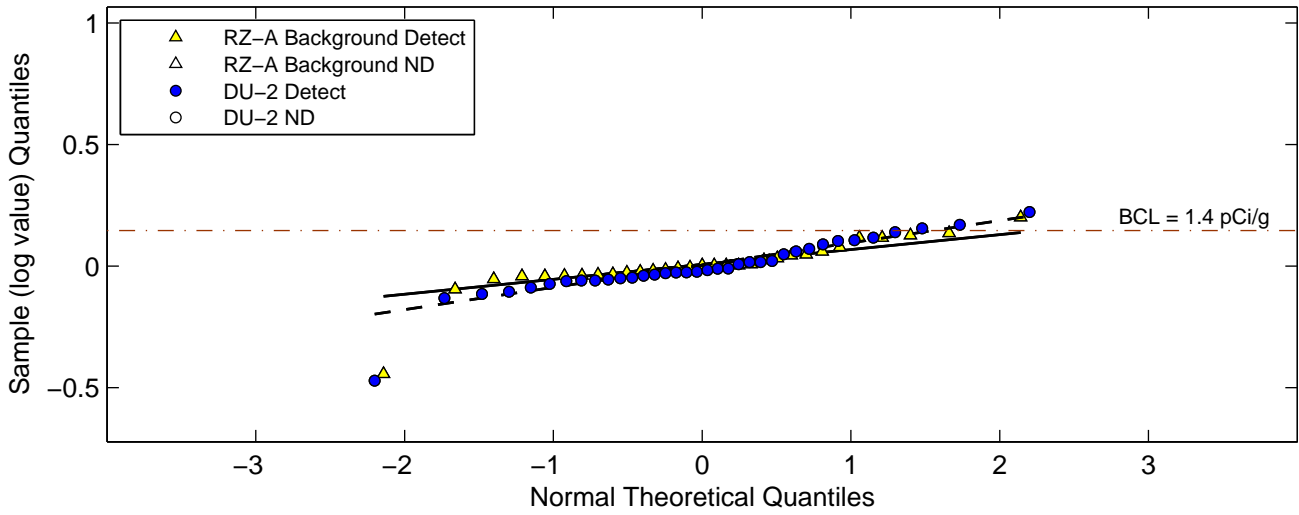
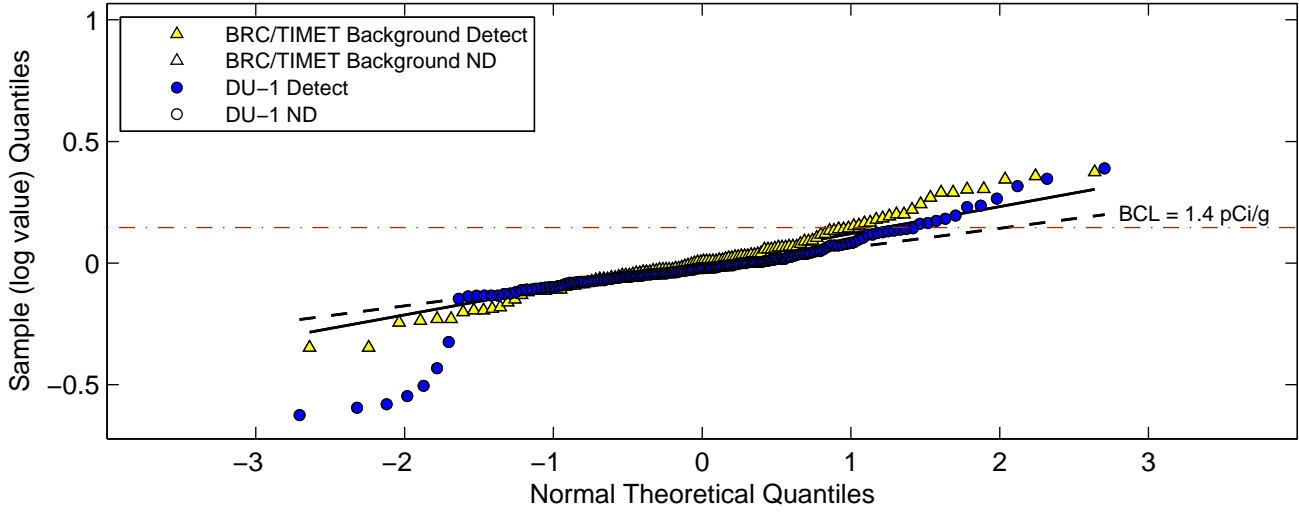
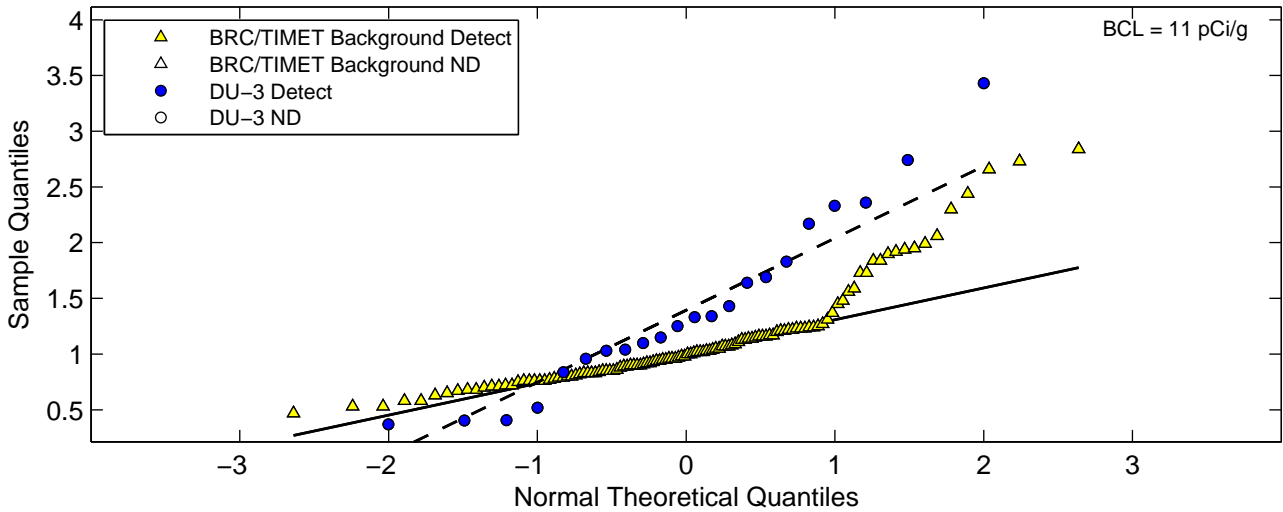
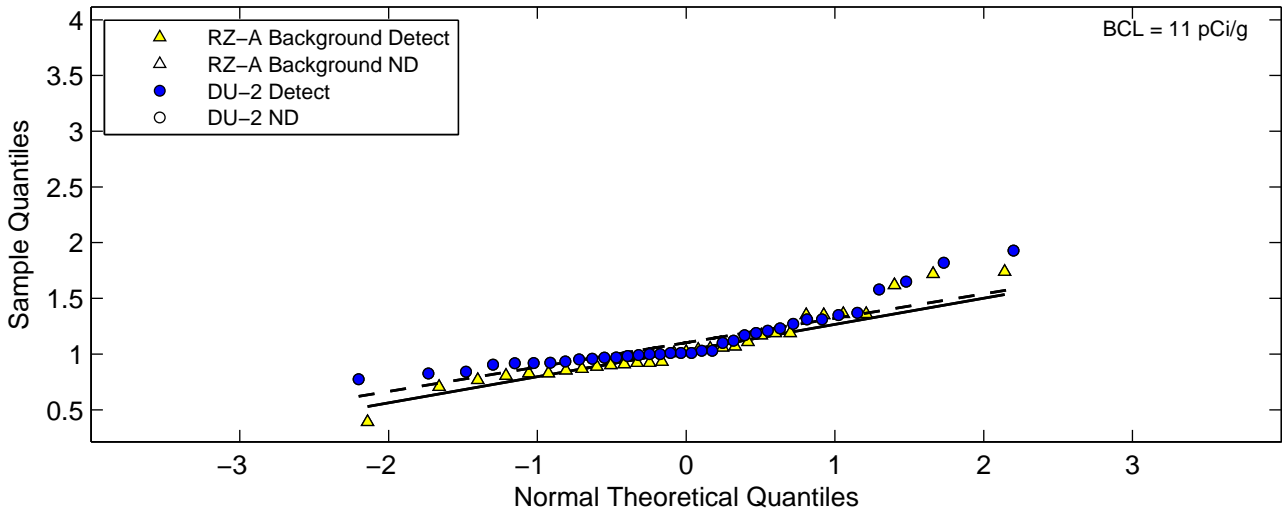
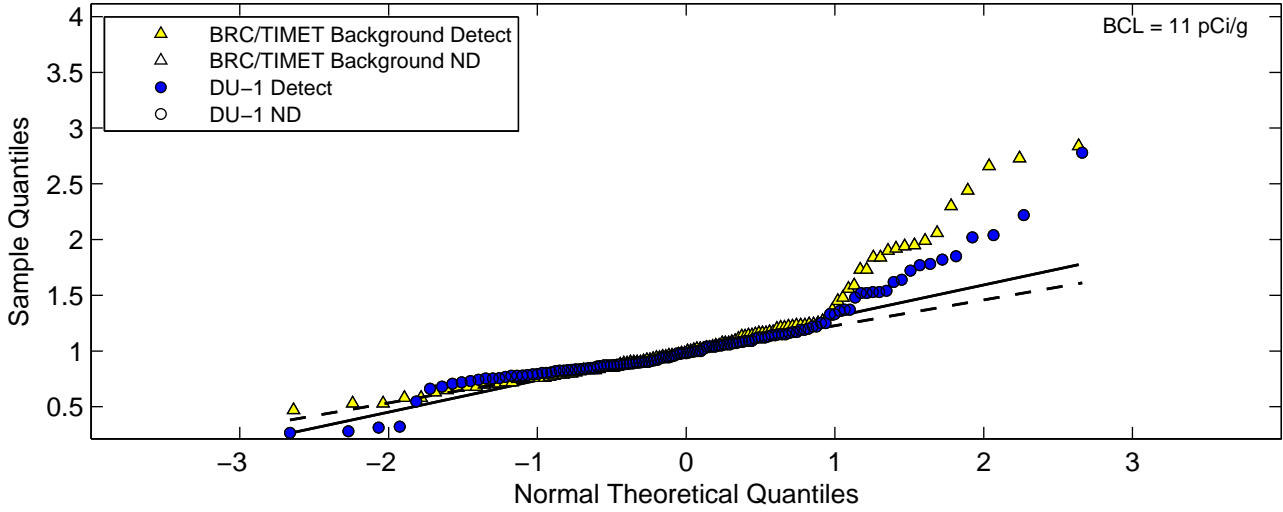
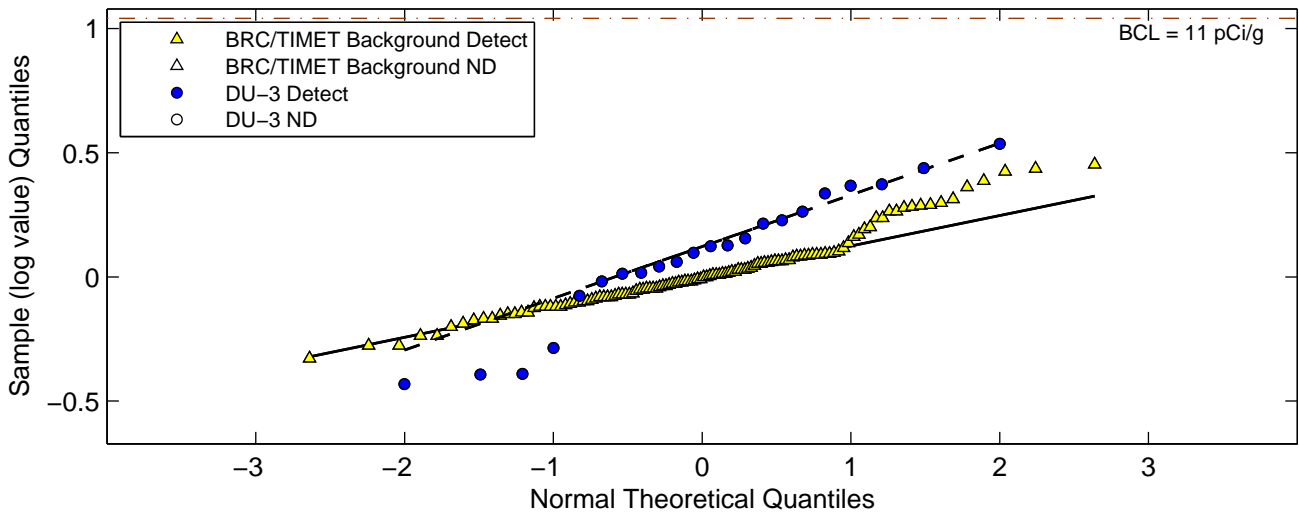
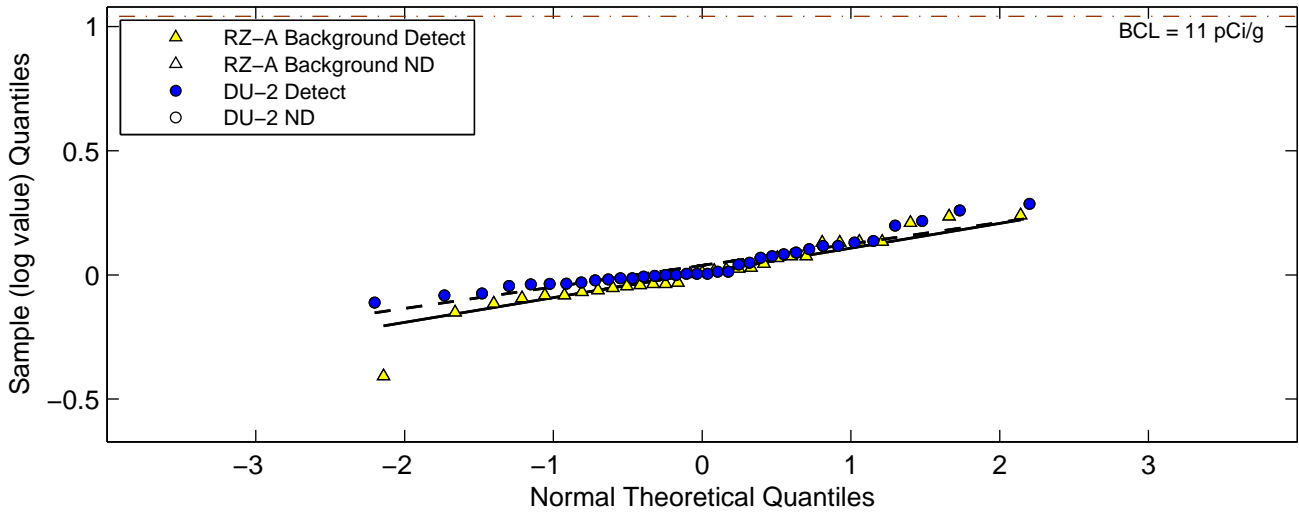
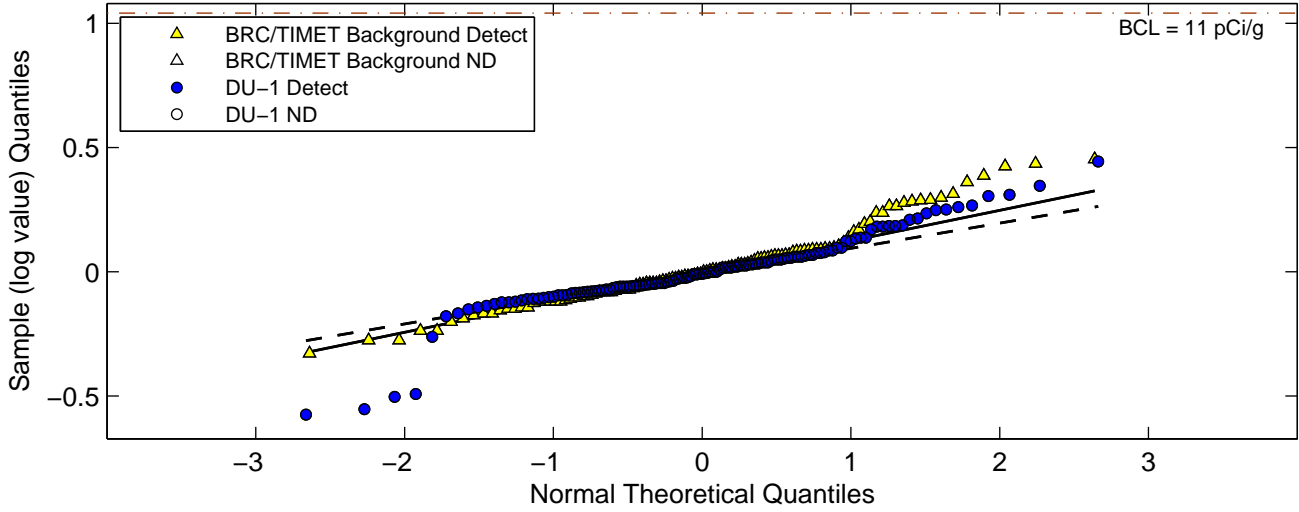


