Data Usability Report 2
Cleanup Verification Sampling Data

Krejci Dump Site

Cuyahoga Valley National Park
Summit County, Ohio
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The National Park Service

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LIST OF ACRONYMS

CD	Consent Decree
CVS	Cleanup Verification Sampling
CV	Coefficient of Variation
Park	Cuyahoga Valley National Park
DQO	Data Quality Objective
DUR	Data Usability Report
EQIS	EQ Industrial Services, Inc.
FSP	Field Sampling Plan
FQAO	Field Quality Assurance Officer
Ford	Ford Motor Company
LPC	Laboratory Performance Criteria
LCS	Laboratory Control Spike Sample
MS	Matrix Spike Sample
MSD	Matrix Spike Duplicate Sample
MQO	Measurement Quality Objective
NPS	National Park Service
OSR	On-Site Representative
Park	Cuyahoga Valley National Park
QA	Quality Assurance
QAP	Quality Assurance Plan (Laboratory)
QAPP	Quality Assurance Project Plan
QC	Quality Control
RA	Remedial Action
RI	Remedial Investigation
RAWP	Remedial Action Work Plan
RD	Remedial Design
RG	Remediation Goal
RL	Reliance Level
ROD	Record of Decision
Site	Krejci Dump Site
SOW	Statement of Work

Section 1. Introduction

This Krejci Dump Site (Site) Data Usability Report (DUR) 2 was commissioned by the National Park Service (NPS) to enable NPS's independent evaluation and determination of: (1) whether the Cleanup Verification Sampling (CVS) data for the Site are of sufficient quality for use in determining achievement of Site Remediation Goals (RGs); and (2) whether the usable data establish that the RGs have been achieved. The usability evaluation of CVS data is set forth in three DURs. DUR 1 evaluates CVS data for soil samples collected at the end of initial excavation and that were reported in the September 11, 2009 CVS Database. This document, DUR 2, evaluates CVS data first reported in the December 16, 2010 CVS Database (i.e., entered after September 11, 2009), excluding dioxin/furan data. DUR 3 evaluates all CVS data first reported in the October 7, 2011 CVS database (i.e., entered after December 16, 2010), as well as all dioxin/furan data (including dioxin/furan test results preliminarily addressed in DUR 1). DUR 1 introductory Sections 2 – 6 (explaining, e.g., the data quality objectives (DQOs) and QA program) are pertinent to this DUR and incorporated herein by reference.

The data usability assessment proceeds as follows: (1) all CVS measurements are compared to project measurement quality objectives (MQOs), since measurements that attain all MQOs are usable; (2) all CVS measurements are then compared to a derived reliance level (RL), which is a calculated concentration that sets a limit on how close a CVS measurement can be to the RG without undue concern that noncompliance with MQOs might impact decisionmaking; and (3) CVS measurements that exceed the reliance level and do not achieve all MQOs are then individually evaluated using other contextual factors such as other related CVS data (e.g., other CVS results for same analyte in the same grid, CVS results for other analytes in the same analyte group in the same grid, CVS results for linked or associated analytes in the same grid), field and laboratory batch-specific data quality indicators, and qualitative data collection proficiency measures, to determine if the acquired measurement quality is sufficient to support the RG achievement decision.

This DUR 2 is organized as follows: Section 2 discusses MQO compliance and compares results to RLs; Section 3 further evaluates data usability and completes the data usability evaluation; Section 4 compares usable data to RGs; and Section 5 presents a summary and conclusion. Appendix A contains select types of quality control (QC) sample data and CVS test results from the December 16, 2010 database. It is organized by parameter group and analyte and includes analyte-specific discussion related to data usability. Appendix B contains all CVS test results organized by location and date (sample identifier) and compares them to RGs. Appendix B includes shaded columns to graphically present the occurrence of excavation events between CVS episodes in response to RG failures. All December 16, 2010 CVS database entries relevant to usability and RG achievement decisions, including all data previously presented and discussed in DUR 1, are presented in Appendices A and B.

DUR 1 concluded that the September 11, 2009 database CVS data representing conditions after initial excavation that is relevant and required for making decisions regarding the attainment of RGs, does have the quality necessary to use in making such decisions. DUR 1 compared this usable CVS data to the

RGs and identified RG achievement by analyte, parameter group, and Site area (grid). Out of a total 186 Site grids, DUR 1 established that 69 grids met all RGs for all applicable analytes at the conclusion of the initial Site excavation in June, 2007. Grids that did not achieve all RGs after the initial Site excavation underwent additional rounds of excavation followed by CVS, until the CVS results indicated RG achievement.

The CVS data in the December 16, 2010 CVS database includes almost all CVS data for the remaining 117 grids. The exceptions are West Site grid B3, which was overlain by a graveled staging area and was the last grid to undergo CVS, and some of the dioxin/furan data, which was acquired in 2011. CVS results for grid B3 are evaluated in DUR 3, as are all dioxin/furan test results. The dioxin/furan data was tested in a laboratory different from that used for testing other analytes and used a methodology having extremely low detection limits; therefore, laboratory specific data quality measurements and associated concerns are uniquely different from other CVS measurements. For simplicity, dioxin/furan data is evaluated in its entirety in DUR 3, notwithstanding that a cursory evaluation of initial dioxin/furan data is included in DUR 1. All CVS data in the December 16, 2010 CVS database underwent laboratory verification, independent validation, and evaluation of compliance with MQOs, as documented in EQIS's Data Quality Evaluation 2 (DQE 2).

Section 2. Data Usability Methods and Results

2.1 Field Oversight

Many tasks performed on Site during remedial action (RA) activities have the potential to significantly influence the quality of the cleanup and the confidence with which decisions may be made regarding attainment of RGs. Procedures for those tasks considered most influential are detailed in the Remedial Design (RD) Report and Remedial Action Work Plan (RAWP), such that it is likely that a remediation activity was successful when the prescribed procedures were performed as specified. Two general approaches were used to assure that adequate performance of field procedures was achieved. First to the extent practical, measurements were made and compared to project specific acceptable standards of practice, such as MQOs and laboratory performance criteria (LPCs). Second, when measurements were not applicable or practical, compliance with procedures was assured by close monitoring of activities (field and laboratory oversight). Such monitoring allowed early detection of procedural errors and immediate development and implementation of corrective actions.

The EQIS Project Manager (PM), Quality Assurance Officer (QAO), Field Quality Assurance Officer (FQAO) and Site personnel were responsible for assuring that procedures and practices were implemented according to the RD Report and RAWP. Additionally, NPS's On-Site Representative (OSR) was present during all RA activities and provided an independent level of review. NPS also maintained an off-Site group of technical experts with whom the OSR communicated on a regular basis, and who were available for consultation whenever questions arose. The FQAO and the OSR prepared independent daily reports of activities and observations. These reports documented problems encountered and

corrective actions taken. The OSR reports were reviewed by the NPS technical experts to evaluate compliance with the RA and RAWP; identify potential problems and propose corrective actions; and evaluate the impact of problems and corrective actions on the quality of the RA and related decisions. By this process field problems were identified and corrected immediately, thereby reasonably assuring procedures were implemented as expected and a high quality cleanup resulted. Furthermore, the process assured that CVS collection activities were in accordance with the CVS Field Sampling Plan (RD, Appendix C) thereby assuring that errors did not occur during this effort and that CVS of acceptable quality were collected for testing.

2.2 Laboratory Oversight

Compliance with industry accepted standards of practice with regard to specified analytical procedures was assured by evaluating the laboratory quality assurance plan and ensuring its implementation. For some methods this project required attainment of data quality that exceeded common practice because the decisions regarding attainment of RGs for a grid are based on analyses of a single multi-increment (composite) sample. Project specific standards are presented as LPCs in the QAPP Table 3.2 and are the focus of comparisons and discussions in Appendix A and Section 3.4.

NPS technical experts audited testing laboratories and reviewed and approved the quality assurance plans (QAPs) and operating procedures prior to the start of laboratory analyses of CVS. Laboratory testing procedures are included in the laboratory QAP contained in the CVS Field Sampling Plan (RD, Appendix C). A laboratory quality assurance officer monitored day-to-day operations within the laboratory and immediately corrected problems that could adversely impact data quality. The EQIS quality assurance officer (QAO) operated independently of the laboratory and provided oversight that included laboratory audits and data validation in accordance with QAPP specified procedures. Data validation reports and audits were documented by the QAO and reviewed by NPS technical experts. Additionally, the NPS retained a technical expert to provide independent oversight of laboratory audits and to spot check laboratory and validation reports. Problems identified by the EQIS QAO and/or the NPS technical experts were corrected immediately. By this process, laboratory problems were identified and immediately corrected, thereby reasonably assuring that procedures were implemented as expected and that CVS measurements of acceptable quality were made.

2.3 QC Measurements

Quality control (QC) measurements were made during the RA to evaluate attainment of MQOs and LPCs. Samples were submitted by NPS, EQIS, and the laboratory for this purpose. QC protocols and criteria were implemented with various methods and procedures to evaluate measurement systems and to demonstrate that data of known quality were generated. QC protocols and criteria and their interpretation are included in the QAPP. Consistent with the CD, a CVS measurement that meets QAPP-specified LPCs and MQOs is acceptable for making project related decisions without qualification. A measurement that does not meet QAPP-specified LPCs or MQOs may be used with qualification if, by subsequent data usability evaluation, it is demonstrated to be of sufficient quality to permit decisions to

be made with acceptable confidence. [Acceptable decisionmaking confidence is discussed in DUR 1 Sections 3 and 7.]

QC measurements needed to evaluate achievement of MQOs and some of the QC measurements needed to evaluate achievement of LPCs are included in the December 16, 2010 database. These are presented in Appendix A tables for each inorganic analyte and organic compound. Tables in Appendix A also compare QC measurements to MQOs and LPCs and provide relevant discussion specific to each analyte and organic compound. DQE 1 and DQE 2 provide an evaluation of MQO and LPC compliance and assign qualifiers to noncompliant data.

A study conducted by EQIS to evaluate volatilization during sample processing of semi-volatile compounds concluded that there was a possible loss of semi-volatile organic compounds when homogenizing samples. Semi-volatile concentration measurements were, therefore, adjusted to be 4/3 of the laboratory reported measurements prior to entry to the database to conservatively correct for possible loss of semi-volatile organic compounds during sample processing. The 4/3 correction was applied to all semi-volatile organic data because all samples, including field QC samples, underwent the same, or nearly the same sample processing steps. QC measurements presented in Appendix A demonstrate that the 4/3 correction generally results in high, environmentally conservative, estimates of semi-volatile organic compound concentrations. Laboratory and field QC are described and presented in the next two sections.

2.4 Laboratory QC

Laboratory procedures used for testing are found in the laboratory QAP which is included in the Cleanup Verification Sampling Plan (RD, Appendix C). These procedures describe the various laboratory QC samples and their application.

Many different types of tests and checks were made by the laboratory to assure data quality. The database contains the laboratory QC results of NO_3^{-2} analyses used to evaluate CVS homogenization, as well as laboratory test results for duplicates, control samples, surrogate spikes, and matrix spike samples. Also, the sample collection dates, extraction dates, and test dates are included and allow the calculation of sample holding times. This data is presented graphically below or in Appendix A, Tables 5 through 10 with select QC data listed above the plots. For surrogate spike results presented in Appendix A, only data demonstrating exceedance of the LPC is tabularized. Each data type is discussed in the following paragraphs.

Homogenization Success Determination by KNO_3 Spiking

KNO_3 was added to each sample as it was received in the laboratory (aka "spiking" the sample) but prior to homogenization, to create a heterogeneous condition that successful homogenization was expected to remove. The MQO in the QAPP was to assure the RPD of duplicate NO_3^{-2} measurements are always less than 35 percent following homogenization. Duplicate NO_3^{-2} measurements were made for each of 460 homogenized samples and the MQO was achieved with one exception, which had a small

exceedance (RPD = 36 percent). The data is plotted on Figure 2.1. Note that the average daily RPDs appear to be generally lower for samples collected following the end of the initial excavation, which is identified on the timeline by the vertical dotted line. This suggests that the laboratory was doing a better job of homogenizing the later samples. The observed RPD measurement distribution is approximately the same or smaller than the RPD observed for many sets of replicate certified reference material (CRM) analyses, duplicates metals analyses, matrix spike and surrogate analyses. Based on this information, it is concluded that the homogenization process was successful and did not greatly influence measurement quality.

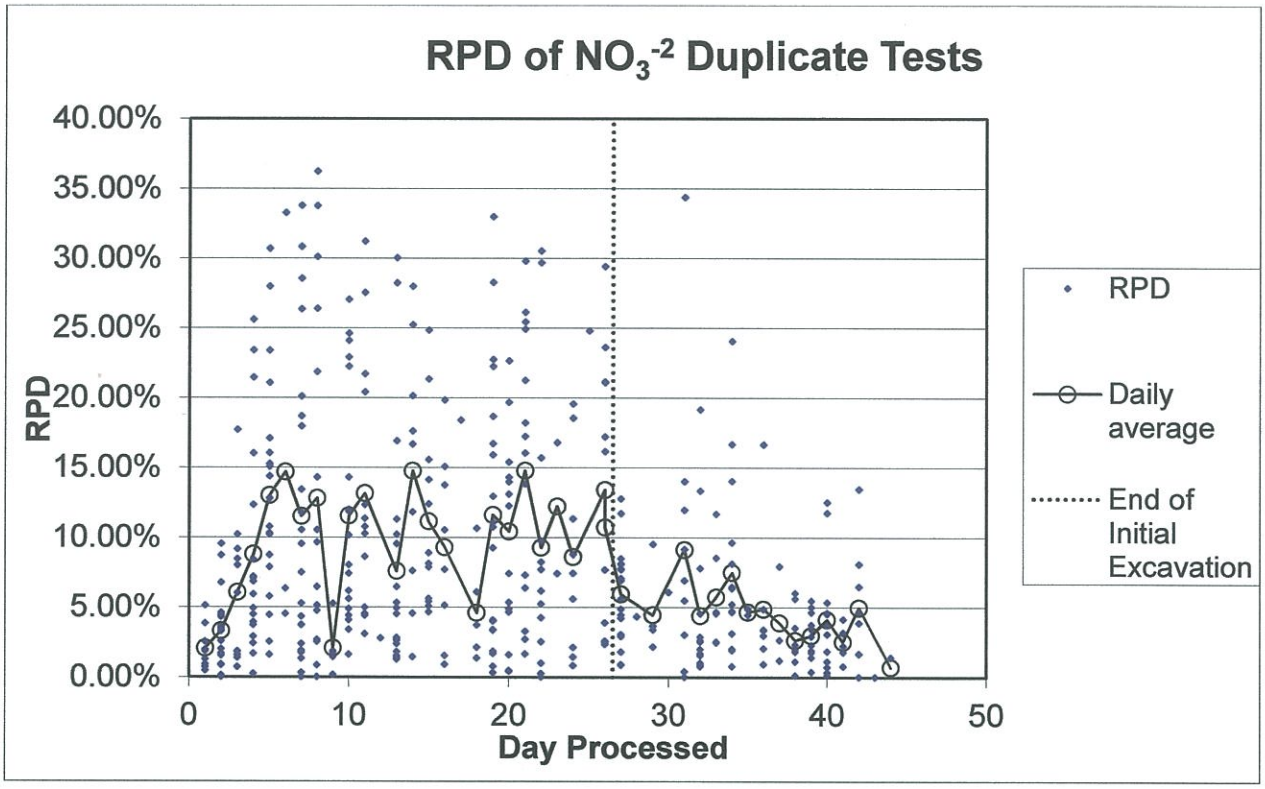


Figure 2.1 RPD of Nitrate Spiked Samples.

Holding Times

Sample holding times have importance to data quality in that the risk of concentration-altering events, such as chemical reactions, biodegradation, volatilization, chemical adsorption to glass, loss or contamination due to leaky seals, increases with time. DUR 1 includes a discussion about the general impacts and significance of holding time exceedance on data usability, which is incorporated herein by reference. QAPP Table 3.2 establishes project specific holding times for analyte groups. Compliance with holding times for the first set of samples collected following initial excavation is discussed in DUR 1. Holding times for subsequent analyses are presented herein.

Except for the PCBs analysis performed on sample WS-E08-101027, all analyses added to the database between September 11, 2009 and December 16, 2010 were performed within QAPP-prescribed holding times. The WS-E08-1010127 sample was extracted 5 days past the prescribed 14-day holding-time-to-extraction limit. This single occurrence of a small deviation from the holding time requirement is not considered significant and is not expected to impact the usability of WS-E08-101027 PCBs test results for the following reason. Reduction of PCBs in CRMs that also exceeded holding times 5 or more days were incalculably small. Furthermore, the holding time for extraction prescribed in the industry standard test procedure for PCBs, SW846 Method 8080, has recently been changed to 1 year, suggesting that the previous 14-day standard may have been unduly restrictive.

Laboratory control sample

Laboratory control spike samples (LCS) are a clean granular material spiked to contain a known concentration and analyzed with each test batch (of about 20 samples) to provide a measure of instrument accuracy. LCS duplicate (LCSD) analyses were performed with inorganic and organic analyses and the calculated RPD provides, among other things, a measurement of precision without influence of the soil matrix. LCSs were monitored closely by the laboratory and procedural or instrument corrections made as needed to assure LPC limits were not exceeded. Nevertheless, occasionally the LCS LPCs were exceeded as reported in DUR 1. LCS recoveries and RPDs are tabularized and graphically presented for each inorganic parameter in Appendix A, Tables 6 and 7, respectively. LCS recoveries are tabularized and graphically presented for each organic parameter in Appendix A, Table 6. Data generally reflect the good LCS performance. LCS and LCSD associated with data added to the database after September 16, 2009 do not indicate additional exceedances of the QAPP-prescribed LPCs.

Laboratory duplicate

Laboratory duplicates are analyses performed on separate aliquots of the same CVS sample. Each aliquot undergoes the digestion and analysis processes and is tested in the same analytical batch. Laboratory duplicate analyses were performed for inorganic parameters and the calculated RPD is an indication of measurement precision. The calculated RPDs for each inorganic analyte are tabularized and graphically presented in Appendix A, Table 7. Most analytes had one or more exceedance of the LPC as reported in DUR 1. The more recent data representing antimony, cadmium, and boron, and to a significant extent data representing lead and selenium, exhibited multiple LPC exceedances. Laboratory duplicates associated with data added to the database after September 16, 2009 indicated only one additional exceedance of the QAPP-prescribed LPC for the parameters copper, lead, and vanadium. Additionally, mercury analyses exhibited two LPC exceedances. Other than for selenium, the infrequent exceedance of the LPC supports the conclusion that within-batch analytical precision for metals analyses was generally good.

Laboratory matrix spike

A matrix spike (MS) is a CVS sample to which a known quantity of a target parameter is added. A matrix spike sample was analyzed with every batch of samples tested. Matrix spike duplicate (MSD) samples were also analyzed with each batch of organic analyses and are used to calculate percent recoveries in the extraction process. The MS and MSD results are used, among other things, to evaluate precision and the degree to which matrix interferences affect the overall identification and quantification of the parameters. Recovery and RPDs are tabularized and graphically presented in Appendix A, Tables 5 and 6. Measurements generally reflect the good performance with a tendency for slightly low bias and an occasional exceedance of the recovery and RPD LPCs. On three occasions PCBs recoveries were high and once low. However, antimony and selenium MS recoveries were generally below the LPC lower limit, indicating a propensity for low measurement bias. There was a single pesticides exceedance of the RPD LPC for sample WS-K05-100105, which had been resubmitted as a blind duplicate to the laboratory by NPS with sample identifier BOR 825 (NPS blind duplicates are discussed in Section 3.5). Other than for selenium and antimony, the infrequent exceedance of the recovery and RPD LPCs supports the conclusion that within-batch precision was generally good and matrix effects minimal.

Laboratory surrogate spike

Surrogate spike samples are CVS samples to which a surrogate compound (surrogate) is added. This type of sample is designed to detect potential quantitative errors in the actual analyses of each sample. Surrogates are non-target compounds spiked into each sample prior to analysis that elute at different times throughout the analysis and are selected so that they not interfere with analysis of the target compounds. Surrogates provide a measure of accuracy and aid in the determination of matrix interference. Only samples intended for organic analyses were spiked with a surrogate. The laboratory tracked surrogate behavior closely and made procedural and/or equipment adjustments as necessary to maintain recovery within acceptable ranges. Although infrequent, LPC exceedances occurred for every organic parameter as presented in DUR 1. Analyses subsequent to DUR 1 did not exhibit any LPC exceedances. Surrogate recoveries for all organic analyses are listed in the Appendix A, Tables 7 and 8.

Laboratory QC summary

Laboratory procedures used for testing are found in the laboratory QAP which is included in the RD Report, Appendix C, Cleanup Verification Sampling Plan. Each procedure describes applicable QC samples, their significance and their method of application and evaluation. In summary, the calculated recoveries and RPDs for laboratory duplicates, LCS, LCSD, MS, MSD and surrogate measurements are tabularized and plotted relative to testing order in Appendix A. The plots include lines representing the LPC limits. LPC exceedances are readily distinguished by data that appear above or below the horizontal LPC limit lines. For many parameters, one or more LPC criteria were exceeded during CVS testing. Data qualifiers were assigned to data associated with LPC exceedances as discussed in DQE 1 and DQE 2 and in data validation reports. Data qualifiers are to be included in the final database.

Field QC is discussed in the next section. Measurements of precision and accuracy made using Field QC exhibit MQO exceedances that are often analogous to the LPC exceedances. Laboratory QC data suggests that for many analytes, the data are biased slightly low but generally have good precision. These same results are seen in field QC data. The effect of bias and precision on RG achievement and decisionmaking is evaluated using calculated reliance levels that are discussed in Section 2.7 and 2.8.

2.5 Field QC

Data quality was routinely evaluated using quality control samples transmitted to the laboratory with CVS samples. Such measurements were not used to make modifications to procedures or other operations, but rather provide a means to measure the overall measurement process performance. The December 16, 2010 database contains field QC results for the following: 1) NPS-purchased certified reference materials (NPS CRMs), 2) repeated tests on splits of a single homogenized sample obtained from either the background Site (NPS Background Replicates) or from the West Site (NPS West Site Replicates), 3) splits of laboratory homogenized CVS that were returned to the field and submitted independently by either NPS or EQIS (NPS and EQIS CVS Splits), and 4) EQIS-purchased certified reference materials (EQIS CRMs). Data are tabularized and presented with statistical summaries for each parameter in Appendix A, Tables 2 through 5. A discussion and summary is contained in Appendix A, Table 1. The following two paragraphs describe the contents and nomenclature used in Appendix A.

Nomenclature

The identifier for NPS field QC samples is prefixed with the letters "BOR." A cross-reference to vendor supplied identifiers was maintained by the NPS On-Site Representative in field notes. NPS field QC samples were given to the Field Quality Assurance Officer (FQAO) for submittal with CVS sample delivery groups. NPS QC was "blind" to EQIS and the laboratory with respect to chemical composition. However, CRMs and CVS splits were easy to distinguish from other samples due to their small bottle size and pre-processed character.

The sample identifier for CRM samples submitted by EQIS contains the letter "-Z" as the third character position. The character string "DUP" prefixes all EQIS splits of homogenized CVS samples. The results of tests on all CVS samples and "DUP" samples are presented in Appendix A for each analyte and organic compound.

NPS and EQIS CRM Analyses

CRMs are commercially prepared and purchased soil samples containing a measured quantity of contaminant. (See Appendix A, Table 4) CRMs were submitted to the laboratory with CVS and tested to evaluate measurement accuracy. Analyses of duplicate sets of CRMs provide data to calculate RPD for precision evaluation. NPS and EQIS purchased their respective CRMs from different vendors. Only NPS technical experts knew the type and quantity of contaminants in CRMs that were purchased by NPS and submitted for testing. The NPS's vendor certificates state the "Made to" concentrations and the 95 percent acceptance limits for recovery for each parameter. The EQIS vendor supplied 99 percent

acceptance limits for recovery of each included parameter. These 99 percent limits were used to back-calculate the 95 percent acceptance limits that are presented in Appendix A, Table 1 for comparison with laboratory measurements. Appendix A, Tables 2 and 5 present analyses in the order tested. Generally, two or more EQIS CRM samples were analyzed per laboratory batch, while only one NPS CRM was analyzed per laboratory batch. EQIS CRMs contained only 4 analytes per parameter group while NPS CRMS contained most parameters. Duplicate CRM analyses provide the only consistent measures of precision for organic analyses because splits of CVS samples seldom contain quantifiable concentrations of organic compounds. NPS CRM recovery is treated herein as an unbiased representation of accuracy and indicative of the overall bias. Accuracy demonstrated by NPS CRMs is presented for each parameter in Appendix A, Table 2. A low bias is generally indicated by the CRM data, especially for organic compound analyses. However, analytical precision was generally good with a few small exceptions discussed in Appendix A.

NPS and EQIS Duplicate Analyses (between-batch analytical precision)

Duplicate analyses were performed on splits of CVS samples. The laboratory returned three splits of each CVS sample to the FQAO who, in turn gave two of those splits to the NPS OSR. The FQAO and NPS OSR each independently returned splits blind to the laboratory for analysis at a frequency of approximately one for every twenty CVS samples. Duplicate samples were randomly selected. By chance, in no instance was the same sample used as a field duplicate by both NPS and EQIS. Each duplicate underwent the same digestion and analysis processes as the original sample split. Because the duplicates were submitted for testing later than the original sample, they were tested in different analytical batches. Therefore, the calculated RPD is an indication of between-batch measurement precision, as opposed to within-batch measurement precision, which is evaluated by laboratory duplicate measurements. Calculated RPDs for NPS and EQIS duplicate analyses are presented in Appendix A, Table 4. As expected, RPDs for NPS and EQIS duplicates are generally greater than RPDs for laboratory duplicates. The difference reflects between-batch measurement imprecision.

NPS Background Replicate Test

NPS collected a soil sample from the Site background area in 2005 and had this sample homogenized by the NPS CRM vendor in the same manner used by the vendor to process soils for CRMs. The NPS OSR periodically submitted splits from the homogenized background sample to the laboratory for inorganic analyte analyses. These measurements provide a method to evaluate trends and a measure of analytical precision at concentrations representing background concentration. Measurement error for repeated tests on this background sample includes laboratory analytical imprecision as well as imprecision due to incomplete homogenization. For evaluation of data usability, it is presumed the CRM vendor's rigorous homogenization process has the same or slightly less efficiency as the project laboratory homogenization process. This assumption is supported by comparison of the coefficient of variation (CV) between background replicate tests and the CV estimated from RPDs for NPS and EQIS duplicate analyses. Twelve of sixteen possible comparisons result in the calculated CV for the replicate tests on the background sample exceeding the CV of the duplicate analyses. Therefore, the standard

deviation of this background sample replicate analyses data set is used conservatively as the primary representation of precision in subsequently discussed data usability analyses. The results of replicate tests on a single background sample are presented for each inorganic analyte in Appendix A, Table 3.

NPS West Site Replicate Test

NPS collected a single soil sample from the West Site in 2007 and had this sample homogenized by the NPS CRM vendor in the same manner the vendor used to process soils for CRMs. The NPS OSR periodically submitted splits from the homogenized sample to the FQAO for PCBs analyses. These measurements provide a method to evaluate trends in PCB analysis and a measure of analytical precision representing concentrations near the RG concentration. Measurement error for repeated tests on this sample includes laboratory analytical imprecision as well as imprecision due to incomplete homogenization. In subsequent evaluation of data usability, it is conservatively presumed the CRM vendor's homogenization process has approximately the same efficiency as the project laboratory homogenization process. The results of replicate tests on a single West Site sample are presented with PCBs data in Appendix A, Table 3.

2.6 Data Qualifiers

Data qualifiers are alphanumeric notations assigned to a piece of data to indicate a specific concern about that data. A general discussion of the Krejci Site process of data validation, verification, and qualification is provided in DUR 1, Section 7.6 and is incorporated herein by reference. Measurements entered into the December 16, 2010 database since September 11, 2009 were evaluated at every step in accordance with these validation, verification, and qualification procedures. DQE 2 identifies and discusses the QC measurements new to the December 16, 2010 database that do not routinely attain all LPCs and MQOs and are hence qualified. Only data qualifiers assigned by the laboratory are included in the December 16, 2010 and earlier versions of the database. Data qualifiers assigned in DQE reports will be added to the final submittal of the database.

It is difficult to identify and isolate qualified data due to the absence of data qualifiers in the database. Therefore, Section 2.7 provides usability evaluation of all measurements, qualified data included, using a statistical approach. Section 3 summarizes the results of the data usability evaluation.

2.7 Reliance Level

The reliance level (RL) is a calculated concentration, unique to each analyte, used to determine if the measurement is sufficiently close to the RG to warrant closer examination of the measurement quality. The RL sets a limit on how close a CVS measurement can be to the RG without undue concern that the true sample concentration exceeds the RG by 20 percent or more. A discussion about the use of RLs in the statistical approach to data evaluation, as well as the derivation of RLs for this project, is provided in DUR 1, Section 7, and is incorporated herein by reference. Suffice it to say here that qualified measurements below the RL may be used with confidence to conclude the RG has been attained, and qualified measurements above the RG may be used with confidence to conclude the RG has not been

attained. For qualified measurements between the RL and RG, additional evaluation is needed to determine confidence in using such measurements for establishing RG achievement. Calculated reliance levels are presented in the fourth column of tables in Appendix B.

Section 3. Data Usability Summary

Much of the data in the December 16, 2010 database is qualified because it did not routinely achieve an LPC or an MQO (See Data Quality Reports DQE 1 and DQE 2). As explained previously, additional evaluation of this qualified data is performed herein to establish whether the data quality is sufficiently reliable to be used to determine RG achievement. It is important to note that a conservative approach for cleanup verification was adopted for the Krejci Site, and this approach includes rigorous quality assurance criteria with deliberate redundancy. Qualification of data in this context triggers additional evaluation of the data, but does not mean that the data is necessarily poor or unreliable. The presence of this redundancy and rigorous MQOs resulted in a conscientious effort by all involved to create exceptional quality samples and measurements. Although all standards were not always achieved, the effect of the plan was a good quality product, justifying confidence in the achievement of all Site remediation goals.

The first part of this usability evaluation is a statistical analysis conducted by comparing each qualified measurement to a derived RL unique to each analyte. As discussed in Section 2.7, qualified CVS measurements that are below the RG and also below the reliance level (RL) have sufficient indicia of RG achievement and acceptable data quality for decisionmaking, eliminating any need for additional data evaluation. When, however, a qualified CVS measurement is below the relevant RG but above the derived RL, the second part of the data usability evaluation is triggered. This latter evaluation includes a review of the manner in which the data was generated, which is all documented in reports such as the data validation reports, DQE 2, field and lab audits, and the database itself. This review may also consider other contextual aspects of the data. For example, sometimes when a qualified CVS measurement was below the RG but above the RL, similar results from either a duplicate analysis of the sample or a previous CVS for the same grid added ample confidence in the quality of the qualified CVS measurement to make it usable. In other instances, the measurements were evaluated in the context of laboratory and field quality control information specific to the analytical batch and evaluation of trends. A small number of cadmium CVS measurements were evaluated in the context of the results for other analytes in the same parameter group, referencing past RI and RA analytical results which established that elevated metal concentrations associated with Site contamination seldom involve a single metal.

Quality control measurements and calculated RLs for each analyte are presented in Appendix A, which also presents a detailed data usability evaluation that is specific to each analyte. The data usability evaluations conducted herein resulted in the determination that the CVS data in the December 16, 2010 database, including the qualified data needed to make decisions regarding the attainment of RGs, is of sufficient quality and reliability to use in establishing RG achievement.

Section 4. RG Achievement

The SOW provides the following with regard to RG achievement:

> *Post-excavation characterization will be performed to verify that remaining soils meet the Remediation Goals (RGs) set forth in Appendix D. . . . One composite sample comprising 40 specimens collected on a grid pattern within each 1/4-acre will be analyzed for all parameters shown in Appendix D that are associated with the area, except for dioxin/furan (which is described in Step 7 below) and benzene. . . . The following verification criteria shall apply. For parameters with Tier-2 RGs, up to two exceedances of Tier-1 RGs are permitted for each 1/4-acre area, so long as the Tier-2 RGs are achieved for those parameters. For parameters without defined Tier-2 RGs, exceedance of a Tier-1 RG within any 1/4-acre area constitutes failure. In the event that a 1/4-acre verification sample fails either of these verification criteria, Ford may collect a resample from a multi-point grid with similar point spacing used in the original sample, offset to a new origin. The resample would be analyzed for each parameter group that had an exceedance. For example, if there is an exceedance for one metal parameter, all metals would be analyzed on the resample. The parameter groups are: (1) metals; (2) volatile organic compounds; (3) polycyclic aromatic hydrocarbons; (4) pesticides and PCBs; (5) phthalate esters; and (6) dioxin/furan. The relevant parameter group for each parameter is shown in Appendix D. If the resample results satisfy the verification criteria for all parameters in the parameter group, the 1/4-acre area will be deemed to have achieved the RGs for all contaminants except dioxin/furan.*

Parameter groupings used to establish analytes to be retested as a consequence of an RG failure within the group are as described above, except PCBs and pesticides were treated as independent parameter groups and polycyclic aromatic hydrocarbons and phthalate esters were treated as a single parameter group.

Appendix B herein compares the Site RGs to the CVS test results contained in the December 16, 2010 database. The data is presented for each analyte in each grid, with each column representing a separate sampling event. Column labels are sample identifiers. Sample identifiers are unique to each sampling event and grid and include the Site, grid identifier, and date of the sampling event in YY/MM/DD format. CVS results indicating an RG failure are distinguished by a boxed or bolded[1] entry. Exceedance of an RL is indicated by a shaded cell. Italicized entries indicate that the measured concentration was less than the method detection limit, in which case the presented value is the method detection limit. A shaded column indicates that a grid excavation event occurred between CVS collection episodes.

Grids initially failing to achieve RGs required excavation followed by CVS and analysis for all analytes in the failing parameter group(s). Grids that have attained all RGs for a parameter group are finished with

[1] A failure of a Tier 2 RG is boxed. Likewise a failure of a Tier 1 RG is boxed if there is not Tier 2 RG for that analyte. A failure of a Tier 1 RG is bolded if it is exceeded and a respective Tier 2 RG for the analyte is not exceeded.

respect to that group. DUR 1, Tables 9.1 and 9.2 identify parameter groups and grids for which all RGs were attained following initial excavation. The grids that did not achieve all RGs at the conclusion of the initial excavation have since undergone additional excavation, sampling and testing. The subsequent CVS samples were only analyzed for analytes within each parameter group that had an exceedance. For example, if following any excavation event there was an exceedance for one metal parameter, all metals would be analyzed in the new CVS sample. But if the CVS data showed RG achievement for all analytes within a parameter group, none of those analytes would be evaluated in the new CVS sample. Sometimes repeated excavation of a grid was necessary to achieve all RGs in that grid.

The CVS data included in the December 16, 2010 CVS database (entered after September 11, 2009), and evaluated in this DUR 2, resulted from several rounds of excavation and CVS sampling. The December 16, 2010 database includes CVS testing results up to the point at which all grids achieved all RGs for all parameter groups, except for dioxins/furans data collected and entered after September 11, 2009, and some CVS data for metal analytes in West Site grid B3 that resulted from a subsequent round of excavation and CVS sampling. This latter CVS data is included in a later database and evaluated in DQE 3 and DUR 3.

Section 5. Conclusion

Surface soil samples were collected and tested in accordance with Site Cleanup Verification Sampling (CVS) protocols after excavation of the Krejci Dump Site (Site) in order to determine if the excavation removed contaminants as required by the Record of Decision (ROD) and Consent Decree (CD). This report presents an evaluation of the quality of this CVS data with the objective of ascertaining whether the data is sufficiently reliable for use in determining with confidence that Site soil has achieved the Site remediation goals (RGs). This report concludes that the CVS data (both qualified and not) from samples contained in the December 16, 2010 database (but entered after September 11, 2009, and excluding the newly entered dioxin/furan data), that is relevant and required for making decisions regarding the attainment of RGs, does have the quality necessary to use in making such decisions. This report also compares this usable CVS data to the RGs and identifies RG achievement by analyte, parameter group, and Site area (grid). This report, taken together with DUR 1, supports and documents the conclusion that 185 of the 186 Site grids have met all RGs other than for dioxin/furan, the evaluation of which is included in DUR 3. The single grid excluded from the above conclusion is West Site grid (B3), which was used as the West Site staging area and has since undergone additional excavation and CVS sampling. The dioxin/furan test results and West Site grid B3 metals data are evaluated and compared to respective RGs in DUR 3.

Section 6. Related References

June 2000, Final Remedial Investigation Report, Krejci Dump Site, Cuyahoga Valley National Recreation Area, prepared for the National Park Service by the Bureau of Reclamation, Lakewood CO.

April 2002, Partial Consent Decree, United States v. Chrysler Corp., et al., Civil Action No. 5:97 CV00894 (N.D. Ohio).

June 2005, Final (100%) Remedial Design Report, Krejci Dump Site, Cuyahoga Valley National Park, Summit County, Ohio, prepared for EQIS, Ypsilanti, MI, by Conestoga-Rovers & Associates, Inc., Waterloo, Ontario.

September 2005, Remedial Action Work Plan, Krejci Dump Site, Cuyahoga Valley National Park, Summit County, Ohio, prepared for EQIS, Ypsilanti, MI, by Conestoga-Rovers & Associates, Inc., Waterloo, Ontario.

July 2009, Final Amendments to the Krejci Site Remedial Action Documents (effective as of June 8, 2009).

May 2012, Data Quality Evaluation 1, Cleanup Verification Sampling Results for August 2008 to September 2009, prepared for EQIS, Ypsilanti, MI, by ReSolution Partners, LLC, Madison, Wisconsin.

May 2012, Data Quality Evaluation 2, Cleanup Verification Sampling Results for October 2009 through December 2010, prepared for EQIS, Ypsilanti, MI, by ReSolution Partners, LLC, Madison, Wisconsin.

May 2012, Data Quality Evaluation 3, Cleanup Verification Sampling Results for January 2011 through December 2011, prepared for EQIS, Ypsilanti, MI, by ReSolution Partners, LLC, Madison, Wisconsin.

May 2012, Data Usability Report 1, Cleanup Verification Sampling Data, Krejci Dump Site, prepared for the National Park Service by MCG Geotechnical Engineering, Inc., Morrison, Colorado.

May 2012, Data Usability Report 3, Cleanup Verification Sampling Data, Krejci Dump Site, prepared for the National Park Service by MCG Geotechnical Engineering, Inc., Morrison, Colorado.

Appendix A

Data Usability Analyses

Table Al-1: Aluminum Data Quality Summary

Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	80%	83%	
Minimum Matrix Spike Recovery	70%	47%	
Average LCS Recovery	N/A	96%	
Average Matrix Spike Recovery	N/A	90%	
Maximum LCS RPD	20%	17%	
Maximum Laboratory Duplicate RPD	20%	13%	
Average LCS RPD	N/A	3%	
Average Laboratory Duplicate RPD	N/A	4%	

Measurement Quality Objectives	Criteria	Measured	
NPS CRM	Recovery =>6590 mg/kg	Minimum Recovery =	8560 mg/kg
EQIS CRM	N/A	See Note 1	
CVS Split Analysis RPD	RPD=<35%	Maximum RPD =	42 %
CRM Split Analysis RPD	RPD=<35%	Maximum RPD =	80 %

Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	76 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	3021 mg/kg

Data Quality Relative to Remediation Goals		
Tier 1 Remediation Goal	21000	mg/kg
Tier 2 Remediation Goal	24000	mg/kg
QC Derived reliance level	19453	mg/kg See Note 2

Comments: Generally, the laboratory analytical equipment provided good measurement of extracted aluminum concentrations as indicated by generally good attainment of laboratory performance criteria. However, laboratory batch 59382 demonstrates potential contamination as evidenced by exceedance of the upper acceptance limit for the associated NPS CRM and unusually high measured concentration for both the NPS and EQIS CRM samples. Low average recovery of NPS CRM (76%) and a low average matrix spike recovery (89%), coupled with a large sample measurement standard deviation (3021 mg/kg) relative to the mean (15332 mg/kg) for repeated tests on the same sample, suggests less than desired overall precision and accuracy. The equivocal precision and accuracy is likely due, in part, to nuances of the extraction process, i.e. the amount of aluminum extracted from the soil is very sensitive to digestion process variables. Matrix interference is also a possible contributor to loss of accuracy. Imprecision and inaccuracy results in a derived reliance level (19453 mg/kg) less than the Tier 1 RG (21000 mg/kg). Aluminum CVS results for East Site grids J3, Q8, S8 and T10 were above the QC derived reliance level, but matrix spike and LCS recoveries for these samples were very good. J3, Q8 and T10 had previous CVS aluminum measurements below the derived reliance level adding confidence that an erroneous declaration of RG achievement is unlikely. S8 had no previous or subsequent analyses, however, no other metals in S8 exceed the RG and metals contamination is not likely to be found by itself. Based on the foregoing, together with the review of the QC data, it is concluded that the aluminum CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1:The QAPP required CRMs have only 4 analytes from each analyte group. Aluminum is not one of these analytes.