Figure J2-9A. Normal Q-Q Plots
Uranium-234



**Figure J2-9B. Lognormal Q-Q Plots
Uranium-234**



**Figure J2-10A. Normal Q-Q Plots
Thorium-230**

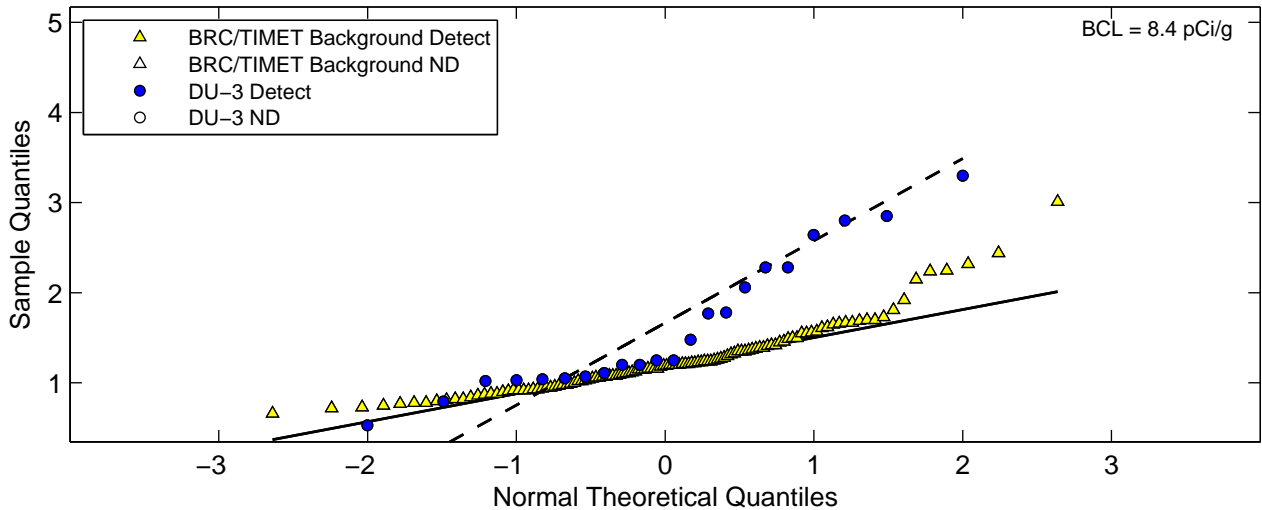
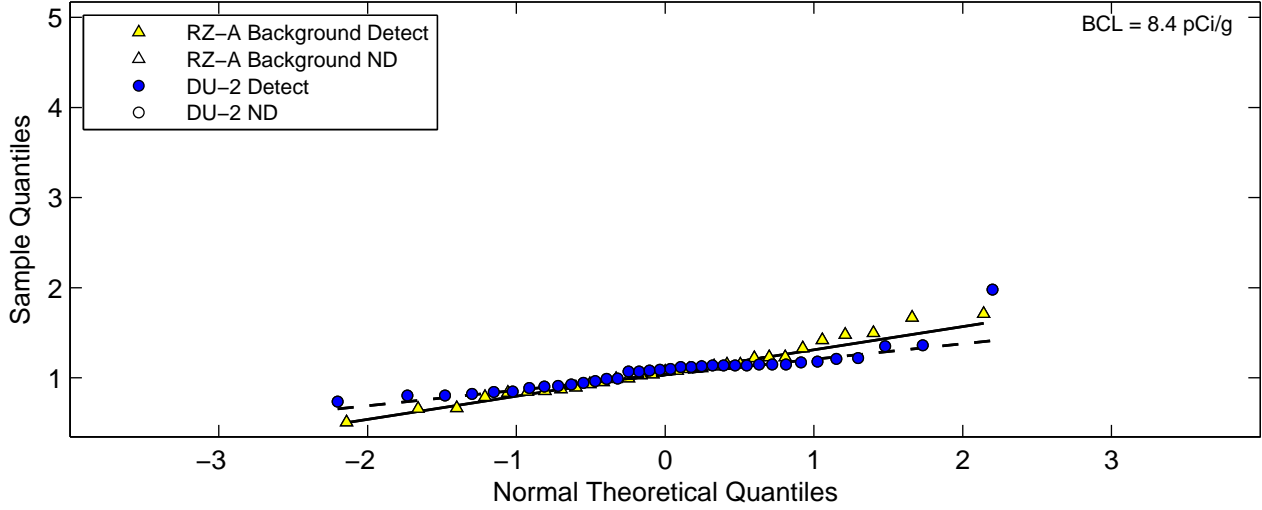
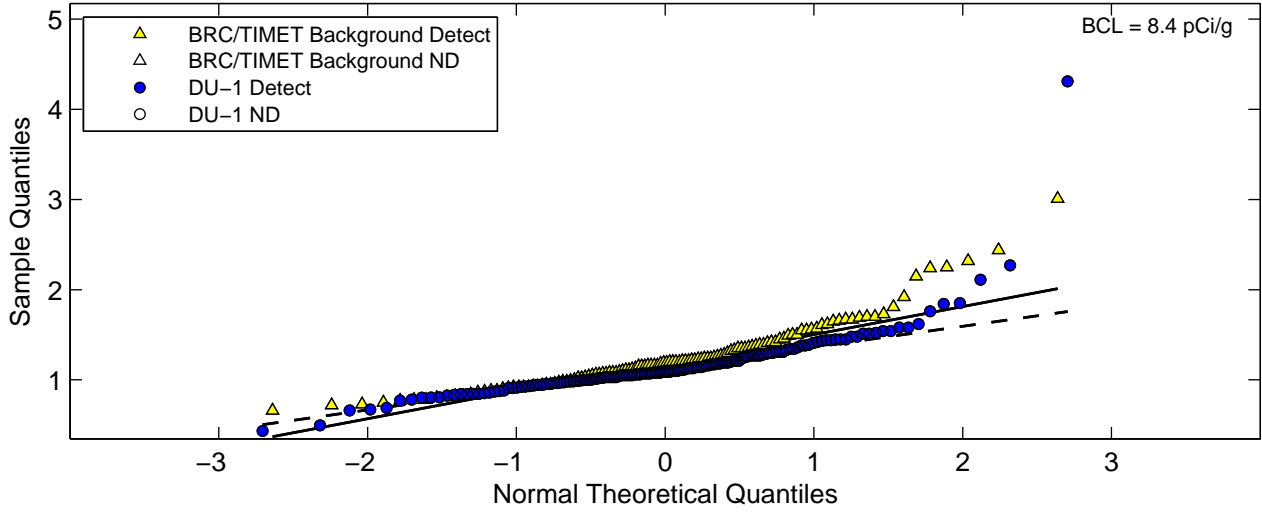


Figure J2-10B. Lognormal Q-Q Plots
Thorium-230

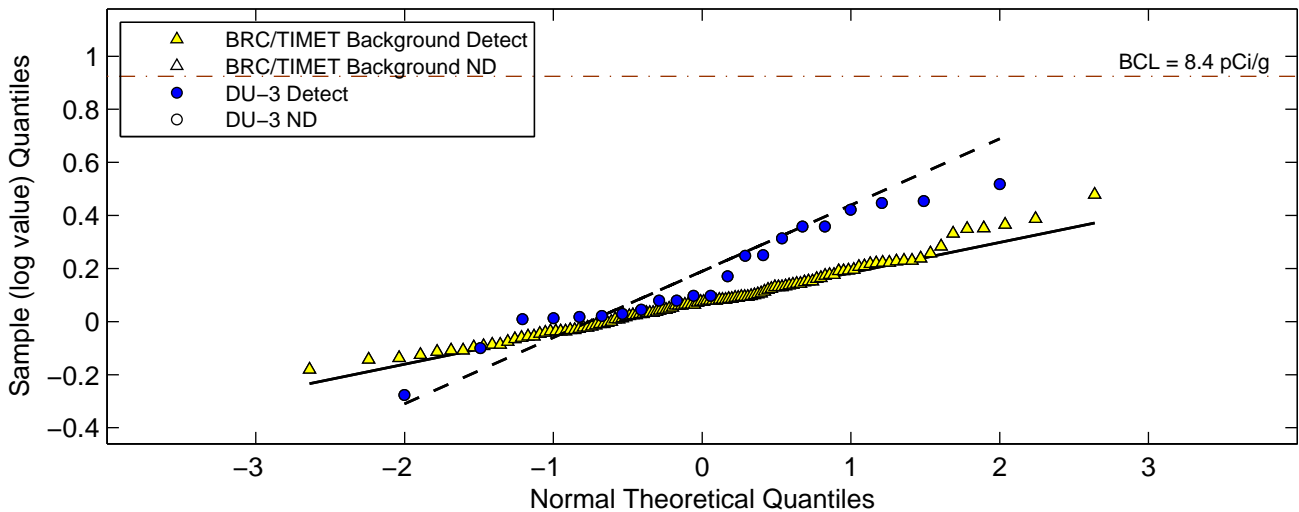
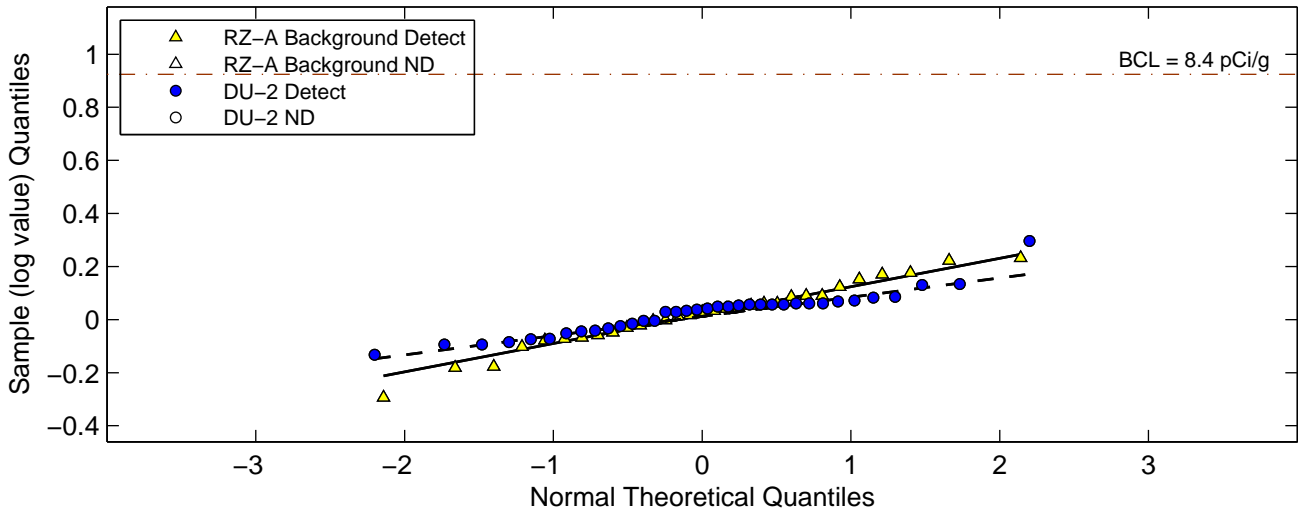
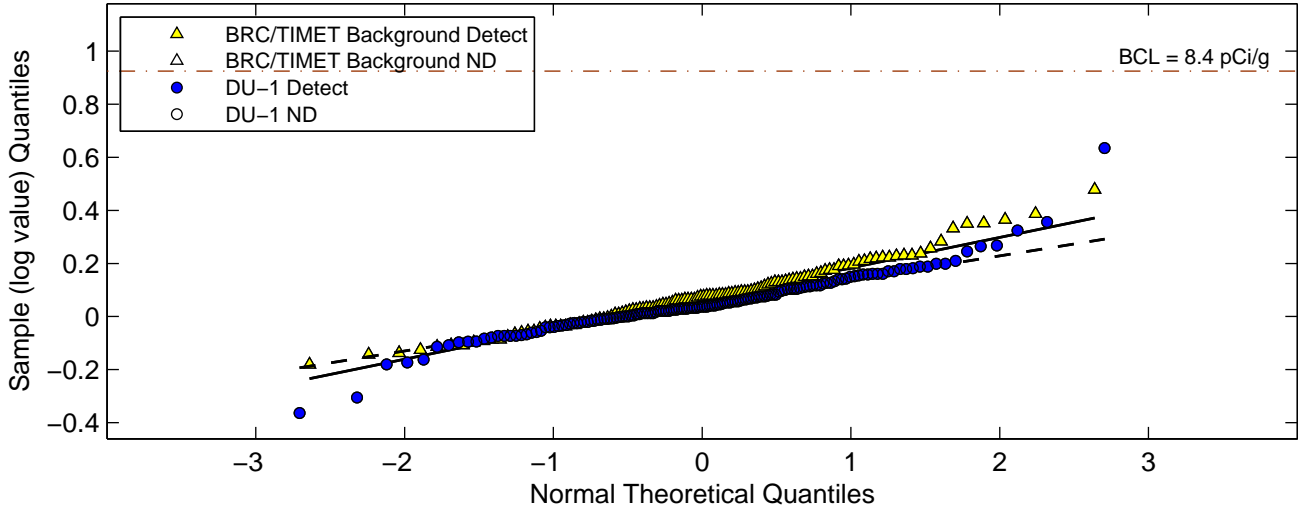