Note 2. Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (24000)(1.2)(.76)-(0.84)(3021) = 19453 mg/kg

Table Al-2: ALUMINUM - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	11100	5/3/09	57226	Y
BOR SAMPLE 6-BOR 81	9070	5/4/09	57400	Y
BOR Sample 4-BOR 82	10800	5/8/09	57514	Y
BOR 83	9350	5/27/09	57790	Y
BOR Sample 3-BOR 58	8620	5/27/09	57790	Y
BOR 84	9320	5/27/09	57848	Y
BOR Sample 7-BOR 105	9300	5/27/09	57848	Y
BOR 85	8660	6/5/09	58137	Y
BOR Sample 8-BOR 106	8890	6/5/09	58137	Y
BOR 86	10600	6/11/09	58213	Y
BOR 108	9950	6/19/09	58563	Y
BOR 87	10200	6/19/09	58563	Y
BOR 109	9400	6/30/09	58729	Y
BOR 110	15400	7/11/09	59382	Y
BOR Sample 9-BOR 107	9600	7/24/09	59758	Y
BOR 111	8560	7/30/09	59890	Y

CRMs		Vendor Supplied Information
Mean	9926.3	*"Made to"*
Median	9375.0	*13000 mg/kg*
Standard Deviation	1655.1	
Sample Variance	2739398.3	*Upper Acceptance Limit*
Kurtosis	8.4	*13377 mg/kg*
Skewness	2.6	
Range	6840.0	*Lower Acceptance Limit*
Minimum	8560.0	*6590 ,g/kg*
Maximum	15400.0	
Sum	158820.0	
Count	16.0	
Largest(2)	11100.0	
Smallest(2)	8620.0	

Table AI-3: ALUMINUM - NPS Background Sample Replicate Tests				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	19000	5/3/09	57226	Y
BOR 59	13200	5/4/09	57400	Y
BOR 60	16200	5/8/09	57514	Y
BOR 113	13300	5/27/09	57790	Y
BOR 61	13200	5/27/09	57790	Y
BOR 62	15600	6/11/09	58213	Y
BOR 63	12800	6/19/09	58563	Y
BOR 89	11400	6/19/09	58563	Y
BOR 115	14900	6/30/09	58729	Y
BOR 64	13300	7/8/09	59165	Y
BOR 91	14500	7/8/09	59165	Y
BOR 116	25700	7/11/09	59382	Y
BOR 92	18300	7/11/09	59382	Y
BOR 65	13200	7/22/09	59623	Y
BOR 88	12700	7/30/09	59890	Y
BOR 800	12800	9/25/09	61415	Y
BOR-802	15600	10/6/09	61791	Y
BOR 804	16100	10/29/09	62501	Y
BOR-805	16000	11/18/09	62992	Y
BOR-807	16100	11/25/09	63216	Y
BOR-808	14300	12/7/09	63406	Y
BOR 813	15700	1/20/10	64129	Y
BOR 815	14000	1/20/10	64207	Y
BOR-816	20400	1/26/10	64334	Y
BOR-820	15000	3/5/10	65037	Y

Replicate analyses of Single Sample	
Mean	15332
Median	14900
Standard Deviation	3021
Sample Variance	9126433
Kurtosis	5
Skewness	2
Range	14300
Minimum	11400
Maximum	25700
Sum	383300
Count	25
Largest(2)	20400
Smallest(2)	12700

Table Al-4: ALUMINUM NPS and EQIS CVS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	15600	5/4/09	57400	ES-T11-080530	18200	6/11/2009	15
BOR 506	18300	5/8/09	57514	ES-S10-080523	17200	6/11/2009	6
BOR 504	14500	5/27/09	57790	ES-M05-080527	12000	5/27/2009	19
BOR 507	10100	6/5/09	58137	ES-O09-080610			
BOR 508	12300	6/19/09	58563	ES-Q11-080606	16000	5/8/2009	26
BOR 510	16100	6/30/09	58729	OU-8HR-080605	16600	5/3/2009	3
BOR 501	12400	7/8/09	59165	WS-L04-080508	13000	7/8/2009	5
BOR 505	10200	7/22/09	59623	WS-K03-080509	10600	7/8/2009	4
BOR 502	13500	7/24/09	59758	WS-F05-080612	11700	8/17/2009	14
BOR 509	12600	7/24/09	59758	WS-E06-080613	12100	7/24/2009	4
BOR 500	14300	7/30/09	59890	WS-F01-080429	16100	6/19/2009	12
BOR-809	17000	12/14/09	63531	ES-K03-091103	18500	11/25/2009	8
BOR-810	13000	12/14/09	63531	ES-P07-091022	14100	11/18/2009	8
BOR-811	14600	12/14/09	63531	ES-R08-091021	18200	11/18/2009	22
BOR 814	23700	1/20/10	64129	ES-J05-091124	15500	12/14/2009	42
BOR-818	15200	3/5/10	65037	WS-F05-100111	14800	1/26/2010	3
BOR-822	17700	3/5/10	65037	ES-Q08-091228	19500	1/20/2010	10
DUP-11	15200	5/3/09	57100	ES-J03-080513	13800	6/19/2009	10
DUP-17	12700	5/4/09	57400	ES-F01-080529	14800	5/8/2009	15
DUP-15	9920	5/8/09	57514	ES-J02-080527	12700	5/27/2009	25
DUP-18	15500	5/8/09	57514	ES-J04-080530	14300	5/27/2009	8
DUP-12	13000	5/27/09	57790	ES-P06-080515	12700	6/5/2009	2
DUP-16	13700	5/27/09	57790	ES-P04-080528	14600	6/5/2009	6
DUP-19	12900	5/27/09	57848	ES-K05-080605	12900	5/27/2009	0
DUP-13	14300	6/5/09	58137	ES-T08-080522	16500	6/11/2009	14
DUP-14	15400	6/11/09	58213	ES-T10-080523	16600	6/11/2009	8
DUP-3	14000	6/19/09	58563	WS-C01-080501	13000	6/19/2009	7
DUP-4	17000	6/19/09	58563	WS-G01-080501	17700	6/30/2009	4
DUP-5	13000	6/30/09	58729	WS-I01-080501	13200	6/30/2009	2
DUP-6	12000	6/30/09	58729	WS-J01-080505	11800	6/30/2009	2
DUP-7	11300	7/8/09	59165	WS-M01-080505	11200	7/8/2009	1
DUP-9	13000	7/8/09	59165	WS-L04-080508	13000	7/8/2009	0
DUP-1	18600	7/11/09	59382	WS-E02-080428	15700	7/22/2009	17
DUP-2	16800	7/11/09	59382	WS-D02-080429	13100	7/22/2009	25
DUP-8	9550	7/22/09	59623	WS-M03-080507	6770	8/11/2009	34
DUP-10	12400	7/24/09	59758	WS-K04-080513	13900	7/8/2009	11
DUP-37	17000	10/6/09	61791	ES-S17-090910	17200	9/25/2009	1
DUP-38	14900	10/29/09	62501	ES-R11-090910	14200	9/25/2009	5
DUP-40	18100	11/18/09	62992	ES-A01-090910	14200	9/25/2009	24
DUP-39	17000	12/7/09	63406	ES-C01-090910	16700	9/25/2009	2
DUP-44	14200	1/20/10	64129	WS-M04-091218	11700	1/6/2010	19
DUP-45	17200	1/20/10	64129	ES-J05-091124	15500	12/14/2009	10
DUP-46	15600	1/20/10	64207	ES-R08-091021	18200	11/18/2009	15
DUP-47	16900	1/26/10	64334	ES-K02-091103	17300	11/25/2009	2
DUP-48	15200	3/5/10	65037	WS-M03-091217	12600	1/6/2010	19

Table Al-4: ALUMINUM NPS and EQIS CVS Duplicates (continued)

	RPD of Sample Splits
Mean	11.133
Median	8.284
Standard Deviation	9.633
Sample Variance	92.798
Kurtosis	1.279
Skewness	1.168
Range	41.837
Minimum	0.000
Maximum	41.837
Sum	489.860
Count	44.000
Largest(2)	34.069
Smallest(2)	0.000

Table Al-5: ALUMINUM EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	16900	5/3/09	57100	Y		
ES-Z11-080605B	10300	5/3/09	57100	Y	13600	48.5
ES-Z09-080529A	9590	5/4/09	57400	Y		
ES-Z09-080529B	8640	5/4/09	57400	Y	9115	10.4
ES-Z12-080606A	8480	5/4/09	57400	Y		
ES-Z12-080606B	8620	5/4/09	57400	Y	8550	1.6
ES-Z05-080519A	14700	5/8/09	57514	Y		
ES-Z05-080519B	16400	5/8/09	57514	Y	15550	10.9
ES-Z06-080520A	16800	5/8/09	57514	Y		
ES-Z06-080520B	15400	5/8/09	57514	Y	16100	8.7
ES-Z07-080522A	8180	5/27/09	57790	Y		
ES-Z07-080522B	6810	5/27/09	57790	Y	7495	18.3
ES-Z13-080610A	8030	5/27/09	57848	Y		
ES-Z13-080610B	7970	5/27/09	57848	Y	8000	0.8
ES-Z10-080602A	9480	6/5/09	58137	Y		
ES-Z10-080602B	7230	6/5/09	58137	Y	8355	26.9
ES-Z08-080527A	8450	6/11/09	58213	Y		
ES-Z08-080527B	9740	6/11/09	58213	Y	9095	14.2
ES-Z14-080611A	15500	6/19/09	58563	Y		
ES-Z14-080611B	8970	6/19/09	58563	Y	12235	53.4
ES-Z06-080520C	9340	6/30/09	58729	Y		
ES-Z06-080520D	7860	6/30/09	58729	Y	8600	17.2
ES-Z05-080519C	7560	7/8/09	59165	Y		
ES-Z05-080519D	7800	7/8/09	59165	Y	7680	3.1
ES-Z19-080624A	18000	7/11/09	59382	Y		
ES-Z19-080624B	18600	7/11/09	59382	Y	18300	3.3
WS-Z17-080618A	17100	7/11/09	59382	Y		
WS-Z17-080618B	20200	7/11/09	59382	Y	18650	16.6
WS-Z15-080613A	6760	7/22/09	59623	Y		
WS-Z15-080613B	7480	7/22/09	59623	Y	7120	10.1
WS-Z18-080620A	7990	7/22/09	59623	Y		
WS-Z18-080620B	8130	7/22/09	59623	Y	8060	1.7
WS-Z16-080617A	5360	7/30/09	59890	Y		
WS-Z16-080617B	5250	7/30/09	59890	Y	5305	2.1
ES-Z22-091021A	14200	11/18/09	62992	Y		
ES-Z22-091021B	12000	11/18/09	62992	Y	13100	16.8
ES-Z23-091022A	12300	11/18/09	62992	Y		
ES-Z23-091022B	11600	11/18/09	62992	Y	11950	5.9
ES-Z24-091103A	10400	11/25/09	63216	Y		
ES-Z24-091103B	9010	11/25/09	63216	Y	9705	14.3
ES-Z25-091104A	10600	11/25/09	63216	Y		
ES-Z25-091104B	11300	11/25/09	63216	Y	10950	6.4
ES-Z26-091105A	8780	12/7/09	63406	Y		
ES-Z26-091105B	8550	12/7/09	63406	Y	8665	2.7
ES-Z27-091106A	8640	12/7/09	63406	Y		
ES-Z27-091106B	7630	12/7/09	63406	Y	8135	12.4
WS-Z29-091217A	5390	1/6/10	63971	Y		
WS-Z29-091217B	5100	1/6/10	63971	Y	5245	5.5
WS-Z30-091230A	10200	1/20/10	64129	Y		
WS-Z30-091230B	23700	1/20/10	64129	Y	16950	79.6

Table Al-5: ALUMINUM EQIS CRMs (continued)

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
WS-Z31-100107A	8660	1/20/10	64207	Y		
WS-Z31-100107B	8670	1/20/10	64207	Y	8665	0.1
WS-Z30-091230A	28800	2/26/10	64623	Y		
WS-Z30-091230B	24600	2/26/10	64623	Y	26700	15.7
WS-Z32-100113A	28800	2/26/10	64623	Y		
WS-Z32-100113B	26400	2/26/10	64623	Y	27600	8.7
ES-Z33-100225A	8890	3/5/10	65037	Y		
ES-Z33-100225B	7920	3/5/10	65037	Y	8405	11.5

Analysis of EQIS CRMs	
Mean	11651
Median	8990
Standard Deviation	5848
Sample Variance	34193729
Kurtosis	2
Skewness	2
Range	23700
Minimum	5100
Maximum	28800
Sum	675760
Count	58
Largest(2)	28800
Smallest(2)	5250

RPD of EQIS CRMs	
Mean	15
Median	10
Standard Deviation	18
Sample Variance	312
Kurtosis	6
Skewness	2
Range	80
Minimum	0
Maximum	80
Sum	428
Count	29
Largest(2)	53
Smallest(2)	1

Table AI-6: ALUMINUM MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
112	49187	7	97	7160081	4
107	49189	8	100	49187	7
110	49537	28	97	49189	8
115	49539	30	100	49537	28
81	54626-627	68	105	49539	30
81	54821-822	71	95	54626-627	68
77	54891-892	77	94	54821-822	71
47	54915-916	78	99	54891-892	77
63	57100	114	101	54915-916	78
88	57226	116	94	57100	114
106	57514	124	88	57226	116
67	57790	138	92	57514	124
78	57848	139	83	57790	138
77	58137	145	83	57848	139
110	58213	154	86	58137	145
106	58563	160	96	58213	154
104	58729	168	108	58563	160
90	59165	174	102	58729	168
86	59382	183	98	59165	174
71	59623	193	89	59382	183
90	59758	198	92	59623	193
83	59890	205	91	59758	198
92	60089	217	88	59890	205
97	60440	221	90	60089	217
93	61415	246	97	60440	221
108	61791	252	98	61415	246
84	62501	261	103	61791	252
86	62755	267	100	62501	261
85	62992	271	105	62755	267
105	63216	283	92	62992	271
133	63406	288	103	63216	283
84	63406	288	93	63406	288
90	63531	295	98	63531	295
96	63971	303	103	63971	303
88	64129	321	98	64129	321
85	64207	319	95	64207	319
74	64334	328	96	64334	328
83	64436	341	99	64436	341
64	65037	348	108	64623	345
90	70143	366	105	65037	348
			88	70143	366

Average MS Recovery =	90 %	Average LCS Recovery =	96 %
Minimum MS Recovery =	47 %	Minimum LCS Recovery =	83 %

Table Al-6: ALUMINUM MS and LCS (Graph)

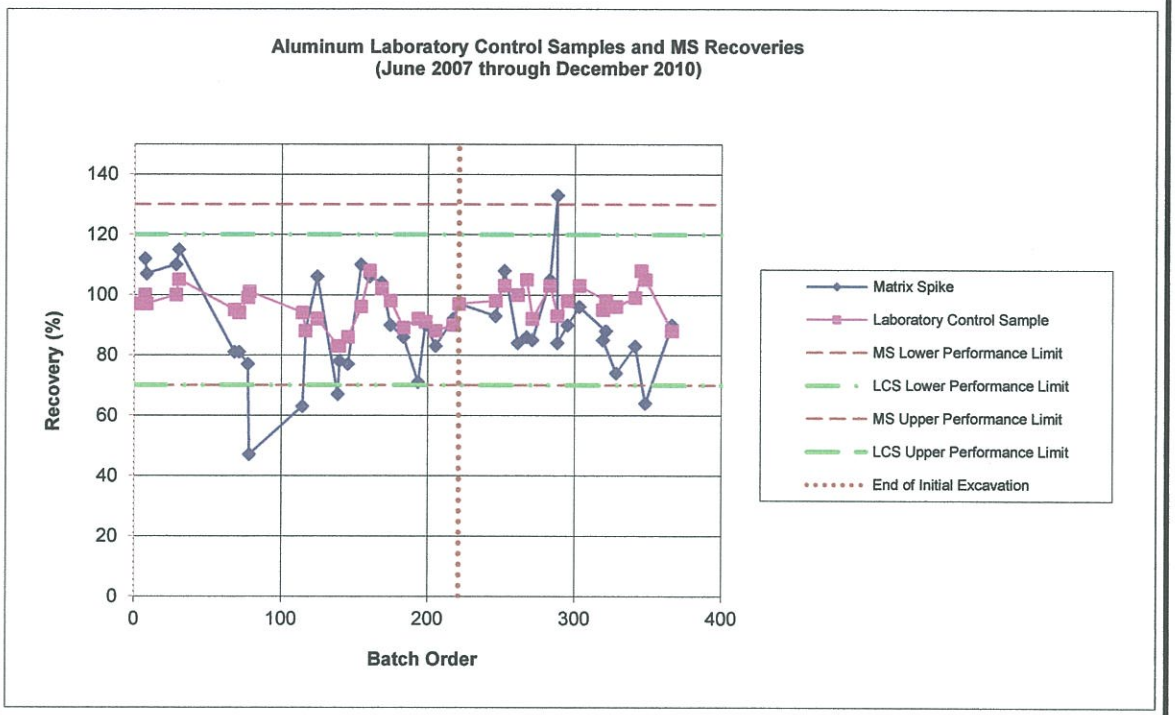
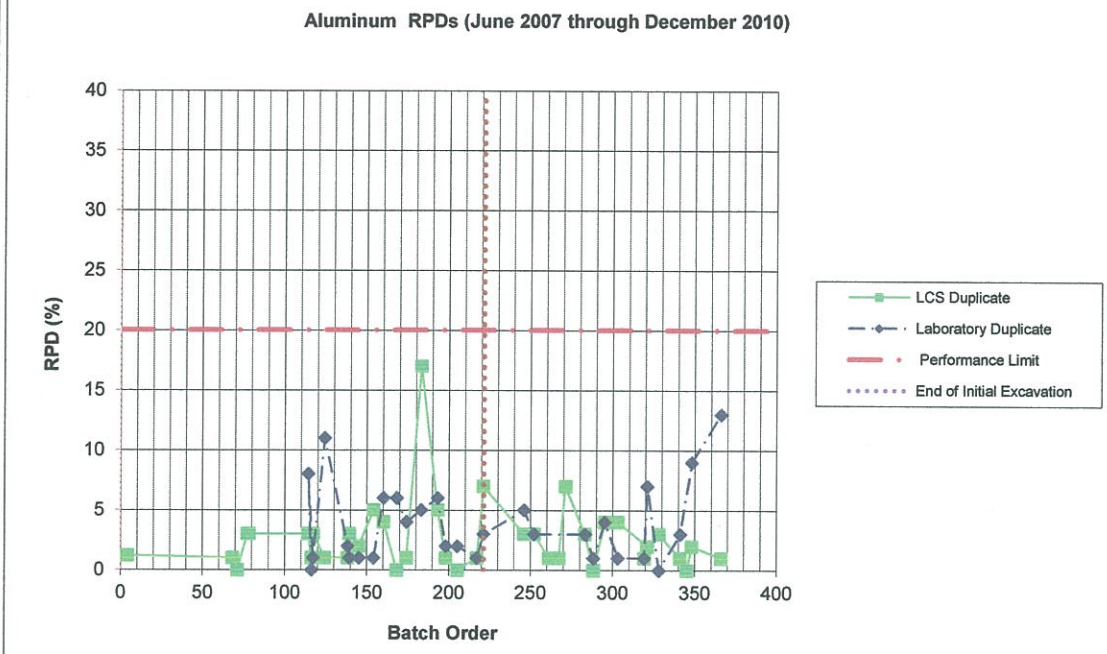


Table AI-7: ALUMINUM - Laboratory LCS and CVS duplicates

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
0	57226	116	1.2	7160081	4
8	57100	114	1	54626-627	68
1	57400	117	0	54821-822	71
11	57514	124	3	54891-892	77
2	57790	138	3	54915-916	78
1	57848	139	3	57100	114
1	58137	145	1	57226	116
1	58213	154	3	57400	117
6	58563	160	1	57514	124
6	58729	168	1	57790	138
4	59165	174	3	57848	139
5	59382	183	2	58137	145
6	59623	193	5	58213	154
2	59758	198	4	58563	160
2	59890	205	0	58729	168
1	60089	217	1	59165	174
3	60440	221	17	59382	183
5	61415	246	5	59623	193
3	61791	252	1	59758	198
3	63216	283	0	59890	205
1	63406	288	1	60089	217
4	63531	295	7	60440	221
1	63971	303	3	61415	246
1	64207	319	3	61791	252
7	64129	321	1	62501	261
0	64334	328	1	62755	267
3	64436	341	7	62992	271
9	65037	348	3	63216	283
13	70143	366	0	63406	288
			4	63531	295
			4	63971	303
			2	64129	321
			1	64207	319
			3	64334	328
			1	64436	341
			0	64623	345
			2	65037	348
			1	70143	366

Average Duplicate RPD =	4 %	Average LCS RPD =	3 %
Maximum Duplicate RPD =	13 %	Maximum LCS RPD =	17 %

Table Al-7: ALUMINUM - Laboratory LCS and CVS duplicates (Graph)



ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
East Site	A1	ES-A01-090910	ALUMINUM	14200	25-Sep-09	61415	Y	ES-A01-090910
East Site	A1	ES-A01-102109	ALUMINUM	18100	18-Nov-09	62992	Y	DUP-40
East Site	B1	ES-B01-080623	ALUMINUM	17900	03-May-09	57100	Y	ES-B01-080623
East Site	C1	ES-C01-080624	ALUMINUM	18100	03-May-09	57100	Y	ES-C01-080624
East Site	C1	ES-C01-090910	ALUMINUM	16700	25-Sep-09	61415	Y	ES-C01-090910
East Site	C1	ES-C01-090910	ALUMINUM	17000	07-Dec-09	63406	Y	DUP-39
East Site	D1	ES-D01-080624	ALUMINUM	12700	05-Jun-09	58137	Y	ES-D01-080624
East Site	E1	ES-E01-090910	ALUMINUM	16800	25-Sep-09	61415	Y	ES-E01-090910
East Site	E2	ES-E02-090910	ALUMINUM	15900	25-Sep-09	61415	Y	ES-E02-090910
East Site	F1	ES-F01-080529	ALUMINUM	12700	04-May-09	57400	Y	DUP-17
East Site	F1	ES-F01-080529	ALUMINUM	14800	08-May-09	57514	Y	ES-F01-080529
East Site	G1	ES-G01-080529	ALUMINUM	12000	08-May-09	57514	Y	ES-G01-080529
East Site	G2	ES-G02-080605	ALUMINUM	14200	08-May-09	57514	Y	ES-G02-080605
East Site	H1	ES-H01-080528	ALUMINUM	15900	08-May-09	57514	Y	ES-H01-080528
East Site	H1	ES-H01-091105	ALUMINUM	18000	07-Dec-09	63406	Y	ES-H01-091105
East Site	H2	ES-H02-080515	ALUMINUM	15900	08-May-09	57514	Y	ES-H02-080515
East Site	H3	ES-H03-080605	ALUMINUM	14600	27-May-09	57790	Y	ES-H03-080605
East Site	I1	ES-I01-080529	ALUMINUM	13000	27-May-09	57790	Y	ES-I01-080529
East Site	I1	ES-I01-091105	ALUMINUM	15700	07-Dec-09	63406	Y	ES-I01-091105
East Site	I2	ES-I02-080514	ALUMINUM	13400	27-May-09	57790	Y	ES-I02-080514
East Site	I3	ES-I03-080513	ALUMINUM	13600	27-May-09	57790	Y	ES-I03-080513
East Site	I4	ES-I04-080602	ALUMINUM	13600	27-May-09	57790	Y	ES-I04-080602
East Site	I4	ES-I04-091106	ALUMINUM	14800	07-Dec-09	63406	Y	ES-I04-091106
East Site	J1	ES-J01-080529	ALUMINUM	15600	27-May-09	57790	Y	ES-J01-080529
East Site	J2	ES-J02-080527	ALUMINUM	9920	08-May-09	57514	Y	DUP-15
East Site	J2	ES-J02-080527	ALUMINUM	12700	27-May-09	57790	Y	ES-J02-080527
East Site	J2	ES-J02-091105	ALUMINUM	13600	07-Dec-09	63406	Y	ES-J02-091105
East Site	J3	ES-J03-080513	ALUMINUM	15200	03-May-09	57100	Y	DUP-11
East Site	J3	ES-J03-080513	ALUMINUM	13800	19-Jun-09	58563	Y	ES-J03-080513
East Site	J3	ES-J03-091103	ALUMINUM	20000	25-Nov-09	63216	Y	ES-J03-091103
East Site	J4	ES-J04-080530	ALUMINUM	15500	08-May-09	57514	Y	DUP-18
East Site	J4	ES-J04-080530	ALUMINUM	14300	27-May-09	57790	Y	ES-J04-080530
East Site	J4	ES-J04-091103	ALUMINUM	18200	25-Nov-09	63216	Y	ES-J04-091103
East Site	J5	ES-J05-080602	ALUMINUM	13600	27-May-09	57790	Y	ES-J05-080602
East Site	J5	ES-J05-091124	ALUMINUM	15500	14-Dec-09	63531	Y	ES-J05-091124
East Site	J5	ES-J05-091124	ALUMINUM	17200	20-Jan-10	64129	Y	DUP-45

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
East Site	J5	ES-J05-100112	ALUMINUM	16700	26-Jan-10	64334	Y	ES-J05-100112
East Site	K1	ES-K01-080602	ALUMINUM	13300	27-May-09	57790	Y	ES-K01-080602
East Site	K2	ES-K02-080602	ALUMINUM	16200	08-May-09	57514	Y	ES-K02-080602
East Site	K2	ES-K02-091103	ALUMINUM	17300	25-Nov-09	63216	Y	ES-K02-091103
East Site	K2	ES-K02-091103	ALUMINUM	16900	26-Jan-10	64334	Y	DUP-47
East Site	K3	ES-K03-080514	ALUMINUM	13200	27-May-09	57790	Y	ES-K03-080514
East Site	K3	ES-K03-091103	ALUMINUM	18500	25-Nov-09	63216	Y	ES-K03-091103
East Site	K4	ES-K04-080527	ALUMINUM	13900	27-May-09	57848	Y	ES-K04-080527
East Site	K5	ES-K05-080605	ALUMINUM	12900	27-May-09	57848	Y	ES-K05-080605
East Site	K5	ES-K05-080605	ALUMINUM	12900	27-May-09	57848	Y	DUP-19
East Site	K7	ES-K07-080611	ALUMINUM	14000	04-May-09	57400	Y	ES-K07-080611
East Site	K7	ES-K07-090924	ALUMINUM	16600	06-Oct-09	61791	Y	ES-K07-090924
East Site	K7	ES-K07-091123	ALUMINUM	15800	14-Dec-09	63531	Y	ES-K07-091123
East Site	L1	ES-L01-080625	ALUMINUM	11900	27-May-09	57848	Y	ES-L01-080625
East Site	L2	ES-L02-080625	ALUMINUM	12300	27-May-09	57848	Y	ES-L02-080625
East Site	L3	ES-L03-080604	ALUMINUM	15800	27-May-09	57848	Y	ES-L03-080604
East Site	L3	ES-L03-091104	ALUMINUM	17300	25-Nov-09	63216	Y	ES-L03-091104
East Site	L4	ES-L04-080604	ALUMINUM	15000	19-Jun-09	58563	Y	ES-L04-080604
East Site	L4	ES-L04-091104	ALUMINUM	17600	25-Nov-09	63216	Y	ES-L04-091104
East Site	L5	ES-L05-091104	ALUMINUM	16300	25-Nov-09	63216	Y	ES-L05-091104
East Site	L6	ES-L06-091104	ALUMINUM	16500	25-Nov-09	63216	Y	ES-L06-091104
East Site	M1	ES-M01-080527	ALUMINUM	15300	27-May-09	57848	Y	ES-M01-080527
East Site	M2	ES-M02-080519	ALUMINUM	14300	27-May-09	57848	Y	ES-M02-080519
East Site	M3	ES-M03-091022	ALUMINUM	16700	18-Nov-09	62992	Y	ES-M03-091022
East Site	M3	ES-M03-091228	ALUMINUM	17700	20-Jan-10	64129	Y	ES-M03-091228
East Site	M4	ES-M04-080515	ALUMINUM	14900	27-May-09	57848	Y	ES-M04-080515
East Site	M5	ES-M05-080527	ALUMINUM	12000	27-May-09	57848	Y	ES-M05-080527
East Site	M6	ES-M06-080520	ALUMINUM	12200	27-May-09	57848	Y	ES-M06-080520
East Site	M6	ES-M06-091105	ALUMINUM	16100	07-Dec-09	63406	Y	ES-M06-091105
East Site	M7	ES-M07-091105	ALUMINUM	16800	07-Dec-09	63406	Y	ES-M07-091105
East Site	M8	ES-M08-080610	ALUMINUM	13700	04-May-09	57400	Y	ES-M08-080610
East Site	M8	ES-M08-090924	ALUMINUM	13600	06-Oct-09	61791	Y	ES-M08-090924
East Site	M8	ES-M08-091123	ALUMINUM	14400	14-Dec-09	63531	Y	ES-M08-091123
East Site	M9	ES-M09-080611	ALUMINUM	11700	04-May-09	57400	Y	ES-M09-080611
East Site	N2	ES-N02-080528	ALUMINUM	13900	27-May-09	57848	Y	ES-N02-080528
East Site	N3	ES-N03-080520	ALUMINUM	13300	27-May-09	57848	Y	ES-N03-080520

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
East Site	N4	ES-N04-080519	ALUMINUM	15400	27-May-09	57848	Y	ES-N04-080519
East Site	N5	ES-N05-080519	ALUMINUM	14300	27-May-09	57848	Y	ES-N05-080519
East Site	N5	ES-N05-091105	ALUMINUM	13600	07-Dec-09	63406	Y	ES-N05-091105
East Site	N6	ES-N06-080527	ALUMINUM	13500	05-Jun-09	58137	Y	ES-N06-080527
East Site	N7	ES-N07-080530	ALUMINUM	13400	05-Jun-09	58137	Y	ES-N07-080530
East Site	N7	ES-N07-100225	ALUMINUM	18400	05-Mar-10	65037	Y	ES-N07-100225
East Site	N8	ES-N08-080610	ALUMINUM	14700	04-May-09	57400	Y	ES-N08-080610
East Site	N8	ES-N08-090924	ALUMINUM	16700	06-Oct-09	61791	Y	ES-N08-090924
East Site	N8	ES-N08-091124	ALUMINUM	13200	14-Dec-09	63531	Y	ES-N08-091124
East Site	N9	ES-N09-080610	ALUMINUM	15300	04-May-09	57400	Y	ES-N09-080610
East Site	N9	ES-N09-090924	ALUMINUM	15400	06-Oct-09	61791	Y	ES-N09-090924
East Site	N10	ES-N10-080610	ALUMINUM	13700	04-May-09	57400	Y	ES-N10-080610
East Site	O3	ES-O03-080528	ALUMINUM	14200	05-Jun-09	58137	Y	ES-O03-080528
East Site	O4	ES-O04-080515	ALUMINUM	13800	05-Jun-09	58137	Y	ES-O04-080515
East Site	O5	ES-O05-080520	ALUMINUM	15700	05-Jun-09	58137	Y	ES-O05-080520
East Site	O6	ES-O06-080529	ALUMINUM	13300	05-Jun-09	58137	Y	ES-O06-080529
East Site	O6	ES-O06-091105	ALUMINUM	16400	07-Dec-09	63406	Y	ES-O06-091105
East Site	O7	ES-O07-100225	ALUMINUM	14900	05-Mar-10	65037	Y	ES-O07-100225
East Site	O8	ES-O08-080530	ALUMINUM	14300	24-Jul-09	59758	Y	ES-O08-080530
East Site	O8	ES-O08-100225	ALUMINUM	17900	05-Mar-10	65037	Y	ES-O08-100225
East Site	O9	ES-O09-091014	ALUMINUM	14800	29-Oct-09	62501	Y	ES-O09-091014
East Site	O9	ES-O09-092309	ALUMINUM	14900	06-Oct-09	61791	Y	ES-O09-092309
East Site	O10	ES-O10-091014	ALUMINUM	14200	29-Oct-09	62501	Y	ES-O10-091014
East Site	O10	ES-O10-091123	ALUMINUM	12100	14-Dec-09	63531	Y	ES-O10-091123
East Site	O10	ES-O10-092309	ALUMINUM	13700	06-Oct-09	61791	Y	ES-O10-092309
East Site	P4	ES-P04-080528	ALUMINUM	13700	27-May-09	57790	Y	DUP-16
East Site	P4	ES-P04-080528	ALUMINUM	14600	05-Jun-09	58137	Y	ES-P04-080528
East Site	P5	ES-P05-080513	ALUMINUM	14200	05-Jun-09	58137	Y	ES-P05-080513
East Site	P6	ES-P06-080515	ALUMINUM	13000	27-May-09	57790	Y	DUP-12
East Site	P6	ES-P06-080515	ALUMINUM	12700	05-Jun-09	58137	Y	ES-P06-080515
East Site	P7	ES-P07-080519	ALUMINUM	12800	27-May-09	57848	Y	ES-P07-080519
East Site	P7	ES-P07-091022	ALUMINUM	14100	18-Nov-09	62992	Y	ES-P07-091022
East Site	P8	ES-P08-080530	ALUMINUM	13800	05-Jun-09	58137	Y	ES-P08-080530
East Site	P10	ES-P10-080606	ALUMINUM	12600	04-May-09	57400	Y	ES-P10-080606
East Site	P10	ES-P10-091014	ALUMINUM	14800	29-Oct-09	62501	Y	ES-P10-091014
East Site	P10	ES-P10-092309	ALUMINUM	15000	06-Oct-09	61791	Y	ES-P10-092309

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
East Site	P11	ES-P11-080606	ALUMINUM	11400	04-May-09	57400	Y	ES-P11-080606
East Site	P11	ES-P11-092309	ALUMINUM	13900	06-Oct-09	61791	Y	ES-P11-092309
East Site	Q5	ES-Q05-080520	ALUMINUM	13300	05-Jun-09	58137	Y	ES-Q05-080520
East Site	Q5	ES-Q05-091105	ALUMINUM	16100	07-Dec-09	63406	Y	ES-Q05-091105
East Site	Q6	ES-Q06-091021	ALUMINUM	15800	18-Nov-09	62992	Y	ES-Q06-091021
East Site	Q7	ES-Q07-091021	ALUMINUM	16500	18-Nov-09	62992	Y	ES-Q07-091021
East Site	Q7	ES-Q07-091228	ALUMINUM	17100	20-Jan-10	64129	Y	ES-Q07-091228
East Site	Q8	ES-Q08-091021	ALUMINUM	18800	18-Nov-09	62992	Y	ES-Q08-091021
East Site	Q8	ES-Q08-091228	ALUMINUM	19500	20-Jan-10	64129	Y	ES-Q08-091228
East Site	Q9	ES-Q09-080612	ALUMINUM	14300	05-Jun-09	58137	Y	ES-Q09-080612
East Site	Q10	ES-Q10-080606	ALUMINUM	18800	08-May-09	57514	Y	ES-Q10-080606
East Site	Q10	ES-Q10-091123	ALUMINUM	16100	14-Dec-09	63531	Y	ES-Q10-091123
East Site	Q10	ES-Q10-092309	ALUMINUM	16300	06-Oct-09	61791	Y	ES-Q10-092309
East Site	Q11	ES-Q11-080606	ALUMINUM	16000	08-May-09	57514	Y	ES-Q11-080606
East Site	Q17	ES-Q17-080609	ALUMINUM	11800	03-May-09	57100	Y	ES-Q17-080609
East Site	R5	ES-R05-080521	ALUMINUM	14100	05-Jun-09	58137	Y	ES-R05-080521
East Site	R5	ES-R05-091105	ALUMINUM	16100	07-Dec-09	63406	Y	ES-R05-091105
East Site	R6	ES-R06-080521	ALUMINUM	15300	19-Jun-09	58563	Y	ES-R06-080521
East Site	R7	ES-R07-080521	ALUMINUM	16400	11-Jun-09	58213	Y	ES-R07-080521
East Site	R8	ES-R08-091021	ALUMINUM	18200	18-Nov-09	62992	Y	ES-R08-091021
East Site	R8	ES-R08-091021	ALUMINUM	15600	20-Jan-10	64207	Y	DUP-46
East Site	R9	ES-R09-080520	ALUMINUM	17600	11-Jun-09	58213	Y	ES-R09-080520
East Site	R10	ES-R10-080602	ALUMINUM	15800	11-Jun-09	58213	Y	ES-R10-080602
East Site	R11	ES-R11-080605	ALUMINUM	16000	08-May-09	57514	Y	ES-R11-080605
East Site	R11	ES-R11-090910	ALUMINUM	14200	25-Sep-09	61415	Y	ES-R11-090910
East Site	R11	ES-R11-090910	ALUMINUM	14900	29-Oct-09	62501	Y	DUP-38
East Site	R12	ES-R12-080611	ALUMINUM	14200	08-May-09	57514	Y	ES-R12-080611
East Site	R16	ES-R16-080605	ALUMINUM	14400	03-May-09	57100	Y	ES-R16-080605
East Site	R17	ES-R17-080606	ALUMINUM	12300	03-May-09	57100	Y	ES-R17-080606
East Site	S5	ES-S05-080521	ALUMINUM	14500	11-Jun-09	58213	Y	ES-S05-080521
East Site	S6	ES-S06-080521	ALUMINUM	18600	11-Jun-09	58213	Y	ES-S06-080521
East Site	S7	ES-S07-080521	ALUMINUM	16000	11-Jun-09	58213	Y	ES-S07-080521
East Site	S8	ES-S08-091015	ALUMINUM	19700	29-Oct-09	62501	Y	ES-S08-091015
East Site	S9	ES-S09-080522	ALUMINUM	18200	11-Jun-09	58213	Y	ES-S09-080522
East Site	S10	ES-S10-080523	ALUMINUM	17200	11-Jun-09	58213	Y	ES-S10-080523
East Site	S11	ES-S11-080528	ALUMINUM	16900	11-Jun-09	58213	Y	ES-S11-080528

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
East Site	S12	ES-S12-080609	ALUMINUM	14000	03-May-09	57100	Y	ES-S12-080609
East Site	S13	ES-S13-080610	ALUMINUM	13900	03-May-09	57100	Y	ES-S13-080610
East Site	S17	ES-S17-090910	ALUMINUM	17200	25-Sep-09	61415	Y	ES-S17-090910
East Site	S17	ES-S17-090910	ALUMINUM	17000	06-Oct-09	61791	Y	DUP-37
East Site	S18	ES-S18-080606	ALUMINUM	15700	03-May-09	57100	Y	ES-S18-080606
East Site	T7	ES-T07-080612	ALUMINUM	14900	11-Jun-09	58213	Y	ES-T07-080612
East Site	T8	ES-T08-080522	ALUMINUM	14300	05-Jun-09	58137	Y	DUP-13
East Site	T8	ES-T08-080522	ALUMINUM	16500	11-Jun-09	58213	Y	ES-T08-080522
East Site	T9	ES-T09-080522	ALUMINUM	15100	11-Jun-09	58213	Y	ES-T09-080522
East Site	T10	ES-T10-080523	ALUMINUM	15400	11-Jun-09	58213	Y	DUP-14
East Site	T10	ES-T10-080523	ALUMINUM	16600	11-Jun-09	58213	Y	ES-T10-080523
East Site	T10	ES-T10-091015	ALUMINUM	20200	29-Oct-09	62501	Y	ES-T10-091015
East Site	T11	ES-T11-080530	ALUMINUM	18200	11-Jun-09	58213	Y	ES-T11-080530
East Site	T12	ES-T12-080609	ALUMINUM	16100	03-May-09	57100	Y	ES-T12-080609
East Site	T13	ES-T13-080609	ALUMINUM	15000	03-May-09	57100	Y	ES-T13-080609
East Site	T14	ES-T14-080610	ALUMINUM	15100	03-May-09	57100	Y	ES-T14-080610
East Site	U10	ES-U10-080523	ALUMINUM	17100	11-Jun-09	58213	Y	ES-U10-080523
East Site	U11	ES-U11-080602	ALUMINUM	15100	19-Jun-09	58563	Y	ES-U11-080602
East Site	U13	ES-U13-080610	ALUMINUM	12200	04-May-09	57400	Y	ES-U13-080610
East Site	U14	ES-U14-080610	ALUMINUM	13000	04-May-09	57400	Y	ES-U14-080610
East Site	V11	ES-V11-080529	ALUMINUM	15800	19-Jun-09	58563	Y	ES-V11-080529
East Site	V14	ES-V14-080605	ALUMINUM	13900	04-May-09	57400	Y	ES-V14-080605
East Site	W12	ES-W12-080527	ALUMINUM	14000	19-Jun-09	58563	Y	ES-W12-080527
West Site	A4	WS-A04-080626	ALUMINUM	17700	11-Jul-09	59382	Y	WS-A04-080626
West Site	B2	WS-B02-100120	ALUMINUM	13500	05-Feb-10	64436	Y	WS-B02-100120
West Site	B3	WS-B03-080502	ALUMINUM	17100	11-Jul-09	59382	Y	WS-B03-080502
West Site	B4	WS-B04-080626	ALUMINUM	14800	11-Jul-09	59382	Y	WS-B04-080626
West Site	B5	WS-B05-080626	ALUMINUM	12900	24-Jul-09	59758	Y	WS-B05-080626
West Site	C1	WS-C01-080501	ALUMINUM	14000	19-Jun-09	58563	Y	DUP-3
West Site	C1	WS-C01-080501	ALUMINUM	13000	19-Jun-09	58563	Y	WS-C01-080501
West Site	C2	WS-C02-080428	ALUMINUM	1380	22-Jul-09	59623	Y	WS-C02-080428
West Site	C2	WS-C02-100120	ALUMINUM	14900	05-Feb-10	64436	Y	WS-C02-100120
West Site	C3	WS-C03-080620	ALUMINUM	12700	22-Jul-09	59623	Y	WS-C03-080620
West Site	C4	WS-C04-080623	ALUMINUM	10600	22-Jul-09	59623	Y	WS-C04-080623
West Site	C5	WS-C05-080620	ALUMINUM	13000	24-Jul-09	59758	Y	WS-C05-080620
West Site	C5	WS-C05-100112	ALUMINUM	13300	26-Jan-10	64334	Y	WS-C05-100112

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
West Site	C6	WS-C06-080624	ALUMINUM	13800	24-Jul-09	59758	Y	WS-C06-080624
West Site	C6	WS-C06-091013	ALUMINUM	16400	29-Oct-09	62501	Y	WS-C06-091013
West Site	D1	WS-D01-080430	ALUMINUM	14900	19-Jun-09	58563	Y	WS-D01-080430
West Site	D2	WS-D02-080429	ALUMINUM	16800	11-Jul-09	59382	Y	DUP-2
West Site	D2	WS-D02-080429	ALUMINUM	13100	22-Jul-09	59623	Y	WS-D02-080429
West Site	D3	WS-D03-080620	ALUMINUM	12100	22-Jul-09	59623	Y	WS-D03-080620
West Site	D4	WS-D04-080623	ALUMINUM	11600	17-Aug-09	60440	Y	WS-D04-080623
West Site	D4	WS-D04-091230	ALUMINUM	14400	20-Jan-10	64129	Y	WS-D04-091230
West Site	D5	WS-D05-080620	ALUMINUM	15800	24-Jul-09	59758	Y	WS-D05-080620
West Site	D5	WS-D05-100111	ALUMINUM	15000	26-Jan-10	64334	Y	WS-D05-100111
West Site	D6	WS-D06-080619	ALUMINUM	15600	24-Jul-09	59758	Y	WS-D06-080619
West Site	D6	WS-D06-091013	ALUMINUM	15800	29-Oct-09	62501	Y	WS-D06-091013
West Site	D7	WS-D07-080619	ALUMINUM	16300	24-Jul-09	59758	Y	WS-D07-080619
West Site	D7	WS-D07-091013	ALUMINUM	17000	29-Oct-09	62501	Y	WS-D07-091013
West Site	E1	WS-E01-080430	ALUMINUM	15200	19-Jun-09	58563	Y	WS-E01-080430
West Site	E2	WS-E02-080428	ALUMINUM	18600	11-Jul-09	59382	Y	DUP-1
West Site	E2	WS-E02-080428	ALUMINUM	15700	22-Jul-09	59623	Y	WS-E02-080428
West Site	E2	WS-E02-100115	ALUMINUM	15300	05-Feb-10	64436	Y	WS-E02-100115
West Site	E3	WS-E03-080619	ALUMINUM	11500	22-Jul-09	59623	Y	WS-E03-080619
West Site	E4	WS-E04-080613	ALUMINUM	11300	24-Jul-09	59758	Y	WS-E04-080613
West Site	E4	WS-E04-091230	ALUMINUM	13400	20-Jan-10	64129	Y	WS-E04-091230
West Site	E5	WS-E05-080613	ALUMINUM	14200	24-Jul-09	59758	Y	WS-E05-080613
West Site	E5	WS-E05-100111	ALUMINUM	15600	26-Jan-10	64334	Y	WS-E05-100111
West Site	E6	WS-E06-080613	ALUMINUM	12100	24-Jul-09	59758	Y	WS-E06-080613
West Site	E6	WS-E06-091228	ALUMINUM	14000	20-Jan-10	64129	Y	WS-E06-091228
West Site	E7	WS-E07-080613	ALUMINUM	14000	24-Jul-09	59758	Y	WS-E07-080613
West Site	E7	WS-E07-091228	ALUMINUM	17600	20-Jan-10	64129	Y	WS-E07-091228
West Site	E8	WS-E08-091228	ALUMINUM	14300	20-Jan-10	64129	Y	WS-E08-091228
West Site	F1	WS-F01-080429	ALUMINUM	16100	19-Jun-09	58563	Y	WS-F01-080429
West Site	F1	WS-F01-100115	ALUMINUM	15800	05-Feb-10	64436	Y	WS-F01-100115
West Site	F2	WS-F02-080429	ALUMINUM	15800	22-Jul-09	59623	Y	WS-F02-080429
West Site	F2	WS-F02-100115	ALUMINUM	14500	05-Feb-10	64436	Y	WS-F02-100115
West Site	F3	WS-F03-080619	ALUMINUM	12500	22-Jul-09	59623	Y	WS-F03-080619
West Site	F3	WS-F03-100115	ALUMINUM	11700	05-Feb-10	64436	Y	WS-F03-100115
West Site	F4	WS-F04-080616	ALUMINUM	12500	30-Jul-09	59890	Y	WS-F04-080616
West Site	F4	WS-F04-091230	ALUMINUM	14400	20-Jan-10	64129	Y	WS-F04-091230

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
West Site	F5	WS-F05-080612	ALUMINUM	11700	17-Aug-09	60440	Y	WS-F05-080612
West Site	F5	WS-F05-100111	ALUMINUM	14800	26-Jan-10	64334	Y	WS-F05-100111
West Site	F6	WS-F06-080612	ALUMINUM	15100	30-Jul-09	59890	Y	WS-F06-080612
West Site	F6	WS-F06-091228	ALUMINUM	15400	20-Jan-10	64129	Y	WS-F06-091228
West Site	F7	WS-F07-080617	ALUMINUM	13300	30-Jun-09	58729	Y	WS-F07-080617
West Site	F8	WS-F08-080618	ALUMINUM	13100	30-Jun-09	58729	Y	WS-F08-080618
West Site	G1	WS-G01-080501	ALUMINUM	17000	19-Jun-09	58563	Y	DUP-4
West Site	G1	WS-G01-080501	ALUMINUM	17700	30-Jun-09	58729	Y	WS-G01-080501
West Site	G1	WS-G01-100113	ALUMINUM	16700	26-Jan-10	64334	Y	WS-G01-100113
West Site	G1	WS-G01-100223	ALUMINUM	17800	05-Mar-10	65037	Y	WS-G01-100223
West Site	G2	WS-G02-080618	ALUMINUM	13100	22-Jul-09	59623	Y	WS-G02-080618
West Site	G2	WS-G02-100113	ALUMINUM	13200	26-Jan-10	64334	Y	WS-G02-100113
West Site	G3	WS-G03-080619	ALUMINUM	11000	22-Jul-09	59623	Y	WS-G03-080619
West Site	G4	WS-G04-080616	ALUMINUM	11600	30-Jul-09	59890	Y	WS-G04-080616
West Site	G5	WS-G05-100108	ALUMINUM	15600	20-Jan-10	64207	Y	WS-G05-100108
West Site	G5	WS-G05-100223	ALUMINUM	15800	05-Mar-10	65037	Y	WS-G05-100223
West Site	G6	WS-G06-080616	ALUMINUM	12800	30-Jul-09	59890	Y	WS-G06-080616
West Site	G6	WS-G06-100107	ALUMINUM	13700	20-Jan-10	64207	Y	WS-G06-100107
West Site	G7	WS-G07-080617	ALUMINUM	12800	30-Jun-09	58729	Y	WS-G07-080617
West Site	G7	WS-G07-100105	ALUMINUM	14300	20-Jan-10	64207	Y	WS-G07-100105
West Site	H1	WS-H01-080501	ALUMINUM	17400	30-Jun-09	58729	Y	WS-H01-080501
West Site	H2	WS-H02-080618	ALUMINUM	12600	22-Jul-09	59623	Y	WS-H02-080618
West Site	H2	WS-H02-100113	ALUMINUM	13500	26-Jan-10	64334	Y	WS-H02-100113
West Site	H3	WS-H03-080619	ALUMINUM	10100	30-Jul-09	59890	Y	WS-H03-080619
West Site	H4	WS-H04-080616	ALUMINUM	10600	30-Jul-09	59890	Y	WS-H04-080616
West Site	H5	WS-H05-100107	ALUMINUM	13900	20-Jan-10	64207	Y	WS-H05-100107
West Site	H6	WS-H06-080617	ALUMINUM	14700	30-Jun-09	58729	Y	WS-H06-080617
West Site	I1	WS-I01-080501	ALUMINUM	13000	30-Jun-09	58729	Y	DUP-5
West Site	I1	WS-I01-080501	ALUMINUM	13200	30-Jun-09	58729	Y	WS-I01-080501
West Site	I1	WS-I01-091013	ALUMINUM	15100	29-Oct-09	62501	Y	WS-I01-091013
West Site	I2	WS-I02-080618	ALUMINUM	11400	24-Jul-09	59758	Y	WS-I02-080618
West Site	I2	WS-I02-091014	ALUMINUM	14000	29-Oct-09	62501	Y	WS-I02-091014
West Site	I2	WS-I02-100113	ALUMINUM	12900	26-Jan-10	64334	Y	WS-I02-100113
West Site	I3	WS-I03-080618	ALUMINUM	9990	30-Jul-09	59890	Y	WS-I03-080618
West Site	I3	WS-I03-091013	ALUMINUM	13300	29-Oct-09	62501	Y	WS-I03-091013
West Site	I3	WS-I03-100113	ALUMINUM	12300	26-Jan-10	64334	Y	WS-I03-100113

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
West Site	I4	WS-I04-080617	ALUMINUM	11200	30-Jul-09	59890	Y	WS-I04-080617
West Site	I4	WS-I04-100106	ALUMINUM	12400	20-Jan-10	64207	Y	WS-I04-100106
West Site	I5	WS-I05-080617	ALUMINUM	13600	30-Jun-09	58729	Y	WS-I05-080617
West Site	I5	WS-I05-091013	ALUMINUM	14800	29-Oct-09	62501	Y	WS-I05-091013
West Site	I5	WS-I05-100107	ALUMINUM	13600	20-Jan-10	64207	Y	WS-I05-100107
West Site	I6	WS-I06-080617	ALUMINUM	12000	30-Jun-09	58729	Y	WS-I06-080617
West Site	I6	WS-I06-100105	ALUMINUM	13900	20-Jan-10	64207	Y	WS-I06-100105
West Site	J1	WS-J01-080505	ALUMINUM	11800	30-Jun-09	58729	Y	WS-J01-080505
West Site	J1	WS-J01-080505	ALUMINUM	12000	30-Jun-09	58729	Y	DUP-6
West Site	J1	WS-J01-091013	ALUMINUM	14000	29-Oct-09	62501	Y	WS-J01-091013
West Site	J1	WS-J01-100112	ALUMINUM	14100	26-Jan-10	64334	Y	WS-J01-100112
West Site	J2	WS-J02-080624	ALUMINUM	12400	30-Jun-09	58729	Y	WS-J02-080624
West Site	J2	WS-J02-100112	ALUMINUM	14500	26-Jan-10	64334	Y	WS-J02-100112
West Site	J3	WS-J03-080620	ALUMINUM	12600	08-Jul-09	59165	Y	WS-J03-080620
West Site	J4	WS-J04-080617	ALUMINUM	12600	08-Jul-09	59165	Y	WS-J04-080617
West Site	J4	WS-J04-100106	ALUMINUM	15900	20-Jan-10	64207	Y	WS-J04-100106
West Site	J5	WS-J05-080618	ALUMINUM	12200	08-Jul-09	59165	Y	WS-J05-080618
West Site	K1	WS-K01-080505	ALUMINUM	11400	08-Jul-09	59165	Y	WS-K01-080505
West Site	K1	WS-K01-091013	ALUMINUM	13100	29-Oct-09	62501	Y	WS-K01-091013
West Site	K2	WS-K02-080509	ALUMINUM	13100	08-Jul-09	59165	Y	WS-K02-080509
West Site	K3	WS-K03-080509	ALUMINUM	10600	08-Jul-09	59165	Y	WS-K03-080509
West Site	K4	WS-K04-080513	ALUMINUM	13900	08-Jul-09	59165	Y	WS-K04-080513
West Site	K4	WS-K04-080513	ALUMINUM	12400	24-Jul-09	59758	Y	DUP-10
West Site	K4	WS-K04-100106	ALUMINUM	15700	20-Jan-10	64207	Y	WS-K04-100106
West Site	K5	WS-K05-080509	ALUMINUM	11800	08-Jul-09	59165	Y	WS-K05-080509
West Site	L1	WS-L01-080505	ALUMINUM	11100	08-Jul-09	59165	Y	WS-L01-080505
West Site	L2	WS-L02-080508	ALUMINUM	11600	08-Jul-09	59165	Y	WS-L02-080508
West Site	L3	WS-L03-080508	ALUMINUM	9480	08-Jul-09	59165	Y	WS-L03-080508
West Site	L4	WS-L04-080508	ALUMINUM	14000	08-Jul-09	59165	Y	WS-L04-080508
West Site	L4	WS-L04-080508	ALUMINUM	13000	08-Jul-09	59165	Y	DUP-9
West Site	M1	WS-M01-080505	ALUMINUM	11300	08-Jul-09	59165	Y	DUP-7
West Site	M1	WS-M01-080505	ALUMINUM	11200	08-Jul-09	59165	Y	WS-M01-080505
West Site	M2	WS-M02-080507	ALUMINUM	11000	24-Jul-09	59758	Y	WS-M02-080507
West Site	M3	WS-M03-080507	ALUMINUM	9550	22-Jul-09	59623	Y	DUP-8
West Site	M3	WS-M03-080507	ALUMINUM	6770	11-Aug-09	60089	Y	WS-M03-080507
West Site	M3	WS-M03-091217	ALUMINUM	12600	06-Jan-10	63971	Y	WS-M03-091217

ALUMINUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result (mg/kg)	analysis_date	batch_id	detect_flag	sample_name
West Site	M3	WS-M03-091217	ALUMINUM	15200	05-Mar-10	65037	Y	DUP-48
West Site	M4	WS-M04-080507	ALUMINUM	7610	11-Aug-09	60089	Y	WS-M04-080507
West Site	M4	WS-M04-091218	ALUMINUM	11700	06-Jan-10	63971	Y	WS-M04-091218
West Site	M4	WS-M04-091218	ALUMINUM	14200	20-Jan-10	64129	Y	DUP-44
West Site	N1	WS-N01-080506	ALUMINUM	8980	11-Aug-09	60089	Y	WS-N01-080506
West Site	N2	WS-N02-080506	ALUMINUM	15100	11-Jul-09	59382	Y	WS-N02-080506
West Site	N3	WS-N03-080507	ALUMINUM	9090	30-Jun-09	58729	Y	WS-N03-080507
West Site	O1	WS-O01-080506	ALUMINUM	14500	11-Jul-09	59382	Y	WS-O01-080506
West Site	O2	WS-O02-080506	ALUMINUM	10300	11-Jul-09	59382	Y	WS-O02-080506

Table Sb-1: Antimony Data Quality Summary

Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	85%	
Minimum Matrix Spike Recovery	greater than 70%	5%	low
Average LCS Recovery	N/A	102%	
Average Matrix Spike Recovery	N/A	56%	
Maximum LCS RPD	less than 20%	18%	
Maximum Laboratory Duplicate RPD	less than 20%	91%	high
Average LCS RPD	N/A	3%	
Average Laboratory Duplicate RPD	N/A	19%	

Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than DL	Minimum Recovery =	3 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	127 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	62 %

Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	71.2 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	0.21 mg/kg

Data Quality Relative to Remediation Goals		
Tier 1 Remediation Goal	1.9	mg/kg
Tier 2 Remediation Goal	2.2	mg/kg
QC Derived Reliance Level	1.70	mg/kg See Note 2

Comments: Antimony laboratory control sample (LCS) recovery (90%) is good. The low average matrix spike recovery (55%) indicates a bias towards low measurements. The LCS duplicate RPD (18%) is acceptably low. Some level of measurement imprecision is indicated by the high laboratory duplicate RPD (91%), As well as a high maximum CVS split RPD (127%), high maximum CRM split RPD (123%), and a large standard deviation (0.17 mg/kg) relative to its mean (0.47 mg/kg) in repeated tests on the same sample. The equivocal measurement quality is reflected in a derived reliance level (1.70 mg/kg) that is lower than the Tier 2 RG. Yet, only one CVS measurement (West Site Grid J1) exceeded the derived reliance level; that measurement also exceeded the antimony Tier 2 RG, so additional excavation and CVS in grid J1 was required, and the new antimony CVS measurement was below both the RG and the reliance level. It is concluded, therefore, that the antimony CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group. Antimony is not one of these.