Figure J2-11A. Normal Q-Q Plots
Radium-226

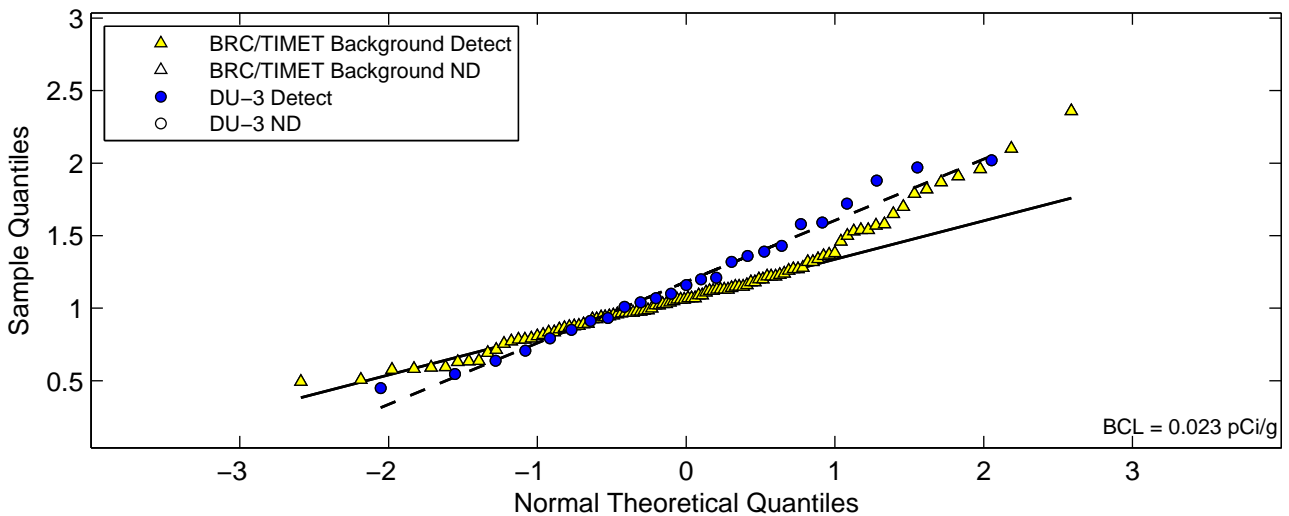
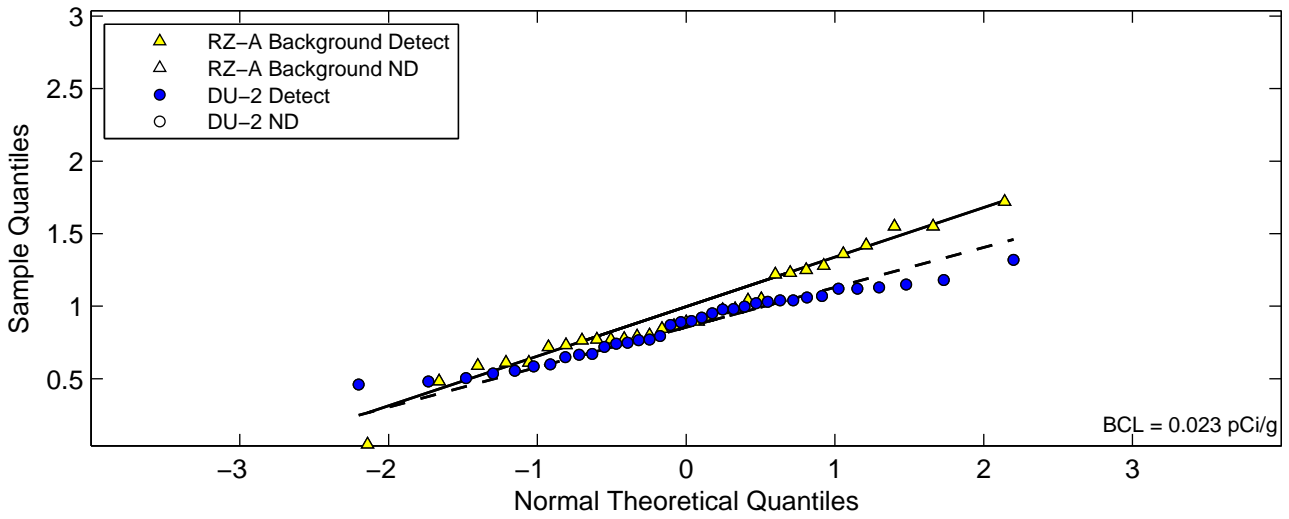
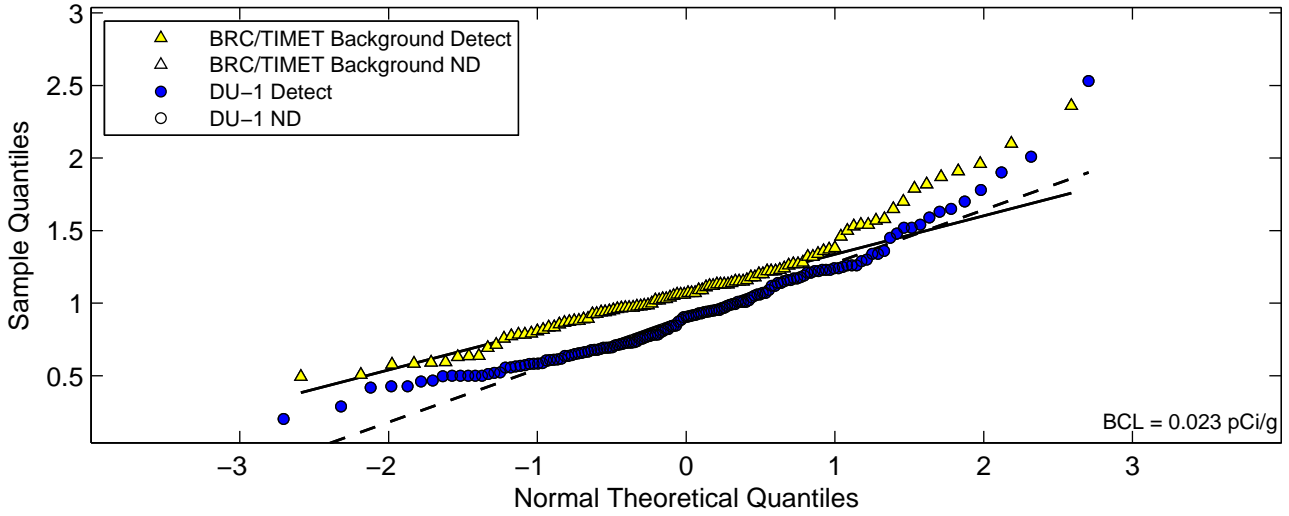
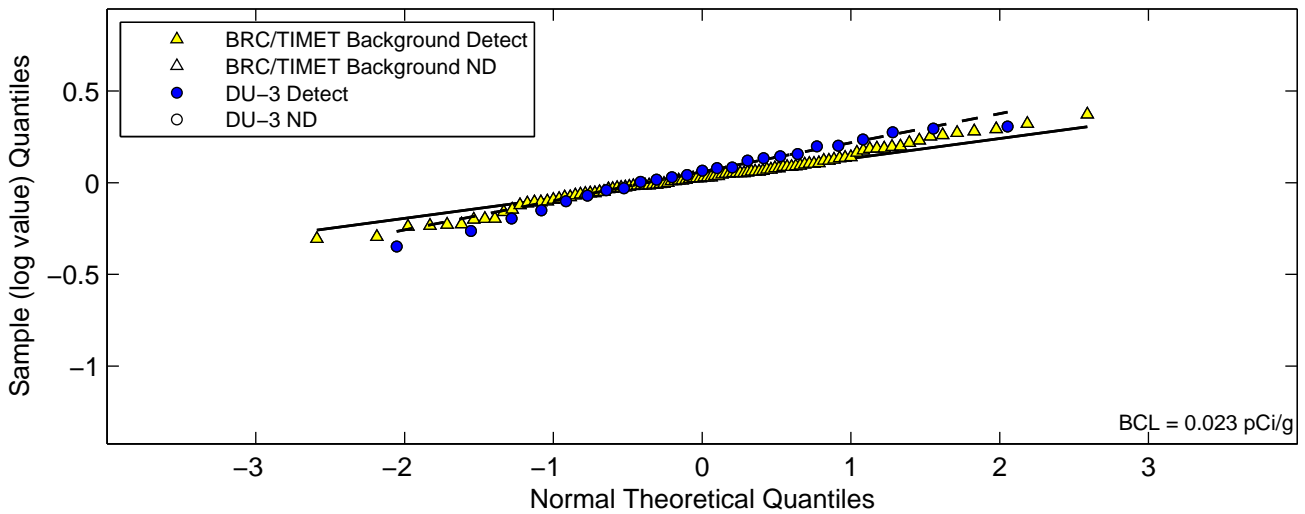
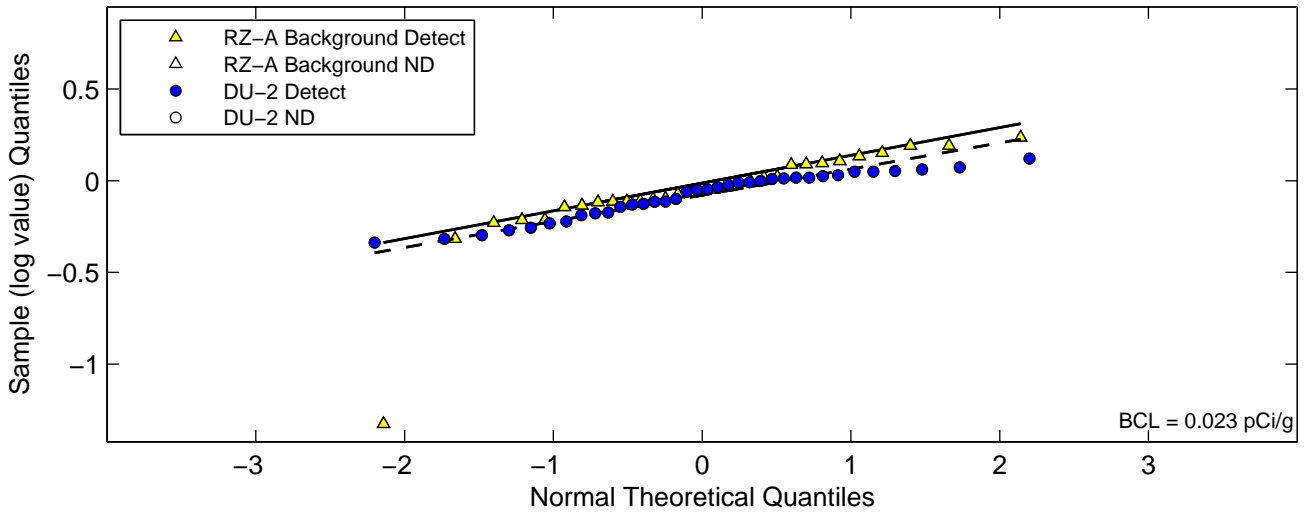
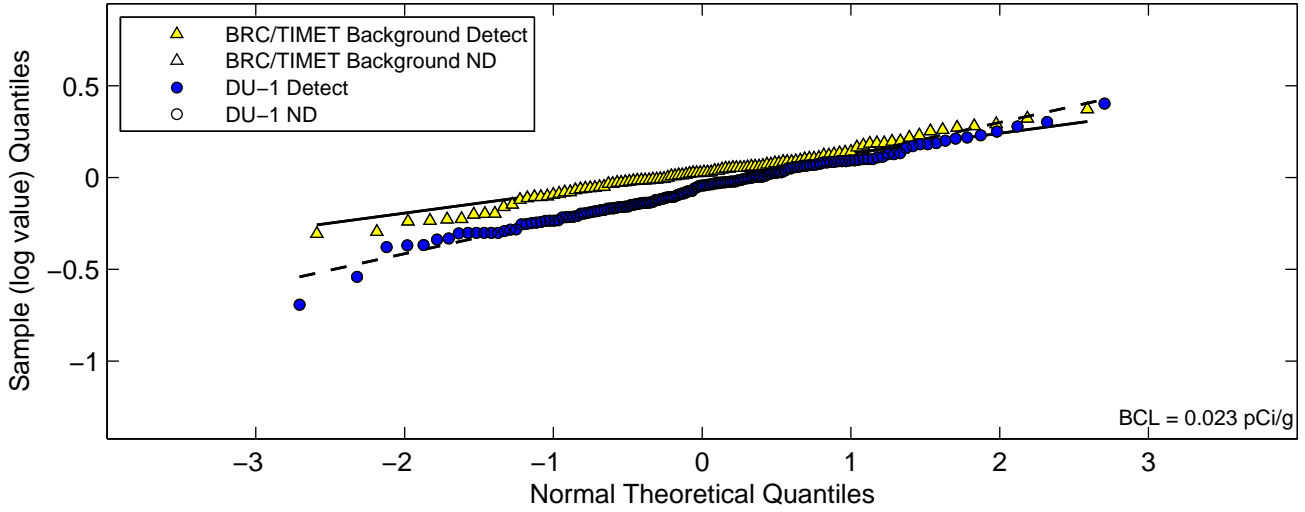


Figure J2-11B. Lognormal Q-Q Plots
Radium-226



**Figure J2-12A. Normal Q-Q Plots
Thorium-232**

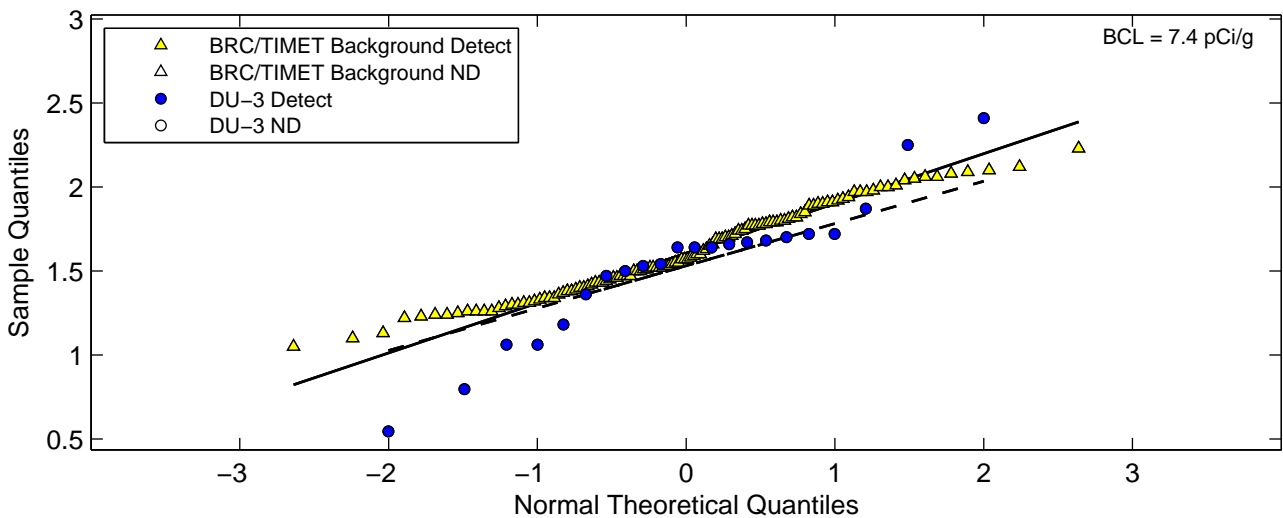
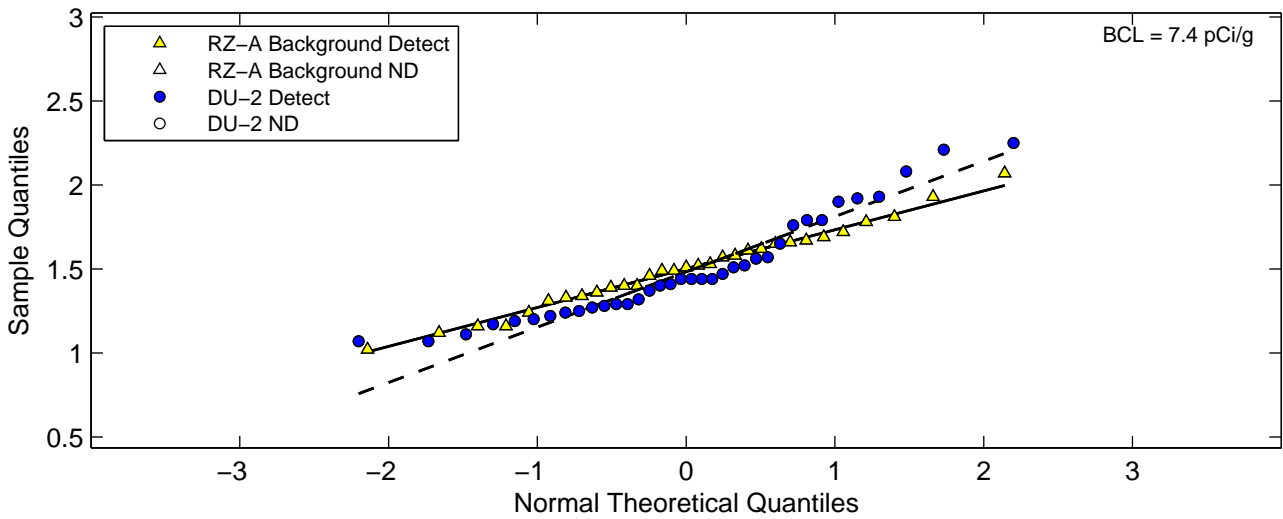
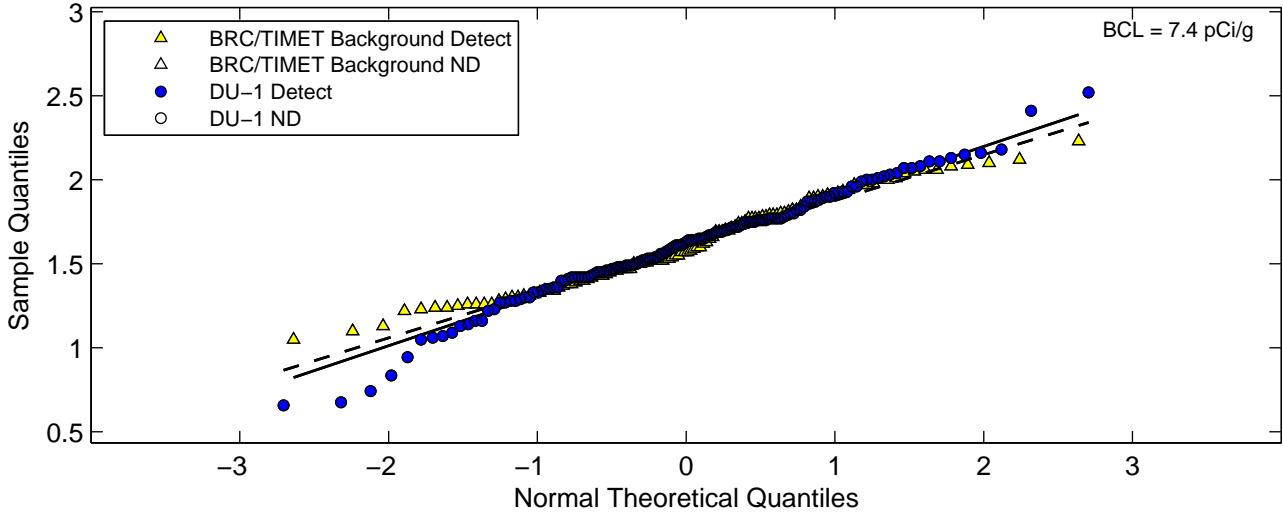


Figure J2-12B. Lognormal Q-Q Plots
Thorium-232

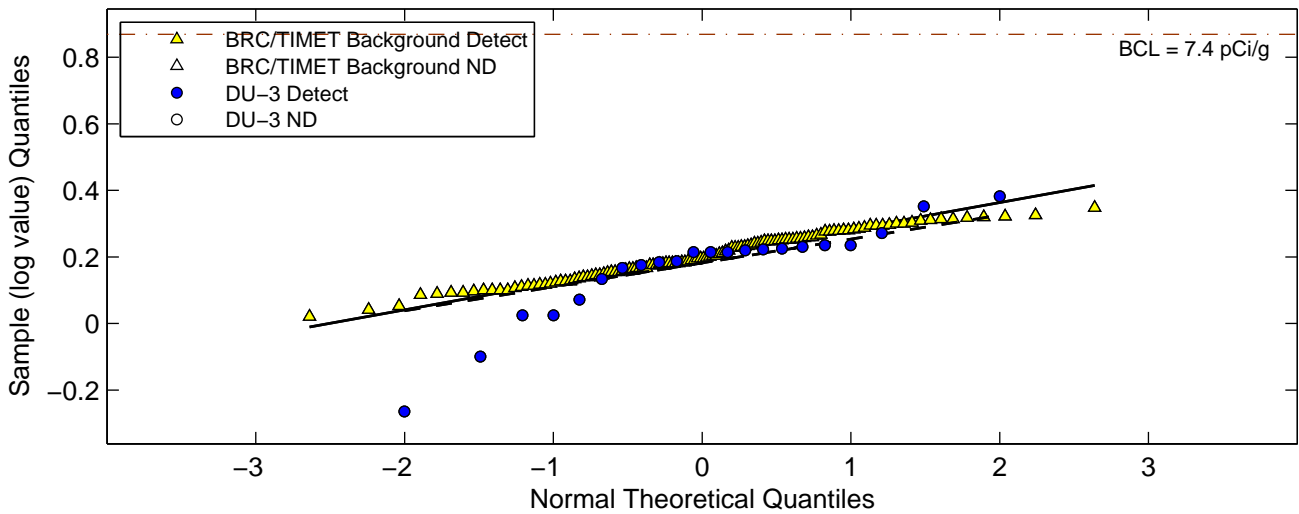
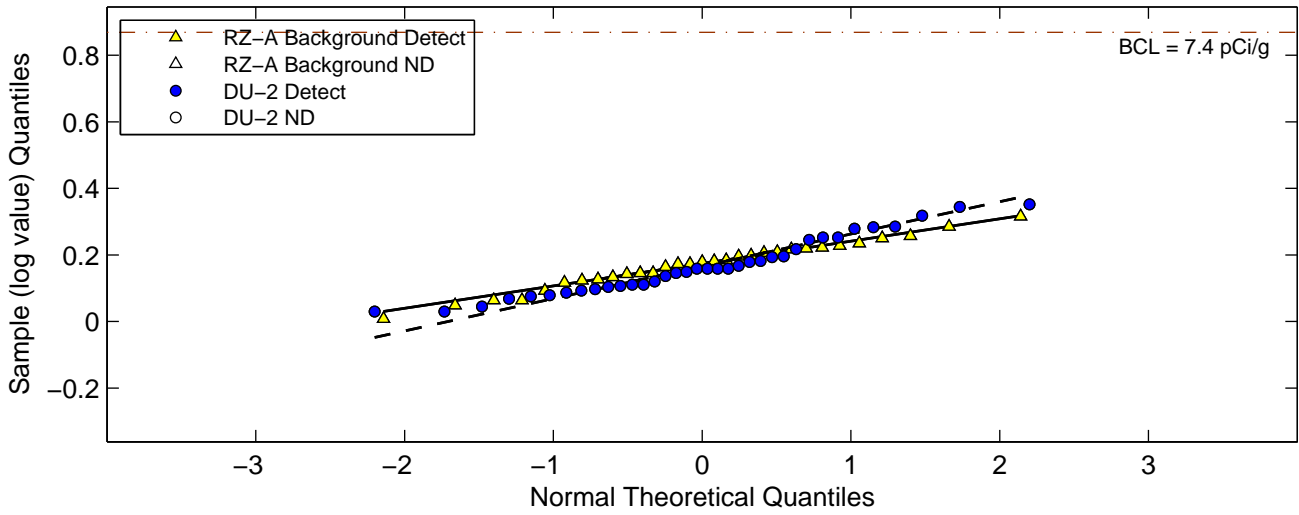
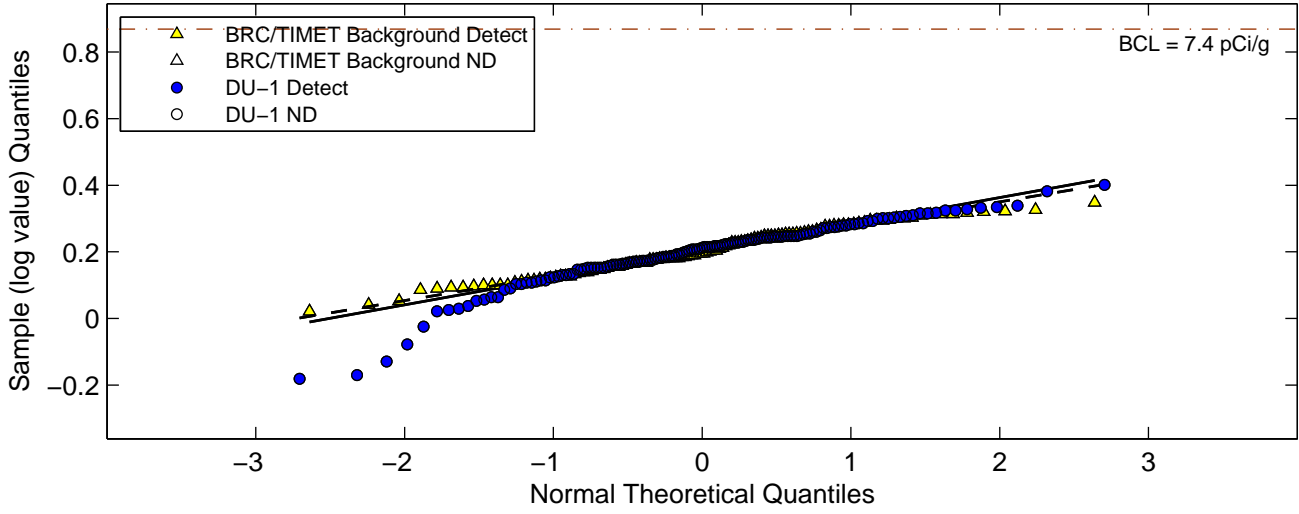