Note 2. Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (2.2)(1.2)(.712)-(0.84)(.21) = 1.70 mg/kg

Table Sb-2: Antimony - NPS CRMs

Blind NPS CRM Results

Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	3	4/28/09	57270	Y
BOR SAMPLE 6-BOR 81	2.4	5/8/09	57509	Y
BOR Sample 4-BOR 82	2.5	5/11/09	57557	Y
BOR 83	2.7	6/8/09	58143	Y
BOR Sample 3-BOR 58	2.4	6/8/09	58143	Y
BOR 84	2.9	6/8/09	58175	Y
BOR Sample 7-BOR 105	3.1	6/8/09	58175	Y
BOR 85	2.2	6/28/09	58861	Y
BOR Sample 8-BOR 106	2.6	6/28/09	58861	Y
BOR 86	2.5	6/29/09	58862	Y
BOR 87	2.5	7/10/09	59378	Y
BOR 108	2.3	7/11/09	59378	Y
BOR 109	2.4	7/11/09	59379	Y
BOR 110	3.2	7/20/09	59651	Y
BOR Sample 9-BOR 107	3.4	8/4/09	60068	Y
BOR 111	3.2	8/4/09	60069	Y

CRMs		Vendor Supplied Information
Mean	2.7	*Made to*
Median	2.6	*3.8 mg/kg*
Standard Deviation	0.4	
Sample Variance	0.1	*Upper Acceptance Limit*
Kurtosis	-1.1	*3.5 mg/kg*
Skewness	0.5	
Range	1.2	*Lower Acceptance Limit*
Minimum	2.2	*Detection Limit (DL)*
Maximum	3.4	
Sum	43.3	
Count	16.0	
Largest(2)	3.2	
Smallest(2)	2.3	

Table Sb-3: Antimony - NPS Background Sample Replicate Tests

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	0.56	4/28/09	57270	Y
BOR 59	0.5	5/8/09	57509	Y
BOR 60	0.55	5/11/09	57557	Y
BOR 113	0.4	6/8/09	58143	Y
BOR 61	0.38	6/8/09	58143	Y
BOR 62	0.27	6/29/09	58862	Y
BOR 63	0.1	7/11/09	59378	N
BOR 89	0.38	7/11/09	59378	Y
BOR 115	0.4	7/11/09	59379	Y
BOR 64	0.46	7/12/09	59391	Y
BOR 91	0.43	7/12/09	59391	Y
BOR 116	0.76	7/20/09	59651	Y
BOR 92	0.6	7/20/09	59651	Y
BOR 65	0.71	7/21/09	59653	Y
BOR 88	0.62	8/4/09	60069	Y
BOR 800	0.57	9/23/09	61440	Y
BOR-802	0.87	10/2/09	61824	Y
BOR 804	0.43	11/24/09	63167	Y
BOR-805	0.39	11/24/09	63168	Y
BOR-807	0.82	11/25/09	63249	Y
BOR-808	1.1	12/7/09	63425	Y
BOR 813	0.6	1/21/10	64282	Y
BOR 815	0.52	1/28/10	64433	Y
BOR-816	0.71	1/28/10	64434	Y
BOR-820	0.71	3/5/10	65032	Y

Replicate analyses of Single Sample	
Mean	0.554
Median	0.550
Standard Deviation	0.210
Sample Variance	0.044
Kurtosis	1.012
Skewness	0.447
Range	1.000
Minimum	0.100
Maximum	1.100
Sum	13.840
Count	25.000
Largest(2)	0.870
Smallest(2)	0.270

Table Sb-4: Antimony NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	0.28	5/8/09	57509	ES-T11-080530	0.14	6/29/2009	67
BOR 506	0.27	5/11/09	57557	ES-S10-080523	0.26	6/29/2009	4
BOR 504	0.29	6/8/09	58143	ES-M05-080527	0.2	6/8/2009	37
BOR 507	0.83	6/28/09	58861	ES-O09-080610			
BOR 508	0.23	7/10/09	59378	ES-Q11-080606	0.26	5/11/2009	12
BOR 510	0.22	7/11/09	59379	OU-8HR-080605	0.049	4/28/2009	127
BOR 501	0.51	7/12/09	59391	WS-L04-080508	0.47	7/11/2009	8
BOR 505	1.4	7/21/09	59653	WS-K03-080509	1.2	7/11/2009	15
BOR 502	0.75	8/4/09	60068	WS-F05-080612	0.71	8/19/2009	5
BOR 509	0.38	8/4/09	60068	WS-E06-080613	0.46	8/3/2009	19
BOR 500	0.9	8/4/09	60069	WS-F01-080429	0.33	7/11/2009	93
BOR-809	0.25	12/15/09	63651	ES-K03-091103	0.44	11/25/2009	55
BOR-810	0.24	12/15/09	63651	ES-P07-091022	0.16	11/24/2009	40
BOR-811	0.22	12/15/09	63651	ES-R08-091021	0.11	11/24/2009	67
BOR 814	0.41	1/21/10	64282	ES-J05-091124	0.27	12/15/2009	41
BOR-818	0.43	3/5/10	65032	WS-F05-100111	0.31	1/28/2010	32
BOR-822	0.55	3/5/10	65032	ES-Q08-091228	0.24	1/21/2010	78
DUP-11	0.72	4/28/09	57269	ES-J03-080513	0.41	7/10/2009	55
DUP-17	0.24	5/8/09	57509	ES-F01-080529	0.25	5/11/2009	4
DUP-15	0.23	5/11/09	57557	ES-J02-080527	0.26	6/8/2009	12
DUP-18	0.32	5/11/09	57557	ES-J04-080530	0.4	6/8/2009	22
DUP-12	0.27	6/8/09	58143	ES-P06-080515	0.23	6/28/2009	16
DUP-16	0.25	6/8/09	58143	ES-P04-080528	0.29	6/28/2009	15
DUP-19	0.22	6/8/09	58175	ES-K05-080605	0.22	6/8/2009	0
DUP-13	0.19	6/28/09	58861	ES-T08-080522	0.23	6/29/2009	19
DUP-14	0.19	6/29/09	58862	ES-T10-080523	0.4	6/29/2009	71
DUP-3	0.35	7/11/09	59378	WS-C01-080501	0.26	7/10/2009	30
DUP-4	0.32	7/11/09	59378	WS-G01-080501	0.32	7/11/2009	0
DUP-5	0.49	7/11/09	59379	WS-I01-080501	0.63	7/11/2009	25
DUP-6	0.89	7/11/09	59379	WS-J01-080505	0.98	7/11/2009	10
DUP-7	0.64	7/12/09	59391	WS-M01-080505	0.7	7/11/2009	9
DUP-9	0.42	7/12/09	59391	WS-L04-080508	0.47	7/11/2009	11
DUP-1	0.62	7/20/09	59651	WS-E02-080428	0.7	7/21/2009	12
DUP-2	0.38	7/20/09	59651	WS-D02-080429	0.43	7/21/2009	12
DUP-8	1.3	7/21/09	59653	WS-M03-080507	1	8/19/2009	26
DUP-10	0.75	8/4/09	60068	WS-K04-080513	0.71	7/11/2009	5
DUP-37	0.6	10/2/09	61824	ES-S17-090910	0.32	9/23/2009	61
DUP-38	0.17	11/24/09	63167	ES-R11-090910	0.28	9/23/2009	49
DUP-39	0.22	11/24/09	63167	ES-C01-090910	0.25	9/23/2009	13
DUP-40	0.26	11/24/09	63168	ES-A01-102109			
DUP-44	0.34	1/21/10	64282	WS-M04-091218	0.24	1/4/2010	34
DUP-45	0.37	1/21/10	64282	ES-J05-091124	0.27	12/15/2009	31
DUP-46	0.27	1/28/10	64433	ES-R08-091021	0.11	11/24/2009	84
DUP-47	0.27	1/28/10	64434	ES-K02-091103	0.48	11/25/2009	56
DUP-48	0.41	3/5/10	65032	WS-M03-091217	0.21	1/4/2010	65

Table Sb-4: Antimony NPS and EQIS Duplicates (continued)

RPD of Sample Splits	
Mean	33.697
Median	25.000
Standard Deviation	29.180
Sample Variance	851.491
Kurtosis	1.080
Skewness	1.146
Range	127.138
Minimum	0.000
Maximum	127.138
Sum	1448.951
Count	43.000
Largest(2)	92.683
Smallest(2)	0.000

Table Sb-5: Antimony EQIS CRMs						
Results of Duplicate Analysis of EQIS CRMs						
Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	1.7	4/28/09	57269	Y		
ES-Z11-080605B	1.4	4/28/09	57269	Y	1.55	19.35
ES-Z09-080529A	1.4	5/8/09	57509	Y		
ES-Z09-080529B	1.3	5/8/09	57509	Y	1.35	7.41
ES-Z12-080606A	1.5	5/8/09	57509	Y		
ES-Z12-080606B	1.3	5/8/09	57509	Y	1.40	14.29
ES-Z05-080519A	1.9	5/11/09	57557	Y		
ES-Z05-080519B	1.9	5/11/09	57557	Y	1.90	0.00
ES-Z06-080520A	1.8	5/11/09	57557	Y		
ES-Z06-080520B	1.7	5/11/09	57557	Y	1.75	5.71
ES-Z07-080522A	1.8	6/8/09	58143	Y		
ES-Z07-080522B	1.6	6/8/09	58143	Y	1.70	11.76
ES-Z13-080610A	1.2	6/8/09	58175	Y		
ES-Z13-080610B	2	6/8/09	58175	Y	1.60	50.00
ES-Z10-080602A	0.9	6/28/09	58861	Y		
ES-Z10-080602B	1.7	6/28/09	58861	Y	1.30	61.54
ES-Z08-080527A	1.8	6/29/09	58862	Y		
ES-Z08-080527B	1.6	6/29/09	58862	Y	1.70	11.76
ES-Z14-080611A	1.8	7/10/09	59378	Y		
ES-Z14-080611B	1.7	7/10/09	59378	Y	1.75	5.71
ES-Z06-080520C	1.7	7/11/09	59379	Y		
ES-Z06-080520D	2.3	7/11/09	59379	Y	2.00	30.00
ES-Z05-080519C	2.1	7/12/09	59391	Y		
ES-Z05-080519D	2.2	7/12/09	59391	Y	2.15	4.65
ES-Z19-080624A	2.1	7/20/09	59651	Y		
ES-Z19-080624B	1.9	7/20/09	59651	Y	2.00	10.00
WS-Z17-080618A	2.4	7/20/09	59651	Y		
WS-Z17-080618B	2.3	7/20/09	59651	Y	2.35	4.26
WS-Z15-080613A	2.2	7/21/09	59653	Y		
WS-Z15-080613B	2.4	7/21/09	59653	Y	2.30	8.70
WS-Z18-080620A	2.3	7/21/09	59653	Y		
WS-Z18-080620B	2.2	7/21/09	59653	Y	2.25	4.44
WS-Z16-080617A	2.5	8/4/09	60069	Y		
WS-Z16-080617B	*2.4*	8/4/09	60069	Y	2.45	4.08
ES-Z22-091021A	0.13	11/24/09	63168	Y		
ES-Z22-091021B	0.2	11/24/09	63168	Y	0.17	42.42
ES-Z23-091022A	1.7	11/24/09	63168	Y		
ES-Z23-091022B	2	11/24/09	63168	Y	1.85	16.22
ES-Z24-091103A	3.3	11/25/09	63249	Y		
ES-Z24-091103B	3.1	11/25/09	63249	Y	3.20	6.25
ES-Z25-091104A	3.4	11/25/09	63249	Y		
ES-Z25-091104B	3.2	11/25/09	63249	Y	3.30	6.06
ES-Z26-091105A	2.9	12/7/09	63425	Y		
ES-Z26-091105B	3.2	12/7/09	63425	Y	3.05	9.84
ES-Z27-091106A	3.3	12/7/09	63425	Y		
ES-Z27-091106B	3.1	12/7/09	63425	Y	3.20	6.25
WS-Z29-091217A	2.2	1/4/10	63984	Y		
WS-Z29-091217B	2.6	1/4/10	63984	Y	2.40	16.67
WS-Z30-091230A	2.4	1/21/10	64282	Y		
WS-Z30-091230B	2.3	1/21/10	64282	Y	2.35	4.26
WS-Z31-100107A	2.1	1/28/10	64433	Y		
WS-Z31-100107B	2.1	1/28/10	64433	Y	2.10	0.00

Table Sb-5: Antimony EQIS CRMs (continued)

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
WS-Z32-100113A	2.3	1/28/10	64434	Y		
WS-Z32-100113B	2.3	1/28/10	64434	Y	2.30	0.00
ES-Z33-100225A	2.9	3/5/10	65032	Y		
ES-Z33-100225B	3	3/5/10	65032	Y	2.95	3.39

Analysis of EQIS CRMs	
Mean	2
Median	2
Standard Deviation	1
Sample Variance	0
Kurtosis	1
Skewness	0
Range	3
Minimum	0
Maximum	3
Sum	117
Count	56
Largest(2)	3
Smallest(2)	0

RPD of EQIS CRMs	
Mean	13
Median	7
Standard Deviation	15
Sample Variance	231
Kurtosis	4
Skewness	2
Range	62
Minimum	0
Maximum	62
Sum	365
Count	28
Largest(2)	50
Smallest(2)	0

Table Sb-6: Antimony MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
87	7160081	4	93	7160081	4
5	49291	11	120	49291	11
6	49292	12	108	49292	12
13	49523	21	92	49523	21
6	49524	22	92	49524	22
15	54612	67	105	54612	67
95	54842	72	105	54842	72
42	54937	83	111	54937	83
64	54938	82	120	54938	82
59	57269	102	100	57269	102
86	57270	103	100	57270	103
55	57557	128	115	57557	128
53	58143	147	105	58143	147
49	58175	146	94	58175	146
45	58861	165	100	58861	165
57	58862	167	100	58862	167
29	59378	181	105	59378	181
69	59379	184	100	59379	184
55	59391	185	100	59391	185
81	59651	191	95	59651	191
65	59653	192	90	59653	192
51	60068	211	105	60068	211
64	60069	212	119	60069	212
61	60477	226	110	60477	226
68	60478	228	105	60478	228
47	61440	245	105	61440	245
108	61824	249	105	61824	249
34	63167	280	110	63167	280
43	63168	279	105	63168	279
78	63249	284	100	63249	284
79	63425	290	100	63425	290
64	63651	297	100	63651	297
68	63984	300	95	63984	300
60	64282	323	105	64282	323
55	64433	333	100	64433	333
47	64434	332	85	64434	332
70	64502	337	95	64502	337
71	65032	352	100	65032	352
63	70207	369	90	70207	369

Average MS Recovery =	56 %	Average LCS Recovery =	102 %
Minimum MS Recovery =	5 %	Minimum LCS Recovery =	85 %

Table Sb-6: Antimony MS and LCS (Graph)

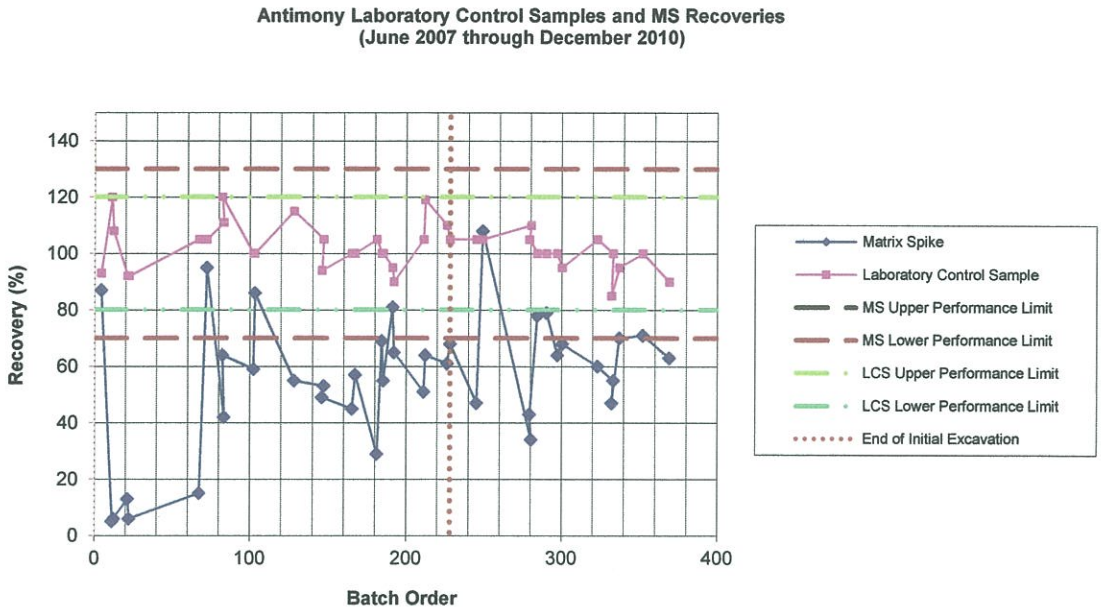
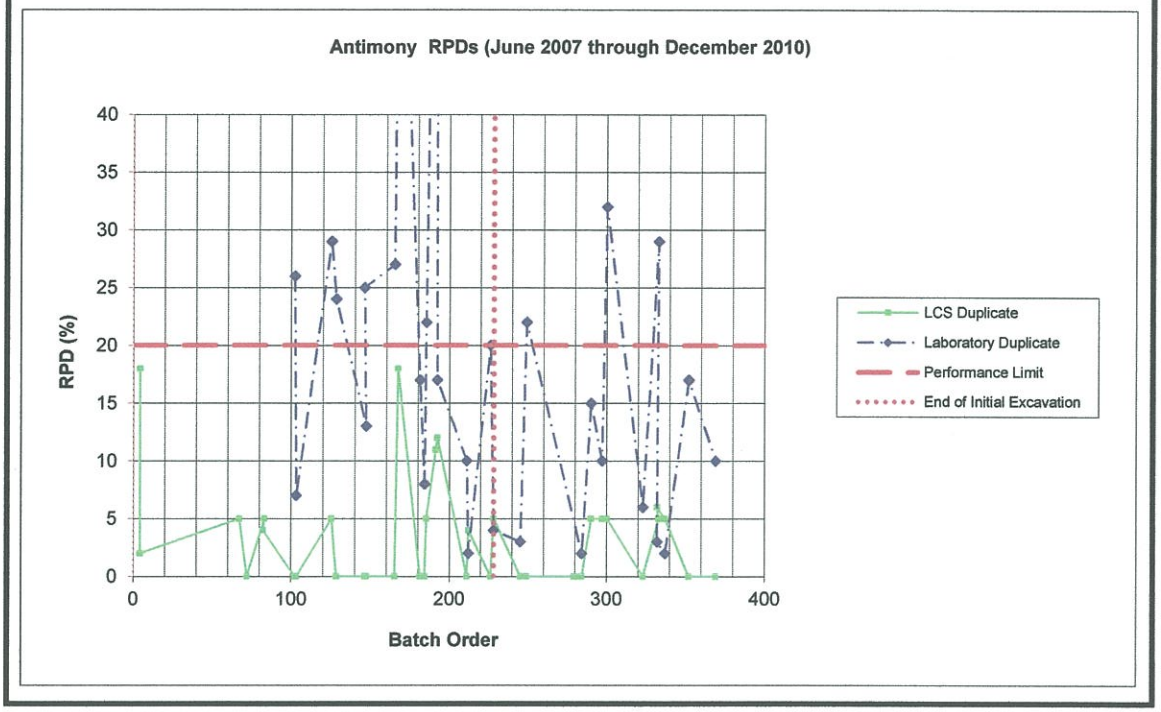


Table Sb-7: Antimony - Laboratory Duplicate and LCS Duplicate

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
26	57269	102	18	7160081	4
7	57270	103	2	7160081	4
29	57509	125	5	54612	67
24	57557	128	0	54842	72
13	58143	147	5	54937	83
25	58175	146	4	54938	82
27	58861	165	0	57269	102
67	58862	167	0	57270	103
17	59378	181	5	57509	125
8	59379	184	0	57557	128
22	59391	185	0	58143	147
91	59651	191	0	58175	146
17	59653	192	0	58861	165
10	60068	211	18	58862	167
2	60069	212	0	59378	181
20	60477	226	0	59379	184
4	60478	228	5	59391	185
3	61440	245	11	59651	191
22	61824	249	12	59653	192
2	63249	284	0	60068	211
15	63425	290	4	60069	212
10	63651	297	0	60477	226
32	63984	300	5	60478	228
6	64282	323	0	61440	245
29	64433	333	0	61824	249
3	64434	332	0	63167	280
2	64502	337	0	63168	279
17	65032	352	0	63249	284
10	70207	369	5	63425	290
			5	63651	297
			5	63984	300
			0	64282	323
			5	64433	333
			6	64434	332
			5	64502	337
			0	65032	352
			0	70207	369

Average Duplicate RPD =	19	%	Average LCS RPD =	3	%
Maximum Duplicate RPD =	91	%	Maximum LCS RPD =	18	%

Table Sb-7: Antimony - Laboratory Duplicate and LCS Duplicate (Graph)



ANTIMONY Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	A1	ES-A01-090910	ANTIMONY	0.44	09/23/09	61440	Y	ES-A01-090910
East Site	A1	ES-A01-102109	ANTIMONY	0.26	11/24/09	63168	Y	DUP-40
East Site	B1	ES-B01-080623	ANTIMONY	0.3	04/28/09	57269	Y	ES-B01-080623
East Site	C1	ES-C01-080624	ANTIMONY	0.26	04/28/09	57269	Y	ES-C01-080624
East Site	C1	ES-C01-090910	ANTIMONY	0.25	09/23/09	61440	Y	ES-C01-090910
East Site	C1	ES-C01-090910	ANTIMONY	0.22	11/24/09	63167	Y	DUP-39
East Site	D1	ES-D01-080624	ANTIMONY	0.31	06/28/09	58861	Y	ES-D01-080624
East Site	E1	ES-E01-090910	ANTIMONY	0.43	09/23/09	61440	Y	ES-E01-090910
East Site	E2	ES-E02-090910	ANTIMONY	0.36	09/23/09	61440	Y	ES-E02-090910
East Site	F1	ES-F01-080529	ANTIMONY	0.24	05/08/09	57509	Y	DUP-17
East Site	F1	ES-F01-080529	ANTIMONY	0.25	05/11/09	57557	Y	ES-F01-080529
East Site	G1	ES-G01-080529	ANTIMONY	0.28	05/11/09	57557	Y	ES-G01-080529
East Site	G2	ES-G02-080605	ANTIMONY	0.24	05/11/09	57557	Y	ES-G02-080605
East Site	H1	ES-H01-080528	ANTIMONY	0.33	05/11/09	57557	Y	ES-H01-080528
East Site	H1	ES-H01-091105	ANTIMONY	0.49	12/07/09	63425	Y	ES-H01-091105
East Site	H2	ES-H02-080515	ANTIMONY	0.25	05/11/09	57557	Y	ES-H02-080515
East Site	H3	ES-H03-080605	ANTIMONY	0.092	06/08/09	58143	Y	ES-H03-080605
East Site	I1	ES-I01-080529	ANTIMONY	0.31	06/08/09	58143	Y	ES-I01-080529
East Site	I1	ES-I01-091105	ANTIMONY	0.43	12/07/09	63425	Y	ES-I01-091105
East Site	I2	ES-I02-080514	ANTIMONY	0.31	06/08/09	58143	Y	ES-I02-080514
East Site	I3	ES-I03-080513	ANTIMONY	0.25	06/08/09	58143	Y	ES-I03-080513
East Site	I4	ES-I04-080602	ANTIMONY	0.31	06/08/09	58143	Y	ES-I04-080602
East Site	I4	ES-I04-091106	ANTIMONY	0.56	12/07/09	63425	Y	ES-I04-091106
East Site	J1	ES-J01-080529	ANTIMONY	0.26	06/08/09	58143	Y	ES-J01-080529
East Site	J2	ES-J02-080527	ANTIMONY	0.23	05/11/09	57557	Y	DUP-15
East Site	J2	ES-J02-080527	ANTIMONY	0.26	06/08/09	58143	Y	ES-J02-080527
East Site	J2	ES-J02-091105	ANTIMONY	0.41	12/07/09	63425	Y	ES-J02-091105
East Site	J3	ES-J03-080513	ANTIMONY	0.72	04/28/09	57269	Y	DUP-11
East Site	J3	ES-J03-080513	ANTIMONY	0.41	07/10/09	59378	Y	ES-J03-080513
East Site	J3	ES-J03-091103	ANTIMONY	0.41	11/25/09	63249	Y	ES-J03-091103
East Site	J4	ES-J04-080530	ANTIMONY	0.32	05/11/09	57557	Y	DUP-18
East Site	J4	ES-J04-080530	ANTIMONY	0.4	06/08/09	58143	Y	ES-J04-080530
East Site	J4	ES-J04-091103	ANTIMONY	0.12	11/25/09	63249	Y	ES-J04-091103
East Site	J5	ES-J05-080602	ANTIMONY	0.83	06/08/09	58143	Y	ES-J05-080602
East Site	J5	ES-J05-091124	ANTIMONY	0.27	12/15/09	63651	Y	ES-J05-091124
East Site	J5	ES-J05-091124	ANTIMONY	0.37	01/21/10	64282	Y	DUP-45
East Site	J5	ES-J05-100112	ANTIMONY	0.29	01/28/10	64434	Y	ES-J05-100112
East Site	K1	ES-K01-080602	ANTIMONY	0.24	06/08/09	58143	Y	ES-K01-080602
East Site	K2	ES-K02-080602	ANTIMONY	0.26	05/11/09	57557	Y	ES-K02-080602
East Site	K2	ES-K02-091103	ANTIMONY	0.48	11/25/09	63249	Y	ES-K02-091103
East Site	K2	ES-K02-091103	ANTIMONY	0.27	01/28/10	64434	Y	DUP-47
East Site	K3	ES-K03-080514	ANTIMONY	0.31	06/08/09	58143	Y	ES-K03-080514
East Site	K3	ES-K03-091103	ANTIMONY	0.44	11/25/09	63249	Y	ES-K03-091103
East Site	K4	ES-K04-080527	ANTIMONY	0.2	06/08/09	58175	Y	ES-K04-080527
East Site	K5	ES-K05-080605	ANTIMONY	0.22	06/08/09	58175	Y	DUP-19
East Site	K5	ES-K05-080605	ANTIMONY	0.22	06/08/09	58175	Y	ES-K05-080605
East Site	K7	ES-K07-080611	ANTIMONY	0.63	05/08/09	57509	Y	ES-K07-080611
East Site	K7	ES-K07-090924	ANTIMONY	0.89	10/02/09	61824	Y	ES-K07-090924
East Site	K7	ES-K07-091123	ANTIMONY	0.28	12/15/09	63651	Y	ES-K07-091123
East Site	L1	ES-L01-080625	ANTIMONY	0.25	06/08/09	58175	Y	ES-L01-080625

ANTIMONY Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	L2	ES-L02-080625	ANTIMONY	0.27	06/08/09	58175	Y	ES-L02-080625
East Site	L3	ES-L03-080604	ANTIMONY	0.3	06/08/09	58175	Y	ES-L03-080604
East Site	L3	ES-L03-091104	ANTIMONY	0.46	11/25/09	63249	Y	ES-L03-091104
East Site	L4	ES-L04-080604	ANTIMONY	0.21	07/10/09	59378	Y	ES-L04-080604
East Site	L4	ES-L04-091104	ANTIMONY	0.5	11/25/09	63249	Y	ES-L04-091104
East Site	L5	ES-L05-091104	ANTIMONY	0.47	11/25/09	63249	Y	ES-L05-091104
East Site	L6	ES-L06-091104	ANTIMONY	0.41	11/25/09	63249	Y	ES-L06-091104
East Site	M1	ES-M01-080527	ANTIMONY	0.21	06/08/09	58175	Y	ES-M01-080527
East Site	M2	ES-M02-080519	ANTIMONY	0.29	06/08/09	58175	Y	ES-M02-080519
East Site	M3	ES-M03-091022	ANTIMONY	0.14	11/24/09	63168	Y	ES-M03-091022
East Site	M3	ES-M03-091228	ANTIMONY	0.3	01/21/10	64282	Y	ES-M03-091228
East Site	M4	ES-M04-080515	ANTIMONY	0.22	06/08/09	58175	Y	ES-M04-080515
East Site	M5	ES-M05-080527	ANTIMONY	0.2	06/08/09	58175	Y	ES-M05-080527
East Site	M6	ES-M06-080520	ANTIMONY	0.32	06/08/09	58175	Y	ES-M06-080520
East Site	M6	ES-M06-091105	ANTIMONY	0.45	12/07/09	63425	Y	ES-M06-091105
East Site	M7	ES-M07-091105	ANTIMONY	0.44	12/07/09	63425	Y	ES-M07-091105
East Site	M8	ES-M08-080610	ANTIMONY	0.67	05/08/09	57509	Y	ES-M08-080610
East Site	M8	ES-M08-090924	ANTIMONY	0.77	10/02/09	61824	Y	ES-M08-090924
East Site	M8	ES-M08-091123	ANTIMONY	0.32	12/15/09	63651	Y	ES-M08-091123
East Site	M9	ES-M09-080611	ANTIMONY	0.31	05/08/09	57509	Y	ES-M09-080611
East Site	N2	ES-N02-080528	ANTIMONY	0.24	06/08/09	58175	Y	ES-N02-080528
East Site	N3	ES-N03-080520	ANTIMONY	0.26	06/08/09	58175	Y	ES-N03-080520
East Site	N4	ES-N04-080519	ANTIMONY	0.22	06/08/09	58175	Y	ES-N04-080519
East Site	N5	ES-N05-080519	ANTIMONY	0.27	06/08/09	58175	Y	ES-N05-080519
East Site	N5	ES-N05-091105	ANTIMONY	0.41	12/07/09	63425	Y	ES-N05-091105
East Site	N6	ES-N06-080527	ANTIMONY	0.21	06/28/09	58861	Y	ES-N06-080527
East Site	N7	ES-N07-080530	ANTIMONY	0.35	06/28/09	58861	Y	ES-N07-080530
East Site	N7	ES-N07-100225	ANTIMONY	0.44	03/05/10	65032	Y	ES-N07-100225
East Site	N8	ES-N08-080610	ANTIMONY	0.23	05/08/09	57509	Y	ES-N08-080610
East Site	N8	ES-N08-090924	ANTIMONY	0.52	10/02/09	61824	Y	ES-N08-090924
East Site	N8	ES-N08-091124	ANTIMONY	0.31	12/15/09	63651	Y	ES-N08-091124
East Site	N9	ES-N09-080610	ANTIMONY	0.24	05/08/09	57509	Y	ES-N09-080610
East Site	N9	ES-N09-090924	ANTIMONY	0.53	10/02/09	61824	Y	ES-N09-090924
East Site	N10	ES-N10-080610	ANTIMONY	0.33	05/08/09	57509	Y	ES-N10-080610
East Site	O3	ES-O03-080528	ANTIMONY	0.21	06/28/09	58861	Y	ES-O03-080528
East Site	O4	ES-O04-080515	ANTIMONY	0.29	06/28/09	58861	Y	ES-O04-080515
East Site	O5	ES-O05-080520	ANTIMONY	0.21	06/28/09	58861	Y	ES-O05-080520
East Site	O6	ES-O06-080529	ANTIMONY	0.19	06/28/09	58861	Y	ES-O06-080529
East Site	O6	ES-O06-091105	ANTIMONY	0.41	12/07/09	63425	Y	ES-O06-091105
East Site	O7	ES-O07-100225	ANTIMONY	0.36	03/05/10	65032	Y	ES-O07-100225
East Site	O8	ES-O08-080530	ANTIMONY	0.15	08/03/09	60068	Y	ES-O08-080530
East Site	O8	ES-O08-100225	ANTIMONY	0.49	03/05/10	65032	Y	ES-O08-100225
East Site	O9	ES-O09-091014	ANTIMONY	0.26	11/24/09	63167	Y	ES-O09-091014
East Site	O9	ES-O09-092309	ANTIMONY	0.71	10/02/09	61824	Y	ES-O09-092309
East Site	O10	ES-O10-091014	ANTIMONY	0.41	11/24/09	63167	Y	ES-O10-091014
East Site	O10	ES-O10-091123	ANTIMONY	0.3	12/15/09	63651	Y	ES-O10-091123
East Site	O10	ES-O10-092309	ANTIMONY	0.57	10/02/09	61824	Y	ES-O10-092309
East Site	P4	ES-P04-080528	ANTIMONY	0.25	06/08/09	58143	Y	DUP-16
East Site	P4	ES-P04-080528	ANTIMONY	0.29	06/28/09	58861	Y	ES-P04-080528
East Site	P5	ES-P05-080513	ANTIMONY	0.23	06/28/09	58861	Y	ES-P05-080513

ANTIMONY Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	P6	ES-P06-080515	ANTIMONY	0.27	06/08/09	58143	Y	DUP-12
East Site	P6	ES-P06-080515	ANTIMONY	0.23	06/28/09	58861	Y	ES-P06-080515
East Site	P7	ES-P07-080519	ANTIMONY	0.18	06/08/09	58175	Y	ES-P07-080519
East Site	P7	ES-P07-091022	ANTIMONY	0.16	11/24/09	63168	Y	ES-P07-091022
East Site	P8	ES-P08-080530	ANTIMONY	0.18	06/28/09	58861	Y	ES-P08-080530
East Site	P10	ES-P10-080606	ANTIMONY	0.38	05/08/09	57509	Y	ES-P10-080606
East Site	P10	ES-P10-091014	ANTIMONY	0.19	11/24/09	63167	Y	ES-P10-091014
East Site	P10	ES-P10-092309	ANTIMONY	0.59	10/02/09	61824	Y	ES-P10-092309
East Site	P11	ES-P11-080606	ANTIMONY	0.36	05/08/09	57509	Y	ES-P11-080606
East Site	P11	ES-P11-092309	ANTIMONY	0.17	10/02/09	61824	Y	ES-P11-092309
East Site	Q5	ES-Q05-080520	ANTIMONY	0.95	06/28/09	58861	Y	ES-Q05-080520
East Site	Q5	ES-Q05-091105	ANTIMONY	0.63	12/07/09	63425	Y	ES-Q05-091105
East Site	Q6	ES-Q06-091021	ANTIMONY	0.17	11/24/09	63168	Y	ES-Q06-091021
East Site	Q7	ES-Q07-091021	ANTIMONY	0.1	11/24/09	63168	Y	ES-Q07-091021
East Site	Q7	ES-Q07-091228	ANTIMONY	0.28	01/21/10	64282	Y	ES-Q07-091228
East Site	Q8	ES-Q08-091021	ANTIMONY	0.22	11/24/09	63168	Y	ES-Q08-091021
East Site	Q8	ES-Q08-091228	ANTIMONY	0.24	01/21/10	64282	Y	ES-Q08-091228
East Site	Q9	ES-Q09-080612	ANTIMONY	0.27	06/28/09	58861	Y	ES-Q09-080612
East Site	Q10	ES-Q10-080606	ANTIMONY	0.37	05/11/09	57557	Y	ES-Q10-080606
East Site	Q10	ES-Q10-091123	ANTIMONY	0.33	12/15/09	63651	Y	ES-Q10-091123
East Site	Q10	ES-Q10-092309	ANTIMONY	0.8	10/02/09	61824	Y	ES-Q10-092309
East Site	Q11	ES-Q11-080606	ANTIMONY	0.26	05/11/09	57557	Y	ES-Q11-080606
East Site	Q17	ES-Q17-080609	ANTIMONY	0.23	04/28/09	57269	Y	ES-Q17-080609
East Site	R5	ES-R05-080521	ANTIMONY	0.44	06/28/09	58861	Y	ES-R05-080521
East Site	R5	ES-R05-091105	ANTIMONY	0.46	12/07/09	63425	Y	ES-R05-091105
East Site	R6	ES-R06-080521	ANTIMONY	0.14	07/10/09	59378	Y	ES-R06-080521
East Site	R7	ES-R07-080521	ANTIMONY	0.17	06/29/09	58862	Y	ES-R07-080521
East Site	R8	ES-R08-091021	ANTIMONY	0.11	11/24/09	63168	Y	ES-R08-091021
East Site	R8	ES-R08-091021	ANTIMONY	0.27	01/28/10	64433	Y	DUP-46
East Site	R9	ES-R09-080520	ANTIMONY	0.12	06/29/09	58862	Y	ES-R09-080520
East Site	R10	ES-R10-080602	ANTIMONY	0.19	06/29/09	58862	Y	ES-R10-080602
East Site	R11	ES-R11-080605	ANTIMONY	0.3	05/11/09	57557	Y	ES-R11-080605
East Site	R11	ES-R11-090910	ANTIMONY	0.28	09/23/09	61440	Y	ES-R11-090910
East Site	R11	ES-R11-090910	ANTIMONY	0.17	11/24/09	63167	Y	DUP-38
East Site	R12	ES-R12-080611	ANTIMONY	0.23	05/11/09	57557	Y	ES-R12-080611
East Site	R16	ES-R16-080605	ANTIMONY	0.16	04/28/09	57269	Y	ES-R16-080605
East Site	R17	ES-R17-080606	ANTIMONY	0.19	04/28/09	57269	Y	ES-R17-080606
East Site	S5	ES-S05-080521	ANTIMONY	0.33	06/29/09	58862	Y	ES-S05-080521
East Site	S6	ES-S06-080521	ANTIMONY	0.26	06/29/09	58862	Y	ES-S06-080521
East Site	S7	ES-S07-080521	ANTIMONY	0.2	06/29/09	58862	Y	ES-S07-080521
East Site	S8	ES-S08-091015	ANTIMONY	0.13	11/24/09	63167	Y	ES-S08-091015
East Site	S9	ES-S09-080522	ANTIMONY	0.21	06/29/09	58862	Y	ES-S09-080522
East Site	S10	ES-S10-080523	ANTIMONY	0.26	06/29/09	58862	Y	ES-S10-080523
East Site	S11	ES-S11-080528	ANTIMONY	0.38	06/29/09	58862	Y	ES-S11-080528
East Site	S12	ES-S12-080609	ANTIMONY	0.066	04/28/09	57269	N	ES-S12-080609
East Site	S13	ES-S13-080610	ANTIMONY	0.1	04/28/09	57269	Y	ES-S13-080610
East Site	S17	ES-S17-090910	ANTIMONY	0.32	09/23/09	61440	Y	ES-S17-090910
East Site	S17	ES-S17-090910	ANTIMONY	0.6	10/02/09	61824	Y	DUP-37
East Site	S18	ES-S18-080606	ANTIMONY	0.09	04/28/09	57269	Y	ES-S18-080606
None	None	ES-SB3-100901	ANTIMONY	0.35	09/20/10	70207	Y	ES-SB3-100901

ANTIMONY Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
None	None	ES-SB5-100902	ANTIMONY	0.34	09/20/10	70207	Y	ES-SB5-100902
None	None	ES-SB7-100901	ANTIMONY	0.28	09/20/10	70207	Y	ES-SB7-100901
None	None	ES-SBA9-100902	ANTIMONY	0.34	09/20/10	70207	Y	ES-SBA9-100902
None	None	ES-SBO07-1009(	ANTIMONY	0.38	09/20/10	70207	Y	ES-SBO07-10090
East Site	T7	ES-T07-080612	ANTIMONY	0.23	06/29/09	58862	Y	ES-T07-080612
East Site	T8	ES-T08-080522	ANTIMONY	0.19	06/28/09	58861	Y	DUP-13
East Site	T8	ES-T08-080522	ANTIMONY	0.23	06/29/09	58862	Y	ES-T08-080522
East Site	T9	ES-T09-080522	ANTIMONY	0.23	06/29/09	58862	Y	ES-T09-080522
East Site	T10	ES-T10-080523	ANTIMONY	0.19	06/29/09	58862	Y	DUP-14
East Site	T10	ES-T10-080523	ANTIMONY	0.4	06/29/09	58862	Y	ES-T10-080523
East Site	T10	ES-T10-091015	ANTIMONY	0.18	11/24/09	63167	Y	ES-T10-091015
East Site	T11	ES-T11-080530	ANTIMONY	0.14	06/29/09	58862	Y	ES-T11-080530
East Site	T12	ES-T12-080609	ANTIMONY	0.058	04/28/09	57269	N	ES-T12-080609
East Site	T13	ES-T13-080609	ANTIMONY	0.052	04/28/09	57269	Y	ES-T13-080609
East Site	T14	ES-T14-080610	ANTIMONY	0.11	04/28/09	57269	Y	ES-T14-080610
East Site	U10	ES-U10-080523	ANTIMONY	0.24	06/29/09	58862	Y	ES-U10-080523
East Site	U11	ES-U11-080602	ANTIMONY	0.1	07/10/09	59378	N	ES-U11-080602
East Site	U13	ES-U13-080610	ANTIMONY	0.3	05/08/09	57509	Y	ES-U13-080610
East Site	U14	ES-U14-080610	ANTIMONY	0.33	05/08/09	57509	Y	ES-U14-080610
East Site	V11	ES-V11-080529	ANTIMONY	0.14	07/10/09	59378	Y	ES-V11-080529
East Site	V14	ES-V14-080605	ANTIMONY	0.3	05/08/09	57509	Y	ES-V14-080605
East Site	W12	ES-W12-080527	ANTIMONY	0.18	07/10/09	59378	Y	ES-W12-080527
West Site	A4	WS-A04-080626	ANTIMONY	0.51	07/20/09	59651	Y	WS-A04-080626
West Site	B2	WS-B02-100120	ANTIMONY	0.26	02/02/10	64502	Y	WS-B02-100120
West Site	B3	WS-B03-080502	ANTIMONY	0.4	07/20/09	59651	Y	WS-B03-080502
West Site	B4	WS-B04-080626	ANTIMONY	0.4	07/20/09	59651	Y	WS-B04-080626
West Site	B5	WS-B05-080626	ANTIMONY	0.32	08/03/09	60068	Y	WS-B05-080626
West Site	C1	WS-C01-080501	ANTIMONY	0.26	07/10/09	59378	Y	WS-C01-080501
West Site	C1	WS-C01-080501	ANTIMONY	0.35	07/11/09	59378	Y	DUP-3
West Site	C2	WS-C02-080428	ANTIMONY	0.45	07/21/09	59653	Y	WS-C02-080428
West Site	C2	WS-C02-100120	ANTIMONY	0.3	02/02/10	64502	Y	WS-C02-100120
West Site	C3	WS-C03-080620	ANTIMONY	0.2	07/21/09	59653	Y	WS-C03-080620
West Site	C4	WS-C04-080623	ANTIMONY	0.54	07/21/09	59653	Y	WS-C04-080623
West Site	C5	WS-C05-080620	ANTIMONY	0.37	08/03/09	60068	Y	WS-C05-080620
West Site	C5	WS-C05-100112	ANTIMONY	0.31	01/28/10	64434	Y	WS-C05-100112
West Site	C6	WS-C06-080624	ANTIMONY	0.38	08/03/09	60068	Y	WS-C06-080624
West Site	C6	WS-C06-091013	ANTIMONY	0.15	11/24/09	63167	Y	WS-C06-091013
West Site	D1	WS-D01-080430	ANTIMONY	0.3	07/10/09	59378	Y	WS-D01-080430
West Site	D2	WS-D02-080429	ANTIMONY	0.38	07/20/09	59651	Y	DUP-2
West Site	D2	WS-D02-080429	ANTIMONY	0.43	07/21/09	59653	Y	WS-D02-080429
West Site	D3	WS-D03-080620	ANTIMONY	0.57	07/21/09	59653	Y	WS-D03-080620
West Site	D4	WS-D04-080623	ANTIMONY	0.47	08/19/09	60478	Y	WS-D04-080623
West Site	D4	WS-D04-091230	ANTIMONY	0.3	01/21/10	64282	Y	WS-D04-091230
West Site	D5	WS-D05-080620	ANTIMONY	0.37	08/03/09	60068	Y	WS-D05-080620
West Site	D5	WS-D05-100111	ANTIMONY	0.28	01/28/10	64434	Y	WS-D05-100111
West Site	D6	WS-D06-080619	ANTIMONY	0.33	08/03/09	60068	Y	WS-D06-080619
West Site	D6	WS-D06-091013	ANTIMONY	0.27	11/24/09	63167	Y	WS-D06-091013
West Site	D7	WS-D07-080619	ANTIMONY	0.4	08/03/09	60068	Y	WS-D07-080619
West Site	D7	WS-D07-091013	ANTIMONY	0.13	11/24/09	63167	Y	WS-D07-091013
West Site	E1	WS-E01-080430	ANTIMONY	0.38	07/11/09	59378	Y	WS-E01-080430

ANTIMONY Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	E2	WS-E02-080428	ANTIMONY	0.62	07/20/09	59651	Y	DUP-1
West Site	E2	WS-E02-080428	ANTIMONY	0.7	07/21/09	59653	Y	WS-E02-080428
West Site	E2	WS-E02-100115	ANTIMONY	0.35	02/02/10	64502	Y	WS-E02-100115
West Site	E3	WS-E03-080619	ANTIMONY	0.47	07/21/09	59653	Y	WS-E03-080619
West Site	E4	WS-E04-080613	ANTIMONY	0.43	08/03/09	60068	Y	WS-E04-080613
West Site	E4	WS-E04-091230	ANTIMONY	0.27	01/21/10	64282	Y	WS-E04-091230
West Site	E5	WS-E05-080613	ANTIMONY	0.39	08/03/09	60068	Y	WS-E05-080613
West Site	E5	WS-E05-100111	ANTIMONY	0.29	01/28/10	64434	Y	WS-E05-100111
West Site	E6	WS-E06-080613	ANTIMONY	0.46	08/03/09	60068	Y	WS-E06-080613
West Site	E6	WS-E06-091228	ANTIMONY	0.33	01/21/10	64282	Y	WS-E06-091228
West Site	E7	WS-E07-080613	ANTIMONY	0.37	08/04/09	60068	Y	WS-E07-080613
West Site	E7	WS-E07-091228	ANTIMONY	0.33	01/21/10	64282	Y	WS-E07-091228
West Site	E8	WS-E08-091228	ANTIMONY	0.34	01/21/10	64282	Y	WS-E08-091228
West Site	F1	WS-F01-080429	ANTIMONY	0.33	07/11/09	59378	Y	WS-F01-080429
West Site	F1	WS-F01-100115	ANTIMONY	0.35	02/02/10	64502	Y	WS-F01-100115
West Site	F2	WS-F02-080429	ANTIMONY	1.3	07/21/09	59653	Y	WS-F02-080429
West Site	F2	WS-F02-100115	ANTIMONY	0.42	02/02/10	64502	Y	WS-F02-100115
West Site	F3	WS-F03-080619	ANTIMONY	1	07/21/09	59653	Y	WS-F03-080619
West Site	F3	WS-F03-100115	ANTIMONY	0.41	02/02/10	64502	Y	WS-F03-100115
West Site	F4	WS-F04-080616	ANTIMONY	0.65	08/04/09	60069	Y	WS-F04-080616
West Site	F4	WS-F04-091230	ANTIMONY	0.35	01/21/10	64282	Y	WS-F04-091230
West Site	F5	WS-F05-080612	ANTIMONY	0.71	08/19/09	60478	Y	WS-F05-080612
West Site	F5	WS-F05-100111	ANTIMONY	0.31	01/28/10	64434	Y	WS-F05-100111
West Site	F6	WS-F06-080612	ANTIMONY	0.52	08/04/09	60069	Y	WS-F06-080612
West Site	F6	WS-F06-091228	ANTIMONY	0.3	01/21/10	64282	Y	WS-F06-091228
West Site	F7	WS-F07-080617	ANTIMONY	0.48	07/11/09	59379	Y	WS-F07-080617
West Site	F8	WS-F08-080618	ANTIMONY	0.33	07/11/09	59379	Y	WS-F08-080618
West Site	G1	WS-G01-080501	ANTIMONY	0.32	07/11/09	59378	Y	DUP-4
West Site	G1	WS-G01-080501	ANTIMONY	0.32	07/11/09	59379	Y	WS-G01-080501
West Site	G1	WS-G01-100113	ANTIMONY	0.26	01/28/10	64434	Y	WS-G01-100113
West Site	G1	WS-G01-100223	ANTIMONY	0.34	03/05/10	65032	Y	WS-G01-100223
West Site	G2	WS-G02-080618	ANTIMONY	0.77	07/21/09	59653	Y	WS-G02-080618
West Site	G2	WS-G02-100113	ANTIMONY	0.34	01/28/10	64434	Y	WS-G02-100113
West Site	G3	WS-G03-080619	ANTIMONY	0.55	07/21/09	59653	Y	WS-G03-080619
West Site	G4	WS-G04-080616	ANTIMONY	0.57	08/04/09	60069	Y	WS-G04-080616
West Site	G5	WS-G05-100108	ANTIMONY	0.32	01/28/10	64433	Y	WS-G05-100108
West Site	G5	WS-G05-100223	ANTIMONY	0.41	03/05/10	65032	Y	WS-G05-100223
West Site	G6	WS-G06-080616	ANTIMONY	0.49	08/04/09	60069	Y	WS-G06-080616
West Site	G6	WS-G06-100107	ANTIMONY	0.3	01/28/10	64433	Y	WS-G06-100107
West Site	G7	WS-G07-080617	ANTIMONY	0.97	07/11/09	59379	Y	WS-G07-080617
West Site	G7	WS-G07-100105	ANTIMONY	0.35	01/28/10	64433	Y	WS-G07-100105
West Site	H1	WS-H01-080501	ANTIMONY	0.33	07/11/09	59379	Y	WS-H01-080501
West Site	H2	WS-H02-080618	ANTIMONY	0.78	07/21/09	59653	Y	WS-H02-080618
West Site	H2	WS-H02-100113	ANTIMONY	0.34	01/28/10	64434	Y	WS-H02-100113
West Site	H3	WS-H03-080619	ANTIMONY	0.46	08/04/09	60069	Y	WS-H03-080619
West Site	H4	WS-H04-080616	ANTIMONY	0.45	08/04/09	60069	Y	WS-H04-080616
West Site	H5	WS-H05-100107	ANTIMONY	0.24	01/28/10	64433	Y	WS-H05-100107
West Site	H6	WS-H06-080617	ANTIMONY	0.47	07/11/09	59379	Y	WS-H06-080617
West Site	I1	WS-I01-080501	ANTIMONY	0.63	07/11/09	59379	Y	WS-I01-080501
West Site	I1	WS-I01-080501	ANTIMONY	0.49	07/11/09	59379	Y	DUP-5

ANTIMONY Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	I1	WS-I01-091013	ANTIMONY	0.46	11/24/09	63167	Y	WS-I01-091013
West Site	I2	WS-I02-080618	ANTIMONY	0.61	08/03/09	60068	Y	WS-I02-080618
West Site	I2	WS-I02-091014	ANTIMONY	0.28	11/24/09	63167	Y	WS-I02-091014
West Site	I2	WS-I02-100113	ANTIMONY	0.34	01/28/10	64434	Y	WS-I02-100113
West Site	I3	WS-I03-080618	ANTIMONY	0.81	08/04/09	60069	Y	WS-I03-080618
West Site	I3	WS-I03-091013	ANTIMONY	0.3	11/24/09	63167	Y	WS-I03-091013
West Site	I3	WS-I03-100113	ANTIMONY	0.33	01/28/10	64434	Y	WS-I03-100113
West Site	I4	WS-I04-080617	ANTIMONY	0.46	08/04/09	60069	Y	WS-I04-080617
West Site	I4	WS-I04-100106	ANTIMONY	0.3	01/28/10	64433	Y	WS-I04-100106
West Site	I5	WS-I05-080617	ANTIMONY	0.3	07/11/09	59379	Y	WS-I05-080617
West Site	I5	WS-I05-091013	ANTIMONY	0.36	11/24/09	63167	Y	WS-I05-091013
West Site	I5	WS-I05-100107	ANTIMONY	0.32	01/28/10	64433	Y	WS-I05-100107
West Site	I6	WS-I06-080617	ANTIMONY	1.1	07/11/09	59379	Y	WS-I06-080617
West Site	I6	WS-I06-100105	ANTIMONY	0.3	01/28/10	64433	Y	WS-I06-100105
West Site	J1	WS-J01-080505	ANTIMONY	0.98	07/11/09	59379	Y	WS-J01-080505
West Site	J1	WS-J01-080505	ANTIMONY	0.89	07/11/09	59379	Y	DUP-6
West Site	J1	WS-J01-091013	ANTIMONY	0.4	11/24/09	63167	Y	WS-J01-091013
West Site	J1	WS-J01-100112	ANTIMONY	0.3	01/28/10	64434	Y	WS-J01-100112
West Site	J2	WS-J02-080624	ANTIMONY	0.51	07/11/09	59379	Y	WS-J02-080624
West Site	J2	WS-J02-100112	ANTIMONY	0.34	01/28/10	64434	Y	WS-J02-100112
West Site	J3	WS-J03-080620	ANTIMONY	0.5	07/11/09	59391	Y	WS-J03-080620
West Site	J4	WS-J04-080617	ANTIMONY	2.2	07/11/09	59391	Y	WS-J04-080617
West Site	J4	WS-J04-100106	ANTIMONY	0.41	01/28/10	64433	Y	WS-J04-100106
West Site	J5	WS-J05-080618	ANTIMONY	1.1	07/11/09	59391	Y	WS-J05-080618
West Site	K1	WS-K01-080505	ANTIMONY	0.74	07/11/09	59391	Y	WS-K01-080505
West Site	K1	WS-K01-091013	ANTIMONY	0.65	11/24/09	63167	Y	WS-K01-091013
West Site	K2	WS-K02-080509	ANTIMONY	0.64	07/11/09	59391	Y	WS-K02-080509
West Site	K3	WS-K03-080509	ANTIMONY	1.2	07/11/09	59391	Y	WS-K03-080509
West Site	K4	WS-K04-080513	ANTIMONY	0.71	07/11/09	59391	Y	WS-K04-080513
West Site	K4	WS-K04-080513	ANTIMONY	0.75	08/04/09	60068	Y	DUP-10
West Site	K4	WS-K04-100106	ANTIMONY	0.39	01/28/10	64433	Y	WS-K04-100106
West Site	K5	WS-K05-080509	ANTIMONY	0.68	07/11/09	59391	Y	WS-K05-080509
West Site	L1	WS-L01-080505	ANTIMONY	0.58	07/11/09	59391	Y	WS-L01-080505
West Site	L2	WS-L02-080508	ANTIMONY	0.39	07/11/09	59391	Y	WS-L02-080508
West Site	L3	WS-L03-080508	ANTIMONY	1	07/11/09	59391	Y	WS-L03-080508
West Site	L4	WS-L04-080508	ANTIMONY	0.47	07/11/09	59391	Y	WS-L04-080508
West Site	L4	WS-L04-080508	ANTIMONY	0.42	07/12/09	59391	Y	DUP-9
West Site	M1	WS-M01-080505	ANTIMONY	0.7	07/11/09	59391	Y	WS-M01-080505
West Site	M1	WS-M01-080505	ANTIMONY	0.64	07/12/09	59391	Y	DUP-7
West Site	M2	WS-M02-080507	ANTIMONY	0.75	08/03/09	60068	Y	WS-M02-080507
West Site	M3	WS-M03-080507	ANTIMONY	1.3	07/21/09	59653	Y	DUP-8
West Site	M3	WS-M03-080507	ANTIMONY	1	08/19/09	60477	Y	WS-M03-080507
West Site	M3	WS-M03-091217	ANTIMONY	0.21	01/04/10	63984	Y	WS-M03-091217
West Site	M3	WS-M03-091217	ANTIMONY	0.41	03/05/10	65032	Y	DUP-48
West Site	M4	WS-M04-080507	ANTIMONY	1	08/19/09	60477	Y	WS-M04-080507
West Site	M4	WS-M04-091218	ANTIMONY	0.24	01/04/10	63984	Y	WS-M04-091218
West Site	M4	WS-M04-091218	ANTIMONY	0.34	01/21/10	64282	Y	DUP-44
West Site	N1	WS-N01-080506	ANTIMONY	0.45	08/19/09	60477	Y	WS-N01-080506
West Site	N2	WS-N02-080506	ANTIMONY	0.59	07/20/09	59651	Y	WS-N02-080506
West Site	N3	WS-N03-080507	ANTIMONY	0.68	07/11/09	59379	Y	WS-N03-080507

ANTIMONY Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	O1	WS-O01-080506	ANTIMONY	0.78	07/20/09	59651	Y	WS-O01-080506
West Site	O2	WS-O02-080506	ANTIMONY	1.1	07/20/09	59651	Y	WS-O02-080506

Table As-1: Arsenic Data Quality Summary

Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	88%	
Minimum Matrix Spike Recovery	greater than 70%	9%	low
Average LCS Recovery	N/A	103%	
Average Matrix Spike Recovery	N/A	95%	
Maximum LCS RPD	less than 20%	16%	
Maximum Laboratory Duplicate RPD	less than 20%	15%	
Average LCS RPD	N/A	2%	
Average Laboratory Duplicate RPD	N/A	4%	

Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 4.88	Minimum Recovery =	5.10 mg/kg
EQIS CRM	Recovery greater than 2.68	Minimum Recovery =	4 mg/kg
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	94 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	69 %

Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	97.2 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	1.11 mg/kg

Data Quality Relative to Remediation Goals		
Tier 1 Remediation Goal	13 mg/kg	
Tier 2 Remediation Goal	30 mg/kg	
QC Derived Reliance Level	34.0 mg/kg	See Note 1

Comments: Arsenic analyses attained laboratory performance criteria, except for the low matrix spike recovery for laboratory batches 49334 and 49335 and high matrix spike recovery in batches 59250 and 59251. Only background samples were tested in the 49334 and 49335 batches, so the qualified arsenic recovery in these batches does not imply a problem with CVS samples. High recoveries are considered environmentally conservative error, and in this instance their occurrence is infrequent and not, therefore, unacceptable. High RPD in CVS splits (37%) and CRM splits (138%) indicate compromised precision; however, a low standard deviation (0.87 mg/kg) relative to the mean (6.38 mg/kg) for replicate tests on the same sample indicates acceptable precision. The average recovery of arsenic in BOR CRMs (97%) is good. The derived reliance level (34 mg/kg) is greater than RGs due to generally good precision and accuracy. Based on the foregoing, together with the review of the QC data, it is concluded that the arsenic CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1. Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (30)(1.2)(.972)-(0.84)(1.11) = 34.0 mg/kg

Table As-2: Arsenic - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	7.3	4/29/09	57304	Y
BOR SAMPLE 6-BOR 81	9.9	5/15/09	57603	Y
BOR Sample 4-BOR 82	7	5/20/09	57706	Y
BOR 83	6.3	6/4/09	57767	Y
BOR Sample 3-BOR 58	6.2	6/4/09	57767	Y
BOR 84	7.7	6/10/09	58208	Y
BOR Sample 7-BOR 105	6.4	6/10/09	58208	Y
BOR 85	6.6	6/11/09	58236	Y
BOR Sample 8-BOR 106	7.1	6/11/09	58236	Y
BOR 108	5.1	7/9/09	59250	Y
BOR 87	5.6	7/9/09	59250	Y
BOR 86	5.6	7/9/09	59251	Y
BOR 109	6.2	7/14/09	59472	Y
BOR 110	6.2	7/23/09	59738	Y
BOR Sample 9-BOR 107	5.3	7/28/09	59840	Y
BOR 111	6.6	8/7/09	60228	Y

CRMs		Vendor Supplied Information
Mean	6.6	*Made to*
Median	6.4	*6.76 mg/kg*
Standard Deviation	1.1	
Sample Variance	1.3	*Upper Acceptance Limit*
Kurtosis	4.2	*7.19 mg/kg*
Skewness	1.6	
Range	4.8	*Lower Acceptance Limit*
Minimum	5.1	*4.88 mg/kg*
Maximum	9.9	
Sum	105.1	
Count	16.0	
Largest(2)	7.7	
Smallest(2)	5.3	

Table As-3: Arsenic - NPS Replicate Test On Background Sample				
Results of Replicate Analyses of a Single Sample				
Sample	Result	Analysis Date	Batch	Detect
BOR 112	7.1	4/29/09	57304	Y
BOR 59	8.5	5/15/09	57603	Y
BOR 60	5.8	5/20/09	57706	Y
BOR 113	5.6	6/4/09	57767	Y
BOR 61	5.9	6/4/09	57767	Y
BOR 63	5.8	7/9/09	59250	Y
BOR 89	5.5	7/9/09	59250	Y
BOR 62	5.5	7/9/09	59251	Y
BOR 115	6.6	7/14/09	59472	Y
BOR 64	6.6	7/15/09	59473	Y
BOR 91	7.2	7/15/09	59473	Y
BOR 116	5.8	7/23/09	59738	Y
BOR 92	5.9	7/23/09	59738	Y
BOR 65	6.4	7/28/09	59841	Y
BOR 88	7.5	8/7/09	60228	Y
BOR 800	8.6	9/22/09	61439	Y
BOR-802	8	10/7/09	61842	Y
BOR 804	8.5	11/20/09	63163	Y
BOR-805	8.9	11/21/09	63164	Y
BOR-807	7	11/25/09	63248	Y
BOR-808	7.8	12/5/09	63416	Y
BOR 813	8.2	1/22/10	64305	Y
BOR 815	7.9	1/29/10	64462	Y
BOR-816	7.9	2/1/10	64464	Y
BOR-820	7.2	3/4/10	65002	Y

Replicate analyses of Single Sample	
Mean	7.028
Median	7.100
Standard Deviation	1.110
Sample Variance	1.232
Kurtosis	-1.389
Skewness	0.079
Range	3.400
Minimum	5.500
Maximum	8.900
Sum	175.700
Count	25.000
Largest(2)	8.600
Smallest(2)	5.500

Table As-4: Arsenic Precision Demonstrated by NPS and EQIS Homogenized Sample Splits

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	14.7	5/15/09	57603	ES-T11-080530	10.6	7/9/2009	32
BOR 506	11.6	5/20/09	57706	ES-S10-080523	9.3	7/9/2009	22
BOR 504	12.1	6/4/09	57767	ES-M05-080527	10.5	6/10/2009	14
BOR 507	13	6/11/09	58236	ES-O09-080610			
BOR 508	12.7	7/9/09	59250	ES-Q11-080606	13.3	5/20/2009	5
BOR 510	12.3	7/14/09	59472	OU-8HR-080605	12.4	4/29/2009	1
BOR 501	12.7	7/15/09	59473	WS-L04-080508	13.9	7/14/2009	9
BOR 502	8.6	7/28/09	59840	WS-F05-080612	12.1	8/17/2009	34
BOR 509	10.5	7/28/09	59840	WS-E06-080613	10.9	7/28/2009	4
BOR 505	9.2	7/28/09	59841	WS-K03-080509	10	7/14/2009	8
BOR 500	11.3	8/7/09	60228	WS-F01-080429	11	7/9/2009	3
BOR-809	7.5	12/14/09	63602	ES-K03-091103	8.6	11/25/2009	14
BOR-810	7.1	12/14/09	63602	ES-P07-091022	14.9	11/21/2009	71
BOR-811	8.1	12/14/09	63602	ES-R08-091021	15.3	11/21/2009	62
BOR 814	14.6	1/22/10	64305	ES-J05-091124	11.1	12/14/2009	27
BOR-818	8.9	3/4/10	65002	WS-F05-100111	14	2/1/2010	45
BOR-822	11.6	3/4/10	65002	ES-Q08-091228	15	1/22/2010	26
DUP-11	10.5	4/29/09	57303	ES-J03-080513	7.2	7/9/2009	37
DUP-17	11.6	5/15/09	57603	ES-F01-080529	9.4	5/20/2009	21
DUP-15	12.5	5/20/09	57706	ES-J02-080527	11.8	6/4/2009	6
DUP-18	12.4	5/20/09	57706	ES-J04-080530	11	6/4/2009	12
DUP-12	13.1	6/4/09	57767	ES-P06-080515	13.8	6/10/2009	5
DUP-16	11.8	6/4/09	57767	ES-P04-080528	13.2	6/10/2009	11
DUP-19	10.9	6/10/09	58208	ES-K05-080605	10.5	6/10/2009	4
DUP-13	11.1	6/11/09	58236	ES-T08-080522	9.4	7/9/2009	17
DUP-3	6.8	7/9/09	59250	WS-C01-080501	6.6	7/9/2009	3
DUP-4	11.3	7/9/09	59250	WS-G01-080501	10.8	7/14/2009	5
DUP-14	9.7	7/9/09	59251	ES-T10-080523	9.7	7/9/2009	0
DUP-5	9.4	7/14/09	59472	WS-I01-080501	9.3	7/14/2009	1
DUP-6	9	7/14/09	59472	WS-J01-080505	9.1	7/14/2009	1
DUP-7	10.1	7/15/09	59473	WS-M01-080505	9.4	7/15/2009	7
DUP-9	13.1	7/15/09	59473	WS-L04-080508	13.9	7/14/2009	6
DUP-1	11.7	7/23/09	59738	WS-E02-080428	13.7	7/28/2009	16
DUP-2	11.6	7/23/09	59738	WS-D02-080429	11.9	7/28/2009	3
DUP-10	8.2	7/28/09	59840	WS-K04-080513	10.2	7/14/2009	22
DUP-8	9.4	7/28/09	59841	WS-M03-080507	7.9	8/7/2009	17
DUP-37	15.9	10/7/09	61842	ES-S17-090910	14.6	9/21/2009	9
DUP-38	14.9	11/20/09	63163	ES-R11-090910	15	9/22/2009	1
DUP-39	4.6	11/20/09	63163	ES-C01-090910	12.8	9/22/2009	94
DUP-40	10.5	11/21/09	63164	ES-A01-102109			
DUP-44	10.7	1/22/10	64305	WS-M04-091218	10.1	1/5/2010	6
DUP-45	14	1/22/10	64305	ES-J05-091124	11.1	12/14/2009	23
DUP-46	13	1/29/10	64462	ES-R08-091021	15.3	11/21/2009	16
DUP-47	13.9	2/25/10	64876	ES-K02-091103	9.2	11/25/2009	41
DUP-48	11.1	3/4/10	65002	WS-M03-091217	8.7	1/5/2010	24

Table As-4: Arsenic Precision Demonstrated by NPS and EQIS Homogenized Sample Splits (continued)

	RPD of Sample Splits
Mean	18.173
Median	11.966
Standard Deviation	20.047
Sample Variance	401.864
Kurtosis	4.715
Skewness	2.022
Range	94.253
Minimum	0.000
Maximum	94.253
Sum	781.441
Count	43.000
Largest(2)	70.909
Smallest(2)	0.669

Table As-5: Arsenic EQIS CRMs						
Results of Duplicate Analysis of EQIS CRMs						
Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	14.7	4/29/09	57303	Y		
ES-Z11-080605B	17.5	4/29/09	57303	Y	16.10	17.39
ES-Z09-080529A	5.5	5/15/09	57603	Y		
ES-Z09-080529B	5.5	5/15/09	57603	Y	5.50	0.00
ES-Z12-080606A	5.2	5/15/09	57603	Y		
ES-Z12-080606B	4.7	5/15/09	57603	Y	4.95	10.10
ES-Z05-080519A	4.2	5/20/09	57706	Y		
ES-Z05-080519B	5.2	5/20/09	57706	Y	4.70	21.28
ES-Z06-080520A	4.4	5/20/09	57706	Y		
ES-Z06-080520B	4.7	5/20/09	57706	Y	4.55	6.59
ES-Z07-080522A	4.5	6/4/09	57767	Y		
ES-Z07-080522B	4.8	6/5/09	57767	Y	4.65	6.45
ES-Z13-080610A	4.5	6/10/09	58208	Y		
ES-Z13-080610B	4.6	6/10/09	58208	Y	4.55	2.20
ES-Z10-080602A	5.7	6/11/09	58236	Y		
ES-Z10-080602B	5.2	6/11/09	58236	Y	5.45	9.17
ES-Z14-080611A	8.2	7/9/09	59250	Y		
ES-Z14-080611B	4	7/9/09	59250	Y	6.10	68.85
ES-Z08-080527A	4.4	7/9/09	59251	Y		
ES-Z08-080527B	4.4	7/9/09	59251	Y	4.40	0.00
ES-Z06-080520C	5.2	7/14/09	59472	Y		
ES-Z06-080520D	5.1	7/14/09	59472	Y	5.15	1.94
ES-Z05-080519C	5.6	7/15/09	59473	Y		
ES-Z05-080519D	5.6	7/15/09	59473	Y	5.60	0.00
ES-Z19-080624A	5.3	7/23/09	59738	Y		
ES-Z19-080624B	4.8	7/23/09	59738	Y	5.05	9.90
WS-Z17-080618A	5.3	7/23/09	59738	Y		
WS-Z17-080618B	6.7	7/23/09	59738	Y	6.00	23.33
WS-Z15-080613A	5.7	7/28/09	59841	Y		
WS-Z15-080613B	6.1	7/28/09	59841	Y	5.90	6.78
WS-Z18-080620A	6.3	7/28/09	59841	Y		
WS-Z18-080620B	6.2	7/28/09	59841	Y	6.25	1.60
WS-Z16-080617A	6.4	8/7/09	60228	Y		
WS-Z16-080617B	5.7	8/7/09	60228	Y	6.05	11.57
ES-Z22-091021A	3.4	11/21/09	63164	Y		
ES-Z22-091021B	3.6	11/21/09	63164	Y	3.50	5.71
ES-Z23-091022A	5.6	11/21/09	63164	Y		
ES-Z23-091022B	5.7	11/21/09	63164	Y	5.65	1.77
ES-Z24-091103A	5.4	11/25/09	63248	Y		
ES-Z24-091103B	5.8	11/25/09	63248	Y	5.60	7.14
ES-Z25-091104A	5.8	11/25/09	63248	Y		
ES-Z25-091104B	5.4	11/25/09	63248	Y	5.60	7.14
ES-Z26-091105A	8.8	12/5/09	63416	Y		
ES-Z26-091105B	9.6	12/5/09	63416	Y	9.20	8.70
ES-Z27-091106A	9.8	12/5/09	63416	Y		
ES-Z27-091106B	11.1	12/5/09	63416	Y	10.45	12.44
WS-Z29-091217A	5.4	1/5/10	63991	Y		
WS-Z29-091217B	5.4	1/5/10	63991	Y	5.40	0.00
WS-Z30-091230A	6.5	1/22/10	64305	Y		
WS-Z30-091230B	8.9	1/22/10	64305	Y	7.70	31.17
WS-Z31-100107A	5.2	1/29/10	64462	Y		
WS-Z31-100107B	5.1	1/29/10	64462	Y	5.15	1.94

Table As-5: Arsenic EQIS CRMs (continued)

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
WS-Z32-100113A	7.5	2/25/10	64876	Y		
WS-Z32-100113B	7.8	2/25/10	64876	Y	7.65	3.92
ES-Z33-100225A	7.5	3/4/10	65002	Y		
ES-Z33-100225B	7.8	3/4/10	65002	Y	7.65	3.92

Analysis of EQIS CRMs	
Mean	6
Median	6
Standard Deviation	2
Sample Variance	6
Kurtosis	9
Skewness	3
Range	14
Minimum	3
Maximum	18
Sum	349
Count	56
Largest(2)	15
Smallest(2)	4

RPD of EQIS CRMs	
Mean	10
Median	7
Standard Deviation	14
Sample Variance	191
Kurtosis	12
Skewness	3
Range	69
Minimum	0
Maximum	69
Sum	281
Count	28
Largest(2)	31
Smallest(2)	0

Table As-6: Arsenic Laboratory MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
90	7160081	4	90	7160081	4
9	49334	14	110	49334	14
47	49335	13	95	49334	14
98	49596	29	108	49596	29
106	49597	31	108	49597	31
25	54777	70	95	54777	70
116	54882	74	110	54882	74
105	54991	81	100	54991	81
90	54993	84	100	54993	84
106	57303	104	106	57303	104
96	57304	105	103	57304	105
89	57706	134	93	57706	134
85	57767	133	90	57767	133
81	58208	151	99	58208	151
95	58236	153	104	58236	153
134	59250	178	99	59250	178
149	59251	176	111	59251	176
101	59472	188	105	59473	187
99	59473	187	106	59472	188
115	59738	195	105	59738	195
99	59840	202	94	59840	202
96	59841	203	104	59841	203
102	60228	215	103	60228	215
77	60229	216	88	60229	216
101	60446	223	102	60446	223
103	61439	242	101	61439	242
102	61842	255	110	61842	255
106	63163	277	104	63163	277
101	63164	278	105	63164	278
84	63248	285	107	63248	285
101	63416	287	103	63416	287
90	63602	293	105	63602	293
87	63991	302	105	63991	302
117	64305	324	105	64305	324
105	64462	335	104	64462	335
100	64464	336	107	64464	336
98	64524	338	104	64524	338
98	65002	347	100	64876	344
105	70185	370	100	65002	347
			112	70185	370

Average MS Recovery =	95	%	Average LCS Recovery =	103	%
Minimum MS Recovery =	9	%	Minimum LCS Recovery =	88	%

Table As-6: Arsenic Laboratory MS and LCS (Graph)

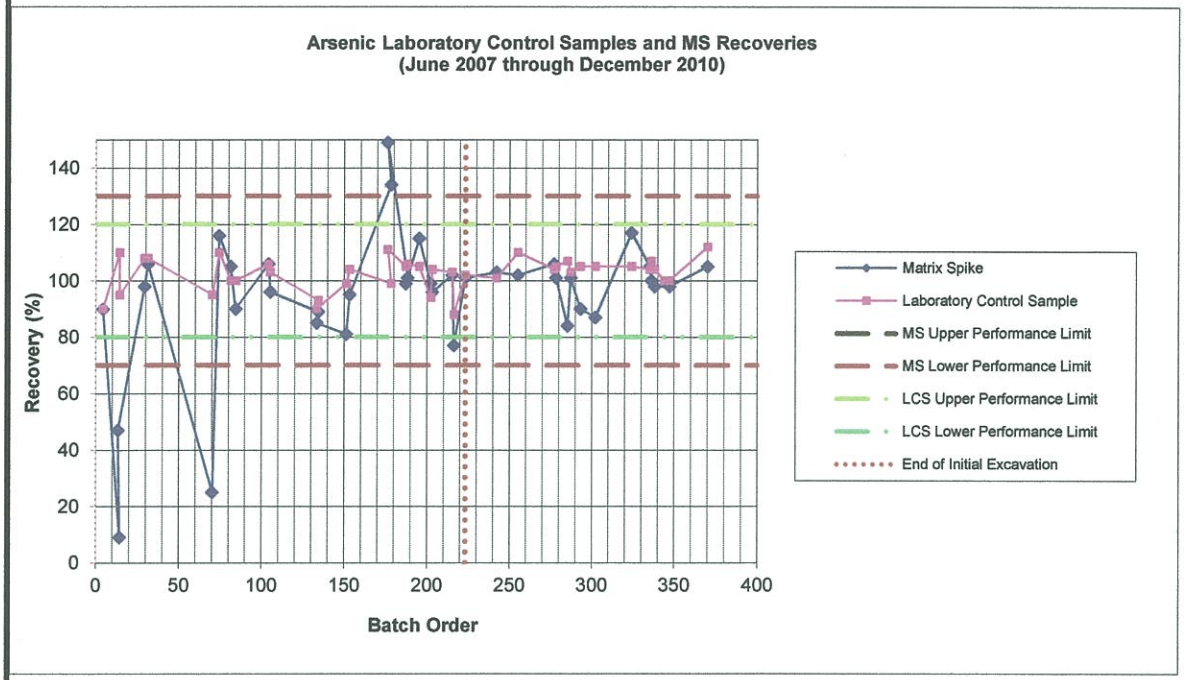
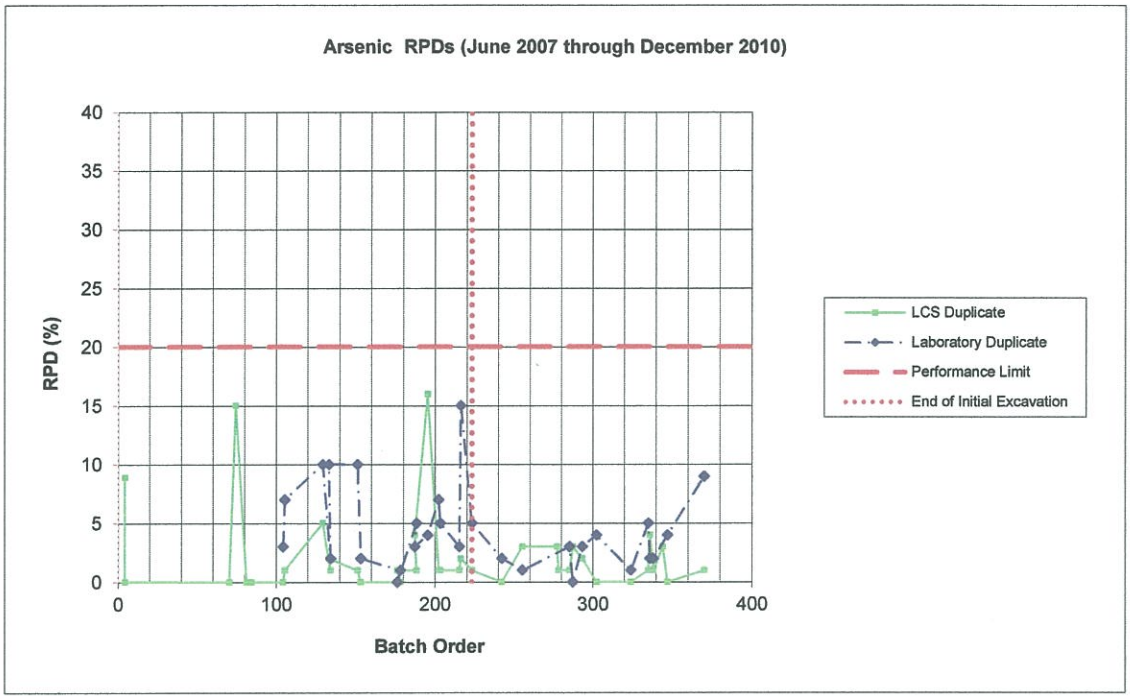


Table As-7: Arsenic - Laboratory Duplicate and LCS Duplicate

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
3	57303	104	8.9	7160081	4
7	57304	105	0.05	7160081	4
10	57603	129	0	54777	70
2	57706	134	15	54882	74
10	57767	133	0	54991	81
10	58208	151	0	54993	84
2	58236	153	0	57303	104
1	59250	178	1	57304	105
0	59251	176	5	57603	129
5	59472	188	1	57706	134
3	59473	187	2	57767	133
4	59738	195	1	58208	151
7	59840	202	0	58236	153
5	59841	203	0	59250	178
3	60228	215	1	59251	176
15	60229	216	1	59472	188
5	60446	223	4	59473	187
2	61439	242	16	59738	195
1	61842	255	1	59840	202
3	63248	285	1	59841	203
0	63416	287	1	60228	215
3	63602	293	2	60229	216
4	63991	302	1	60446	223
1	64305	324	0	61439	242
5	64462	335	3	61842	255
2	64464	336	3	63163	277
2	64524	338	1	63164	278
4	65002	347	1	63248	285
9	70185	370	3	63416	287
			2	63602	293
			0	63991	302
			0	64305	324
			1	64462	335
			4	64464	336
			1	64524	338
			3	64876	344
			0	65002	347
			1	70185	370

Average Duplicate RPD =	4	%	Average LCS RPD =	2	%
Maximum Duplicate RPD =	15	%	Maximum LCS RPD =	16	%

Table As-7: Arsenic - Laboratory Duplicate and LCS Duplicate (Graph)



ARSENIC Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	K7	ES-K07-090924	ARSENIC	11.8	10/07/09	61842	Y	ES-K07-090924
East Site	K7	ES-K07-091123	ARSENIC	11	12/14/09	63602	Y	ES-K07-091123
East Site	L1	ES-L01-080625	ARSENIC	11.2	06/10/09	58208	Y	ES-L01-080625
East Site	L2	ES-L02-080625	ARSENIC	12.7	06/10/09	58208	Y	ES-L02-080625
East Site	L3	ES-L03-080604	ARSENIC	11	06/10/09	58208	Y	ES-L03-080604
East Site	L3	ES-L03-091104	ARSENIC	12.1	11/25/09	63248	Y	ES-L03-091104
East Site	L4	ES-L04-080604	ARSENIC	13	07/09/09	59250	Y	ES-L04-080604
East Site	L4	ES-L04-091104	ARSENIC	8.8	11/25/09	63248	Y	ES-L04-091104
East Site	L5	ES-L05-091104	ARSENIC	8	11/25/09	63248	Y	ES-L05-091104
East Site	L6	ES-L06-091104	ARSENIC	8.5	11/25/09	63248	Y	ES-L06-091104
East Site	M1	ES-M01-080527	ARSENIC	10.9	06/10/09	58208	Y	ES-M01-080527
East Site	M2	ES-M02-080519	ARSENIC	13.1	06/10/09	58208	Y	ES-M02-080519
East Site	M3	ES-M03-091022	ARSENIC	16.4	11/21/09	63164	Y	ES-M03-091022
East Site	M3	ES-M03-091228	ARSENIC	15.2	01/22/10	64305	Y	ES-M03-091228
East Site	M4	ES-M04-080515	ARSENIC	13.2	06/10/09	58208	Y	ES-M04-080515
East Site	M5	ES-M05-080527	ARSENIC	10.5	06/10/09	58208	Y	ES-M05-080527
East Site	M6	ES-M06-080520	ARSENIC	11.8	06/10/09	58208	Y	ES-M06-080520
East Site	M6	ES-M06-091105	ARSENIC	13.6	12/05/09	63416	Y	ES-M06-091105
East Site	M7	ES-M07-091105	ARSENIC	13	12/05/09	63416	Y	ES-M07-091105
East Site	M8	ES-M08-080610	ARSENIC	12.8	05/13/09	57603	Y	ES-M08-080610
East Site	M8	ES-M08-090924	ARSENIC	15.5	10/07/09	61842	Y	ES-M08-090924
East Site	M8	ES-M08-091123	ARSENIC	12.4	12/14/09	63602	Y	ES-M08-091123
East Site	M9	ES-M09-080611	ARSENIC	10.2	05/13/09	57603	Y	ES-M09-080611
East Site	N2	ES-N02-080528	ARSENIC	12.5	06/10/09	58208	Y	ES-N02-080528
East Site	N3	ES-N03-080520	ARSENIC	12.3	06/10/09	58208	Y	ES-N03-080520
East Site	N4	ES-N04-080519	ARSENIC	12.8	06/10/09	58208	Y	ES-N04-080519
East Site	N5	ES-N05-080519	ARSENIC	11.8	06/10/09	58208	Y	ES-N05-080519
East Site	N5	ES-N05-091105	ARSENIC	11.9	12/05/09	63416	Y	ES-N05-091105
East Site	N6	ES-N06-080527	ARSENIC	13.4	06/10/09	58236	Y	ES-N06-080527
East Site	N7	ES-N07-080530	ARSENIC	11.1	06/10/09	58236	Y	ES-N07-080530
East Site	N7	ES-N07-100225	ARSENIC	15.7	03/04/10	65002	Y	ES-N07-100225
East Site	N8	ES-N08-080610	ARSENIC	13.7	05/21/09	57603	Y	ES-N08-080610
East Site	N8	ES-N08-090924	ARSENIC	15.5	10/07/09	61842	Y	ES-N08-090924
East Site	N8	ES-N08-091124	ARSENIC	14.8	12/14/09	63602	Y	ES-N08-091124
East Site	N9	ES-N09-080610	ARSENIC	15.6	05/13/09	57603	Y	ES-N09-080610
East Site	N9	ES-N09-090924	ARSENIC	14.2	10/07/09	61842	Y	ES-N09-090924
East Site	N10	ES-N10-080610	ARSENIC	13.6	05/13/09	57603	Y	ES-N10-080610
East Site	O3	ES-O03-080528	ARSENIC	11.8	06/10/09	58236	Y	ES-O03-080528
East Site	O4	ES-O04-080515	ARSENIC	12.7	06/10/09	58236	Y	ES-O04-080515
East Site	O5	ES-O05-080520	ARSENIC	12.4	06/10/09	58236	Y	ES-O05-080520
East Site	O6	ES-O06-080529	ARSENIC	12.7	06/10/09	58236	Y	ES-O06-080529
East Site	O6	ES-O06-091105	ARSENIC	13.9	12/05/09	63416	Y	ES-O06-091105
East Site	O7	ES-O07-100225	ARSENIC	9.8	03/04/10	65002	Y	ES-O07-100225
East Site	O8	ES-O08-080530	ARSENIC	6.3	07/28/09	59840	Y	ES-O08-080530
East Site	O8	ES-O08-100225	ARSENIC	10.7	03/04/10	65002	Y	ES-O08-100225
East Site	O9	ES-O09-091014	ARSENIC	11.7	11/20/09	63163	Y	ES-O09-091014
East Site	O9	ES-O09-092309	ARSENIC	15.2	10/07/09	61842	Y	ES-O09-092309