Figure J2-13A. Normal Q-Q Plots
Radium-228

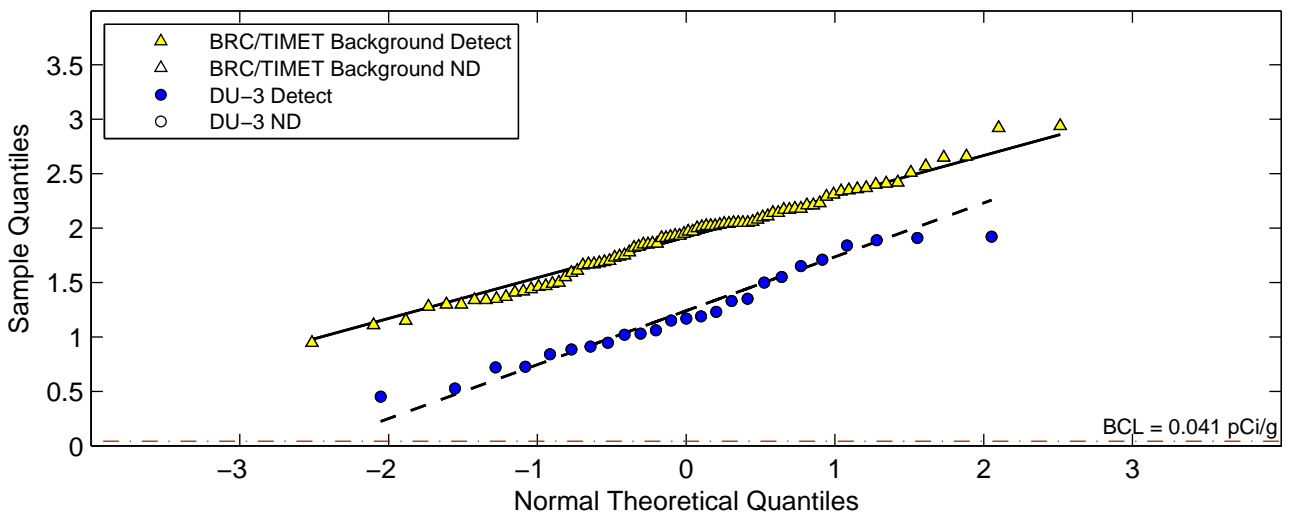
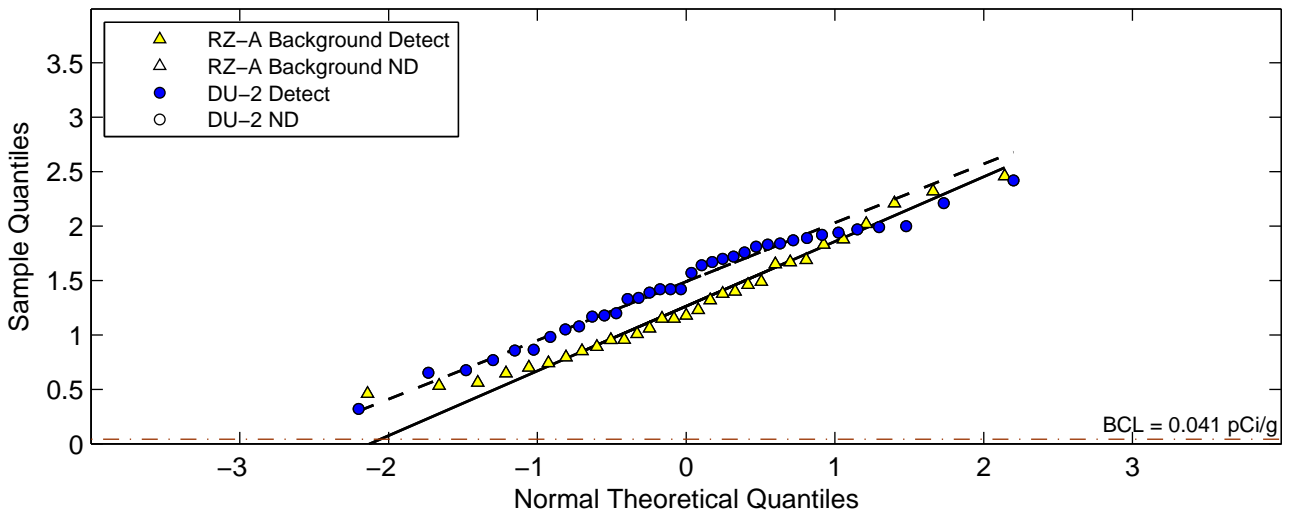
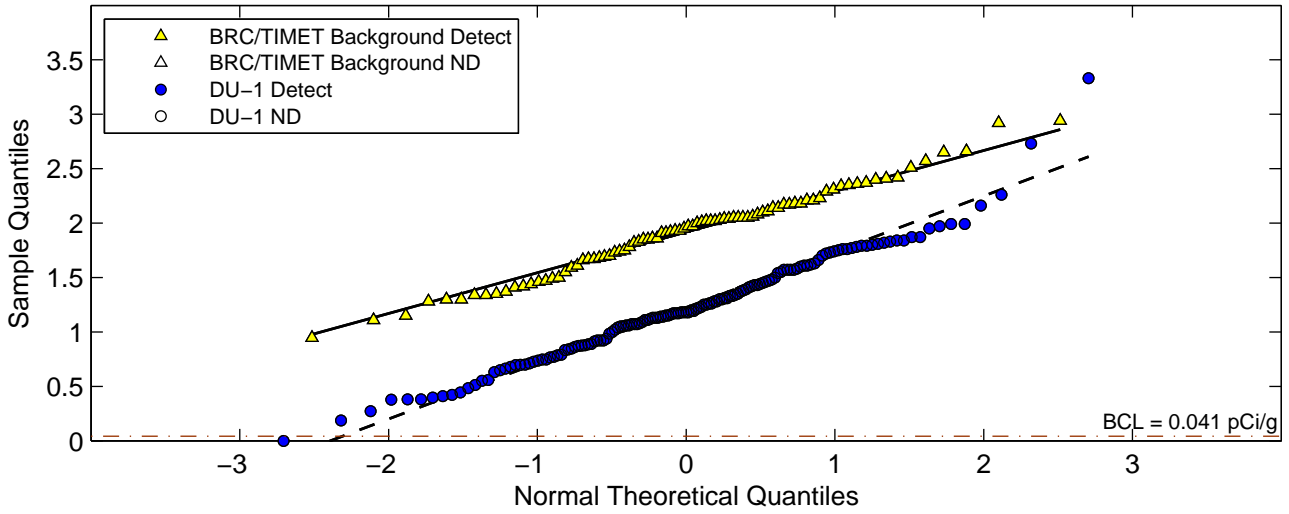


Figure J2-13B. Lognormal Q-Q Plots
Radium-228

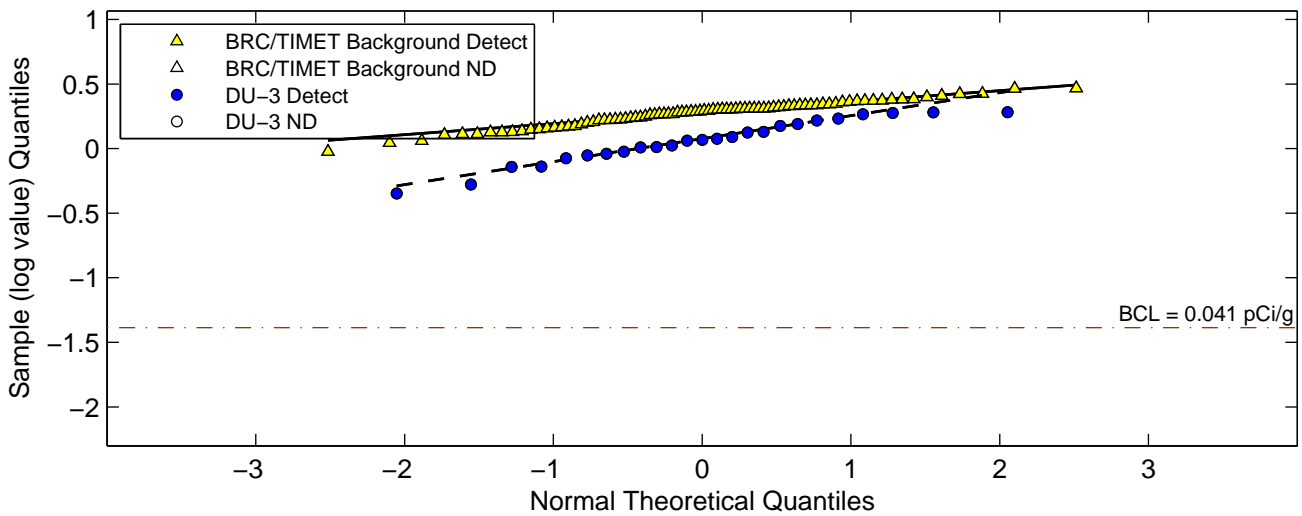
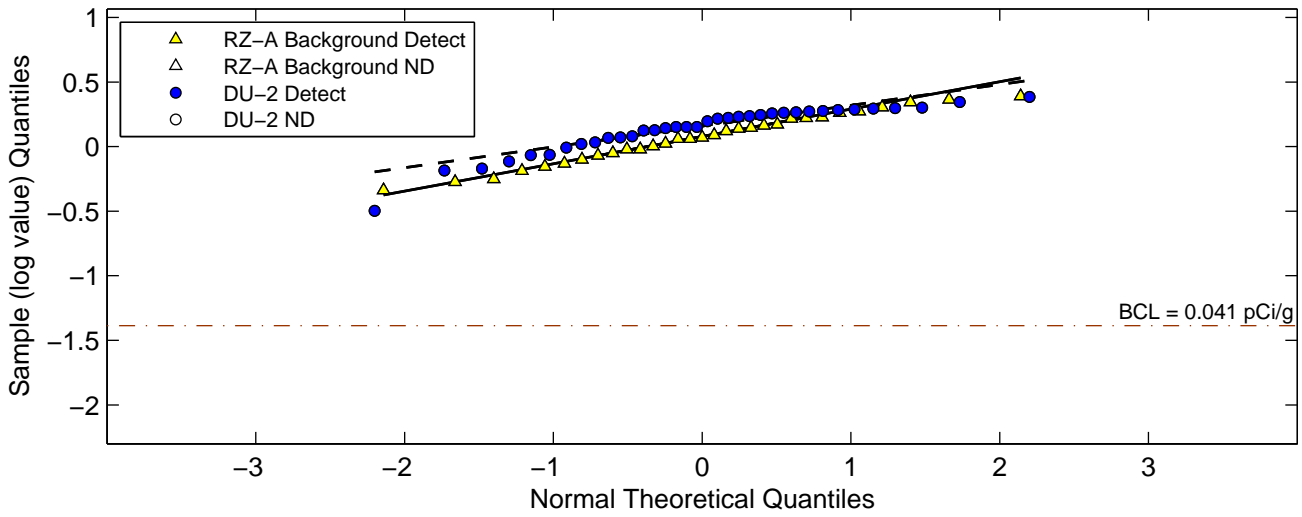
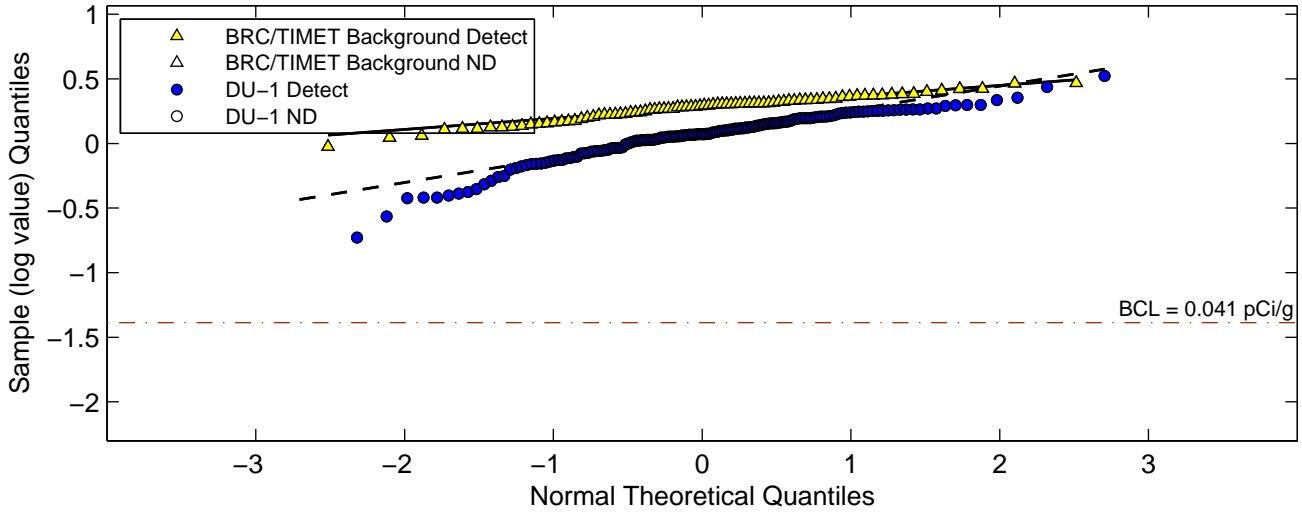