ARSENIC Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	O10	ES-O10-091014	ARSENIC	14	11/20/09	63163	Y	ES-O10-091014
East Site	O10	ES-O10-091123	ARSENIC	12	12/14/09	63602	Y	ES-O10-091123
East Site	O10	ES-O10-092309	ARSENIC	16.4	10/07/09	61842	Y	ES-O10-092309
East Site	P4	ES-P04-080528	ARSENIC	11.8	06/04/09	57767	Y	DUP-16
East Site	P4	ES-P04-080528	ARSENIC	13.2	06/10/09	58236	Y	ES-P04-080528
East Site	P5	ES-P05-080513	ARSENIC	12.4	06/10/09	58236	Y	ES-P05-080513
East Site	P6	ES-P06-080515	ARSENIC	13.1	06/04/09	57767	Y	DUP-12
East Site	P6	ES-P06-080515	ARSENIC	13.8	06/10/09	58236	Y	ES-P06-080515
East Site	P7	ES-P07-080519	ARSENIC	13.1	06/10/09	58208	Y	ES-P07-080519
East Site	P7	ES-P07-091022	ARSENIC	14.9	11/21/09	63164	Y	ES-P07-091022
East Site	P8	ES-P08-080530	ARSENIC	11.2	06/10/09	58236	Y	ES-P08-080530
East Site	P10	ES-P10-080606	ARSENIC	12.8	05/13/09	57603	Y	ES-P10-080606
East Site	P10	ES-P10-091014	ARSENIC	13	11/20/09	63163	Y	ES-P10-091014
East Site	P10	ES-P10-092309	ARSENIC	14.8	10/07/09	61842	Y	ES-P10-092309
East Site	P11	ES-P11-080606	ARSENIC	12.1	05/13/09	57603	Y	ES-P11-080606
East Site	P11	ES-P11-092309	ARSENIC	15.2	10/07/09	61842	Y	ES-P11-092309
East Site	Q5	ES-Q05-080520	ARSENIC	12.9	06/10/09	58236	Y	ES-Q05-080520
East Site	Q5	ES-Q05-091105	ARSENIC	12.6	12/05/09	63416	Y	ES-Q05-091105
East Site	Q6	ES-Q06-091021	ARSENIC	16.3	11/21/09	63164	Y	ES-Q06-091021
East Site	Q7	ES-Q07-091021	ARSENIC	16.7	11/21/09	63164	Y	ES-Q07-091021
East Site	Q7	ES-Q07-091228	ARSENIC	14	01/22/10	64305	Y	ES-Q07-091228
East Site	Q8	ES-Q08-091021	ARSENIC	14.9	11/21/09	63164	Y	ES-Q08-091021
East Site	Q8	ES-Q08-091228	ARSENIC	15	01/22/10	64305	Y	ES-Q08-091228
East Site	Q9	ES-Q09-080612	ARSENIC	13.2	06/11/09	58236	Y	ES-Q09-080612
East Site	Q10	ES-Q10-080606	ARSENIC	14.5	05/20/09	57706	Y	ES-Q10-080606
East Site	Q10	ES-Q10-091123	ARSENIC	11.8	12/14/09	63602	Y	ES-Q10-091123
East Site	Q10	ES-Q10-092309	ARSENIC	15.3	10/07/09	61842	Y	ES-Q10-092309
East Site	Q11	ES-Q11-080606	ARSENIC	13.3	05/20/09	57706	Y	ES-Q11-080606
East Site	Q17	ES-Q17-080609	ARSENIC	12.5	04/29/09	57303	Y	ES-Q17-080609
East Site	R5	ES-R05-080521	ARSENIC	12.6	06/11/09	58236	Y	ES-R05-080521
East Site	R5	ES-R05-091105	ARSENIC	13.1	12/05/09	63416	Y	ES-R05-091105
East Site	R6	ES-R06-080521	ARSENIC	12.2	07/09/09	59250	Y	ES-R06-080521
East Site	R7	ES-R07-080521	ARSENIC	8.7	07/10/09	59251	Y	ES-R07-080521
East Site	R8	ES-R08-091021	ARSENIC	15.3	11/21/09	63164	Y	ES-R08-091021
East Site	R8	ES-R08-091021	ARSENIC	13	01/29/10	64462	Y	DUP-46
East Site	R9	ES-R09-080520	ARSENIC	7	07/10/09	59251	Y	ES-R09-080520
East Site	R10	ES-R10-080602	ARSENIC	10	07/09/09	59251	Y	ES-R10-080602
East Site	R11	ES-R11-080605	ARSENIC	12.9	05/20/09	57706	Y	ES-R11-080605
East Site	R11	ES-R11-090910	ARSENIC	15	09/22/09	61439	Y	ES-R11-090910
East Site	R11	ES-R11-090910	ARSENIC	14.9	11/20/09	63163	Y	DUP-38
East Site	R12	ES-R12-080611	ARSENIC	17.4	05/20/09	57706	Y	ES-R12-080611
East Site	R16	ES-R16-080605	ARSENIC	11	04/29/09	57303	Y	ES-R16-080605
East Site	R17	ES-R17-080606	ARSENIC	12.5	04/29/09	57303	Y	ES-R17-080606
East Site	S5	ES-S05-080521	ARSENIC	10.2	07/09/09	59251	Y	ES-S05-080521
East Site	S6	ES-S06-080521	ARSENIC	10.9	07/09/09	59251	Y	ES-S06-080521
East Site	S7	ES-S07-080521	ARSENIC	14.3	07/10/09	59251	Y	ES-S07-080521
East Site	S8	ES-S08-091015	ARSENIC	10.7	11/20/09	63163	Y	ES-S08-091015

ARSENIC Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	S9	ES-S09-080522	ARSENIC	10.2	07/09/09	59251	Y	ES-S09-080522
East Site	S10	ES-S10-080523	ARSENIC	9.3	07/09/09	59251	Y	ES-S10-080523
East Site	S11	ES-S11-080528	ARSENIC	9.6	07/09/09	59251	Y	ES-S11-080528
East Site	S12	ES-S12-080609	ARSENIC	13.5	04/29/09	57303	Y	ES-S12-080609
East Site	S13	ES-S13-080610	ARSENIC	12.6	04/29/09	57303	Y	ES-S13-080610
East Site	S17	ES-S17-090910	ARSENIC	14.6	09/21/09	61439	Y	ES-S17-090910
East Site	S17	ES-S17-090910	ARSENIC	15.9	10/07/09	61842	Y	DUP-37
East Site	S18	ES-S18-080606	ARSENIC	13.3	04/29/09	57303	Y	ES-S18-080606
None	None	ES-SB3-100901	ARSENIC	16.6	09/20/10	70185	Y	ES-SB3-100901
None	None	ES-SB5-100902	ARSENIC	14.4	09/20/10	70185	Y	ES-SB5-100902
None	None	ES-SB7-100901	ARSENIC	11.9	09/20/10	70185	Y	ES-SB7-100901
None	None	ES-SBA9-100902	ARSENIC	12.4	09/20/10	70185	Y	ES-SBA9-100902
None	None	ES-SBO07-10090	ARSENIC	12.9	09/20/10	70185	Y	ES-SBO07-100902
East Site	T7	ES-T07-080612	ARSENIC	10	07/09/09	59251	Y	ES-T07-080612
East Site	T8	ES-T08-080522	ARSENIC	11.1	06/11/09	58236	Y	DUP-13
East Site	T8	ES-T08-080522	ARSENIC	9.4	07/09/09	59251	Y	ES-T08-080522
East Site	T9	ES-T09-080522	ARSENIC	8.1	07/09/09	59251	Y	ES-T09-080522
East Site	T10	ES-T10-080523	ARSENIC	9.7	07/09/09	59251	Y	DUP-14
East Site	T10	ES-T10-080523	ARSENIC	9.7	07/09/09	59251	Y	ES-T10-080523
East Site	T10	ES-T10-091015	ARSENIC	8.7	11/20/09	63163	Y	ES-T10-091015
East Site	T11	ES-T11-080530	ARSENIC	10.6	07/09/09	59251	Y	ES-T11-080530
East Site	T12	ES-T12-080609	ARSENIC	12.3	04/29/09	57303	Y	ES-T12-080609
East Site	T13	ES-T13-080609	ARSENIC	12.9	04/29/09	57303	Y	ES-T13-080609
East Site	T14	ES-T14-080610	ARSENIC	10.3	04/29/09	57303	Y	ES-T14-080610
East Site	U10	ES-U10-080523	ARSENIC	9.9	07/09/09	59251	Y	ES-U10-080523
East Site	U11	ES-U11-080602	ARSENIC	8.7	07/09/09	59250	Y	ES-U11-080602
East Site	U13	ES-U13-080610	ARSENIC	9.2	05/13/09	57603	Y	ES-U13-080610
East Site	U14	ES-U14-080610	ARSENIC	10.1	05/13/09	57603	Y	ES-U14-080610
East Site	V11	ES-V11-080529	ARSENIC	10.7	07/09/09	59250	Y	ES-V11-080529
East Site	V14	ES-V14-080605	ARSENIC	8.3	05/13/09	57603	Y	ES-V14-080605
East Site	W12	ES-W12-080527	ARSENIC	5.9	07/09/09	59250	Y	ES-W12-080527
West Site	A4	WS-A04-080626	ARSENIC	12.8	07/23/09	59738	Y	WS-A04-080626
West Site	B2	WS-B02-100120	ARSENIC	9.7	02/04/10	64524	Y	WS-B02-100120
West Site	B3	WS-B03-080502	ARSENIC	16.2	07/23/09	59738	Y	WS-B03-080502
West Site	B4	WS-B04-080626	ARSENIC	10.7	07/23/09	59738	Y	WS-B04-080626
West Site	B5	WS-B05-080626	ARSENIC	11.4	07/28/09	59840	Y	WS-B05-080626
West Site	C1	WS-C01-080501	ARSENIC	6.6	07/09/09	59250	Y	WS-C01-080501
West Site	C1	WS-C01-080501	ARSENIC	6.8	07/09/09	59250	Y	DUP-3
West Site	C2	WS-C02-080428	ARSENIC	8.1	07/28/09	59841	Y	WS-C02-080428
West Site	C2	WS-C02-100120	ARSENIC	13.1	02/04/10	64524	Y	WS-C02-100120
West Site	C3	WS-C03-080620	ARSENIC	14.9	07/28/09	59841	Y	WS-C03-080620
West Site	C4	WS-C04-080623	ARSENIC	11.3	07/28/09	59841	Y	WS-C04-080623
West Site	C5	WS-C05-080620	ARSENIC	10.5	07/28/09	59840	Y	WS-C05-080620
West Site	C5	WS-C05-100112	ARSENIC	13.6	02/01/10	64464	Y	WS-C05-100112
West Site	C6	WS-C06-080624	ARSENIC	9.2	07/28/09	59840	Y	WS-C06-080624
West Site	C6	WS-C06-091013	ARSENIC	15.8	11/20/09	63163	Y	WS-C06-091013

ARSENIC Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	D1	WS-D01-080430	ARSENIC	7.4	07/09/09	59250	Y	WS-D01-080430
West Site	D2	WS-D02-080429	ARSENIC	11.6	07/23/09	59738	Y	DUP-2
West Site	D2	WS-D02-080429	ARSENIC	11.9	07/28/09	59841	Y	WS-D02-080429
West Site	D3	WS-D03-080620	ARSENIC	13.9	07/28/09	59841	Y	WS-D03-080620
West Site	D4	WS-D04-080623	ARSENIC	14.3	08/17/09	60446	Y	WS-D04-080623
West Site	D4	WS-D04-091230	ARSENIC	14.7	01/22/10	64305	Y	WS-D04-091230
West Site	D5	WS-D05-080620	ARSENIC	9	07/28/09	59840	Y	WS-D05-080620
West Site	D5	WS-D05-100111	ARSENIC	14.6	02/01/10	64464	Y	WS-D05-100111
West Site	D6	WS-D06-080619	ARSENIC	10	07/28/09	59840	Y	WS-D06-080619
West Site	D6	WS-D06-091013	ARSENIC	14.9	11/20/09	63163	Y	WS-D06-091013
West Site	D7	WS-D07-080619	ARSENIC	10	07/28/09	59840	Y	WS-D07-080619
West Site	D7	WS-D07-091013	ARSENIC	15.5	11/20/09	63163	Y	WS-D07-091013
West Site	E1	WS-E01-080430	ARSENIC	8.3	07/09/09	59250	Y	WS-E01-080430
West Site	E2	WS-E02-080428	ARSENIC	11.7	07/23/09	59738	Y	DUP-1
West Site	E2	WS-E02-080428	ARSENIC	13.7	07/28/09	59841	Y	WS-E02-080428
West Site	E2	WS-E02-100115	ARSENIC	14.6	02/04/10	64524	Y	WS-E02-100115
West Site	E3	WS-E03-080619	ARSENIC	14	07/28/09	59841	Y	WS-E03-080619
West Site	E4	WS-E04-080613	ARSENIC	12.3	07/28/09	59840	Y	WS-E04-080613
West Site	E4	WS-E04-091230	ARSENIC	13.9	01/22/10	64305	Y	WS-E04-091230
West Site	E5	WS-E05-080613	ARSENIC	9.9	07/28/09	59840	Y	WS-E05-080613
West Site	E5	WS-E05-100111	ARSENIC	14.3	02/01/10	64464	Y	WS-E05-100111
West Site	E6	WS-E06-080613	ARSENIC	10.9	07/28/09	59840	Y	WS-E06-080613
West Site	E6	WS-E06-091228	ARSENIC	15.4	01/22/10	64305	Y	WS-E06-091228
West Site	E7	WS-E07-080613	ARSENIC	9.8	07/28/09	59840	Y	WS-E07-080613
West Site	E7	WS-E07-091228	ARSENIC	16.5	01/22/10	64305	Y	WS-E07-091228
West Site	E8	WS-E08-091228	ARSENIC	15.4	01/22/10	64305	Y	WS-E08-091228
West Site	F1	WS-F01-080429	ARSENIC	11	07/09/09	59250	Y	WS-F01-080429
West Site	F1	WS-F01-100115	ARSENIC	13	02/04/10	64524	Y	WS-F01-100115
West Site	F2	WS-F02-080429	ARSENIC	12.8	07/28/09	59841	Y	WS-F02-080429
West Site	F2	WS-F02-100115	ARSENIC	13.8	02/03/10	64524	Y	WS-F02-100115
West Site	F3	WS-F03-080619	ARSENIC	13.4	07/28/09	59841	Y	WS-F03-080619
West Site	F3	WS-F03-100115	ARSENIC	13	02/03/10	64524	Y	WS-F03-100115
West Site	F4	WS-F04-080616	ARSENIC	13.7	08/07/09	60228	Y	WS-F04-080616
West Site	F4	WS-F04-091230	ARSENIC	15.2	01/22/10	64305	Y	WS-F04-091230
West Site	F5	WS-F05-080612	ARSENIC	12.1	08/17/09	60446	Y	WS-F05-080612
West Site	F5	WS-F05-100111	ARSENIC	14	02/01/10	64464	Y	WS-F05-100111
West Site	F6	WS-F06-080612	ARSENIC	15.9	08/07/09	60228	Y	WS-F06-080612
West Site	F6	WS-F06-091228	ARSENIC	16.7	01/22/10	64305	Y	WS-F06-091228
West Site	F7	WS-F07-080617	ARSENIC	11.9	07/14/09	59472	Y	WS-F07-080617
West Site	F8	WS-F08-080618	ARSENIC	9.7	07/14/09	59472	Y	WS-F08-080618
West Site	G1	WS-G01-080501	ARSENIC	11.3	07/09/09	59250	Y	DUP-4
West Site	G1	WS-G01-080501	ARSENIC	10.8	07/14/09	59472	Y	WS-G01-080501
West Site	G1	WS-G01-100113	ARSENIC	12.3	02/01/10	64464	Y	WS-G01-100113
West Site	G1	WS-G01-100223	ARSENIC	10.3	03/04/10	65002	Y	WS-G01-100223

ARSENIC Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	G2	WS-G02-080618	ARSENIC	15	07/28/09	59841	Y	WS-G02-080618
West Site	G2	WS-G02-100113	ARSENIC	13.9	02/01/10	64464	Y	WS-G02-100113
West Site	G3	WS-G03-080619	ARSENIC	13.9	07/28/09	59841	Y	WS-G03-080619
West Site	G4	WS-G04-080616	ARSENIC	13.4	08/07/09	60228	Y	WS-G04-080616
West Site	G5	WS-G05-100108	ARSENIC	14.3	01/29/10	64462	Y	WS-G05-100108
West Site	G5	WS-G05-100223	ARSENIC	13.1	03/04/10	65002	Y	WS-G05-100223
West Site	G6	WS-G06-080616	ARSENIC	13.7	08/07/09	60228	Y	WS-G06-080616
West Site	G6	WS-G06-100107	ARSENIC	14.2	01/29/10	64462	Y	WS-G06-100107
West Site	G7	WS-G07-080617	ARSENIC	9.2	07/14/09	59472	Y	WS-G07-080617
West Site	G7	WS-G07-100105	ARSENIC	12.4	01/29/10	64462	Y	WS-G07-100105
West Site	H1	WS-H01-080501	ARSENIC	10.8	07/14/09	59472	Y	WS-H01-080501
West Site	H2	WS-H02-080618	ARSENIC	12.5	07/28/09	59841	Y	WS-H02-080618
West Site	H2	WS-H02-100113	ARSENIC	14.6	02/01/10	64464	Y	WS-H02-100113
West Site	H3	WS-H03-080619	ARSENIC	12.4	08/07/09	60228	Y	WS-H03-080619
West Site	H4	WS-H04-080616	ARSENIC	13.8	08/07/09	60228	Y	WS-H04-080616
West Site	H5	WS-H05-100107	ARSENIC	14.5	01/29/10	64462	Y	WS-H05-100107
West Site	H6	WS-H06-080617	ARSENIC	11.8	07/14/09	59472	Y	WS-H06-080617
West Site	I1	WS-I01-080501	ARSENIC	9.3	07/14/09	59472	Y	WS-I01-080501
West Site	I1	WS-I01-080501	ARSENIC	9.4	07/14/09	59472	Y	DUP-5
West Site	I1	WS-I01-091013	ARSENIC	8.8	11/20/09	63163	Y	WS-I01-091013
West Site	I2	WS-I02-080618	ARSENIC	8.3	07/28/09	59840	Y	WS-I02-080618
West Site	I2	WS-I02-091014	ARSENIC	15.4	11/20/09	63163	Y	WS-I02-091014
West Site	I2	WS-I02-100113	ARSENIC	15.6	02/01/10	64464	Y	WS-I02-100113
West Site	I3	WS-I03-080618	ARSENIC	13.1	08/07/09	60228	Y	WS-I03-080618
West Site	I3	WS-I03-091013	ARSENIC	14.6	11/20/09	63163	Y	WS-I03-091013
West Site	I3	WS-I03-100113	ARSENIC	13.2	02/01/10	64464	Y	WS-I03-100113
West Site	I4	WS-I04-080617	ARSENIC	13.4	08/07/09	60228	Y	WS-I04-080617
West Site	I4	WS-I04-100106	ARSENIC	12.8	01/29/10	64462	Y	WS-I04-100106
West Site	I5	WS-I05-080617	ARSENIC	11.5	07/14/09	59472	Y	WS-I05-080617
West Site	I5	WS-I05-091013	ARSENIC	14.2	11/20/09	63163	Y	WS-I05-091013
West Site	I5	WS-I05-100107	ARSENIC	14.8	01/29/10	64462	Y	WS-I05-100107
West Site	I6	WS-I06-080617	ARSENIC	8.9	07/14/09	59472	Y	WS-I06-080617
West Site	I6	WS-I06-100105	ARSENIC	11.7	01/29/10	64462	Y	WS-I06-100105
West Site	J1	WS-J01-080505	ARSENIC	9.1	07/14/09	59472	Y	WS-J01-080505
West Site	J1	WS-J01-080505	ARSENIC	9	07/14/09	59472	Y	DUP-6
West Site	J1	WS-J01-091013	ARSENIC	9.4	11/20/09	63163	Y	WS-J01-091013
West Site	J1	WS-J01-100112	ARSENIC	12.9	02/01/10	64464	Y	WS-J01-100112
West Site	J2	WS-J02-080624	ARSENIC	12.2	07/14/09	59472	Y	WS-J02-080624
West Site	J2	WS-J02-100112	ARSENIC	13.1	02/01/10	64464	Y	WS-J02-100112
West Site	J3	WS-J03-080620	ARSENIC	12.8	07/14/09	59473	Y	WS-J03-080620
West Site	J4	WS-J04-080617	ARSENIC	11.2	07/14/09	59473	Y	WS-J04-080617
West Site	J4	WS-J04-100106	ARSENIC	14.1	01/29/10	64462	Y	WS-J04-100106
West Site	J5	WS-J05-080618	ARSENIC	10.8	07/14/09	59473	Y	WS-J05-080618
West Site	K1	WS-K01-080505	ARSENIC	8.7	07/14/09	59473	Y	WS-K01-080505

ARSENIC Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	K1	WS-K01-091013	ARSENIC	9.9	11/20/09	63163	Y	WS-K01-091013
West Site	K2	WS-K02-080509	ARSENIC	11.3	07/14/09	59473	Y	WS-K02-080509
West Site	K3	WS-K03-080509	ARSENIC	10	07/14/09	59473	Y	WS-K03-080509
West Site	K4	WS-K04-080513	ARSENIC	10.2	07/14/09	59473	Y	WS-K04-080513
West Site	K4	WS-K04-080513	ARSENIC	8.2	07/28/09	59840	Y	DUP-10
West Site	K4	WS-K04-100106	ARSENIC	14.3	01/29/10	64462	Y	WS-K04-100106
West Site	K5	WS-K05-080509	ARSENIC	9.6	07/14/09	59473	Y	WS-K05-080509
West Site	L1	WS-L01-080505	ARSENIC	10.4	07/14/09	59473	Y	WS-L01-080505
West Site	L2	WS-L02-080508	ARSENIC	10.2	07/14/09	59473	Y	WS-L02-080508
West Site	L3	WS-L03-080508	ARSENIC	8.4	07/14/09	59473	Y	WS-L03-080508
West Site	L4	WS-L04-080508	ARSENIC	13.9	07/14/09	59473	Y	WS-L04-080508
West Site	L4	WS-L04-080508	ARSENIC	13.1	07/15/09	59473	Y	DUP-9
West Site	M1	WS-M01-080505	ARSENIC	10.1	07/15/09	59473	Y	DUP-7
West Site	M1	WS-M01-080505	ARSENIC	9.4	07/15/09	59473	Y	WS-M01-080505
West Site	M2	WS-M02-080507	ARSENIC	8.6	07/28/09	59840	Y	WS-M02-080507
West Site	M3	WS-M03-080507	ARSENIC	9.4	07/28/09	59841	Y	DUP-8
West Site	M3	WS-M03-080507	ARSENIC	7.9	08/07/09	60229	Y	WS-M03-080507
West Site	M3	WS-M03-091217	ARSENIC	8.7	01/05/10	63991	Y	WS-M03-091217
West Site	M3	WS-M03-091217	ARSENIC	11.1	03/04/10	65002	Y	DUP-48
West Site	M4	WS-M04-080507	ARSENIC	6.6	08/07/09	60229	Y	WS-M04-080507
West Site	M4	WS-M04-091218	ARSENIC	10.1	01/05/10	63991	Y	WS-M04-091218
West Site	M4	WS-M04-091218	ARSENIC	10.7	01/22/10	64305	Y	DUP-44
West Site	N1	WS-N01-080506	ARSENIC	9.4	08/07/09	60229	Y	WS-N01-080506
West Site	N2	WS-N02-080506	ARSENIC	10.9	07/22/09	59738	Y	WS-N02-080506
West Site	N3	WS-N03-080507	ARSENIC	8.1	07/14/09	59472	Y	WS-N03-080507
West Site	O1	WS-O01-080506	ARSENIC	9.4	07/23/09	59738	Y	WS-O01-080506
West Site	O2	WS-O02-080506	ARSENIC	7.9	07/23/09	59738	Y	WS-O02-080506

Table Ba-1: Barium Data Quality Summary

Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	86%	
Minimum Matrix Spike Recovery	greater than 70%	74%	
Average LCS Recovery	N/A	94%	
Average Matrix Spike Recovery	N/A	94%	
Maximum LCS RPD	less than 20%	15%	
Maximum Laboratory Duplicate RPD	less than 20%	21%	
Average LCS RPD	N/A	3%	
Average Laboratory Duplicate RPD	N/A	6%	
Measurement Quality Objectives	**Critera**	**Measured**	
NPS CRM	Recovery greater than 339 r	Minimum Recovery =	352.0 mg/kg
EQIS CRM	N/A	See Note 1	
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	52.2 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	12.95 %
Overall QC Indicator Measurements	**Criteria**	**Measured**	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	91.5 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	10.53 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal		210 mg/kg	
Tier 2 Remediation Goal		220 mg/kg	
QC Derived reliance Level		233 mg/kg See Note 2	

Comments: Barium QC measurements attained all laboratory performance criteria and measurement performance criteria, except for a single occurrence of the maximum laboratory duplicate RPD (21%) exceeding the laboratory performance criteria (20%). As desired, the calculated reliance level (235 mg/kg) is greater than the RGs, reflecting generally good precision and accuracy in barium measurements. Therefore, it is concluded that barium CVS measurements are of acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group. Barium is not one of these analytes.

Note 2. Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (220)(1.2)(.915)-(0.84)(10.53) = 233

Table Ba-2: Barium - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	391	5/3/09	57225	Y
BOR SAMPLE 6-BOR 81	365	5/4/09	57431	Y
BOR Sample 4-BOR 82	365	5/6/09	57448	Y
BOR 83	380	5/27/09	57791	Y
BOR Sample 3-BOR 58	373	5/27/09	57791	Y
BOR 84	409	5/28/09	57849	Y
BOR Sample 7-BOR 105	420	5/28/09	57849	Y
BOR 85	352	6/5/09	58138	Y
BOR Sample 8-BOR 106	365	6/5/09	58138	Y
BOR 86	371	6/11/09	58214	Y
BOR 108	378	6/22/09	58564	Y
BOR 87	389	6/22/09	58564	Y
BOR 109	417	6/30/09	58730	Y
BOR 110	402	7/13/09	59383	Y
BOR Sample 9-BOR 107	401	7/24/09	59759	Y
BOR 111	369	7/30/09	59891	Y

CRMs		Vendor Supplied Information
Mean	384.2	*"Made to"*
Median	379.0	*420 mg/kg*
Standard Deviation	20.6	
Sample Variance	424.7	*Upper Acceptance Limit*
Kurtosis	-1.0	*471 mg/kg*
Skewness	0.4	
Range	68.0	*Lower Acceptance Limit*
Minimum	352.0	*339 mg/kg*
Maximum	420.0	
Sum	6147.0	
Count	16.0	
Largest(2)	417.0	
Smallest(2)	365.0	

Table Ba-3: Barium- NPS Replicate Test on Background Sample

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	101	5/4/09	57225	Y
BOR 59	83.3	5/4/09	57431	Y
BOR 60	80.5	5/6/09	57448	Y
BOR 113	81.8	5/27/09	57791	Y
BOR 61	78.7	5/27/09	57791	Y
BOR 62	82	6/11/09	58214	Y
BOR 63	78.3	6/22/09	58564	Y
BOR 89	80.9	6/22/09	58564	Y
BOR 115	91	6/30/09	58730	Y
BOR 64	86.3	7/8/09	59166	Y
BOR 91	84.7	7/8/09	59166	Y
BOR 116	86.1	7/13/09	59383	Y
BOR 92	89.5	7/13/09	59383	Y
BOR 65	84.5	7/24/09	59622	Y
BOR 88	78.3	7/30/09	59891	Y
BOR 800	93.3	9/25/09	61416	Y
BOR-802	88.2	10/6/09	61792	Y
BOR 804	92.1	10/29/09	62500	Y
BOR-805	75.8	11/18/09	62993	Y
BOR-807	88.3	11/25/09	63217	Y
BOR-808	76.6	12/7/09	63407	Y
BOR 813	78.5	1/20/10	64130	Y
BOR 815	78	1/20/10	64208	Y
BOR-816	127	1/26/10	64335	Y
BOR-820	80.4	3/5/10	65038	Y

Replicate analyses of Single Sample	
Mean	85.804
Median	83.300
Standard Deviation	10.528
Sample Variance	110.835
Kurtosis	9.546
Skewness	2.713
Range	51.200
Minimum	75.800
Maximum	127.000
Sum	2145.100
Count	25.000
Largest(2)	101.000
Smallest(2)	76.600

Table Ba-4: Barium NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	91.7	5/4/09	57431	ES-T11-080530	82.3	6/11/2009	11
BOR 506	79.9	5/6/09	57448	ES-S10-080523	82.6	6/11/2009	3
BOR 504	88.6	5/27/09	57791	ES-M05-080527	88.8	5/28/2009	0
BOR 507	74	6/5/09	58138	ES-O09-080610			
BOR 508	98.6	6/22/09	58564	ES-Q11-080606	99.5	5/6/2009	1
BOR 510	73.4	6/30/09	58730	OU-8HR-080605	68.1	5/3/2009	7
BOR 501	92	7/8/09	59166	WS-L04-080508	93.6	7/8/2009	2
BOR 505	68.8	7/24/09	59622	WS-K03-080509	79.8	7/8/2009	15
BOR 502	70.4	7/24/09	59759	WS-F05-080612	65	8/18/2009	8
BOR 509	101	7/24/09	59759	WS-E06-080613	99.1	7/24/2009	2
BOR 500	77.3	7/30/09	59891	WS-F01-080429	78.8	6/22/2009	2
BOR-809	83.2	12/14/09	63530	ES-K03-091103	95.1	11/25/2009	13
BOR-810	89.5	12/14/09	63530	ES-P07-091022	84.4	11/18/2009	6
BOR-811	108	12/14/09	63530	ES-R08-091021	106	11/18/2009	2
BOR 814	141	1/20/10	64130	ES-J05-091124	82.6	12/14/2009	52
BOR-818	108	3/5/10	65038	WS-F05-100111	123	1/26/2010	13
BOR-822	88	3/5/10	65038	ES-Q08-091228	106	1/20/2010	19
DUP-11	56.4	5/3/09	57101	ES-J03-080513	58.6	6/22/2009	4
DUP-17	75.8	5/4/09	57431	ES-F01-080529	80.1	5/6/2009	6
DUP-15	95.4	5/6/09	57448	ES-J02-080527	105	5/27/2009	10
DUP-18	60.6	5/6/09	57448	ES-J04-080530	64.1	5/27/2009	6
DUP-12	113	5/27/09	57791	ES-P06-080515	102	6/5/2009	10
DUP-16	66.2	5/27/09	57791	ES-P04-080528	68.3	6/5/2009	3
DUP-19	62.7	5/28/09	57849	ES-K05-080605	63.1	5/28/2009	1
DUP-13	63.4	6/5/09	58138	ES-T08-080522	66.1	6/11/2009	4
DUP-14	74	6/11/09	58214	ES-T10-080523	74.9	6/11/2009	1
DUP-3	77.6	6/22/09	58564	WS-C01-080501	80.3	6/22/2009	3
DUP-4	89.1	6/22/09	58564	WS-G01-080501	89.4	6/30/2009	0
DUP-5	76.4	6/30/09	58730	WS-I01-080501	81.6	6/30/2009	7
DUP-6	100	6/30/09	58730	WS-J01-080505	101	6/30/2009	1
DUP-7	95	7/8/09	59166	WS-M01-080505	94.8	7/8/2009	0
DUP-9	93.6	7/8/09	59166	WS-L04-080508	93.6	7/8/2009	0
DUP-1	87.7	7/13/09	59383	WS-E02-080428	91.7	7/24/2009	4
DUP-2	110	7/13/09	59383	WS-D02-080429	108	7/24/2009	2
DUP-8	58	7/24/09	59622	WS-M03-080507	50.3	8/11/2009	14
DUP-10	65.5	7/24/09	59759	WS-K04-080513	72.2	7/8/2009	10
DUP-37	89.5	10/6/09	61792	ES-S17-090910	105	9/25/2009	16
DUP-38	107	10/29/09	62500	ES-R11-090910	106	9/25/2009	1
DUP-40	93.4	11/18/09	62993	ES-A01-102109			
DUP-39	84.7	12/7/09	63407	ES-C01-090910	82.8	9/25/2009	2
DUP-44	45	1/20/10	64130	WS-M04-091218	47.1	1/6/2010	5
DUP-45	90.2	1/20/10	64130	ES-J05-091124	82.6	12/14/2009	9
DUP-46	115	1/20/10	64208	ES-R08-091021	106	11/18/2009	8
DUP-47	110	1/26/10	64335	ES-K02-091103	108	11/25/2009	2
DUP-48	52.6	3/5/10	65038	WS-M03-091217	57.6	1/6/2010	9

Table Ba-4: Barium NPS and EQIS Duplicates (continued)

RPD of Sample Splits	
Mean	6.818
Median	4.459
Standard Deviation	8.626
Sample Variance	74.407
Kurtosis	18.158
Skewness	3.674
Range	52.236
Minimum	0.000
Maximum	52.236
Sum	293.194
Count	43.000
Largest(2)	18.557
Smallest(2)	0.211

Table Ba-5: Barium EQIS CRMs						
Results of Duplicate Analysis of EQIS CRMs						
Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	441	5/3/09	57101	Y		
ES-Z11-080605B	411	5/3/09	57101	Y	426	7.0
ES-Z09-080529A	422	5/4/09	57431	Y		
ES-Z09-080529B	425	5/4/09	57431	Y	423.5	0.7
ES-Z12-080606A	417	5/4/09	57431	Y		
ES-Z12-080606B	436	5/4/09	57431	Y	426.5	4.5
ES-Z05-080519A	422	5/6/09	57448	Y		
ES-Z05-080519B	408	5/6/09	57448	Y	415	3.4
ES-Z06-080520A	408	5/6/09	57448	Y		
ES-Z06-080520B	397	5/6/09	57448	Y	402.5	2.7
ES-Z07-080522A	445	5/27/09	57791	Y		
ES-Z07-080522B	440	5/27/09	57791	Y	442.5	1.1
ES-Z13-080610A	447	5/28/09	57849	Y		
ES-Z13-080610B	418	5/28/09	57849	Y	432.5	6.7
ES-Z10-080602A	399	6/5/09	58138	Y		
ES-Z10-080602B	400	6/5/09	58138	Y	399.5	0.3
ES-Z08-080527A	424	6/11/09	58214	Y		
ES-Z08-080527B	430	6/11/09	58214	Y	427	1.4
ES-Z14-080611A	465	6/22/09	58564	Y		
ES-Z14-080611B	436	6/22/09	58564	Y	450.5	6.4
ES-Z06-080520C	498	6/30/09	58730	Y		
ES-Z06-080520D	489	6/30/09	58730	Y	493.5	1.8
ES-Z05-080519C	449	7/8/09	59166	Y		
ES-Z05-080519D	403	7/8/09	59166	Y	426	10.8
ES-Z19-080624A	478	7/13/09	59383	Y		
ES-Z19-080624B	482	7/13/09	59383	Y	480	0.8
WS-Z17-080618A	473	7/13/09	59383	Y		
WS-Z17-080618B	480	7/13/09	59383	Y	476.5	1.5
WS-Z15-080613A	471	7/24/09	59622	Y		
WS-Z15-080613B	472	7/24/09	59622	Y	471.5	0.2
WS-Z18-080620A	463	7/24/09	59622	Y		
WS-Z18-080620B	456	7/24/09	59622	Y	459.5	1.5
WS-Z16-080617A	433	7/30/09	59891	Y		
WS-Z16-080617B	*441*	7/30/09	59891	Y	437	1.8
ES-Z22-091021A	407	11/18/09	62993	Y		
ES-Z22-091021B	414	11/18/09	62993	Y	410.5	1.7
ES-Z23-091022A	412	11/18/09	62993	Y		
ES-Z23-091022B	406	11/18/09	62993	Y	409	1.5
ES-Z24-091103A	464	11/25/09	63217	Y		
ES-Z24-091103B	452	11/25/09	63217	Y	458	2.6
ES-Z25-091104A	450	11/25/09	63217	Y		
ES-Z25-091104B	440	11/25/09	63217	Y	445	2.2
ES-Z26-091105A	428	12/7/09	63407	Y		
ES-Z26-091105B	392	12/7/09	63407	Y	410	8.8
ES-Z27-091106A	417	12/7/09	63407	Y		
ES-Z27-091106B	427	12/7/09	63407	Y	422	2.4
WS-Z29-091217A	451	1/6/10	63972	Y		
WS-Z29-091217B	457	1/6/10	63972	Y	454	1.3
WS-Z30-091230A	419	1/20/10	64130	Y		
WS-Z30-091230B	477	1/20/10	64130	Y	448	12.9
WS-Z31-100107A	436	1/20/10	64208	Y		
WS-Z31-100107B	455	1/20/10	64208	Y	445.5	4.3

Table Ba-5: Barium EQIS CRMs (continued)

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
WS-Z32-100113A	458	1/26/10	64335	Y		
WS-Z32-100113B	464	1/26/10	64335	Y	461	1.3
ES-Z33-100225A	472	3/5/10	65038	Y		
ES-Z33-100225B	463	3/5/10	65038	Y	467.5	1.9

Analysis of EQIS CRMs	
Mean	440
Median	440
Standard Deviation	27
Sample Variance	718
Kurtosis	-1
Skewness	0
Range	106
Minimum	392
Maximum	498
Sum	24640
Count	56
Largest(2)	489
Smallest(2)	397

RPD of EQIS CRMs	
Mean	3
Median	2
Standard Deviation	3
Sample Variance	11
Kurtosis	2
Skewness	2
Range	13
Minimum	0
Maximum	13
Sum	94
Count	28
Largest(2)	11
Smallest(2)	0

Table Ba-6: Barium Laboratory MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
113	7160081	4	99	7160081	4
103	49187	7	98	49187	7
104	49189	8	94	49189	8
114	49537	28	108	49537	28
119	49539	30	107	49539	30
103	54626-627	68	98	54626-627	68
95	54821-822	71	95	54821-822	71
97	54891-892	77	95	54891-892	77
104	54915-916	78	99	54915-916	78
89	57101	113	94	57101	113
93	57225	115	96	57225	115
92	57448	120	93	57448	120
87	57791	140	88	57791	140
87	57849	141	93	57849	141
86	58138	143	87	58138	143
93	58214	155	91	58214	155
91	58564	161	89	58564	161
105	58730	169	100	58730	169
88	59166	173	86	59166	173
103	59383	182	103	59383	182
102	59622	194	99	59622	194
98	59759	197	94	59759	197
91	59891	206	91	59891	206
102	60090	218	93	60090	218
97	60441	222	91	60441	222
90	61416	247	91	61416	247
97	61792	253	103	61792	253
103	62500	260	103	62500	260
91	62756	266	97	62756	266
83	62993	272	88	62993	272
91	63217	282	99	63217	282
87	63407	289	88	63407	289
91	63407	289	88	63407	289
90	63530	292	94	63530	292
86	63972	304	91	63972	304
90	64130	322	89	64130	322
90	64130	322	89	64130	322
80	64208	320	87	64208	320
83	64335	329	89	64335	329
83	64335	329	89	64335	329
89	64437	342	92	64437	342
93	65038	350	100	65038	350
93	65038	350	100	65038	350
74	70144	368	90	70144	368
Average MS Recovery = 94 %			Average LCS Recovery = 94 %		
Minimum MS Recovery = 74 %			Minimum LCS Recovery = 86 %		

Table Ba-6: Barium Laboratory MS and LCS (Graph)

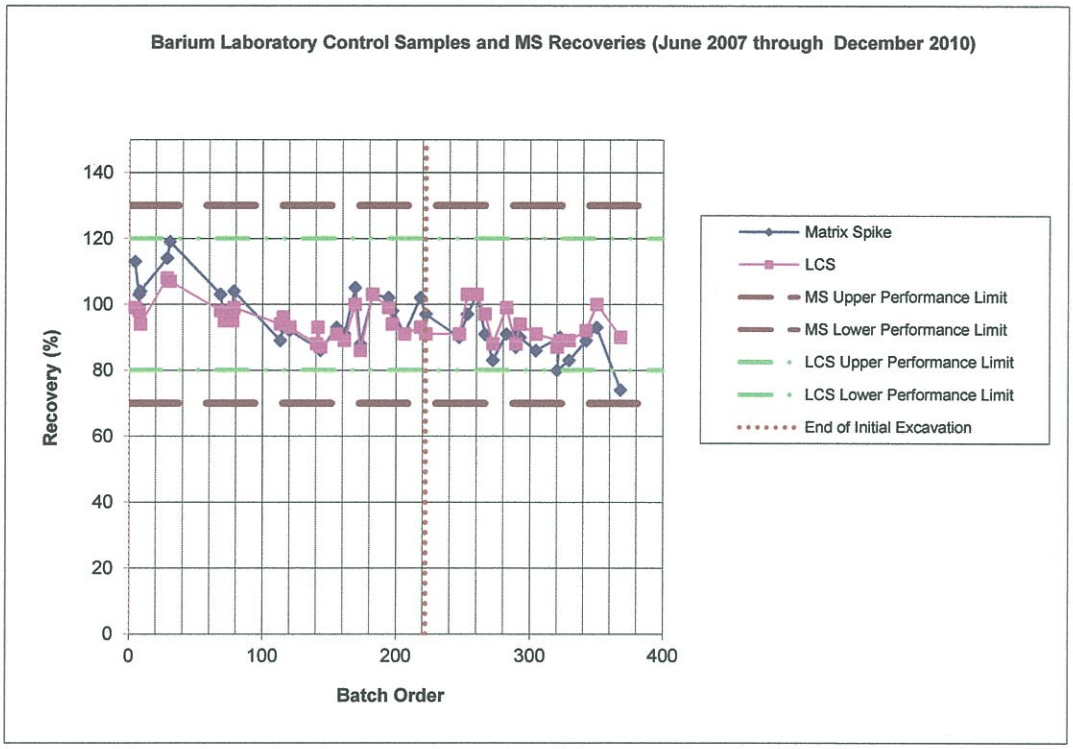
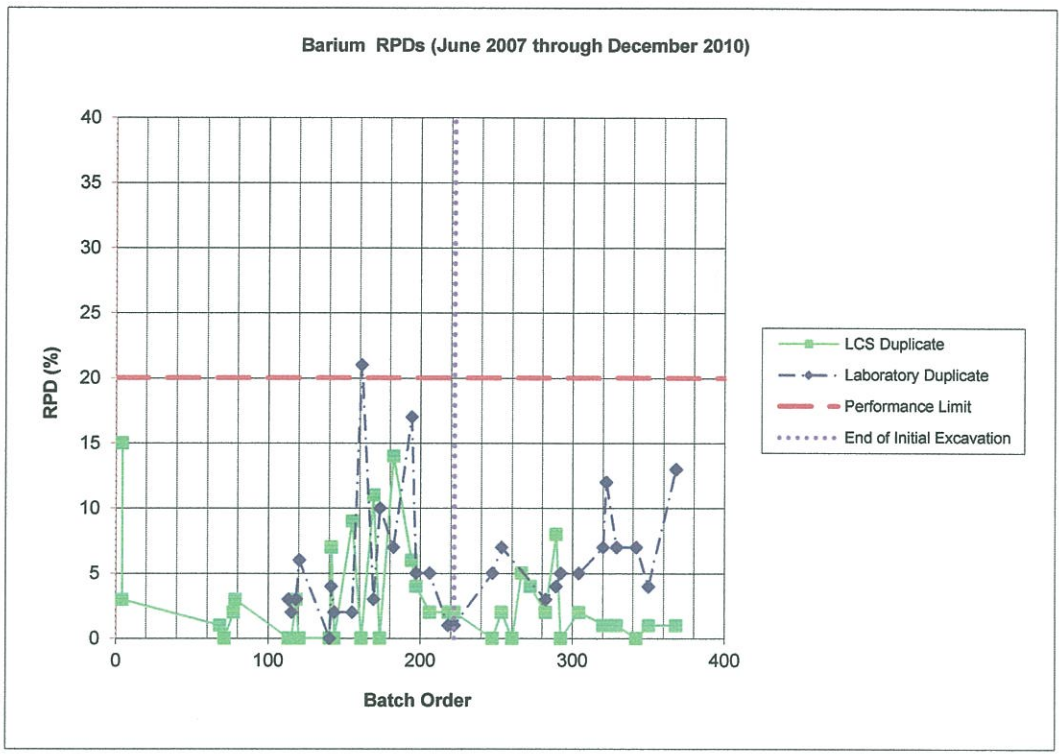


Table Ba-7: Barium - Laboratory Duplicates and LCS Duplicates

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
3	57101	113	15	7160081	4
2	57225	115	3	7160081	4
3	57431	118	1	54626-627	68
3	57431	118	0	54821-822	71
6	57448	120	2	54891-892	77
0	57791	140	3	54915-916	78
4	57849	141	0	57101	113
2	58138	143	0	57225	115
2	58214	155	3	57431	118
21	58564	161	0	57448	120
3	58730	169	0	57791	140
10	59166	173	7	57849	141
7	59383	182	0	58138	143
17	59622	194	9	58214	155
5	59759	197	0	58564	161
5	59891	206	11	58730	169
1	60090	218	0	59166	173
1	60441	222	14	59383	182
5	61416	247	6	59622	194
7	61792	253	4	59759	197
3	63217	282	2	59891	206
4	63407	289	2	60090	218
5	63530	292	2	60441	222
5	63972	304	0	61416	247
7	64208	320	2	61792	253
12	64130	322	0	62500	260
12	64130	322	5	62756	266
12	64130	322	4	62993	272
12	64130	322	2	63217	282
7	64335	329	8	63407	289
7	64335	329	8	63407	289
7	64335	329	0	63530	292
7	64335	329	2	63972	304
7	64437	342	1	64130	322
4	65038	350	1	64130	322
4	65038	350	1	64208	320
4	65038	350	1	64335	329
4	65038	350	1	64335	329
13	70144	368	0	64437	342
			1	65038	350
			1	65038	350
			1	70144	368

Average Duplicate RPD =	6	%	Average LCS RPD =	3	%
Maximum Duplicate RPD =	21	%	Maximum LCS RPD =	15	%

Table Ba-7: Barium - Laboratory Duplicates and LCS Duplicates (Graph)



BARIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	A1	ES-A01-090910	BARIUM	101	09/25/09	61416	Y	ES-A01-090910
East Site	A1	ES-A01-102109	BARIUM	93.4	11/18/09	62993	Y	DUP-40
East Site	B1	ES-B01-080623	BARIUM	97.8	05/03/09	57101	Y	ES-B01-080623
East Site	C1	ES-C01-080624	BARIUM	80.4	05/03/09	57101	Y	ES-C01-080624
East Site	C1	ES-C01-090910	BARIUM	82.8	09/25/09	61416	Y	ES-C01-090910
East Site	C1	ES-C01-090910	BARIUM	84.7	12/07/09	63407	Y	DUP-39
East Site	D1	ES-D01-080624	BARIUM	91	06/05/09	58138	Y	ES-D01-080624
East Site	E1	ES-E01-090910	BARIUM	66.2	09/25/09	61416	Y	ES-E01-090910
East Site	E2	ES-E02-090910	BARIUM	101	09/25/09	61416	Y	ES-E02-090910
East Site	F1	ES-F01-080529	BARIUM	75.8	05/04/09	57431	Y	DUP-17
East Site	F1	ES-F01-080529	BARIUM	80.1	05/06/09	57448	Y	ES-F01-080529
East Site	G1	ES-G01-080529	BARIUM	61.3	05/06/09	57448	Y	ES-G01-080529
East Site	G2	ES-G02-080605	BARIUM	67.2	05/06/09	57448	Y	ES-G02-080605
East Site	H1	ES-H01-080528	BARIUM	67.6	05/06/09	57448	Y	ES-H01-080528
East Site	H1	ES-H01-091105	BARIUM	79.3	12/07/09	63407	Y	ES-H01-091105
East Site	H2	ES-H02-080515	BARIUM	70.2	05/06/09	57448	Y	ES-H02-080515
East Site	H3	ES-H03-080605	BARIUM	66.6	05/27/09	57791	Y	ES-H03-080605
East Site	I1	ES-I01-080529	BARIUM	81.9	05/27/09	57791	Y	ES-I01-080529
East Site	I1	ES-I01-091105	BARIUM	87.2	12/07/09	63407	Y	ES-I01-091105
East Site	I2	ES-I02-080514	BARIUM	84.6	05/27/09	57791	Y	ES-I02-080514
East Site	I3	ES-I03-080513	BARIUM	62	05/27/09	57791	Y	ES-I03-080513
East Site	I4	ES-I04-080602	BARIUM	72.6	05/27/09	57791	Y	ES-I04-080602
East Site	I4	ES-I04-091106	BARIUM	61	12/07/09	63407	Y	ES-I04-091106
East Site	J1	ES-J01-080529	BARIUM	99.4	05/27/09	57791	Y	ES-J01-080529
East Site	J2	ES-J02-080527	BARIUM	95.4	05/06/09	57448	Y	DUP-15
East Site	J2	ES-J02-080527	BARIUM	105	05/27/09	57791	Y	ES-J02-080527
East Site	J2	ES-J02-091105	BARIUM	91.6	12/07/09	63407	Y	ES-J02-091105
East Site	J3	ES-J03-080513	BARIUM	56.4	05/03/09	57101	Y	DUP-11
East Site	J3	ES-J03-080513	BARIUM	58.6	06/22/09	58564	Y	ES-J03-080513
East Site	J3	ES-J03-091103	BARIUM	76.9	11/25/09	63217	Y	ES-J03-091103
East Site	J4	ES-J04-080530	BARIUM	60.6	05/06/09	57448	Y	DUP-18
East Site	J4	ES-J04-080530	BARIUM	64.1	05/27/09	57791	Y	ES-J04-080530
East Site	J4	ES-J04-091103	BARIUM	106	11/25/09	63217	Y	ES-J04-091103
East Site	J5	ES-J05-080602	BARIUM	77.4	05/27/09	57791	Y	ES-J05-080602
East Site	J5	ES-J05-091124	BARIUM	82.6	12/14/09	63530	Y	ES-J05-091124
East Site	J5	ES-J05-091124	BARIUM	90.2	01/20/10	64130	Y	DUP-45
East Site	J5	ES-J05-100112	BARIUM	94.8	01/26/10	64335	Y	ES-J05-100112
East Site	K1	ES-K01-080602	BARIUM	65	05/27/09	57791	Y	ES-K01-080602
East Site	K2	ES-K02-080602	BARIUM	78.6	05/06/09	57448	Y	ES-K02-080602
East Site	K2	ES-K02-091103	BARIUM	108	11/25/09	63217	Y	ES-K02-091103
East Site	K2	ES-K02-091103	BARIUM	110	01/26/10	64335	Y	DUP-47
East Site	K3	ES-K03-080514	BARIUM	74.6	05/27/09	57791	Y	ES-K03-080514
East Site	K3	ES-K03-091103	BARIUM	95.1	11/25/09	63217	Y	ES-K03-091103
East Site	K4	ES-K04-080527	BARIUM	111	05/28/09	57849	Y	ES-K04-080527

BARIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	K5	ES-K05-080605	BARIUM	63.1	05/28/09	57849	Y	ES-K05-080605
East Site	K5	ES-K05-080605	BARIUM	62.7	05/28/09	57849	Y	DUP-19
East Site	K7	ES-K07-080611	BARIUM	94.4	05/04/09	57431	Y	ES-K07-080611
East Site	K7	ES-K07-090924	BARIUM	108	10/06/09	61792	Y	ES-K07-090924
East Site	K7	ES-K07-091123	BARIUM	76.1	12/14/09	63530	Y	ES-K07-091123
East Site	L1	ES-L01-080625	BARIUM	91.6	05/28/09	57849	Y	ES-L01-080625
East Site	L2	ES-L02-080625	BARIUM	98.6	05/28/09	57849	Y	ES-L02-080625
East Site	L3	ES-L03-080604	BARIUM	87.9	05/28/09	57849	Y	ES-L03-080604
East Site	L3	ES-L03-091104	BARIUM	107	11/25/09	63217	Y	ES-L03-091104
East Site	L4	ES-L04-080604	BARIUM	66.4	06/22/09	58564	Y	ES-L04-080604
East Site	L4	ES-L04-091104	BARIUM	95.9	11/25/09	63217	Y	ES-L04-091104
East Site	L5	ES-L05-091104	BARIUM	102	11/25/09	63217	Y	ES-L05-091104
East Site	L6	ES-L06-091104	BARIUM	98.6	11/25/09	63217	Y	ES-L06-091104
East Site	M1	ES-M01-080527	BARIUM	82.9	05/28/09	57849	Y	ES-M01-080527
East Site	M2	ES-M02-080519	BARIUM	96.8	05/28/09	57849	Y	ES-M02-080519
East Site	M3	ES-M03-091022	BARIUM	104	11/18/09	62993	Y	ES-M03-091022
East Site	M3	ES-M03-091228	BARIUM	134	01/20/10	64130	Y	ES-M03-091228
East Site	M4	ES-M04-080515	BARIUM	87.3	05/28/09	57849	Y	ES-M04-080515
East Site	M5	ES-M05-080527	BARIUM	88.8	05/28/09	57849	Y	ES-M05-080527
East Site	M6	ES-M06-080520	BARIUM	92.6	05/28/09	57849	Y	ES-M06-080520
East Site	M6	ES-M06-091105	BARIUM	109	12/07/09	63407	Y	ES-M06-091105
East Site	M7	ES-M07-091105	BARIUM	90.4	12/07/09	63407	Y	ES-M07-091105
East Site	M8	ES-M08-080610	BARIUM	80.5	05/04/09	57431	Y	ES-M08-080610
East Site	M8	ES-M08-090924	BARIUM	99.2	10/06/09	61792	Y	ES-M08-090924
East Site	M8	ES-M08-091123	BARIUM	81	12/14/09	63530	Y	ES-M08-091123
East Site	M9	ES-M09-080611	BARIUM	61	05/04/09	57431	Y	ES-M09-080611
East Site	N2	ES-N02-080528	BARIUM	65.6	05/28/09	57849	Y	ES-N02-080528
East Site	N3	ES-N03-080520	BARIUM	106	05/28/09	57849	Y	ES-N03-080520
East Site	N4	ES-N04-080519	BARIUM	89.8	05/28/09	57849	Y	ES-N04-080519
East Site	N5	ES-N05-080519	BARIUM	84.1	05/28/09	57849	Y	ES-N05-080519
East Site	N5	ES-N05-091105	BARIUM	89.4	12/07/09	63407	Y	ES-N05-091105
East Site	N6	ES-N06-080527	BARIUM	97.1	06/05/09	58138	Y	ES-N06-080527
East Site	N7	ES-N07-080530	BARIUM	75.3	06/05/09	58138	Y	ES-N07-080530
East Site	N7	ES-N07-100225	BARIUM	102	03/05/10	65038	Y	ES-N07-100225
East Site	N8	ES-N08-080610	BARIUM	75	05/04/09	57431	Y	ES-N08-080610
East Site	N8	ES-N08-090924	BARIUM	112	10/06/09	61792	Y	ES-N08-090924
East Site	N8	ES-N08-091124	BARIUM	119	12/14/09	63530	Y	ES-N08-091124
East Site	N9	ES-N09-080610	BARIUM	93.1	05/04/09	57431	Y	ES-N09-080610
East Site	N9	ES-N09-090924	BARIUM	120	10/06/09	61792	Y	ES-N09-090924
East Site	N10	ES-N10-080610	BARIUM	60.1	05/04/09	57431	Y	ES-N10-080610
East Site	O3	ES-O03-080528	BARIUM	65.5	06/05/09	58138	Y	ES-O03-080528
East Site	O4	ES-O04-080515	BARIUM	84.1	06/05/09	58138	Y	ES-O04-080515
East Site	O5	ES-O05-080520	BARIUM	86.8	06/05/09	58138	Y	ES-O05-080520
East Site	O6	ES-O06-080529	BARIUM	107	06/05/09	58138	Y	ES-O06-080529

BARIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	O6	ES-O06-091105	BARIUM	104	12/07/09	63407	Y	ES-O06-091105
East Site	O7	ES-O07-100225	BARIUM	90.4	03/05/10	65038	Y	ES-O07-100225
East Site	O8	ES-O08-080530	BARIUM	80.9	07/24/09	59759	Y	ES-O08-080530
East Site	O8	ES-O08-100225	BARIUM	90.7	03/05/10	65038	Y	ES-O08-100225
East Site	O9	ES-O09-091014	BARIUM	112	10/29/09	62500	Y	ES-O09-091014
East Site	O9	ES-O09-092309	BARIUM	104	10/06/09	61792	Y	ES-O09-092309
East Site	O10	ES-O10-091014	BARIUM	86.4	10/29/09	62500	Y	ES-O10-091014
East Site	O10	ES-O10-091123	BARIUM	71.3	12/14/09	63530	Y	ES-O10-091123
East Site	O10	ES-O10-092309	BARIUM	86.2	10/06/09	61792	Y	ES-O10-092309
East Site	P4	ES-P04-080528	BARIUM	66.2	05/27/09	57791	Y	DUP-16
East Site	P4	ES-P04-080528	BARIUM	68.3	06/05/09	58138	Y	ES-P04-080528
East Site	P5	ES-P05-080513	BARIUM	105	06/05/09	58138	Y	ES-P05-080513
East Site	P6	ES-P06-080515	BARIUM	113	05/27/09	57791	Y	DUP-12
East Site	P6	ES-P06-080515	BARIUM	102	06/05/09	58138	Y	ES-P06-080515
East Site	P7	ES-P07-080519	BARIUM	111	05/28/09	57849	Y	ES-P07-080519
East Site	P7	ES-P07-091022	BARIUM	84.4	11/18/09	62993	Y	ES-P07-091022
East Site	P8	ES-P08-080530	BARIUM	61.6	06/05/09	58138	Y	ES-P08-080530
East Site	P10	ES-P10-080606	BARIUM	84.2	05/04/09	57431	Y	ES-P10-080606
East Site	P10	ES-P10-091014	BARIUM	99.3	10/29/09	62500	Y	ES-P10-091014
East Site	P10	ES-P10-092309	BARIUM	94.9	10/06/09	61792	Y	ES-P10-092309
East Site	P11	ES-P11-080606	BARIUM	82.2	05/04/09	57431	Y	ES-P11-080606
East Site	P11	ES-P11-092309	BARIUM	92.7	10/06/09	61792	Y	ES-P11-092309
East Site	Q5	ES-Q05-080520	BARIUM	67.7	06/05/09	58138	Y	ES-Q05-080520
East Site	Q5	ES-Q05-091105	BARIUM	104	12/07/09	63407	Y	ES-Q05-091105
East Site	Q6	ES-Q06-091021	BARIUM	103	11/18/09	62993	Y	ES-Q06-091021
East Site	Q7	ES-Q07-091021	BARIUM	111	11/18/09	62993	Y	ES-Q07-091021
East Site	Q7	ES-Q07-091228	BARIUM	140	01/20/10	64130	Y	ES-Q07-091228
East Site	Q8	ES-Q08-091021	BARIUM	83.4	11/18/09	62993	Y	ES-Q08-091021
East Site	Q8	ES-Q08-091228	BARIUM	106	01/20/10	64130	Y	ES-Q08-091228
East Site	Q9	ES-Q09-080612	BARIUM	79	06/05/09	58138	Y	ES-Q09-080612
East Site	Q10	ES-Q10-080606	BARIUM	80.2	05/06/09	57448	Y	ES-Q10-080606
East Site	Q10	ES-Q10-091123	BARIUM	95.6	12/14/09	63530	Y	ES-Q10-091123
East Site	Q10	ES-Q10-092309	BARIUM	108	10/06/09	61792	Y	ES-Q10-092309
East Site	Q11	ES-Q11-080606	BARIUM	99.5	05/06/09	57448	Y	ES-Q11-080606
East Site	Q17	ES-Q17-080609	BARIUM	60.4	05/03/09	57101	Y	ES-Q17-080609
East Site	R5	ES-R05-080521	BARIUM	73.5	06/05/09	58138	Y	ES-R05-080521
East Site	R5	ES-R05-091105	BARIUM	87.4	12/07/09	63407	Y	ES-R05-091105
East Site	R6	ES-R06-080521	BARIUM	99	06/22/09	58564	Y	ES-R06-080521
East Site	R7	ES-R07-080521	BARIUM	87.7	06/11/09	58214	Y	ES-R07-080521
East Site	R8	ES-R08-091021	BARIUM	106	11/18/09	62993	Y	ES-R08-091021
East Site	R8	ES-R08-091021	BARIUM	115	01/20/10	64208	Y	DUP-46
East Site	R9	ES-R09-080520	BARIUM	81.5	06/11/09	58214	Y	ES-R09-080520
East Site	R10	ES-R10-080602	BARIUM	67.9	06/11/09	58214	Y	ES-R10-080602
East Site	R11	ES-R11-080605	BARIUM	100	05/06/09	57448	Y	ES-R11-080605

BARIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	R11	ES-R11-090910	BARIUM	106	09/25/09	61416	Y	ES-R11-090910
East Site	R11	ES-R11-090910	BARIUM	107	10/29/09	62500	Y	DUP-38
East Site	R12	ES-R12-080611	BARIUM	71.2	05/06/09	57448	Y	ES-R12-080611
East Site	R16	ES-R16-080605	BARIUM	52.3	05/03/09	57101	Y	ES-R16-080605
East Site	R17	ES-R17-080606	BARIUM	58.7	05/03/09	57101	Y	ES-R17-080606
East Site	S5	ES-S05-080521	BARIUM	78.8	06/11/09	58214	Y	ES-S05-080521
East Site	S6	ES-S06-080521	BARIUM	91.3	06/11/09	58214	Y	ES-S06-080521
East Site	S7	ES-S07-080521	BARIUM	92.2	06/11/09	58214	Y	ES-S07-080521
East Site	S8	ES-S08-091015	BARIUM	127	10/29/09	62500	Y	ES-S08-091015
East Site	S9	ES-S09-080522	BARIUM	97.5	06/11/09	58214	Y	ES-S09-080522
East Site	S10	ES-S10-080523	BARIUM	82.6	06/11/09	58214	Y	ES-S10-080523
East Site	S11	ES-S11-080528	BARIUM	67.7	06/11/09	58214	Y	ES-S11-080528
East Site	S12	ES-S12-080609	BARIUM	95.5	05/03/09	57101	Y	ES-S12-080609
East Site	S13	ES-S13-080610	BARIUM	66.5	05/03/09	57101	Y	ES-S13-080610
East Site	S17	ES-S17-090910	BARIUM	105	09/25/09	61416	Y	ES-S17-090910
East Site	S17	ES-S17-090910	BARIUM	89.5	10/06/09	61792	Y	DUP-37
East Site	S18	ES-S18-080606	BARIUM	69	05/03/09	57101	Y	ES-S18-080606
East Site	T7	ES-T07-080612	BARIUM	63.7	06/11/09	58214	Y	ES-T07-080612
East Site	T8	ES-T08-080522	BARIUM	63.4	06/05/09	58138	Y	DUP-13
East Site	T8	ES-T08-080522	BARIUM	66.1	06/11/09	58214	Y	ES-T08-080522
East Site	T9	ES-T09-080522	BARIUM	65.4	06/11/09	58214	Y	ES-T09-080522
East Site	T10	ES-T10-080523	BARIUM	74.9	06/11/09	58214	Y	ES-T10-080523
East Site	T10	ES-T10-080523	BARIUM	74	06/11/09	58214	Y	DUP-14
East Site	T10	ES-T10-091015	BARIUM	131	10/29/09	62500	Y	ES-T10-091015
East Site	T11	ES-T11-080530	BARIUM	82.3	06/11/09	58214	Y	ES-T11-080530
East Site	T12	ES-T12-080609	BARIUM	80	05/03/09	57101	Y	ES-T12-080609
East Site	T13	ES-T13-080609	BARIUM	83.4	05/03/09	57101	Y	ES-T13-080609
East Site	T14	ES-T14-080610	BARIUM	83.8	05/03/09	57101	Y	ES-T14-080610
East Site	U10	ES-U10-080523	BARIUM	69.9	06/11/09	58214	Y	ES-U10-080523
East Site	U11	ES-U11-080602	BARIUM	69.3	06/22/09	58564	Y	ES-U11-080602
East Site	U13	ES-U13-080610	BARIUM	86.2	05/04/09	57431	Y	ES-U13-080610
East Site	U14	ES-U14-080610	BARIUM	75.5	05/04/09	57431	Y	ES-U14-080610
East Site	V11	ES-V11-080529	BARIUM	66.2	06/22/09	58564	Y	ES-V11-080529
East Site	V14	ES-V14-080605	BARIUM	88.1	05/04/09	57431	Y	ES-V14-080605
East Site	W12	ES-W12-080527	BARIUM	60.6	06/22/09	58564	Y	ES-W12-080527
West Site	A4	WS-A04-080626	BARIUM	79.2	07/13/09	59383	Y	WS-A04-080626
West Site	B2	WS-B02-100120	BARIUM	57.2	02/05/10	64437	Y	WS-B02-100120
West Site	B3	WS-B03-080502	BARIUM	97.3	07/13/09	59383	Y	WS-B03-080502
West Site	B4	WS-B04-080626	BARIUM	92.1	07/13/09	59383	Y	WS-B04-080626
West Site	B5	WS-B05-080626	BARIUM	89.1	07/24/09	59759	Y	WS-B05-080626
West Site	C1	WS-C01-080501	BARIUM	80.3	06/22/09	58564	Y	WS-C01-080501
West Site	C1	WS-C01-080501	BARIUM	77.6	06/22/09	58564	Y	DUP-3
West Site	C2	WS-C02-080428	BARIUM	70.3	07/24/09	59622	Y	WS-C02-080428
West Site	C2	WS-C02-100120	BARIUM	56.6	02/05/10	64437	Y	WS-C02-100120

BARIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	C3	WS-C03-080620	BARIUM	104	07/24/09	59622	Y	WS-C03-080620
West Site	C4	WS-C04-080623	BARIUM	84.9	07/24/09	59622	Y	WS-C04-080623
West Site	C5	WS-C05-080620	BARIUM	92.3	07/24/09	59759	Y	WS-C05-080620
West Site	C5	WS-C05-100112	BARIUM	90.9	01/26/10	64335	Y	WS-C05-100112
West Site	C6	WS-C06-080624	BARIUM	80.4	07/24/09	59759	Y	WS-C06-080624
West Site	C6	WS-C06-091013	BARIUM	89.2	10/29/09	62500	Y	WS-C06-091013
West Site	D1	WS-D01-080430	BARIUM	81.8	06/22/09	58564	Y	WS-D01-080430
West Site	D2	WS-D02-080429	BARIUM	110	07/13/09	59383	Y	DUP-2
West Site	D2	WS-D02-080429	BARIUM	108	07/24/09	59622	Y	WS-D02-080429
West Site	D3	WS-D03-080620	BARIUM	91.1	07/24/09	59622	Y	WS-D03-080620
West Site	D4	WS-D04-080623	BARIUM	83.2	08/17/09	60441	Y	WS-D04-080623
West Site	D4	WS-D04-091230	BARIUM	102	01/20/10	64130	Y	WS-D04-091230
West Site	D5	WS-D05-080620	BARIUM	81	07/24/09	59759	Y	WS-D05-080620
West Site	D5	WS-D05-100111	BARIUM	118	01/26/10	64335	Y	WS-D05-100111
West Site	D6	WS-D06-080619	BARIUM	116	07/24/09	59759	Y	WS-D06-080619
West Site	D6	WS-D06-091013	BARIUM	105	10/29/09	62500	Y	WS-D06-091013
West Site	D7	WS-D07-080619	BARIUM	100	07/24/09	59759	Y	WS-D07-080619
West Site	D7	WS-D07-091013	BARIUM	98.1	10/29/09	62500	Y	WS-D07-091013
West Site	E1	WS-E01-080430	BARIUM	75.5	06/22/09	58564	Y	WS-E01-080430
West Site	E2	WS-E02-080428	BARIUM	87.7	07/13/09	59383	Y	DUP-1
West Site	E2	WS-E02-080428	BARIUM	91.7	07/24/09	59622	Y	WS-E02-080428
West Site	E2	WS-E02-100115	BARIUM	81.8	02/05/10	64437	Y	WS-E02-100115
West Site	E3	WS-E03-080619	BARIUM	88.9	07/24/09	59622	Y	WS-E03-080619
West Site	E4	WS-E04-080613	BARIUM	85.5	07/24/09	59759	Y	WS-E04-080613
West Site	E4	WS-E04-091230	BARIUM	90.4	01/20/10	64130	Y	WS-E04-091230
West Site	E5	WS-E05-080613	BARIUM	68.4	07/24/09	59759	Y	WS-E05-080613
West Site	E5	WS-E05-100111	BARIUM	112	01/26/10	64335	Y	WS-E05-100111
West Site	E6	WS-E06-080613	BARIUM	99.1	07/24/09	59759	Y	WS-E06-080613
West Site	E6	WS-E06-091228	BARIUM	104	01/20/10	64130	Y	WS-E06-091228
West Site	E7	WS-E07-080613	BARIUM	91.7	07/24/09	59759	Y	WS-E07-080613
West Site	E7	WS-E07-091228	BARIUM	69.9	01/20/10	64130	Y	WS-E07-091228
West Site	E8	WS-E08-091228	BARIUM	110	01/20/10	64130	Y	WS-E08-091228
West Site	F1	WS-F01-080429	BARIUM	78.8	06/22/09	58564	Y	WS-F01-080429
West Site	F1	WS-F01-100115	BARIUM	62.2	02/05/10	64437	Y	WS-F01-100115
West Site	F2	WS-F02-080429	BARIUM	107	07/24/09	59622	Y	WS-F02-080429
West Site	F2	WS-F02-100115	BARIUM	90.9	02/05/10	64437	Y	WS-F02-100115
West Site	F3	WS-F03-080619	BARIUM	102	07/24/09	59622	Y	WS-F03-080619
West Site	F3	WS-F03-100115	BARIUM	73.6	02/05/10	64437	Y	WS-F03-100115
West Site	F4	WS-F04-080616	BARIUM	85.6	07/30/09	59891	Y	WS-F04-080616
West Site	F4	WS-F04-091230	BARIUM	82.5	01/20/10	64130	Y	WS-F04-091230
West Site	F5	WS-F05-080612	BARIUM	65	08/18/09	60441	Y	WS-F05-080612
West Site	F5	WS-F05-100111	BARIUM	123	01/26/10	64335	Y	WS-F05-100111
West Site	F6	WS-F06-080612	BARIUM	76.4	07/30/09	59891	Y	WS-F06-080612
West Site	F6	WS-F06-091228	BARIUM	109	01/20/10	64130	Y	WS-F06-091228

BARIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	F7	WS-F07-080617	BARIUM	70.5	06/30/09	58730	Y	WS-F07-080617
West Site	F8	WS-F08-080618	BARIUM	83.2	06/30/09	58730	Y	WS-F08-080618
West Site	G1	WS-G01-080501	BARIUM	89.1	06/22/09	58564	Y	DUP-4
West Site	G1	WS-G01-080501	BARIUM	89.4	06/30/09	58730	Y	WS-G01-080501
West Site	G1	WS-G01-100113	BARIUM	91.4	01/26/10	64335	Y	WS-G01-100113
West Site	G1	WS-G01-100223	BARIUM	99.3	03/05/10	65038	Y	WS-G01-100223
West Site	G2	WS-G02-080618	BARIUM	92.2	07/24/09	59622	Y	WS-G02-080618
West Site	G2	WS-G02-100113	BARIUM	91.9	01/26/10	64335	Y	WS-G02-100113
West Site	G3	WS-G03-080619	BARIUM	84.5	07/24/09	59622	Y	WS-G03-080619
West Site	G4	WS-G04-080616	BARIUM	77.1	07/30/09	59891	Y	WS-G04-080616
West Site	G5	WS-G05-100108	BARIUM	119	01/20/10	64208	Y	WS-G05-100108
West Site	G5	WS-G05-100223	BARIUM	104	03/05/10	65038	Y	WS-G05-100223
West Site	G6	WS-G06-080616	BARIUM	75.4	07/30/09	59891	Y	WS-G06-080616
West Site	G6	WS-G06-100107	BARIUM	96	01/20/10	64208	Y	WS-G06-100107
West Site	G7	WS-G07-080617	BARIUM	110	06/30/09	58730	Y	WS-G07-080617
West Site	G7	WS-G07-100105	BARIUM	73.9	01/20/10	64208	Y	WS-G07-100105
West Site	H1	WS-H01-080501	BARIUM	102	06/30/09	58730	Y	WS-H01-080501
West Site	H2	WS-H02-080618	BARIUM	91.1	07/24/09	59622	Y	WS-H02-080618
West Site	H2	WS-H02-100113	BARIUM	87.5	01/26/10	64335	Y	WS-H02-100113
West Site	H3	WS-H03-080619	BARIUM	63.9	07/30/09	59891	Y	WS-H03-080619
West Site	H4	WS-H04-080616	BARIUM	72.4	07/30/09	59891	Y	WS-H04-080616
West Site	H5	WS-H05-100107	BARIUM	102	01/20/10	64208	Y	WS-H05-100107
West Site	H6	WS-H06-080617	BARIUM	96	06/30/09	58730	Y	WS-H06-080617
West Site	I1	WS-I01-080501	BARIUM	81.6	06/30/09	58730	Y	WS-I01-080501
West Site	I1	WS-I01-080501	BARIUM	76.4	06/30/09	58730	Y	DUP-5
West Site	I1	WS-I01-091013	BARIUM	83.5	10/29/09	62500	Y	WS-I01-091013
West Site	I2	WS-I02-080618	BARIUM	81.3	07/24/09	59759	Y	WS-I02-080618
West Site	I2	WS-I02-091014	BARIUM	91.6	10/29/09	62500	Y	WS-I02-091014
West Site	I2	WS-I02-100113	BARIUM	82.1	01/26/10	64335	Y	WS-I02-100113
West Site	I3	WS-I03-080618	BARIUM	71.9	07/30/09	59891	Y	WS-I03-080618
West Site	I3	WS-I03-091013	BARIUM	94.6	10/29/09	62500	Y	WS-I03-091013
West Site	I3	WS-I03-100113	BARIUM	87.1	01/26/10	64335	Y	WS-I03-100113
West Site	I4	WS-I04-080617	BARIUM	72.6	07/30/09	59891	Y	WS-I04-080617
West Site	I4	WS-I04-100106	BARIUM	81.8	01/20/10	64208	Y	WS-I04-100106
West Site	I5	WS-I05-080617	BARIUM	84	06/30/09	58730	Y	WS-I05-080617
West Site	I5	WS-I05-091013	BARIUM	83.7	10/29/09	62500	Y	WS-I05-091013
West Site	I5	WS-I05-100107	BARIUM	89.8	01/20/10	64208	Y	WS-I05-100107
West Site	I6	WS-I06-080617	BARIUM	102	06/30/09	58730	Y	WS-I06-080617
West Site	I6	WS-I06-100105	BARIUM	75.5	01/20/10	64208	Y	WS-I06-100105
West Site	J1	WS-J01-080505	BARIUM	101	06/30/09	58730	Y	WS-J01-080505
West Site	J1	WS-J01-080505	BARIUM	100	06/30/09	58730	Y	DUP-6
West Site	J1	WS-J01-091013	BARIUM	123	10/29/09	62500	Y	WS-J01-091013
West Site	J1	WS-J01-100112	BARIUM	75.8	01/26/10	64335	Y	WS-J01-100112
West Site	J2	WS-J02-080624	BARIUM	85.9	06/30/09	58730	Y	WS-J02-080624

BARIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	J2	WS-J02-100112	BARIUM	89.8	01/26/10	64335	Y	WS-J02-100112
West Site	J3	WS-J03-080620	BARIUM	81.9	07/08/09	59166	Y	WS-J03-080620
West Site	J4	WS-J04-080617	BARIUM	84.4	07/08/09	59166	Y	WS-J04-080617
West Site	J4	WS-J04-100106	BARIUM	90.7	01/20/10	64208	Y	WS-J04-100106
West Site	J5	WS-J05-080618	BARIUM	82.9	07/08/09	59166	Y	WS-J05-080618
West Site	K1	WS-K01-080505	BARIUM	91.2	07/08/09	59166	Y	WS-K01-080505
West Site	K1	WS-K01-091013	BARIUM	111	10/29/09	62500	Y	WS-K01-091013
West Site	K2	WS-K02-080509	BARIUM	97.2	07/08/09	59166	Y	WS-K02-080509
West Site	K3	WS-K03-080509	BARIUM	79.8	07/08/09	59166	Y	WS-K03-080509
West Site	K4	WS-K04-080513	BARIUM	72.2	07/08/09	59166	Y	WS-K04-080513
West Site	K4	WS-K04-080513	BARIUM	65.5	07/24/09	59759	Y	DUP-10
West Site	K4	WS-K04-100106	BARIUM	63.7	01/20/10	64208	Y	WS-K04-100106
West Site	K5	WS-K05-080509	BARIUM	68.9	07/08/09	59166	Y	WS-K05-080509
West Site	L1	WS-L01-080505	BARIUM	83.2	07/08/09	59166	Y	WS-L01-080505
West Site	L2	WS-L02-080508	BARIUM	79	07/08/09	59166	Y	WS-L02-080508
West Site	L3	WS-L03-080508	BARIUM	68.3	07/08/09	59166	Y	WS-L03-080508
West Site	L4	WS-L04-080508	BARIUM	93.1	07/08/09	59166	Y	WS-L04-080508
West Site	L4	WS-L04-080508	BARIUM	93.6	07/08/09	59166	Y	DUP-9
West Site	M1	WS-M01-080505	BARIUM	95	07/08/09	59166	Y	DUP-7
West Site	M1	WS-M01-080505	BARIUM	94.8	07/08/09	59166	Y	WS-M01-080505
West Site	M2	WS-M02-080507	BARIUM	82.6	07/24/09	59759	Y	WS-M02-080507
West Site	M3	WS-M03-080507	BARIUM	58	07/24/09	59622	Y	DUP-8
West Site	M3	WS-M03-080507	BARIUM	50.3	08/11/09	60090	Y	WS-M03-080507
West Site	M3	WS-M03-091217	BARIUM	57.6	01/06/10	63972	Y	WS-M03-091217
West Site	M3	WS-M03-091217	BARIUM	52.6	03/05/10	65038	Y	DUP-48
West Site	M4	WS-M04-080507	BARIUM	57.7	08/11/09	60090	Y	WS-M04-080507
West Site	M4	WS-M04-091218	BARIUM	47.1	01/06/10	63972	Y	WS-M04-091218
West Site	M4	WS-M04-091218	BARIUM	45	01/20/10	64130	Y	DUP-44
West Site	N1	WS-N01-080506	BARIUM	70.2	08/11/09	60090	Y	WS-N01-080506
West Site	N2	WS-N02-080506	BARIUM	70.3	07/13/09	59383	Y	WS-N02-080506
West Site	N3	WS-N03-080507	BARIUM	44.3	06/30/09	58730	Y	WS-N03-080507
West Site	O1	WS-O01-080506	BARIUM	65.4	07/13/09	59383	Y	WS-O01-080506
West Site	O2	WS-O02-080506	BARIUM	40.5	07/13/09	59383	Y	WS-O02-080506

Table Be-1: Beryllium Data Quality Summary

Laboratory Performance Criteria	Critera	Measured	Comment
Minimum LCS Recovery	greater than 80%	80%	
Minimum Matrix Spike Recovery	greater than 70%	71%	low
Average LCS Recovery	N/A	92%	
Average Matrix Spike Recovery	N/A	90%	
Maximum LCS RPD	less than 20%	12%	
Maximum Laboratory Duplicate RPD	less than 20%	15%	
Average LCS RPD	N/A	3%	
Average Laboratory Duplicate RPD	N/A	6%	

Measurement Quality Objectives	Critera	Measured	
NPS CRM	Recovery greater than 3.21	Minimum Recovery =	1.6 mg/kg
EQIS CRM	N/A	See Note 1	
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	41.9 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	7.8 %

Overall QC Indicator Measurements	Criteria	Measured	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	50 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	0.12 mg/kg

Data Quality Relative to Remediation Goals		
Tier 1 Remediation Goal	2.1	mg/kg
Tier 2 Remediation Goal	none	
QC Derived reliance Level	1.2	mg/kg See Note 2

Comments: NPS CRM recovery (2.1 mg/kg) is less than the vendor supplied lower acceptance limit (3.21 mg/kg) and indicates a measurement bias for beryllium favoring low concentrations. A high maximum CVS split RPD (41.9%) indicates compromised precision. The QC derived reliance level (1.2 mg/kg) is lower than the RG due to a combination of bias and imprecision. However, beryllium CVS measurements in all grids were lower than the derived reliance level. Therefore, it is concluded that beryllium CVS data have acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group. Beryllium is not one of these analytes.

Note 2: Derived reliance level is calculated as:
(Tier 1 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (2.1)(1.2)(.5)-(0.84)(.12) = 1.2 mg/kg

Table Be-2: Beryllium - NPS CRMs

Blind NPS CRM Results

Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	2.1	5/3/09	57225	Y
BOR SAMPLE 6-BOR 81	2.7	5/4/09	57431	Y
BOR Sample 4-BOR 82	2.1	5/6/09	57448	Y
BOR 83	1.6	5/27/09	57791	Y
BOR Sample 3-BOR 58	1.6	5/27/09	57791	Y
BOR 84	2.1	5/28/09	57849	Y
BOR Sample 7-BOR 105	2.1	5/28/09	57849	Y
BOR 85	1.9	6/5/09	58138	Y
BOR Sample 8-BOR 106	1.9	6/5/09	58138	Y
BOR 86	2.1	6/11/09	58214	Y
BOR 108	2.3	6/22/09	58564	Y
BOR 87	2.5	6/22/09	58564	Y
BOR 109	2.1	6/30/09	58730	Y
BOR 110	2.4	7/13/09	59383	Y
BOR Sample 9-BOR 107	2	7/24/09	59759	Y
BOR 111	2.1	7/30/09	59891	Y

CRMs		Vendor Supplied Information
Mean	2.1	*"Made to"*
Median	2.1	*4.20 mg/kg*
Standard Deviation	0.3	
Sample Variance	0.1	*Upper Acceptance Limit*
Kurtosis	0.6	*4.56 mg/kg*
Skewness	0.2	
Range	1.1	*Lower Acceptance Limit*
Minimum	1.6	*3.21 mg/kg*
Maximum	2.7	
Sum	33.6	
Count	16.0	
Largest(2)	2.5	
Smallest(2)	1.6	

Table Be-3: Beryllium - NPS Replicate Tests on a Background Sample

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	0.66	5/4/09	57225	Y
BOR 59	0.9	5/4/09	57431	Y
BOR 60	0.65	5/6/09	57448	Y
BOR 113	0.5	5/27/09	57791	Y
BOR 61	0.51	5/27/09	57791	Y
BOR 62	0.63	6/11/09	58214	Y
BOR 63	0.7	6/22/09	58564	Y
BOR 89	0.73	6/22/09	58564	Y
BOR 115	0.64	6/30/09	58730	Y
BOR 64	0.68	7/8/09	59166	Y
BOR 91	0.65	7/8/09	59166	Y
BOR 116	0.85	7/13/09	59383	Y
BOR 92	0.79	7/13/09	59383	Y
BOR 65	0.62	7/24/09	59622	Y
BOR 88	0.65	7/30/09	59891	Y
BOR 800	0.66	9/25/09	61416	Y
BOR-802	0.48	10/6/09	61792	Y
BOR 804	0.84	10/29/09	62500	Y
BOR-805	0.59	11/18/09	62993	Y
BOR-807	0.63	11/25/09	63217	Y
BOR-808	0.67	12/7/09	63407	Y
BOR 815	0.41	1/20/10	64208	Y
BOR 813	0.68	1/26/10	64130	Y
BOR-816	0.8	1/26/10	64335	Y
BOR-820	0.65	3/5/10	65038	Y

Replicate analyses of Single Sample	
Mean	0.663
Median	0.650
Standard Deviation	0.116
Sample Variance	0.013
Kurtosis	0.304
Skewness	-0.007
Range	0.490
Minimum	0.410
Maximum	0.900
Sum	16.570
Count	25.000
Largest(2)	0.850
Smallest(2)	0.480

Table Be-4: Beryllium NPS and EQIS Homogenized Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	1.1	5/4/09	57431	ES-T11-080530	0.74	6/11/2009	39
BOR 506	0.89	5/6/09	57448	ES-S10-080523	0.88	6/11/2009	1
BOR 504	0.64	5/27/09	57791	ES-M05-080527	0.73	5/28/2009	13
BOR 507	0.76	6/5/09	58138	ES-O09-080610			
BOR 508	0.97	6/22/09	58564	ES-Q11-080606	0.87	5/6/2009	11
BOR 510	0.69	6/30/09	58730	OU-8HR-080605	0.71	5/3/2009	3
BOR 501	0.87	7/8/09	59166	WS-L04-080508	0.85	7/8/2009	2
BOR 505	0.49	7/24/09	59622	WS-K03-080509	0.51	7/8/2009	4
BOR 502	0.55	7/24/09	59759	WS-F05-080612	0.55	8/18/2009	0
BOR 509	0.79	7/24/09	59759	WS-E06-080613	0.82	7/24/2009	4
BOR 500	0.6	7/30/09	59891	WS-F01-080429	0.71	6/22/2009	17
BOR-809	0.88	12/14/09	63530	ES-K03-091103	1.1	11/25/2009	22
BOR-810	0.7	12/14/09	63530	ES-P07-091022	0.72	11/18/2009	3
BOR-811	1	12/14/09	63530	ES-R08-091021	1.1	11/18/2009	10
BOR 814	1.3	1/26/10	64130	ES-J05-091124	0.85	12/14/2009	42
BOR-818	0.86	3/5/10	65038	WS-F05-100111	1.1	1/26/2010	24
BOR-822	0.89	3/5/10	65038	ES-Q08-091228	0.92	1/26/2010	3
DUP-11	0.46	5/3/09	57101	ES-J03-080513	0.59	6/22/2009	25
DUP-17	0.84	5/4/09	57431	ES-F01-080529	0.71	5/6/2009	17
DUP-15	0.86	5/6/09	57448	ES-J02-080527	0.76	5/27/2009	12
DUP-18	0.64	5/6/09	57448	ES-J04-080530	0.51	5/27/2009	23
DUP-12	0.78	5/27/09	57791	ES-P06-080515	0.86	6/5/2009	10
DUP-16	0.65	5/27/09	57791	ES-P04-080528	0.79	6/5/2009	19
DUP-19	0.51	5/28/09	57849	ES-K05-080605	0.52	5/28/2009	2
DUP-13	0.69	6/5/09	58138	ES-T08-080522	0.75	6/11/2009	8
DUP-14	0.74	6/11/09	58214	ES-T10-080523	0.73	6/11/2009	1
DUP-3	0.59	6/22/09	58564	WS-C01-080501	0.6	6/22/2009	2
DUP-4	1	6/22/09	58564	WS-G01-080501	0.79	6/30/2009	23
DUP-5	0.5	6/30/09	58730	WS-I01-080501	0.56	6/30/2009	11
DUP-6	0.61	6/30/09	58730	WS-J01-080505	0.63	6/30/2009	3
DUP-7	0.62	7/8/09	59166	WS-M01-080505	0.62	7/8/2009	0
DUP-9	0.85	7/8/09	59166	WS-L04-080508	0.85	7/8/2009	0
DUP-1	0.92	7/13/09	59383	WS-E02-080428	0.8	7/24/2009	14
DUP-2	1.1	7/13/09	59383	WS-D02-080429	0.98	7/24/2009	12
DUP-8	0.29	7/24/09	59622	WS-M03-080507	0.3	8/11/2009	3
DUP-10	0.53	7/24/09	59759	WS-K04-080513	0.54	7/8/2009	2
DUP-37	0.85	10/6/09	61792	ES-S17-090910	1.1	9/25/2009	26
DUP-38	0.94	10/29/09	62500	ES-R11-090910	0.82	9/25/2009	14
DUP-40	0.74	11/18/09	62993	ES-A01-102109			
DUP-39	0.89	12/7/09	63407	ES-C01-090910	0.83	9/25/2009	7
DUP-46	0.95	1/20/10	64208	ES-R08-091021	1.1	11/18/2009	15
DUP-44	0.55	1/26/10	64130	WS-M04-091218	0.44	1/6/2010	22
DUP-45	1	1/26/10	64130	ES-J05-091124	0.85	12/14/2009	16
DUP-47	1.3	1/26/10	64335	ES-K02-091103	1.2	11/25/2009	8
DUP-48	0.63	3/5/10	65038	WS-M03-091217	0.67	1/6/2010	6

Table Be-4: Beryllium NPS and EQIS Homogenized Duplicates (Continued)

RPD of Sample Splits	
Mean	11.615
Median	9.756
Standard Deviation	10.246
Sample Variance	104.980
Kurtosis	1.058
Skewness	1.092
Range	41.860
Minimum	0.000
Maximum	41.860
Sum	499.449
Count	43.000
Largest(2)	39.130
Smallest(2)	0.000

Table Be-5: Beryllium EQIS CRMs						
Results of Duplicate Analysis of EQIS CRMs						
Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	4.2	5/3/09	57101	Y		
ES-Z11-080605B	4	5/3/09	57101	Y	4.10	4.88
ES-Z09-080529A	4.7	5/4/09	57431	Y		
ES-Z09-080529B	4.7	5/4/09	57431	Y	4.70	0.00
ES-Z12-080606A	4.6	5/4/09	57431	Y		
ES-Z12-080606B	4.7	5/4/09	57431	Y	4.65	2.15
ES-Z05-080519A	4.2	5/6/09	57448	Y		
ES-Z05-080519B	4	5/6/09	57448	Y	4.10	4.88
ES-Z06-080520A	4.1	5/6/09	57448	Y		
ES-Z06-080520B	4	5/6/09	57448	Y	4.05	2.47
ES-Z07-080522A	4.1	5/27/09	57791	Y		
ES-Z07-080522B	4	5/27/09	57791	Y	4.05	2.47
ES-Z13-080610A	4	5/28/09	57849	Y		
ES-Z13-080610B	3.7	5/28/09	57849	Y	3.85	7.79
ES-Z10-080602A	3.9	6/5/09	58138	Y		
ES-Z10-080602B	3.9	6/5/09	58138	Y	3.90	0.00
ES-Z08-080527A	4.2	6/11/09	58214	Y		
ES-Z08-080527B	4.2	6/11/09	58214	Y	4.20	0.00
ES-Z14-080611A	5	6/22/09	58564	Y		
ES-Z14-080611B	4.8	6/22/09	58564	Y	4.90	4.08
ES-Z06-080520C	4.1	6/30/09	58730	Y		
ES-Z06-080520D	4.1	6/30/09	58730	Y	4.10	0.00
ES-Z05-080519C	3.8	7/8/09	59166	Y		
ES-Z05-080519D	4	7/8/09	59166	Y	3.90	5.13
ES-Z19-080624A	4.3	7/13/09	59383	Y		
ES-Z19-080624B	4.4	7/13/09	59383	Y	4.35	2.30
WS-Z17-080618A	4.4	7/13/09	59383	Y		
WS-Z17-080618B	4.4	7/13/09	59383	Y	4.40	0.00
WS-Z15-080613A	4.3	7/24/09	59622	Y		
WS-Z15-080613B	4.3	7/24/09	59622	Y	4.30	0.00
WS-Z18-080620A	4.3	7/24/09	59622	Y		
WS-Z18-080620B	4.2	7/24/09	59622	Y	4.25	2.35
WS-Z16-080617A	4	7/30/09	59891	Y		
WS-Z16-080617B	4.1	7/30/09	59891	Y	4.05	2.47
ES-Z22-091021A	4	11/18/09	62993	Y		
ES-Z22-091021B	4	11/18/09	62993	Y	4.00	0.00
ES-Z23-091022A	3.9	11/18/09	62993	Y		
ES-Z23-091022B	3.9	11/18/09	62993	Y	3.90	0.00
ES-Z24-091103A	4.5	11/25/09	63217	Y		
ES-Z24-091103B	4.4	11/25/09	63217	Y	4.45	2.25
ES-Z25-091104A	4.4	11/25/09	63217	Y		
ES-Z25-091104B	4.3	11/25/09	63217	Y	4.35	2.30
ES-Z26-091105A	4.1	12/7/09	63407	Y		
ES-Z26-091105B	3.8	12/7/09	63407	Y	3.95	7.59
ES-Z27-091106A	4.1	12/7/09	63407	Y		
ES-Z27-091106B	4.1	12/7/09	63407	Y	4.10	0.00
WS-Z29-091217A	4.2	1/6/10	63972	Y		
WS-Z29-091217B	4.2	1/6/10	63972	Y	4.20	0.00
WS-Z31-100107A	3.9	1/20/10	64208	Y		
WS-Z31-100107B	4	1/20/10	64208	Y	3.95	2.53
WS-Z30-091230A	4.5	1/26/10	64130	Y		
WS-Z30-091230B	4.7	1/26/10	64130	Y	4.60	4.35