Figure J2-14A. Normal Q-Q Plots
Thorium-228

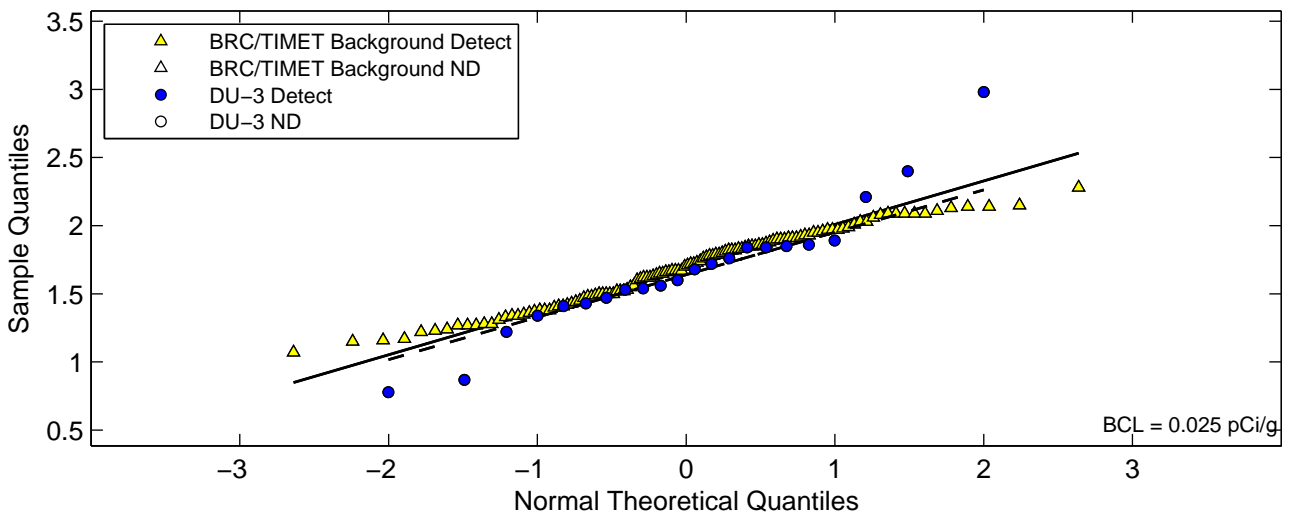
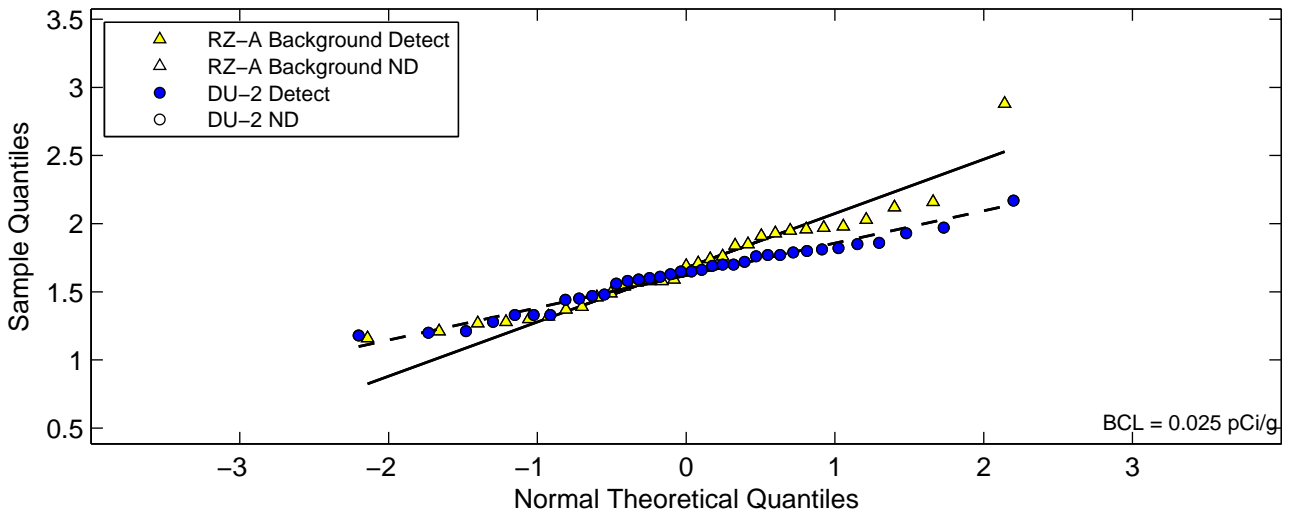
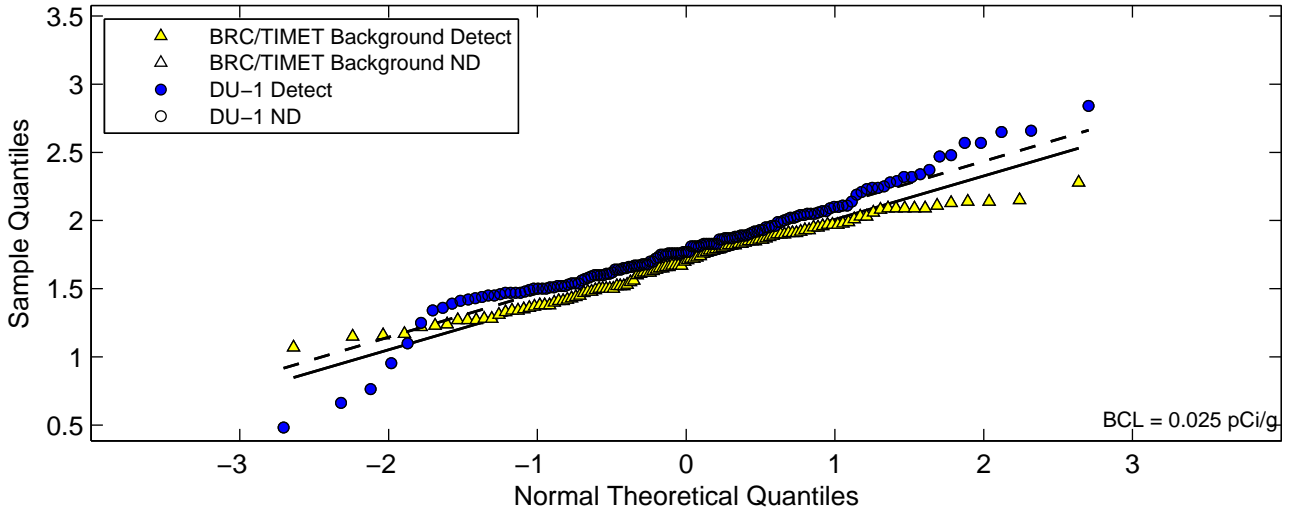


Figure J2-14B. Lognormal Q-Q Plots
Thorium-228

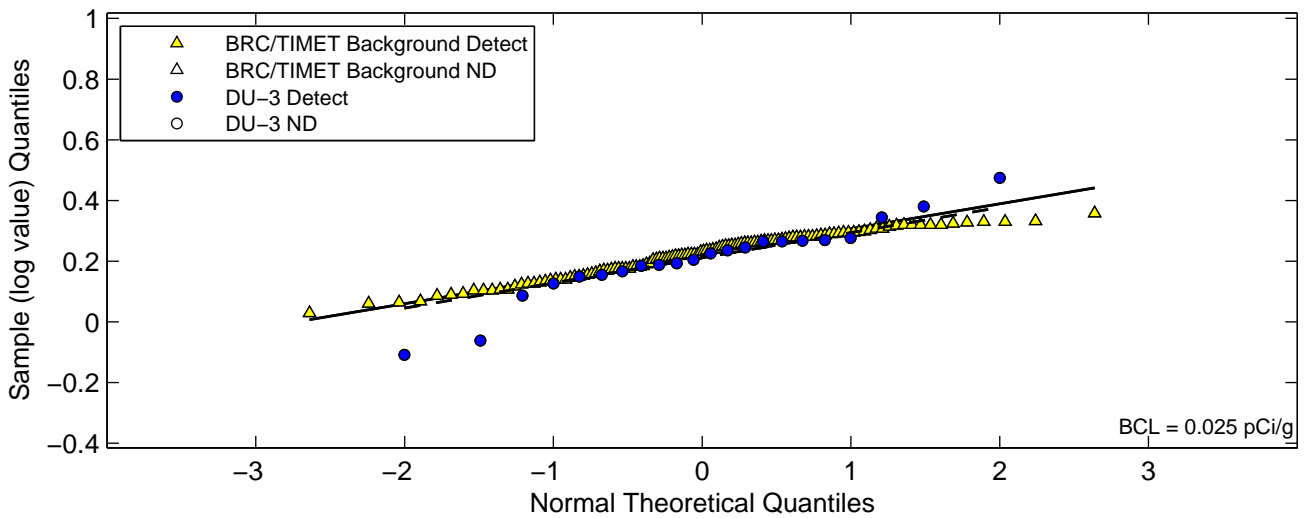
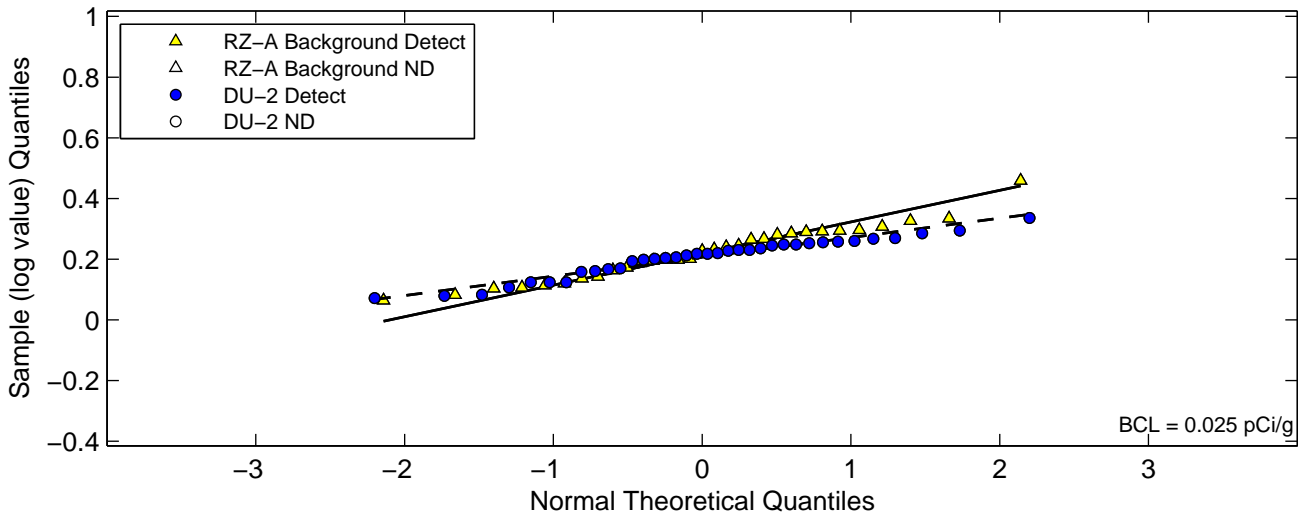
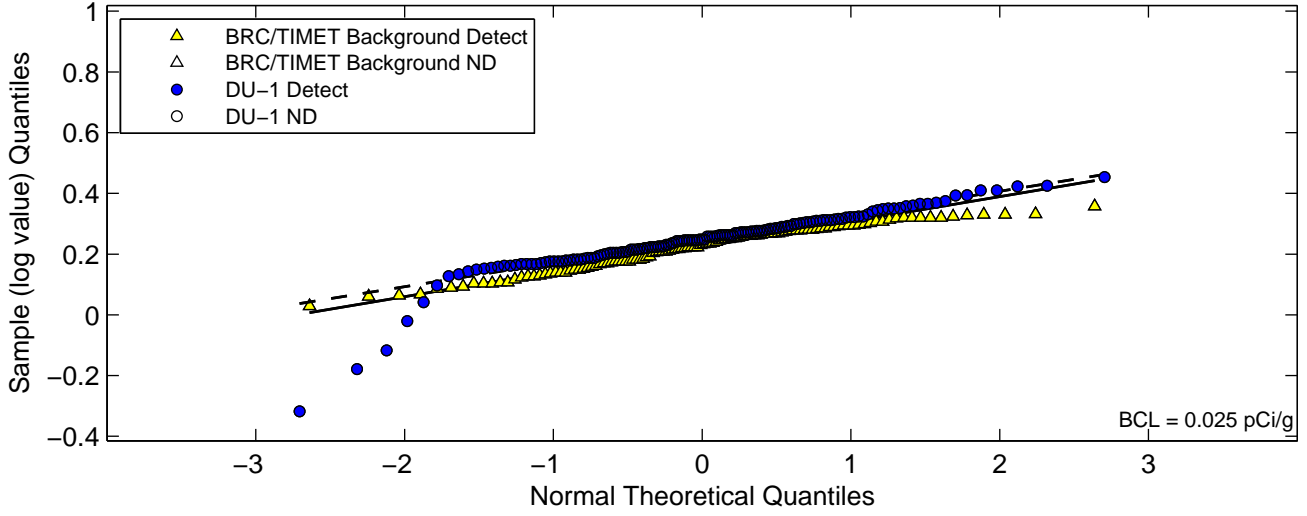


Figure J2-15A. Normal Q-Q Plots
Uranium-235

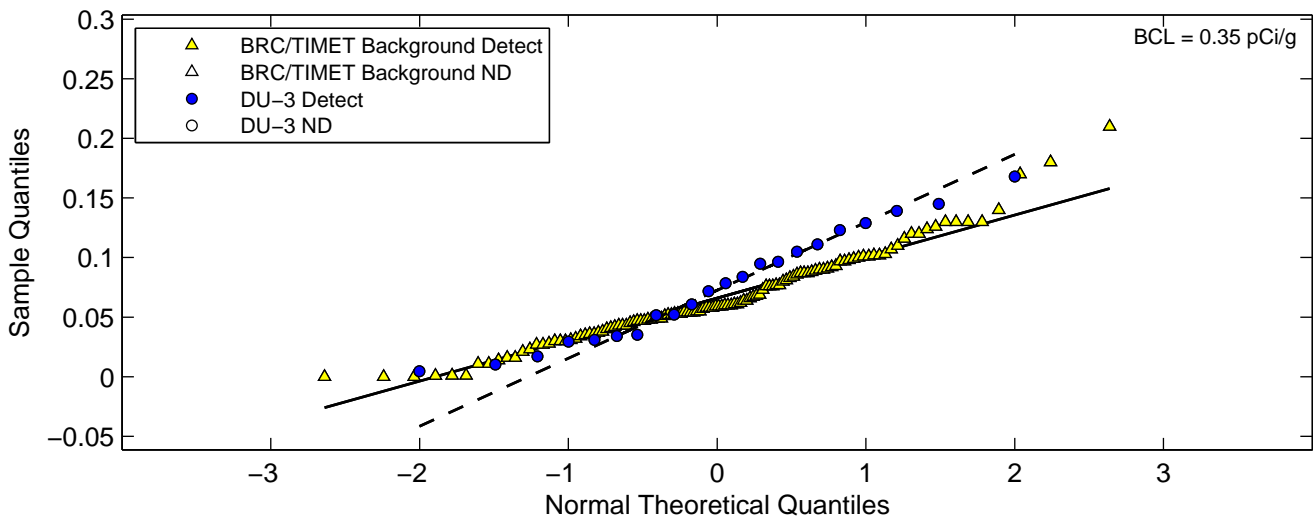
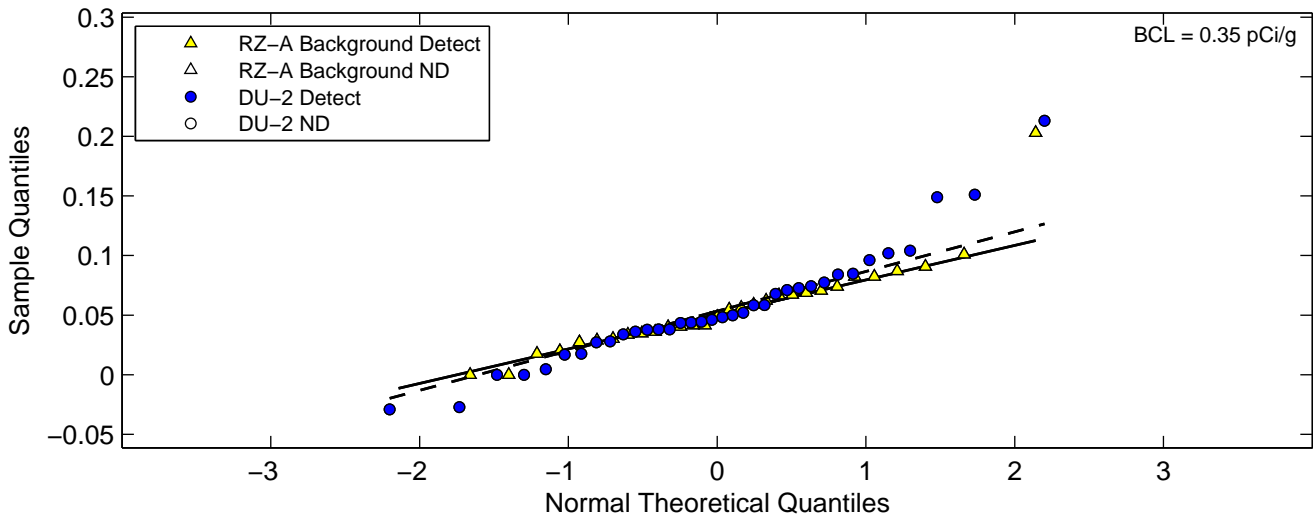
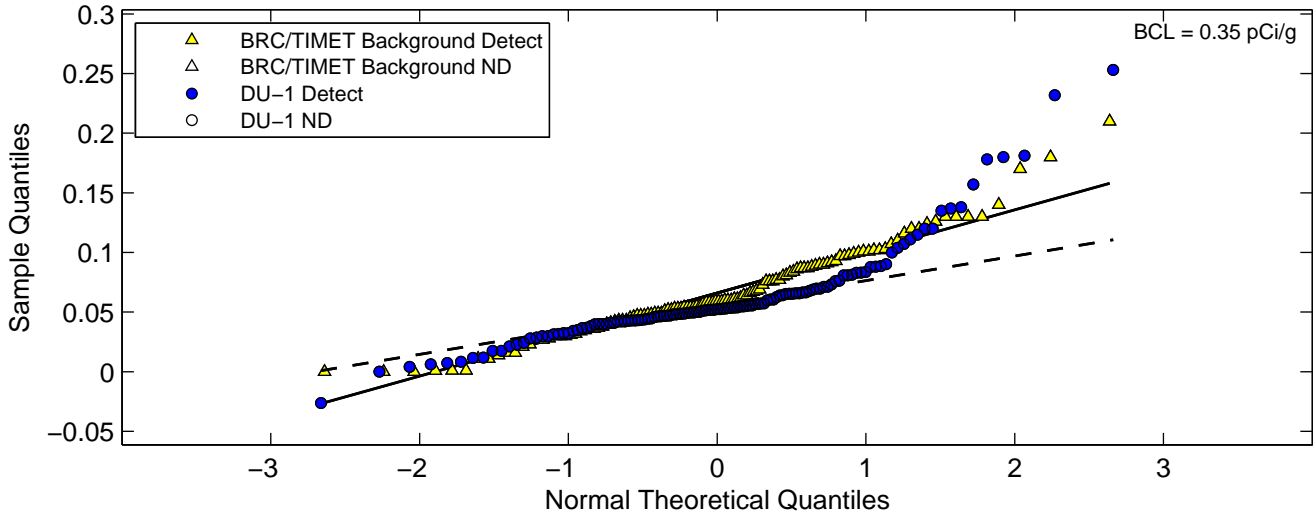


Figure J2-15B. Lognormal Q-Q Plots
Uranium-235