Table Be-5: Beryllium EQIS CRMs

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
WS-Z32-100113A	4.4	1/26/10	64335	Y		
WS-Z32-100113B	4.7	1/26/10	64335	Y	4.55	6.59
ES-Z33-100225A	4.3	3/5/10	65038	Y		
ES-Z33-100225B	4.3	3/5/10	65038	Y	4.30	0.00

Analysis of EQIS CRMs	
Mean	4
Median	4
Standard Deviation	0
Sample Variance	0
Kurtosis	0
Skewness	1
Range	1
Minimum	4
Maximum	5
Sum	236
Count	56
Largest(2)	5
Smallest(2)	4

RPD of EQIS CRMs	
Mean	2
Median	2
Standard Deviation	2
Sample Variance	6
Kurtosis	0
Skewness	1
Range	8
Minimum	0
Maximum	8
Sum	67
Count	28
Largest(2)	8
Smallest(2)	0

Table Be-6: Beryllium MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
90	7160081	4	91	7160081	4
93	49187	7	96	49187	7
92	49189	8	97	49189	8
109	49537	28	108	49537	28
109	49539	30	110	49539	30
75	54626-627	68	94	54626-627	68
89	54821-822	71	96	54821-822	71
94	54891-892	77	93	54891-892	77
84	54915-916	78	95	54915-916	78
92	57101	113	97	57101	113
96	57225	115	98	57225	115
85	57791	140	91	57448	120
84	57849	141	89	57791	140
83	58138	143	90	57849	141
114	58214	155	83	58138	143
71	58564	161	110	58214	155
92	58730	169	102	58564	161
89	59166	173	82	58730	169
95	59383	182	86	59166	173
97	59622	194	98	59383	182
86	59759	197	88	59622	194
87	59891	206	84	59759	197
91	60090	218	94	59891	206
90	60441	222	88	60090	218
92	61416	247	96	60441	222
96	61792	253	89	61416	247
96	62500	260	91	61792	253
89	62756	266	98	62500	260
85	62993	272	93	62756	266
95	63217	282	90	62993	272
89	63407	289	100	63217	282
90	63407	289	87	63407	289
85	63530	292	88	63530	292
84	63972	304	86	63972	304
77	64208	320	80	64208	320
83	64130	322	89	64130	322
85	64335	329	90	64335	329
83	64437	342	87	64437	342
86	65038	350	90	65038	350
83	70144	368	81	70144	368

Average MS Recovery =	90 %	Average LCS Recovery =	92 %
Minimum MS Recovery =	71 %	Minimum LCS Recovery =	80 %

Table Be-6: Beryllium MS and LCS (Graph)

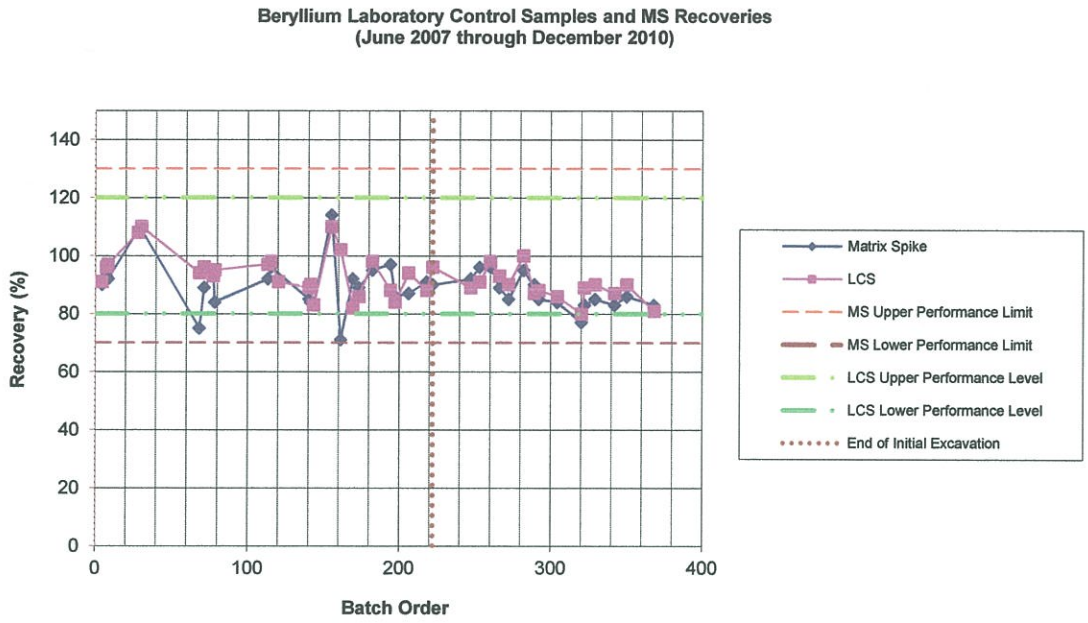
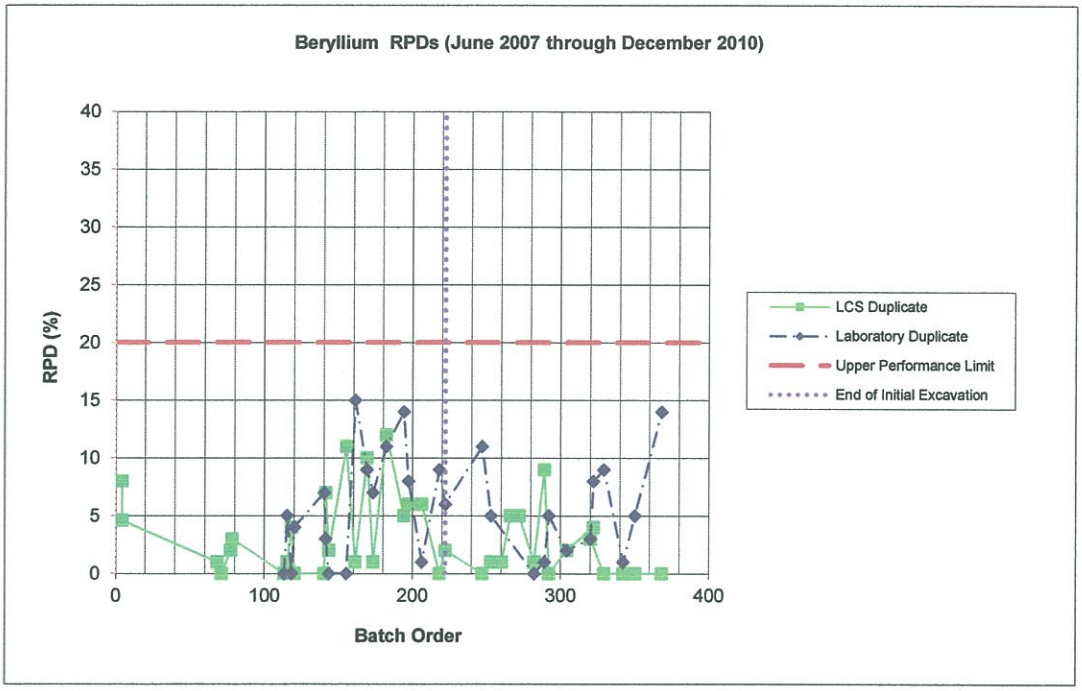


Table Be-7: Beryllium- Laboratory Duplicates and MSDs

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
0	57101	113	8	7160081	4
5	57225	115	4.6	7160081	4
0	57431	118	1	54626-627	68
4	57448	120	0	54821-822	71
7	57791	140	2	54891-892	77
3	57849	141	3	54915-916	78
0	58138	143	0	57101	113
0	58214	155	1	57225	115
15	58564	161	4	57431	118
9	58730	169	0	57448	120
7	59166	173	0	57791	140
11	59383	182	7	57849	141
14	59622	194	2	58138	143
8	59759	197	11	58214	155
1	59891	206	1	58564	161
9	60090	218	10	58730	169
6	60441	222	1	59166	173
11	61416	247	12	59383	182
5	61792	253	5	59622	194
0	63217	282	6	59759	197
1	63407	289	6	59891	206
5	63530	292	0	60090	218
2	63972	304	2	60441	222
3	64208	320	0	61416	247
8	64130	322	1	61792	253
9	64335	329	1	62500	260
1	64437	342	5	62756	266
5	65038	350	5	62993	272
14	70144	368	1	63217	282
			9	63407	289
			0	63530	292
			2	63972	304
			4	64130	322
			3	64208	320
			0	64335	329
			0	64437	342
			0	65038	350
			0	70144	368

Average Duplicate RPD =	6 %	Average LCS RPD = 3	%
Maximum Duplicate RPD =	15 %	Maximum LCS RPD = 12	%

Table Be-7: Beryllium- Laboratory Duplicates and MSDs (Graph)



BERYLLIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	A1	ES-A01-090910	BERYLLIUM	0.77	09/25/09	61416	Y	ES-A01-090910
East Site	A1	ES-A01-102109	BERYLLIUM	0.74	11/18/09	62993	Y	DUP-40
East Site	B1	ES-B01-080623	BERYLLIUM	0.77	05/03/09	57101	Y	ES-B01-080623
East Site	C1	ES-C01-080624	BERYLLIUM	0.62	05/03/09	57101	Y	ES-C01-080624
East Site	C1	ES-C01-090910	BERYLLIUM	0.83	09/25/09	61416	Y	ES-C01-090910
East Site	C1	ES-C01-090910	BERYLLIUM	0.89	12/07/09	63407	Y	DUP-39
East Site	D1	ES-D01-080624	BERYLLIUM	0.82	06/05/09	58138	Y	ES-D01-080624
East Site	E1	ES-E01-090910	BERYLLIUM	0.68	09/25/09	61416	Y	ES-E01-090910
East Site	E2	ES-E02-090910	BERYLLIUM	0.94	09/25/09	61416	Y	ES-E02-090910
East Site	F1	ES-F01-080529	BERYLLIUM	0.84	05/04/09	57431	Y	DUP-17
East Site	F1	ES-F01-080529	BERYLLIUM	0.71	05/06/09	57448	Y	ES-F01-080529
East Site	G1	ES-G01-080529	BERYLLIUM	0.56	05/06/09	57448	Y	ES-G01-080529
East Site	G2	ES-G02-080605	BERYLLIUM	0.65	05/06/09	57448	Y	ES-G02-080605
East Site	H1	ES-H01-080528	BERYLLIUM	0.73	05/06/09	57448	Y	ES-H01-080528
East Site	H1	ES-H01-091105	BERYLLIUM	0.85	12/07/09	63407	Y	ES-H01-091105
East Site	H2	ES-H02-080515	BERYLLIUM	0.85	05/06/09	57448	Y	ES-H02-080515
East Site	H3	ES-H03-080605	BERYLLIUM	0.59	05/27/09	57791	Y	ES-H03-080605
East Site	I1	ES-I01-080529	BERYLLIUM	0.69	05/27/09	57791	Y	ES-I01-080529
East Site	I1	ES-I01-091105	BERYLLIUM	0.9	12/07/09	63407	Y	ES-I01-091105
East Site	I2	ES-I02-080514	BERYLLIUM	0.74	05/27/09	57791	Y	ES-I02-080514
East Site	I3	ES-I03-080513	BERYLLIUM	0.42	05/27/09	57791	Y	ES-I03-080513
East Site	I4	ES-I04-080602	BERYLLIUM	0.47	05/27/09	57791	Y	ES-I04-080602
East Site	I4	ES-I04-091106	BERYLLIUM	0.74	12/07/09	63407	Y	ES-I04-091106
East Site	J1	ES-J01-080529	BERYLLIUM	0.89	05/27/09	57791	Y	ES-J01-080529
East Site	J2	ES-J02-080527	BERYLLIUM	0.86	05/06/09	57448	Y	DUP-15
East Site	J2	ES-J02-080527	BERYLLIUM	0.76	05/27/09	57791	Y	ES-J02-080527
East Site	J2	ES-J02-091105	BERYLLIUM	0.8	12/07/09	63407	Y	ES-J02-091105
East Site	J3	ES-J03-080513	BERYLLIUM	0.46	05/03/09	57101	Y	DUP-11
East Site	J3	ES-J03-080513	BERYLLIUM	0.59	06/22/09	58564	Y	ES-J03-080513
East Site	J3	ES-J03-091103	BERYLLIUM	0.88	11/25/09	63217	Y	ES-J03-091103
East Site	J4	ES-J04-080530	BERYLLIUM	0.64	05/06/09	57448	Y	DUP-18
East Site	J4	ES-J04-080530	BERYLLIUM	0.51	05/27/09	57791	Y	ES-J04-080530
East Site	J4	ES-J04-091103	BERYLLIUM	1.2	11/25/09	63217	Y	ES-J04-091103
East Site	J5	ES-J05-080602	BERYLLIUM	0.99	05/27/09	57791	Y	ES-J05-080602
East Site	J5	ES-J05-091124	BERYLLIUM	0.85	12/14/09	63530	Y	ES-J05-091124
East Site	J5	ES-J05-091124	BERYLLIUM	1	01/26/10	64130	Y	DUP-45
East Site	J5	ES-J05-100112	BERYLLIUM	1	01/26/10	64335	Y	ES-J05-100112
East Site	K1	ES-K01-080602	BERYLLIUM	0.5	05/27/09	57791	Y	ES-K01-080602
East Site	K2	ES-K02-080602	BERYLLIUM	0.74	05/06/09	57448	Y	ES-K02-080602
East Site	K2	ES-K02-091103	BERYLLIUM	1.2	11/25/09	63217	Y	ES-K02-091103
East Site	K2	ES-K02-091103	BERYLLIUM	1.3	01/26/10	64335	Y	DUP-47
East Site	K3	ES-K03-080514	BERYLLIUM	0.49	05/27/09	57791	Y	ES-K03-080514
East Site	K3	ES-K03-091103	BERYLLIUM	1.1	11/25/09	63217	Y	ES-K03-091103

BERYLLIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	K4	ES-K04-080527	BERYLLIUM	0.87	05/28/09	57849	Y	ES-K04-080527
East Site	K5	ES-K05-080605	BERYLLIUM	0.51	05/28/09	57849	Y	DUP-19
East Site	K5	ES-K05-080605	BERYLLIUM	0.52	05/28/09	57849	Y	ES-K05-080605
East Site	K7	ES-K07-080611	BERYLLIUM	0.93	05/04/09	57431	Y	ES-K07-080611
East Site	K7	ES-K07-090924	BERYLLIUM	0.81	10/06/09	61792	Y	ES-K07-090924
East Site	K7	ES-K07-091123	BERYLLIUM	0.76	12/14/09	63530	Y	ES-K07-091123
East Site	L1	ES-L01-080625	BERYLLIUM	0.7	05/28/09	57849	Y	ES-L01-080625
East Site	L2	ES-L02-080625	BERYLLIUM	0.8	05/28/09	57849	Y	ES-L02-080625
East Site	L3	ES-L03-080604	BERYLLIUM	0.72	05/28/09	57849	Y	ES-L03-080604
East Site	L3	ES-L03-091104	BERYLLIUM	1.2	11/25/09	63217	Y	ES-L03-091104
East Site	L4	ES-L04-080604	BERYLLIUM	0.73	06/22/09	58564	Y	ES-L04-080604
East Site	L4	ES-L04-091104	BERYLLIUM	0.98	11/25/09	63217	Y	ES-L04-091104
East Site	L5	ES-L05-091104	BERYLLIUM	0.94	11/25/09	63217	Y	ES-L05-091104
East Site	L6	ES-L06-091104	BERYLLIUM	0.94	11/25/09	63217	Y	ES-L06-091104
East Site	M1	ES-M01-080527	BERYLLIUM	0.69	05/28/09	57849	Y	ES-M01-080527
East Site	M2	ES-M02-080519	BERYLLIUM	0.95	05/28/09	57849	Y	ES-M02-080519
East Site	M3	ES-M03-091022	BERYLLIUM	0.89	11/18/09	62993	Y	ES-M03-091022
East Site	M3	ES-M03-091228	BERYLLIUM	1.2	01/26/10	64130	Y	ES-M03-091228
East Site	M4	ES-M04-080515	BERYLLIUM	0.82	05/28/09	57849	Y	ES-M04-080515
East Site	M5	ES-M05-080527	BERYLLIUM	0.73	05/28/09	57849	Y	ES-M05-080527
East Site	M6	ES-M06-080520	BERYLLIUM	0.81	05/28/09	57849	Y	ES-M06-080520
East Site	M6	ES-M06-091105	BERYLLIUM	1.1	12/07/09	63407	Y	ES-M06-091105
East Site	M7	ES-M07-091105	BERYLLIUM	0.93	12/07/09	63407	Y	ES-M07-091105
East Site	M8	ES-M08-080610	BERYLLIUM	1.2	05/04/09	57431	Y	ES-M08-080610
East Site	M8	ES-M08-090924	BERYLLIUM	0.92	10/06/09	61792	Y	ES-M08-090924
East Site	M8	ES-M08-091123	BERYLLIUM	0.77	12/14/09	63530	Y	ES-M08-091123
East Site	M9	ES-M09-080611	BERYLLIUM	0.7	05/04/09	57431	Y	ES-M09-080611
East Site	N2	ES-N02-080528	BERYLLIUM	0.65	05/28/09	57849	Y	ES-N02-080528
East Site	N3	ES-N03-080520	BERYLLIUM	0.91	05/28/09	57849	Y	ES-N03-080520
East Site	N4	ES-N04-080519	BERYLLIUM	0.82	05/28/09	57849	Y	ES-N04-080519
East Site	N5	ES-N05-080519	BERYLLIUM	0.81	05/28/09	57849	Y	ES-N05-080519
East Site	N5	ES-N05-091105	BERYLLIUM	0.8	12/07/09	63407	Y	ES-N05-091105
East Site	N6	ES-N06-080527	BERYLLIUM	1.1	06/05/09	58138	Y	ES-N06-080527
East Site	N7	ES-N07-080530	BERYLLIUM	0.81	06/05/09	58138	Y	ES-N07-080530
East Site	N7	ES-N07-100225	BERYLLIUM	1	03/05/10	65038	Y	ES-N07-100225
East Site	N8	ES-N08-080610	BERYLLIUM	0.96	05/04/09	57431	Y	ES-N08-080610
East Site	N8	ES-N08-090924	BERYLLIUM	1.2	10/06/09	61792	Y	ES-N08-090924
East Site	N8	ES-N08-091124	BERYLLIUM	0.99	12/14/09	63530	Y	ES-N08-091124
East Site	N9	ES-N09-080610	BERYLLIUM	1.2	05/04/09	57431	Y	ES-N09-080610
East Site	N9	ES-N09-090924	BERYLLIUM	0.84	10/06/09	61792	Y	ES-N09-090924
East Site	N10	ES-N10-080610	BERYLLIUM	0.84	05/04/09	57431	Y	ES-N10-080610
East Site	O3	ES-O03-080528	BERYLLIUM	0.73	06/05/09	58138	Y	ES-O03-080528
East Site	O4	ES-O04-080515	BERYLLIUM	0.91	06/05/09	58138	Y	ES-O04-080515

BERYLLIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	O5	ES-O05-080520	BERYLLIUM	0.88	06/05/09	58138	Y	ES-O05-080520
East Site	O6	ES-O06-080529	BERYLLIUM	0.83	06/05/09	58138	Y	ES-O06-080529
East Site	O6	ES-O06-091105	BERYLLIUM	1.2	12/07/09	63407	Y	ES-O06-091105
East Site	O7	ES-O07-100225	BERYLLIUM	0.73	03/05/10	65038	Y	ES-O07-100225
East Site	O8	ES-O08-080530	BERYLLIUM	0.71	07/24/09	59759	Y	ES-O08-080530
East Site	O8	ES-O08-100225	BERYLLIUM	0.85	03/05/10	65038	Y	ES-O08-100225
East Site	O9	ES-O09-091014	BERYLLIUM	1.1	10/29/09	62500	Y	ES-O09-091014
East Site	O9	ES-O09-092309	BERYLLIUM	0.87	10/06/09	61792	Y	ES-O09-092309
East Site	O10	ES-O10-091014	BERYLLIUM	0.99	10/29/09	62500	Y	ES-O10-091014
East Site	O10	ES-O10-091123	BERYLLIUM	0.66	12/14/09	63530	Y	ES-O10-091123
East Site	O10	ES-O10-092309	BERYLLIUM	0.76	10/06/09	61792	Y	ES-O10-092309
East Site	P4	ES-P04-080528	BERYLLIUM	0.65	05/27/09	57791	Y	DUP-16
East Site	P4	ES-P04-080528	BERYLLIUM	0.79	06/05/09	58138	Y	ES-P04-080528
East Site	P5	ES-P05-080513	BERYLLIUM	0.98	06/05/09	58138	Y	ES-P05-080513
East Site	P6	ES-P06-080515	BERYLLIUM	0.78	05/27/09	57791	Y	DUP-12
East Site	P6	ES-P06-080515	BERYLLIUM	0.86	06/05/09	58138	Y	ES-P06-080515
East Site	P7	ES-P07-080519	BERYLLIUM	0.79	05/28/09	57849	Y	ES-P07-080519
East Site	P7	ES-P07-091022	BERYLLIUM	0.72	11/18/09	62993	Y	ES-P07-091022
East Site	P8	ES-P08-080530	BERYLLIUM	0.65	06/05/09	58138	Y	ES-P08-080530
East Site	P10	ES-P10-080606	BERYLLIUM	0.99	05/04/09	57431	Y	ES-P10-080606
East Site	P10	ES-P10-091014	BERYLLIUM	1.1	10/29/09	62500	Y	ES-P10-091014
East Site	P10	ES-P10-092309	BERYLLIUM	0.84	10/06/09	61792	Y	ES-P10-092309
East Site	P11	ES-P11-080606	BERYLLIUM	0.94	05/04/09	57431	Y	ES-P11-080606
East Site	P11	ES-P11-092309	BERYLLIUM	0.78	10/06/09	61792	Y	ES-P11-092309
East Site	Q5	ES-Q05-080520	BERYLLIUM	0.68	06/05/09	58138	Y	ES-Q05-080520
East Site	Q5	ES-Q05-091105	BERYLLIUM	1.1	12/07/09	63407	Y	ES-Q05-091105
East Site	Q6	ES-Q06-091021	BERYLLIUM	0.89	11/18/09	62993	Y	ES-Q06-091021
East Site	Q7	ES-Q07-091021	BERYLLIUM	0.98	11/18/09	62993	Y	ES-Q07-091021
East Site	Q7	ES-Q07-091228	BERYLLIUM	1.4	01/26/10	64130	Y	ES-Q07-091228
East Site	Q8	ES-Q08-091021	BERYLLIUM	0.87	11/18/09	62993	Y	ES-Q08-091021
East Site	Q8	ES-Q08-091228	BERYLLIUM	0.92	01/26/10	64130	Y	ES-Q08-091228
East Site	Q9	ES-Q09-080612	BERYLLIUM	0.8	06/05/09	58138	Y	ES-Q09-080612
East Site	Q10	ES-Q10-080606	BERYLLIUM	0.95	05/06/09	57448	Y	ES-Q10-080606
East Site	Q10	ES-Q10-091123	BERYLLIUM	0.82	12/14/09	63530	Y	ES-Q10-091123
East Site	Q10	ES-Q10-092309	BERYLLIUM	1.2	10/06/09	61792	Y	ES-Q10-092309
East Site	Q11	ES-Q11-080606	BERYLLIUM	0.87	05/06/09	57448	Y	ES-Q11-080606
East Site	Q17	ES-Q17-080609	BERYLLIUM	0.5	05/03/09	57101	Y	ES-Q17-080609
East Site	R5	ES-R05-080521	BERYLLIUM	0.65	06/05/09	58138	Y	ES-R05-080521
East Site	R5	ES-R05-091105	BERYLLIUM	1	12/07/09	63407	Y	ES-R05-091105
East Site	R6	ES-R06-080521	BERYLLIUM	1.1	06/22/09	58564	Y	ES-R06-080521
East Site	R7	ES-R07-080521	BERYLLIUM	0.95	06/11/09	58214	Y	ES-R07-080521
East Site	R8	ES-R08-091021	BERYLLIUM	1.1	11/18/09	62993	Y	ES-R08-091021
East Site	R8	ES-R08-091021	BERYLLIUM	0.95	01/20/10	64208	Y	DUP-46

BERYLLIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	R9	ES-R09-080520	BERYLLIUM	0.81	06/11/09	58214	Y	ES-R09-080520
East Site	R10	ES-R10-080602	BERYLLIUM	0.62	06/11/09	58214	Y	ES-R10-080602
East Site	R11	ES-R11-080605	BERYLLIUM	1.1	05/06/09	57448	Y	ES-R11-080605
East Site	R11	ES-R11-090910	BERYLLIUM	0.82	09/25/09	61416	Y	ES-R11-090910
East Site	R11	ES-R11-090910	BERYLLIUM	0.94	10/29/09	62500	Y	DUP-38
East Site	R12	ES-R12-080611	BERYLLIUM	0.73	05/06/09	57448	Y	ES-R12-080611
East Site	R16	ES-R16-080605	BERYLLIUM	0.5	05/03/09	57101	Y	ES-R16-080605
East Site	R17	ES-R17-080606	BERYLLIUM	0.58	05/03/09	57101	Y	ES-R17-080606
East Site	S5	ES-S05-080521	BERYLLIUM	0.85	06/11/09	58214	Y	ES-S05-080521
East Site	S6	ES-S06-080521	BERYLLIUM	0.94	06/11/09	58214	Y	ES-S06-080521
East Site	S7	ES-S07-080521	BERYLLIUM	1.1	06/11/09	58214	Y	ES-S07-080521
East Site	S8	ES-S08-091015	BERYLLIUM	1.4	10/29/09	62500	Y	ES-S08-091015
East Site	S9	ES-S09-080522	BERYLLIUM	1	06/11/09	58214	Y	ES-S09-080522
East Site	S10	ES-S10-080523	BERYLLIUM	0.88	06/11/09	58214	Y	ES-S10-080523
East Site	S11	ES-S11-080528	BERYLLIUM	0.61	06/11/09	58214	Y	ES-S11-080528
East Site	S12	ES-S12-080609	BERYLLIUM	0.81	05/03/09	57101	Y	ES-S12-080609
East Site	S13	ES-S13-080610	BERYLLIUM	0.59	05/03/09	57101	Y	ES-S13-080610
East Site	S17	ES-S17-090910	BERYLLIUM	1.1	09/25/09	61416	Y	ES-S17-090910
East Site	S17	ES-S17-090910	BERYLLIUM	0.85	10/06/09	61792	Y	DUP-37
East Site	S18	ES-S18-080606	BERYLLIUM	0.71	05/03/09	57101	Y	ES-S18-080606
East Site	T7	ES-T07-080612	BERYLLIUM	0.73	06/11/09	58214	Y	ES-T07-080612
East Site	T8	ES-T08-080522	BERYLLIUM	0.69	06/05/09	58138	Y	DUP-13
East Site	T8	ES-T08-080522	BERYLLIUM	0.75	06/11/09	58214	Y	ES-T08-080522
East Site	T9	ES-T09-080522	BERYLLIUM	0.62	06/11/09	58214	Y	ES-T09-080522
East Site	T10	ES-T10-080523	BERYLLIUM	0.73	06/11/09	58214	Y	ES-T10-080523
East Site	T10	ES-T10-080523	BERYLLIUM	0.74	06/11/09	58214	Y	DUP-14
East Site	T10	ES-T10-091015	BERYLLIUM	1.3	10/29/09	62500	Y	ES-T10-091015
East Site	T11	ES-T11-080530	BERYLLIUM	0.74	06/11/09	58214	Y	ES-T11-080530
East Site	T12	ES-T12-080609	BERYLLIUM	0.63	05/03/09	57101	Y	ES-T12-080609
East Site	T13	ES-T13-080609	BERYLLIUM	0.75	05/03/09	57101	Y	ES-T13-080609
East Site	T14	ES-T14-080610	BERYLLIUM	0.7	05/03/09	57101	Y	ES-T14-080610
East Site	U10	ES-U10-080523	BERYLLIUM	0.71	06/11/09	58214	Y	ES-U10-080523
East Site	U11	ES-U11-080602	BERYLLIUM	0.65	06/22/09	58564	Y	ES-U11-080602
East Site	U13	ES-U13-080610	BERYLLIUM	0.91	05/04/09	57431	Y	ES-U13-080610
East Site	U14	ES-U14-080610	BERYLLIUM	0.84	05/04/09	57431	Y	ES-U14-080610
East Site	V11	ES-V11-080529	BERYLLIUM	0.76	06/22/09	58564	Y	ES-V11-080529
East Site	V14	ES-V14-080605	BERYLLIUM	0.95	05/04/09	57431	Y	ES-V14-080605
East Site	W12	ES-W12-080527	BERYLLIUM	0.6	06/22/09	58564	Y	ES-W12-080527
West Site	A4	WS-A04-080626	BERYLLIUM	0.88	07/13/09	59383	Y	WS-A04-080626
West Site	B2	WS-B02-100120	BERYLLIUM	0.56	02/08/10	64437	Y	WS-B02-100120
West Site	B3	WS-B03-080502	BERYLLIUM	0.97	07/13/09	59383	Y	WS-B03-080502
West Site	B4	WS-B04-080626	BERYLLIUM	0.95	07/13/09	59383	Y	WS-B04-080626
West Site	B5	WS-B05-080626	BERYLLIUM	0.73	07/24/09	59759	Y	WS-B05-080626

BERYLLIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	C1	WS-C01-080501	BERYLLIUM	0.59	06/22/09	58564	Y	DUP-3
West Site	C1	WS-C01-080501	BERYLLIUM	0.6	06/22/09	58564	Y	WS-C01-080501
West Site	C2	WS-C02-080428	BERYLLIUM	0.52	07/24/09	59622	Y	WS-C02-080428
West Site	C2	WS-C02-100120	BERYLLIUM	0.58	02/08/10	64437	Y	WS-C02-100120
West Site	C3	WS-C03-080620	BERYLLIUM	0.9	07/24/09	59622	Y	WS-C03-080620
West Site	C4	WS-C04-080623	BERYLLIUM	0.77	07/24/09	59622	Y	WS-C04-080623
West Site	C5	WS-C05-080620	BERYLLIUM	0.71	07/24/09	59759	Y	WS-C05-080620
West Site	C5	WS-C05-100112	BERYLLIUM	0.89	01/26/10	64335	Y	WS-C05-100112
West Site	C6	WS-C06-080624	BERYLLIUM	0.75	07/24/09	59759	Y	WS-C06-080624
West Site	C6	WS-C06-091013	BERYLLIUM	1.1	10/29/09	62500	Y	WS-C06-091013
West Site	D1	WS-D01-080430	BERYLLIUM	0.62	06/22/09	58564	Y	WS-D01-080430
West Site	D2	WS-D02-080429	BERYLLIUM	1.1	07/13/09	59383	Y	DUP-2
West Site	D2	WS-D02-080429	BERYLLIUM	0.98	07/24/09	59622	Y	WS-D02-080429
West Site	D3	WS-D03-080620	BERYLLIUM	0.8	07/24/09	59622	Y	WS-D03-080620
West Site	D4	WS-D04-080623	BERYLLIUM	0.78	08/17/09	60441	Y	WS-D04-080623
West Site	D4	WS-D04-091230	BERYLLIUM	0.92	01/26/10	64130	Y	WS-D04-091230
West Site	D5	WS-D05-080620	BERYLLIUM	0.78	07/24/09	59759	Y	WS-D05-080620
West Site	D5	WS-D05-100111	BERYLLIUM	1.1	01/26/10	64335	Y	WS-D05-100111
West Site	D6	WS-D06-080619	BERYLLIUM	1	07/24/09	59759	Y	WS-D06-080619
West Site	D6	WS-D06-091013	BERYLLIUM	1.1	10/29/09	62500	Y	WS-D06-091013
West Site	D7	WS-D07-080619	BERYLLIUM	0.95	07/24/09	59759	Y	WS-D07-080619
West Site	D7	WS-D07-091013	BERYLLIUM	1.1	10/29/09	62500	Y	WS-D07-091013
West Site	E1	WS-E01-080430	BERYLLIUM	0.75	06/22/09	58564	Y	WS-E01-080430
West Site	E2	WS-E02-080428	BERYLLIUM	0.92	07/13/09	59383	Y	DUP-1
West Site	E2	WS-E02-080428	BERYLLIUM	0.8	07/24/09	59622	Y	WS-E02-080428
West Site	E2	WS-E02-100115	BERYLLIUM	0.84	02/08/10	64437	Y	WS-E02-100115
West Site	E3	WS-E03-080619	BERYLLIUM	0.79	07/24/09	59622	Y	WS-E03-080619
West Site	E4	WS-E04-080613	BERYLLIUM	0.72	07/24/09	59759	Y	WS-E04-080613
West Site	E4	WS-E04-091230	BERYLLIUM	0.88	01/26/10	64130	Y	WS-E04-091230
West Site	E5	WS-E05-080613	BERYLLIUM	0.61	07/24/09	59759	Y	WS-E05-080613
West Site	E5	WS-E05-100111	BERYLLIUM	1.2	01/26/10	64335	Y	WS-E05-100111
West Site	E6	WS-E06-080613	BERYLLIUM	0.82	07/24/09	59759	Y	WS-E06-080613
West Site	E6	WS-E06-091228	BERYLLIUM	0.94	01/26/10	64130	Y	WS-E06-091228
West Site	E7	WS-E07-080613	BERYLLIUM	0.91	07/24/09	59759	Y	WS-E07-080613
West Site	E7	WS-E07-091228	BERYLLIUM	0.85	01/26/10	64130	Y	WS-E07-091228
West Site	E8	WS-E08-091228	BERYLLIUM	0.96	01/26/10	64130	Y	WS-E08-091228
West Site	F1	WS-F01-080429	BERYLLIUM	0.71	06/22/09	58564	Y	WS-F01-080429
West Site	F1	WS-F01-100115	BERYLLIUM	0.64	02/08/10	64437	Y	WS-F01-100115
West Site	F2	WS-F02-080429	BERYLLIUM	0.78	07/24/09	59622	Y	WS-F02-080429
West Site	F2	WS-F02-100115	BERYLLIUM	0.89	02/08/10	64437	Y	WS-F02-100115
West Site	F3	WS-F03-080619	BERYLLIUM	0.79	07/24/09	59622	Y	WS-F03-080619
West Site	F3	WS-F03-100115	BERYLLIUM	0.68	02/08/10	64437	Y	WS-F03-100115
West Site	F4	WS-F04-080616	BERYLLIUM	0.75	07/30/09	59891	Y	WS-F04-080616

BERYLLIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	F4	WS-F04-091230	BERYLLIUM	0.84	01/26/10	64130	Y	WS-F04-091230
West Site	F5	WS-F05-080612	BERYLLIUM	0.55	08/18/09	60441	Y	WS-F05-080612
West Site	F5	WS-F05-100111	BERYLLIUM	1.1	01/26/10	64335	Y	WS-F05-100111
West Site	F6	WS-F06-080612	BERYLLIUM	0.95	07/30/09	59891	Y	WS-F06-080612
West Site	F6	WS-F06-091228	BERYLLIUM	1.1	01/26/10	64130	Y	WS-F06-091228
West Site	F7	WS-F07-080617	BERYLLIUM	0.48	06/30/09	58730	Y	WS-F07-080617
West Site	F8	WS-F08-080618	BERYLLIUM	0.58	06/30/09	58730	Y	WS-F08-080618
West Site	G1	WS-G01-080501	BERYLLIUM	1	06/22/09	58564	Y	DUP-4
West Site	G1	WS-G01-080501	BERYLLIUM	0.79	06/30/09	58730	Y	WS-G01-080501
West Site	G1	WS-G01-100113	BERYLLIUM	0.91	01/26/10	64335	Y	WS-G01-100113
West Site	G1	WS-G01-100223	BERYLLIUM	0.98	03/05/10	65038	Y	WS-G01-100223
West Site	G2	WS-G02-080618	BERYLLIUM	0.77	07/24/09	59622	Y	WS-G02-080618
West Site	G2	WS-G02-100113	BERYLLIUM	0.95	01/26/10	64335	Y	WS-G02-100113
West Site	G3	WS-G03-080619	BERYLLIUM	0.76	07/24/09	59622	Y	WS-G03-080619
West Site	G4	WS-G04-080616	BERYLLIUM	0.75	07/30/09	59891	Y	WS-G04-080616
West Site	G5	WS-G05-100108	BERYLLIUM	0.96	01/20/10	64208	Y	WS-G05-100108
West Site	G5	WS-G05-100223	BERYLLIUM	1	03/05/10	65038	Y	WS-G05-100223
West Site	G6	WS-G06-080616	BERYLLIUM	0.84	07/30/09	59891	Y	WS-G06-080616
West Site	G6	WS-G06-100107	BERYLLIUM	0.79	01/20/10	64208	Y	WS-G06-100107
West Site	G7	WS-G07-080617	BERYLLIUM	0.64	06/30/09	58730	Y	WS-G07-080617
West Site	G7	WS-G07-100105	BERYLLIUM	0.69	01/20/10	64208	Y	WS-G07-100105
West Site	H1	WS-H01-080501	BERYLLIUM	0.88	06/30/09	58730	Y	WS-H01-080501
West Site	H2	WS-H02-080618	BERYLLIUM	0.75	07/24/09	59622	Y	WS-H02-080618
West Site	H2	WS-H02-100113	BERYLLIUM	0.87	01/26/10	64335	Y	WS-H02-100113
West Site	H3	WS-H03-080619	BERYLLIUM	0.68	07/30/09	59891	Y	WS-H03-080619
West Site	H4	WS-H04-080616	BERYLLIUM	0.69	07/30/09	59891	Y	WS-H04-080616
West Site	H5	WS-H05-100107	BERYLLIUM	0.88	01/20/10	64208	Y	WS-H05-100107
West Site	H6	WS-H06-080617	BERYLLIUM	0.8	06/30/09	58730	Y	WS-H06-080617
West Site	I1	WS-I01-080501	BERYLLIUM	0.5	06/30/09	58730	Y	DUP-5
West Site	I1	WS-I01-080501	BERYLLIUM	0.56	06/30/09	58730	Y	WS-I01-080501
West Site	I1	WS-I01-091013	BERYLLIUM	0.84	10/29/09	62500	Y	WS-I01-091013
West Site	I2	WS-I02-080618	BERYLLIUM	0.67	07/24/09	59759	Y	WS-I02-080618
West Site	I2	WS-I02-091014	BERYLLIUM	0.94	10/29/09	62500	Y	WS-I02-091014
West Site	I2	WS-I02-100113	BERYLLIUM	0.86	01/26/10	64335	Y	WS-I02-100113
West Site	I3	WS-I03-080618	BERYLLIUM	0.66	07/30/09	59891	Y	WS-I03-080618
West Site	I3	WS-I03-091013	BERYLLIUM	0.95	10/29/09	62500	Y	WS-I03-091013
West Site	I3	WS-I03-100113	BERYLLIUM	0.81	01/26/10	64335	Y	WS-I03-100113
West Site	I4	WS-I04-080617	BERYLLIUM	0.7	07/30/09	59891	Y	WS-I04-080617
West Site	I4	WS-I04-100106	BERYLLIUM	0.67	01/20/10	64208	Y	WS-I04-100106
West Site	I5	WS-I05-080617	BERYLLIUM	0.75	06/30/09	58730	Y	WS-I05-080617
West Site	I5	WS-I05-091013	BERYLLIUM	0.99	10/29/09	62500	Y	WS-I05-091013
West Site	I5	WS-I05-100107	BERYLLIUM	0.75	01/20/10	64208	Y	WS-I05-100107
West Site	I6	WS-I06-080617	BERYLLIUM	0.55	06/30/09	58730	Y	WS-I06-080617

BERYLLIUM CVS Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	I6	WS-I06-100105	BERYLLIUM	0.69	01/20/10	64208	Y	WS-I06-100105
West Site	J1	WS-J01-080505	BERYLLIUM	0.63	06/30/09	58730	Y	WS-J01-080505
West Site	J1	WS-J01-080505	BERYLLIUM	0.61	06/30/09	58730	Y	DUP-6
West Site	J1	WS-J01-091013	BERYLLIUM	0.91	10/29/09	62500	Y	WS-J01-091013
West Site	J1	WS-J01-100112	BERYLLIUM	0.89	01/26/10	64335	Y	WS-J01-100112
West Site	J2	WS-J02-080624	BERYLLIUM	0.66	06/30/09	58730	Y	WS-J02-080624
West Site	J2	WS-J02-100112	BERYLLIUM	0.93	01/26/10	64335	Y	WS-J02-100112
West Site	J3	WS-J03-080620	BERYLLIUM	0.65	07/08/09	59166	Y	WS-J03-080620
West Site	J4	WS-J04-080617	BERYLLIUM	0.57	07/08/09	59166	Y	WS-J04-080617
West Site	J4	WS-J04-100106	BERYLLIUM	0.97	01/20/10	64208	Y	WS-J04-100106
West Site	J5	WS-J05-080618	BERYLLIUM	0.61	07/08/09	59166	Y	WS-J05-080618
West Site	K1	WS-K01-080505	BERYLLIUM	0.6	07/08/09	59166	Y	WS-K01-080505
West Site	K1	WS-K01-091013	BERYLLIUM	0.9	10/29/09	62500	Y	WS-K01-091013
West Site	K2	WS-K02-080509	BERYLLIUM	0.73	07/08/09	59166	Y	WS-K02-080509
West Site	K3	WS-K03-080509	BERYLLIUM	0.51	07/08/09	59166	Y	WS-K03-080509
West Site	K4	WS-K04-080513	BERYLLIUM	0.54	07/08/09	59166	Y	WS-K04-080513
West Site	K4	WS-K04-080513	BERYLLIUM	0.53	07/24/09	59759	Y	DUP-10
West Site	K4	WS-K04-100106	BERYLLIUM	0.87	01/20/10	64208	Y	WS-K04-100106
West Site	K5	WS-K05-080509	BERYLLIUM	0.51	07/08/09	59166	Y	WS-K05-080509
West Site	L1	WS-L01-080505	BERYLLIUM	0.61	07/08/09	59166	Y	WS-L01-080505
West Site	L2	WS-L02-080508	BERYLLIUM	0.66	07/08/09	59166	Y	WS-L02-080508
West Site	L3	WS-L03-080508	BERYLLIUM	0.41	07/08/09	59166	Y	WS-L03-080508
West Site	L4	WS-L04-080508	BERYLLIUM	0.85	07/08/09	59166	Y	WS-L04-080508
West Site	L4	WS-L04-080508	BERYLLIUM	0.85	07/08/09	59166	Y	DUP-9
West Site	M1	WS-M01-080505	BERYLLIUM	0.62	07/08/09	59166	Y	DUP-7
West Site	M1	WS-M01-080505	BERYLLIUM	0.62	07/08/09	59166	Y	WS-M01-080505
West Site	M2	WS-M02-080507	BERYLLIUM	0.58	07/24/09	59759	Y	WS-M02-080507
West Site	M3	WS-M03-080507	BERYLLIUM	0.29	07/24/09	59622	Y	DUP-8
West Site	M3	WS-M03-080507	BERYLLIUM	0.3	08/11/09	60090	Y	WS-M03-080507
West Site	M3	WS-M03-091217	BERYLLIUM	0.67	01/06/10	63972	Y	WS-M03-091217
West Site	M3	WS-M03-091217	BERYLLIUM	0.63	03/05/10	65038	Y	DUP-48
West Site	M4	WS-M04-080507	BERYLLIUM	0.34	08/11/09	60090	Y	WS-M04-080507
West Site	M4	WS-M04-091218	BERYLLIUM	0.44	01/06/10	63972	Y	WS-M04-091218
West Site	M4	WS-M04-091218	BERYLLIUM	0.55	01/26/10	64130	Y	DUP-44
West Site	N1	WS-N01-080506	BERYLLIUM	0.51	08/11/09	60090	Y	WS-N01-080506
West Site	N2	WS-N02-080506	BERYLLIUM	0.7	07/13/09	59383	Y	WS-N02-080506
West Site	N3	WS-N03-080507	BERYLLIUM	0.22	06/30/09	58730	Y	WS-N03-080507
West Site	O1	WS-O01-080506	BERYLLIUM	0.68	07/13/09	59383	Y	WS-O01-080506
West Site	O2	WS-O02-080506	BERYLLIUM	0.39	07/13/09	59383	Y	WS-O02-080506

Table B-1: Boron Data Quality Summary

Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	82%	
Minimum Matrix Spike Recovery	greater than 70%	62%	
Average LCS Recovery	N/A	93%	
Average Matrix Spike Recovery	N/A	82%	
Maximum LCS RPD	less than 20%	15%	
Maximum Laboratory Duplicate RPD	less than 20%	33%	
Average LCS RPD	N/A	2%	
Average Laboratory Duplicate RPD	N/A	17%	
Measurement Quality Objectives	**Critera**	**Measured**	
NPS CRM	No vendor supplied data	Minimum Recovery =	3.70 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	142 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	21 %
Overall QC Indicator Measurements	**Criteria**	**Measured**	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	NA %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	4.78 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal		31 mg/kg	
Tier 2 Remediation Goal		35 mg/kg	
QC Derived Reliance Level		30.3 mg/kg See Note 2	

Comments: Boron analyses attained most laboratory performance criteria related to accuracy. Low minimum matrix spike recovery (62%) and low average matrix spike recovery (81%) indicate bias in boron measurements favoring low measurements. Several measurement indices suggest compromised precision, such as the observed maximum laboratory duplicate RPD (33%) that exceeds the laboratory performance criteria (20%), a CVS Split Analysis RPD (142%) that exceeds the measurement quality objective (35%), and a high standard deviation for repeated measurements of the same sample (4.78 mg/kg) relative to its mean concentration (6.024mg/kg). However, the derived reliance level (30.3 mg/kg) is lower than the tier 2 RG. There was one boron CVS result that exceeded the derived reliance level, but an earlier boron analysis of a different sample representing the same grid yielded a concentration below the RG and less than the reliance level. Therefore, it is concluded that any compromise in precision and accuracy is of minor significance and should not influence data usability. Based on the foregoing, it is concluded that the boron CVS boron measurements have acceptable quality and may be used to determine RG achievement.

Note 1: The QAPP required CRMs have only 4 analytes from each analyte group. Boron is not one of these analytes.

Note 2: The QC derived reliance level must be calculated differently for boron because there is no vendor supplied "made to" concentration for the NPS CRM. Therefore, the average MS spike recovery (82%) is used to calculate the derived reliance level (30.0 mg/kg).
Derived reliance level is calculated as: (Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (35)(1.2)(.82)-(0.84)(4.78) = 30.3mg/kg

Table B-2: Boron - NPS CRMs				
Blind NPS CRM Results				
Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	5.6	5/1/09	57223	Y
BOR SAMPLE 6-BOR 81	4.3	5/1/09	57284	Y
BOR Sample 4-BOR 82	3.7	5/11/09	57543	Y
BOR 83	4.7	5/24/09	57792	Y
BOR Sample 3-BOR 58	4.7	5/24/09	57792	Y
BOR 84	4.5	5/28/09	57847	Y
BOR Sample 7-BOR 105	4.7	5/28/09	57847	Y
BOR 85	4.5	6/9/09	58135	Y
BOR Sample 8-BOR 106	4.9	6/9/09	58135	Y
BOR 86	5	6/10/09	58212	Y
BOR 108	5.4	6/20/09	58565	Y
BOR 87	7.3	6/20/09	58565	Y
BOR 109	5	7/7/09	58728	Y
BOR 110	6.4	7/16/09	59381	Y
BOR Sample 9-BOR 107	5.4	7/27/09	59757	Y
BOR 111	3.7	7/29/09	59889	Y

CRMs		Vendor Supplied Information
Mean	5.0	*Made to*
Median	4.8	
Standard Deviation	0.9	*Upper Acceptance Limit*
Sample Variance	0.8	
Kurtosis	1.8	
Skewness	1.1	*Lower Acceptance Limit*
Range	3.6	
Minimum	3.7	
Maximum	7.3	There is no Vendor Supplied
Sum	79.8	Information for Boron
Count	16.0	
Largest(2)	6.4	
Smallest(2)	3.7	

Table B-3: Boron - NPS Replicate Tests on a Background Sample

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	7.2	5/1/09	57223	Y
BOR 59	3.5	5/1/09	57284	Y
BOR 60	2.9	5/11/09	57543	Y
BOR 113	4.2	5/24/09	57792	Y
BOR 61	3.5	5/24/09	57792	Y
BOR 62	3.9	6/10/09	58212	Y
BOR 63	4	6/20/09	58565	Y
BOR 89	3.6	6/20/09	58565	Y
BOR 115	5.2	7/7/09	58728	Y
BOR 64	4	7/8/09	59163	Y
BOR 91	2.3	7/8/09	59163	N
BOR 116	15.7	7/16/09	59381	Y
BOR 92	3.7	7/16/09	59381	Y
BOR 65	3.1	7/20/09	59621	Y
BOR 88	7	7/29/09	59889	Y
BOR-802	4.3	10/6/09	61790	Y
BOR 804	6.9	11/5/09	62725	Y
BOR-805	2.6	11/5/09	62754	Y
BOR 800	7.2	11/9/09	61414	Y
BOR-807	3.7	11/25/09	63215	Y
BOR-808	13.9	12/8/09	63405	Y
BOR 813	7.5	1/19/10	64128	Y
BOR 815	5.3	1/19/10	64206	Y
BOR-816	22.8	1/27/10	64333	Y
BOR-820	2.6	3/5/10	65036	N

Replicate analyses of Single Sample	
Mean	6.024
Median	4.000
Standard Deviation	4.783
Sample Variance	22.875
Kurtosis	6.068
Skewness	2.412
Range	20.500
Minimum	2.300
Maximum	22.800
Sum	150.600
Count	25.000
Largest(2)	15.700
Smallest(2)	2.600

Table B-4: Boron NPS and EQIS Duplicates

Sample	Result	Analysis Date	Batch	Split	Result	Analysis Date	RPD
BOR 503	6	5/1/09	57284	ES-T11-080530	2.1	6/10/2009	96
BOR 506	5.2	5/11/09	57543	ES-S10-080523	3.8	6/10/2009	31
BOR 504	9.2	5/24/09	57792	ES-M05-080527	7.2	5/28/2009	24
BOR 507	8.3	6/9/09	58135	ES-O09-080610			
BOR 508	14.6	6/20/09	58565	ES-Q11-080606	13.5	5/11/2009	8
BOR 510	4.8	7/8/09	58728	OU-8HR-080605	3.4	5/1/2009	34
BOR 501	6.4	7/8/09	59163	WS-L04-080508	8	7/8/2009	22
BOR 505	3.4	7/20/09	59621	WS-K03-080509	6.9	7/8/2009	68
BOR 502	9.8	7/27/09	59757	WS-F05-080612	7.3	8/25/2009	29
BOR 509	12	7/27/09	59757	WS-E06-080613	18.6	7/27/2009	43
BOR 500	5.6	7/29/09	59889	WS-F01-080429	4.2	6/20/2009	29
BOR-809	4.8	12/15/09	63529	ES-K03-091103	6.4	11/25/2009	29
BOR-810	5.4	12/15/09	63529	ES-P07-091022	2.3	11/5/2009	81
BOR-811	4.6	12/15/09	63529	ES-R08-091021	4.2	11/5/2009	9
BOR 814	42.7	1/19/10	64128	ES-J05-091124	7.3	12/15/2009	142
BOR-818	21.7	3/5/10	65036	WS-F05-100111	22.5	1/27/2010	4
BOR-822	5.2	3/5/10	65036	ES-Q08-091228	21.6	1/19/2010	122
DUP-11	12.7	5/1/09	57147	ES-J03-080513	7.7	6/20/2009	49
DUP-17	4	5/1/09	57284	ES-F01-080529	4.7	5/11/2009	16
DUP-15	10.8	5/11/09	57543	ES-J02-080527	21.1	5/24/2009	65
DUP-18	7.7	5/11/09	57543	ES-J04-080530	13.8	5/24/2009	57
DUP-12	8.2	5/24/09	57792	ES-P06-080515	5.6	6/9/2009	38
DUP-16	8.3	5/24/09	57792	ES-P04-080528	8.1	6/9/2009	2
DUP-19	4.1	5/28/09	57847	ES-K05-080605	4.9	5/28/2009	18
DUP-13	3.2	6/9/09	58135	ES-T08-080522	2.6	6/10/2009	21
DUP-14	3.9	6/10/09	58212	ES-T10-080523	3.7	6/10/2009	5
DUP-3	3.9	6/20/09	58565	WS-C01-080501	5.7	6/20/2009	38
DUP-4	3.5	6/20/09	58565	WS-G01-080501	6.4	7/7/2009	59
DUP-5	6	7/7/09	58728	WS-I01-080501	6.5	7/7/2009	8
DUP-6	7.2	7/7/09	58728	WS-J01-080505	7.3	7/7/2009	1
DUP-7	7.1	7/8/09	59163	WS-M01-080505	8.4	7/8/2009	17
DUP-9	6.9	7/8/09	59163	WS-L04-080508	8	7/8/2009	15
DUP-1	10.2	7/16/09	59381	WS-E02-080428	8.4	7/20/2009	19
DUP-2	9.5	7/16/09	59381	WS-D02-080429	8.7	7/20/2009	9
DUP-8	3.9	7/20/09	59621	WS-M03-080507	2.8	8/5/2009	33
DUP-10	12.5	7/27/09	59757	WS-K04-080513	14.1	7/8/2009	12
DUP-37	4.9	10/5/09	61790	ES-S17-090910	8	9/23/2009	48
DUP-38	7.2	10/28/09	62499	ES-R11-090910	10.1	11/9/2009	34
DUP-39	14.1	10/28/09	62499	ES-C01-090910	6.2	11/9/2009	78
DUP-40	3.1	11/5/09	62754	ES-A01-102109			
DUP-44	9.9	1/19/10	64128	WS-M04-091218	2.8	1/5/2010	112
DUP-45	22.4	1/19/10	64128	ES-J05-091124	7.3	12/15/2009	102
DUP-46	7.5	1/19/10	64206	ES-R08-091021	4.2	11/5/2009	56
DUP-47	24.8	1/27/10	64333	ES-K02-091103	9.9	11/25/2009	86
DUP-48	5.8	3/5/10	65036	WS-M03-091217	3.3	1/5/2010	55

Table B-4: Boron NPS and EQIS Duplicates (continued)

RPD of Sample Splits	
Mean	42.352
Median	32.836
Standard Deviation	34.929
Sample Variance	1220.017
Kurtosis	0.625
Skewness	1.096
Range	140.221
Minimum	1.379
Maximum	141.600
Sum	1821.144
Count	43.000
Largest(2)	122.388
Smallest(2)	2.439

Table B-5: Boron EQIS CRMs						
Results of Duplicate Analysis of EQIS CRMs						
Sample	Result	Date	Batch	Detect	Average	RPD
ES-Z11-080605A	48.3	5/1/09	57147	Y		
ES-Z11-080605B	48.7	5/1/09	57147	Y	48.50	0.82
ES-Z09-080529A	34.7	5/1/09	57284	Y		
ES-Z09-080529B	36.8	5/1/09	57284	Y	35.75	5.87
ES-Z12-080606A	38.3	5/1/09	57284	Y		
ES-Z12-080606B	38.3	5/1/09	57284	Y	38.30	0.00
ES-Z05-080519A	39.4	5/11/09	57543	Y		
ES-Z05-080519B	38.9	5/11/09	57543	Y	39.15	1.28
ES-Z06-080520A	38.5	5/11/09	57543	Y		
ES-Z06-080520B	36.4	5/11/09	57543	Y	37.45	5.61
ES-Z07-080522A	48	5/24/09	57792	Y		
ES-Z07-080522B	43.8	5/24/09	57792	Y	45.90	9.15
ES-Z13-080610A	41.2	5/28/09	57847	Y		
ES-Z13-080610B	45.7	5/28/09	57847	Y	43.45	10.36
ES-Z10-080602A	38.9	6/9/09	58135	Y		
ES-Z10-080602B	44.6	6/9/09	58135	Y	41.75	13.65
ES-Z08-080527A	38	6/10/09	58212	Y		
ES-Z08-080527B	42.8	6/10/09	58212	Y	40.40	11.88
ES-Z14-080611A	57	6/20/09	58565	Y		
ES-Z14-080611B	50.3	6/20/09	58565	Y	53.65	12.49
ES-Z06-080520C	44.2	7/7/09	58728	Y		
ES-Z06-080520D	42.3	7/7/09	58728	Y	43.25	4.39
ES-Z05-080519C	45.4	7/8/09	59163	Y		
ES-Z05-080519D	46.8	7/8/09	59163	Y	46.10	3.04
ES-Z19-080624A	52.4	7/16/09	59381	Y		
ES-Z19-080624B	56.6	7/16/09	59381	Y	54.50	7.71
WS-Z17-080618A	51.5	7/16/09	59381	Y		
WS-Z17-080618B	53.6	7/16/09	59381	Y	52.55	4.00
WS-Z15-080613A	42.4	7/20/09	59621	Y		
WS-Z15-080613B	44.2	7/20/09	59621	Y	43.30	4.16
WS-Z18-080620A	42.5	7/20/09	59621	Y		
WS-Z18-080620B	45.1	7/20/09	59621	Y	43.80	5.94
WS-Z16-080617A	48.8	7/29/09	59889	Y		
WS-Z16-080617B	50.4	7/29/09	59889	Y	49.60	3.23
ES-Z22-091021A	7	11/5/09	62754	Y		
ES-Z22-091021B	6.7	11/5/09	62754	Y	6.85	4.38
ES-Z23-091022A	51.4	11/5/09	62754	Y		
ES-Z23-091022B	47.3	11/5/09	62754	Y	49.35	8.31
ES-Z24-091103A	44.4	11/25/09	63215	Y		
ES-Z24-091103B	46.7	11/25/09	63215	Y	45.55	5.05
ES-Z25-091104A	49.7	11/25/09	63215	Y		
ES-Z25-091104B	48.6	11/25/09	63215	Y	49.15	2.24
ES-Z26-091105A	43.2	12/8/09	63405	Y		
ES-Z26-091105B	41	12/8/09	63405	Y	42.10	5.23
ES-Z27-091106A	42.3	12/8/09	63405	Y		
ES-Z27-091106B	47.8	12/8/09	63405	Y	45.05	12.21
WS-Z29-091217A	36.2	1/5/10	63970	Y		
WS-Z29-091217B	39.2	1/5/10	63970	Y	37.70	7.96
WS-Z30-091230A	44.4	1/19/10	64128	Y		
WS-Z30-091230B	54.6	1/19/10	64128	Y	49.50	20.61
WS-Z31-100107A	38.4	1/19/10	64206	Y		
WS-Z31-100107B	36.9	1/19/10	64206	Y	37.65	3.98

Table B-5: Boron EQIS CRMs (continued)

Results of Duplicate Analysis of EQIS CRMs

Sample	Result	Date	Batch	Detect	Average	RPD
WS-Z32-100113A	50.6	1/27/10	64333	Y		
WS-Z32-100113B	53.8	1/27/10	64333	Y	52.20	6.13
ES-Z33-100225A	44.2	3/5/10	65036	Y		
ES-Z33-100225B	45.9	3/5/10	65036	Y	45.05	3.77

Analysis of EQIS CRMs	
Mean	43
Median	44
Standard Deviation	9
Sample Variance	81
Kurtosis	8
Skewness	-2
Range	50
Minimum	7
Maximum	57
Sum	2435
Count	56
Largest(2)	57
Smallest(2)	7

RPD of EQIS CRMs	
Mean	7
Median	5
Standard Deviation	5
Sample Variance	21
Kurtosis	2
Skewness	1
Range	21
Minimum	0
Maximum	21
Sum	183
Count	28
Largest(2)	14
Smallest(2)	1

Table B-6: Boron Laboratory MS and LCS

Matrix Spike Recovery %	Batch	Order	LCS Recovery %	Batch	Order
89	7160081	4	102	7160081	4
91	49188	16	94	49188	16
93	49191	18	100	49191	18
80	49538	32	86	49538	32
79	49540	33	87	49540	33
92	54626-627	68	96	54626-627	68
91	54821-822	71	95	54821-822	71
85	54891-892	77	96	54891-892	77
81	54915-916	78	97	54915-916	78
84	57147	109	96	57147	109
92	57223	112	94	57223	112
78	57543	127	97	57543	127
72	57792	136	88	57792	136
72	57847	137	83	57847	137
62	58135	149	82	58135	149
105	58212	150	109	58212	150
87	58565	162	100	58565	162
81	58728	166	91	58728	166
82	59163	172	96	59163	172
81	59381	186	90	59381	186
84	59621	190	92	59621	190
84	59757	199	91	59757	199
79	59889	204	92	59889	204
89	60088	213	96	60088	213
80	60439	224	83	60439	224
79	61414	244	86	61414	244
85	61790	250	96	61790	250
88	62499	259	103	62499	259
76	62754	265	100	62754	265
75	63215	281	93	63215	281
71	63405	291	84	63405	291
77	63529	294	96	63529	294
77	63970	301	84	63970	301
72	64128	313	90	64128	313
78	64206	314	90	64206	314
71	64333	330	82	64333	330
80	64435	339	88	64435	339
89	65036	349	95	65036	349
77	70142	367	90	70142	367

Average MS Recovery =	82	%	Average LCS Recovery =	93	%
Minimum MS Recovery =	62	%	Minimum LCS Recovery =	82	%

Table B-6: Boron Laboratory MS and LCS (Graph)

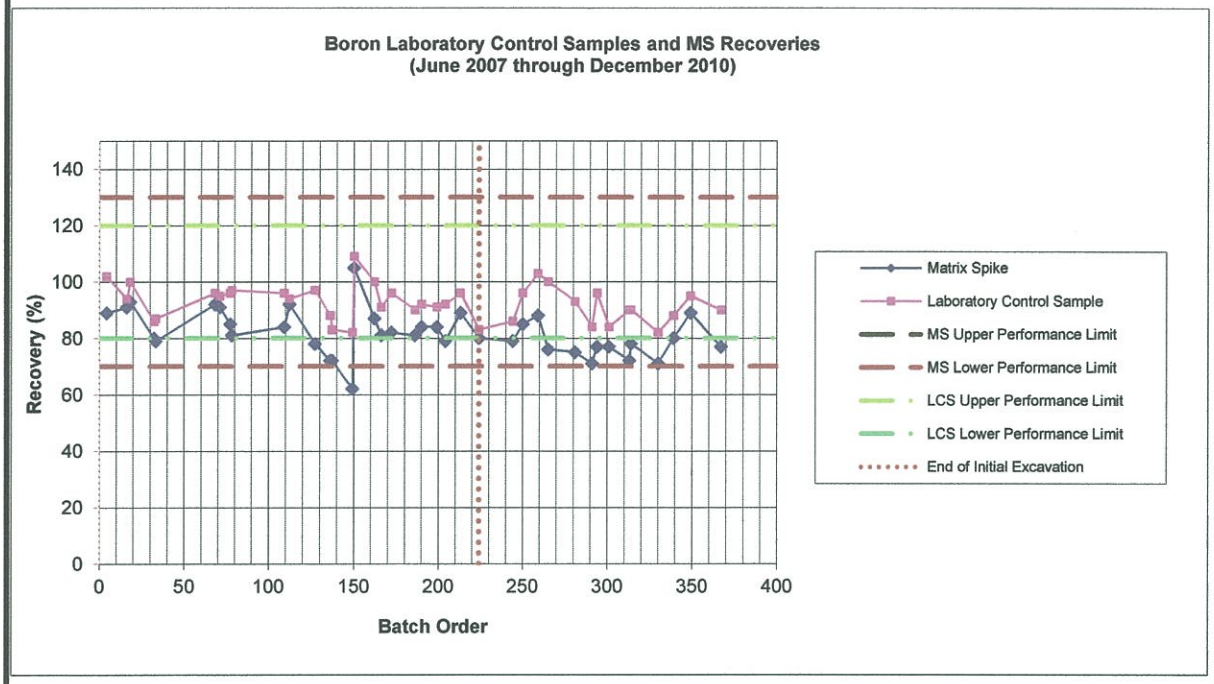
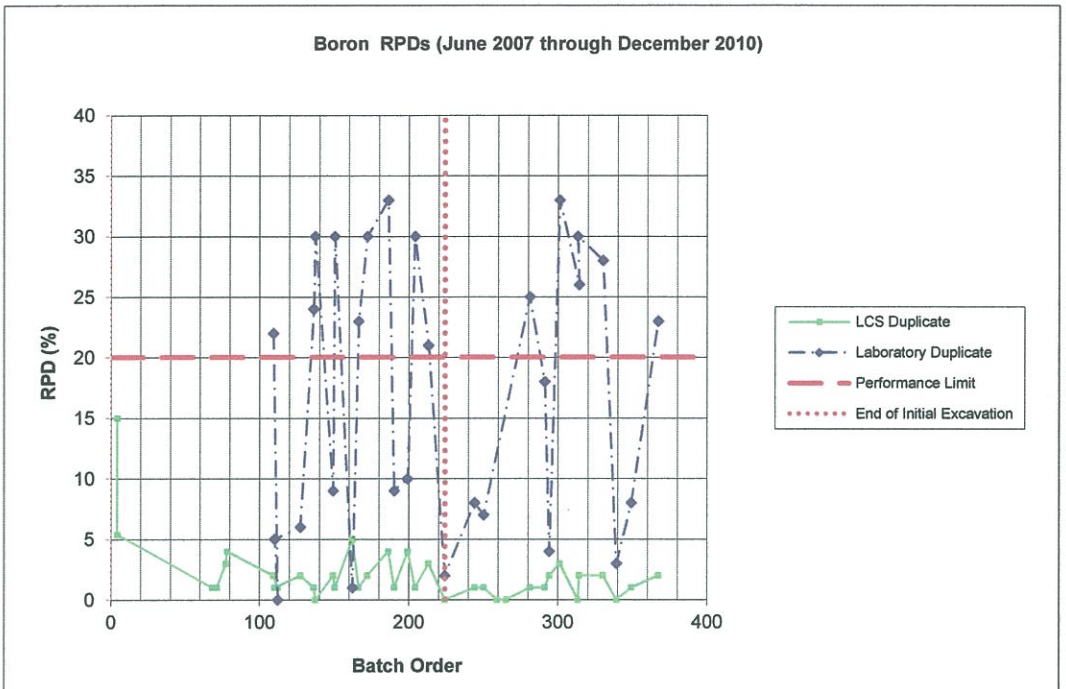


Table B-7: Boron - Laboratory Duplicate and LCS Duplicates

Laboratory Duplicate RPD	Batch	Order	LCS Duplicate RPD	Batch	Order
22	57147	109	15	7160081	4
0	57223	112	5.4	7160081	4
5	57284	110	1	54626-627	68
6	57543	127	1	54821-822	71
24	57792	136	3	54891-892	77
30	57847	137	4	54915-916	78
9	58135	149	2	57147	109
30	58212	150	1	57223	112
1	58565	162	1	57284	110
23	58728	166	2	57543	127
30	59163	172	1	57792	136
33	59381	186	0	57847	137
9	59621	190	2	58135	149
10	59757	199	1	58212	150
30	59889	204	5	58565	162
21	60088	213	1	58728	166
2	60439	224	2	59163	172
8	61414	244	4	59381	186
7	61790	250	1	59621	190
25	63215	281	4	59757	199
18	63405	291	1	59889	204
4	63529	294	3	60088	213
33	63970	301	0	60439	224
26	64206	314	1	61414	244
30	64128	313	1	61790	250
28	64333	330	0	62499	259
3	64435	339	0	62754	265
8	65036	349	1	63215	281
23	70142	367	1	63405	291
			2	63529	294
			3	63970	301
			0	64128	313
			2	64206	314
			2	64333	330
			0	64435	339
			1	65036	349
			2	70142	367

Average Duplicate RPD =	17	%	Average LCS RPD =	2	%
Maximum Duplicate RPD =	33	%	Maximum LCS RPD =	15	%

Table B-7: Boron - Laboratory Duplicate and LCS Duplicates (Graph)



BORON Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	A1	ES-A01-090910	BORON	5	09/23/09	61414	Y	ES-A01-090910
East Site	A1	ES-A01-102109	BORON	3.1	11/05/09	62754	N	DUP-40
East Site	B1	ES-B01-080623	BORON	5.3	05/01/09	57147	Y	ES-B01-080623
East Site	C1	ES-C01-080624	BORON	3.7	05/01/09	57147	Y	ES-C01-080624
East Site	C1	ES-C01-090910	BORON	14.1	10/28/09	62499	Y	DUP-39
East Site	C1	ES-C01-090910	BORON	6.2	11/09/09	61414	Y	ES-C01-090910
East Site	D1	ES-D01-080624	BORON	5.5	06/09/09	58135	Y	ES-D01-080624
East Site	E1	ES-E01-090910	BORON	6.1	09/23/09	61414	Y	ES-E01-090910
East Site	E2	ES-E02-090910	BORON	7.3	09/23/09	61414	Y	ES-E02-090910
East Site	F1	ES-F01-080529	BORON	4	05/01/09	57284	Y	DUP-17
East Site	F1	ES-F01-080529	BORON	4.7	05/11/09	57543	Y	ES-F01-080529
East Site	G1	ES-G01-080529	BORON	4.4	05/11/09	57543	Y	ES-G01-080529
East Site	G2	ES-G02-080605	BORON	3.6	05/11/09	57543	Y	ES-G02-080605
East Site	H1	ES-H01-080528	BORON	3.7	05/11/09	57543	Y	ES-H01-080528
East Site	H1	ES-H01-091105	BORON	13.9	12/08/09	63405	Y	ES-H01-091105
East Site	H2	ES-H02-080515	BORON	3.6	05/11/09	57543	Y	ES-H02-080515
East Site	H3	ES-H03-080605	BORON	6.6	05/24/09	57792	Y	ES-H03-080605
East Site	I1	ES-I01-080529	BORON	5.5	05/24/09	57792	Y	ES-I01-080529
East Site	I1	ES-I01-091105	BORON	10.3	12/08/09	63405	Y	ES-I01-091105
East Site	I2	ES-I02-080514	BORON	6.2	05/24/09	57792	Y	ES-I02-080514
East Site	I3	ES-I03-080513	BORON	4.3	05/24/09	57792	Y	ES-I03-080513
East Site	I4	ES-I04-080602	BORON	4.3	05/24/09	57792	Y	ES-I04-080602
East Site	I4	ES-I04-091106	BORON	9.7	12/08/09	63405	Y	ES-I04-091106
East Site	J1	ES-J01-080529	BORON	12.3	05/24/09	57792	Y	ES-J01-080529
East Site	J2	ES-J02-080527	BORON	10.8	05/11/09	57543	Y	DUP-15
East Site	J2	ES-J02-080527	BORON	21.1	05/24/09	57792	Y	ES-J02-080527
East Site	J2	ES-J02-091105	BORON	13.3	12/08/09	63405	Y	ES-J02-091105
East Site	J3	ES-J03-080513	BORON	12.7	05/01/09	57147	Y	DUP-11
East Site	J3	ES-J03-080513	BORON	7.7	06/20/09	58565	Y	ES-J03-080513
East Site	J3	ES-J03-091103	BORON	11	11/25/09	63215	Y	ES-J03-091103
East Site	J4	ES-J04-080530	BORON	7.7	05/11/09	57543	Y	DUP-18
East Site	J4	ES-J04-080530	BORON	13.8	05/24/09	57792	Y	ES-J04-080530
East Site	J4	ES-J04-091103	BORON	11.1	11/25/09	63215	Y	ES-J04-091103
East Site	J5	ES-J05-080602	BORON	20.8	05/24/09	57792	Y	ES-J05-080602
East Site	J5	ES-J05-091124	BORON	7.3	12/15/09	63529	Y	ES-J05-091124
East Site	J5	ES-J05-091124	BORON	22.4	01/19/10	64128	Y	DUP-45
East Site	J5	ES-J05-100112	BORON	28.1	01/27/10	64333	Y	ES-J05-100112
East Site	K1	ES-K01-080602	BORON	6.5	05/24/09	57792	Y	ES-K01-080602
East Site	K2	ES-K02-080602	BORON	6.6	05/11/09	57543	Y	ES-K02-080602
East Site	K2	ES-K02-091103	BORON	9.9	11/25/09	63215	Y	ES-K02-091103
East Site	K2	ES-K02-091103	BORON	24.8	01/27/10	64333	Y	DUP-47
East Site	K3	ES-K03-080514	BORON	8.7	05/24/09	57792	Y	ES-K03-080514
East Site	K3	ES-K03-091103	BORON	6.4	11/25/09	63215	Y	ES-K03-091103
East Site	K4	ES-K04-080527	BORON	5.9	05/28/09	57847	Y	ES-K04-080527
East Site	K5	ES-K05-080605	BORON	4.9	05/28/09	57847	Y	ES-K05-080605
East Site	K5	ES-K05-080605	BORON	4.1	05/28/09	57847	Y	DUP-19

BORON Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	K7	ES-K07-080611	BORON	10.1	05/01/09	57284	Y	ES-K07-080611
East Site	K7	ES-K07-090924	BORON	7.1	10/05/09	61790	Y	ES-K07-090924
East Site	K7	ES-K07-091123	BORON	5.5	12/14/09	63529	Y	ES-K07-091123
East Site	L1	ES-L01-080625	BORON	7.3	05/28/09	57847	Y	ES-L01-080625
East Site	L2	ES-L02-080625	BORON	11.2	05/28/09	57847	Y	ES-L02-080625
East Site	L3	ES-L03-080604	BORON	8.5	05/28/09	57847	Y	ES-L03-080604
East Site	L3	ES-L03-091104	BORON	7.3	11/25/09	63215	Y	ES-L03-091104
East Site	L4	ES-L04-080604	BORON	10.4	07/07/09	58565	Y	ES-L04-080604
East Site	L4	ES-L04-091104	BORON	6.7	11/25/09	63215	Y	ES-L04-091104
East Site	L5	ES-L05-091104	BORON	9.4	11/25/09	63215	Y	ES-L05-091104
East Site	L6	ES-L06-091104	BORON	8.7	11/25/09	63215	Y	ES-L06-091104
East Site	M1	ES-M01-080527	BORON	7.5	05/28/09	57847	Y	ES-M01-080527
East Site	M2	ES-M02-080519	BORON	9.6	05/28/09	57847	Y	ES-M02-080519
East Site	M3	ES-M03-091022	BORON	1.9	11/05/09	62754	N	ES-M03-091022
East Site	M3	ES-M03-091228	BORON	25	01/19/10	64128	Y	ES-M03-091228
East Site	M4	ES-M04-080515	BORON	6.8	05/28/09	57847	Y	ES-M04-080515
East Site	M5	ES-M05-080527	BORON	7.2	05/28/09	57847	Y	ES-M05-080527
East Site	M6	ES-M06-080520	BORON	8.2	05/28/09	57847	Y	ES-M06-080520
East Site	M6	ES-M06-091105	BORON	8.8	12/08/09	63405	Y	ES-M06-091105
East Site	M7	ES-M07-091105	BORON	12	12/08/09	63405	Y	ES-M07-091105
East Site	M8	ES-M08-080610	BORON	32.2	05/01/09	57284	Y	ES-M08-080610
East Site	M8	ES-M08-090924	BORON	8.5	10/05/09	61790	Y	ES-M08-090924
East Site	M8	ES-M08-091123	BORON	7.1	12/15/09	63529	Y	ES-M08-091123
East Site	M9	ES-M09-080611	BORON	5.1	05/01/09	57284	Y	ES-M09-080611
East Site	N2	ES-N02-080528	BORON	5.1	05/28/09	57847	Y	ES-N02-080528
East Site	N3	ES-N03-080520	BORON	5.6	05/28/09	57847	Y	ES-N03-080520
East Site	N4	ES-N04-080519	BORON	5.4	05/28/09	57847	Y	ES-N04-080519
East Site	N5	ES-N05-080519	BORON	6.1	05/28/09	57847	Y	ES-N05-080519
East Site	N5	ES-N05-091105	BORON	10.7	12/08/09	63405	Y	ES-N05-091105
East Site	N6	ES-N06-080527	BORON	10.5	06/09/09	58135	Y	ES-N06-080527
East Site	N7	ES-N07-080530	BORON	18.6	06/09/09	58135	Y	ES-N07-080530
East Site	N7	ES-N07-100225	BORON	17.8	03/05/10	65036	Y	ES-N07-100225
East Site	N8	ES-N08-080610	BORON	6.3	05/01/09	57284	Y	ES-N08-080610
East Site	N8	ES-N08-090924	BORON	8.5	10/05/09	61790	Y	ES-N08-090924
East Site	N8	ES-N08-091124	BORON	6.7	12/15/09	63529	Y	ES-N08-091124
East Site	N9	ES-N09-080610	BORON	10.3	05/04/09	57284	Y	ES-N09-080610
East Site	N9	ES-N09-090924	BORON	10.9	10/05/09	61790	Y	ES-N09-090924
East Site	N10	ES-N10-080610	BORON	5.7	05/01/09	57284	Y	ES-N10-080610
East Site	O3	ES-O03-080528	BORON	4.8	06/09/09	58135	Y	ES-O03-080528
East Site	O4	ES-O04-080515	BORON	5.2	06/09/09	58135	Y	ES-O04-080515
East Site	O5	ES-O05-080520	BORON	4.9	06/09/09	58135	Y	ES-O05-080520
East Site	O6	ES-O06-080529	BORON	10.5	06/09/09	58135	Y	ES-O06-080529
East Site	O6	ES-O06-091105	BORON	10	12/08/09	63405	Y	ES-O06-091105
East Site	O7	ES-O07-100225	BORON	21	03/05/10	65036	Y	ES-O07-100225
East Site	O8	ES-O08-080530	BORON	9.3	07/27/09	59757	Y	ES-O08-080530
East Site	O8	ES-O08-100225	BORON	2	03/05/10	65036	Y	ES-O08-100225

BORON Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	O9	ES-O09-091014	BORON	11.8	10/28/09	62499	Y	ES-O09-091014
East Site	O9	ES-O09-092309	BORON	10.1	10/05/09	61790	Y	ES-O09-092309
East Site	O10	ES-O10-091014	BORON	14.3	10/28/09	62499	Y	ES-O10-091014
East Site	O10	ES-O10-091123	BORON	7.8	12/14/09	63529	Y	ES-O10-091123
East Site	O10	ES-O10-092309	BORON	10.8	10/05/09	61790	Y	ES-O10-092309
East Site	P4	ES-P04-080528	BORON	8.3	05/24/09	57792	Y	DUP-16
East Site	P4	ES-P04-080528	BORON	8.1	06/09/09	58135	Y	ES-P04-080528
East Site	P5	ES-P05-080513	BORON	5.8	06/09/09	58135	Y	ES-P05-080513
East Site	P6	ES-P06-080515	BORON	8.2	05/24/09	57792	Y	DUP-12
East Site	P6	ES-P06-080515	BORON	5.6	06/09/09	58135	Y	ES-P06-080515
East Site	P7	ES-P07-080519	BORON	11.8	05/28/09	57847	Y	ES-P07-080519
East Site	P7	ES-P07-091022	BORON	2.3	11/05/09	62754	Y	ES-P07-091022
East Site	P8	ES-P08-080530	BORON	3.4	06/09/09	58135	Y	ES-P08-080530
East Site	P10	ES-P10-080606	BORON	15	05/01/09	57284	Y	ES-P10-080606
East Site	P10	ES-P10-091014	BORON	14.8	10/28/09	62499	Y	ES-P10-091014
East Site	P10	ES-P10-092309	BORON	16.3	10/05/09	61790	Y	ES-P10-092309
East Site	P11	ES-P11-080606	BORON	18.6	05/01/09	57284	Y	ES-P11-080606
East Site	P11	ES-P11-092309	BORON	22.1	10/05/09	61790	Y	ES-P11-092309
East Site	Q5	ES-Q05-080520	BORON	5.1	06/09/09	58135	Y	ES-Q05-080520
East Site	Q5	ES-Q05-091105	BORON	13.7	12/08/09	63405	Y	ES-Q05-091105
East Site	Q6	ES-Q06-091021	BORON	2	11/05/09	62754	N	ES-Q06-091021
East Site	Q7	ES-Q07-091021	BORON	1.9	11/05/09	62754	N	ES-Q07-091021
East Site	Q7	ES-Q07-091228	BORON	27.5	01/19/10	64128	Y	ES-Q07-091228
East Site	Q8	ES-Q08-091021	BORON	2.1	11/05/09	62754	N	ES-Q08-091021
East Site	Q8	ES-Q08-091228	BORON	21.6	01/19/10	64128	Y	ES-Q08-091228
East Site	Q9	ES-Q09-080612	BORON	5.3	06/09/09	58135	Y	ES-Q09-080612
East Site	Q10	ES-Q10-080606	BORON	8.4	05/11/09	57543	Y	ES-Q10-080606
East Site	Q10	ES-Q10-091123	BORON	7.5	12/14/09	63529	Y	ES-Q10-091123
East Site	Q10	ES-Q10-092309	BORON	21.4	10/05/09	61790	Y	ES-Q10-092309
East Site	Q11	ES-Q11-080606	BORON	13.5	05/11/09	57543	Y	ES-Q11-080606
East Site	Q17	ES-Q17-080609	BORON	6.2	05/01/09	57147	Y	ES-Q17-080609
East Site	R5	ES-R05-080521	BORON	5.1	06/09/09	58135	Y	ES-R05-080521
East Site	R5	ES-R05-091105	BORON	6.5	12/08/09	63405	Y	ES-R05-091105
East Site	R6	ES-R06-080521	BORON	5.4	06/20/09	58565	Y	ES-R06-080521
East Site	R7	ES-R07-080521	BORON	6.2	06/10/09	58212	Y	ES-R07-080521
East Site	R8	ES-R08-091021	BORON	4.2	11/05/09	62754	Y	ES-R08-091021
East Site	R8	ES-R08-091021	BORON	7.5	01/19/10	64206	Y	DUP-46
East Site	R9	ES-R09-080520	BORON	3.2	06/10/09	58212	Y	ES-R09-080520
East Site	R10	ES-R10-080602	BORON	2.5	06/10/09	58212	N	ES-R10-080602
East Site	R11	ES-R11-080605	BORON	9	05/11/09	57543	Y	ES-R11-080605
East Site	R11	ES-R11-090910	BORON	7.2	10/28/09	62499	Y	DUP-38
East Site	R11	ES-R11-090910	BORON	10.1	11/09/09	61414	Y	ES-R11-090910
East Site	R12	ES-R12-080611	BORON	9.3	05/11/09	57543	Y	ES-R12-080611
East Site	R16	ES-R16-080605	BORON	3.9	05/01/09	57147	Y	ES-R16-080605
East Site	R17	ES-R17-080606	BORON	6.6	05/01/09	57147	Y	ES-R17-080606
East Site	S5	ES-S05-080521	BORON	3.5	06/10/09	58212	Y	ES-S05-080521

BORON Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
East Site	S6	ES-S06-080521	BORON	9.2	06/10/09	58212	Y	ES-S06-080521
East Site	S7	ES-S07-080521	BORON	2.7	06/11/09	58212	Y	ES-S07-080521
East Site	S8	ES-S08-091015	BORON	10.9	10/28/09	62499	Y	ES-S08-091015
East Site	S9	ES-S09-080522	BORON	6.6	06/10/09	58212	Y	ES-S09-080522
East Site	S10	ES-S10-080523	BORON	3.8	06/10/09	58212	Y	ES-S10-080523
East Site	S11	ES-S11-080528	BORON	3.6	06/10/09	58212	Y	ES-S11-080528
East Site	S12	ES-S12-080609	BORON	5.4	05/01/09	57147	Y	ES-S12-080609
East Site	S13	ES-S13-080610	BORON	3.3	05/01/09	57147	Y	ES-S13-080610
East Site	S17	ES-S17-090910	BORON	8	09/23/09	61414	Y	ES-S17-090910
East Site	S17	ES-S17-090910	BORON	4.9	10/05/09	61790	Y	DUP-37
East Site	S18	ES-S18-080606	BORON	4	05/01/09	57147	Y	ES-S18-080606
East Site	T7	ES-T07-080612	BORON	2.4	06/10/09	58212	Y	ES-T07-080612
East Site	T8	ES-T08-080522	BORON	3.2	06/09/09	58135	Y	DUP-13
East Site	T8	ES-T08-080522	BORON	2.6	06/10/09	58212	Y	ES-T08-080522
East Site	T9	ES-T09-080522	BORON	2.7	06/10/09	58212	Y	ES-T09-080522
East Site	T10	ES-T10-080523	BORON	3.7	06/10/09	58212	Y	ES-T10-080523
East Site	T10	ES-T10-080523	BORON	3.9	06/10/09	58212	Y	DUP-14
East Site	T10	ES-T10-091015	BORON	12.3	10/28/09	62499	Y	ES-T10-091015
East Site	T11	ES-T11-080530	BORON	2.1	06/10/09	58212	N	ES-T11-080530
East Site	T12	ES-T12-080609	BORON	4.1	05/01/09	57147	Y	ES-T12-080609
East Site	T13	ES-T13-080609	BORON	2.9	05/01/09	57147	Y	ES-T13-080609
East Site	T14	ES-T14-080610	BORON	4	05/01/09	57147	Y	ES-T14-080610
East Site	U10	ES-U10-080523	BORON	2.3	06/10/09	58212	N	ES-U10-080523
East Site	U11	ES-U11-080602	BORON	3.3	06/20/09	58565	Y	ES-U11-080602
East Site	U13	ES-U13-080610	BORON	3.2	05/01/09	57284	Y	ES-U13-080610
East Site	U14	ES-U14-080610	BORON	3.5	05/01/09	57284	Y	ES-U14-080610
East Site	V11	ES-V11-080529	BORON	4	06/20/09	58565	Y	ES-V11-080529
East Site	V14	ES-V14-080605	BORON	3.9	05/01/09	57284	Y	ES-V14-080605
East Site	W12	ES-W12-080527	BORON	3.1	06/20/09	58565	Y	ES-W12-080527
West Site	A4	WS-A04-080626	BORON	3.1	07/16/09	59381	N	WS-A04-080626
West Site	B2	WS-B02-100120	BORON	2.7	02/04/10	64435	Y	WS-B02-100120
West Site	B3	WS-B03-080502	BORON	7	07/16/09	59381	Y	WS-B03-080502
West Site	B4	WS-B04-080626	BORON	11.8	07/16/09	59381	Y	WS-B04-080626
West Site	B5	WS-B05-080626	BORON	9.3	07/27/09	59757	Y	WS-B05-080626
West Site	C1	WS-C01-080501	BORON	5.7	06/20/09	58565	Y	WS-C01-080501
West Site	C1	WS-C01-080501	BORON	3.9	06/20/09	58565	Y	DUP-3
West Site	C2	WS-C02-080428	BORON	8	07/20/09	59621	Y	WS-C02-080428
West Site	C2	WS-C02-100120	BORON	5.7	02/04/10	64435	Y	WS-C02-100120
West Site	C3	WS-C03-080620	BORON	7.1	07/20/09	59621	Y	WS-C03-080620
West Site	C4	WS-C04-080623	BORON	12.9	07/20/09	59621	Y	WS-C04-080623
West Site	C5	WS-C05-080620	BORON	21.2	07/27/09	59757	Y	WS-C05-080620
West Site	C5	WS-C05-100112	BORON	21.2	01/27/10	64333	Y	WS-C05-100112
West Site	C6	WS-C06-080624	BORON	10.9	07/27/09	59757	Y	WS-C06-080624
West Site	C6	WS-C06-091013	BORON	8.3	10/28/09	62499	Y	WS-C06-091013
West Site	D1	WS-D01-080430	BORON	5.5	06/20/09	58565	Y	WS-D01-080430

BORON Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	D2	WS-D02-080429	BORON	9.5	07/16/09	59381	Y	DUP-2
West Site	D2	WS-D02-080429	BORON	8.7	07/20/09	59621	Y	WS-D02-080429
West Site	D3	WS-D03-080620	BORON	10.2	07/20/09	59621	Y	WS-D03-080620
West Site	D4	WS-D04-080623	BORON	4.8	08/25/09	60439	Y	WS-D04-080623
West Site	D4	WS-D04-091230	BORON	22.8	01/19/10	64128	Y	WS-D04-091230
West Site	D5	WS-D05-080620	BORON	15.3	07/27/09	59757	Y	WS-D05-080620
West Site	D5	WS-D05-100111	BORON	17.7	01/27/10	64333	Y	WS-D05-100111
West Site	D6	WS-D06-080619	BORON	14.1	07/27/09	59757	Y	WS-D06-080619
West Site	D6	WS-D06-091013	BORON	8.9	10/28/09	62499	Y	WS-D06-091013
West Site	D7	WS-D07-080619	BORON	18.2	07/27/09	59757	Y	WS-D07-080619
West Site	D7	WS-D07-091013	BORON	7	10/28/09	62499	Y	WS-D07-091013
West Site	E1	WS-E01-080430	BORON	4.1	06/20/09	58565	Y	WS-E01-080430
West Site	E2	WS-E02-080428	BORON	10.2	07/16/09	59381	Y	DUP-1
West Site	E2	WS-E02-080428	BORON	8.4	07/20/09	59621	Y	WS-E02-080428
West Site	E2	WS-E02-100115	BORON	4.2	02/04/10	64435	Y	WS-E02-100115
West Site	E3	WS-E03-080619	BORON	15.8	07/20/09	59621	Y	WS-E03-080619
West Site	E4	WS-E04-080613	BORON	16.6	07/27/09	59757	Y	WS-E04-080613
West Site	E4	WS-E04-091230	BORON	15.1	01/19/10	64128	Y	WS-E04-091230
West Site	E5	WS-E05-080613	BORON	11.2	07/27/09	59757	Y	WS-E05-080613
West Site	E5	WS-E05-100111	BORON	24.2	01/27/10	64333	Y	WS-E05-100111
West Site	E6	WS-E06-080613	BORON	18.6	07/27/09	59757	Y	WS-E06-080613
West Site	E6	WS-E06-091228	BORON	17.6	01/19/10	64128	Y	WS-E06-091228
West Site	E7	WS-E07-080613	BORON	14.9	07/27/09	59757	Y	WS-E07-080613
West Site	E7	WS-E07-091228	BORON	17.1	01/19/10	64128	Y	WS-E07-091228
West Site	E8	WS-E08-091228	BORON	15.9	01/19/10	64128	Y	WS-E08-091228
West Site	F1	WS-F01-080429	BORON	4.2	06/20/09	58565	Y	WS-F01-080429
West Site	F1	WS-F01-100115	BORON	2.4	02/04/10	64435	Y	WS-F01-100115
West Site	F2	WS-F02-080429	BORON	13.4	07/20/09	59621	Y	WS-F02-080429
West Site	F2	WS-F02-100115	BORON	4.8	02/04/10	64435	Y	WS-F02-100115
West Site	F3	WS-F03-080619	BORON	13	07/20/09	59621	Y	WS-F03-080619
West Site	F3	WS-F03-100115	BORON	7	02/04/10	64435	Y	WS-F03-100115
West Site	F4	WS-F04-080616	BORON	14.7	07/29/09	59889	Y	WS-F04-080616
West Site	F4	WS-F04-091230	BORON	17.5	01/19/10	64128	Y	WS-F04-091230
West Site	F5	WS-F05-080612	BORON	7.3	08/25/09	60439	Y	WS-F05-080612
West Site	F5	WS-F05-100111	BORON	22.5	01/27/10	64333	Y	WS-F05-100111
West Site	F6	WS-F06-080612	BORON	13.8	07/29/09	59889	Y	WS-F06-080612
West Site	F6	WS-F06-091228	BORON	16.2	01/19/10	64128	Y	WS-F06-091228
West Site	F7	WS-F07-080617	BORON	7.7	07/07/09	58728	Y	WS-F07-080617
West Site	F8	WS-F08-080618	BORON	5.8	07/07/09	58728	Y	WS-F08-080618
West Site	G1	WS-G01-080501	BORON	3.5	06/20/09	58565	Y	DUP-4
West Site	G1	WS-G01-080501	BORON	6.4	07/07/09	58728	Y	WS-G01-080501
West Site	G1	WS-G01-100113	BORON	18.5	01/27/10	64333	Y	WS-G01-100113
West Site	G1	WS-G01-100223	BORON	7.7	03/05/10	65036	Y	WS-G01-100223

BORON Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	G2	WS-G02-080618	BORON	9.3	07/20/09	59621	Y	WS-G02-080618
West Site	G2	WS-G02-100113	BORON	22.8	01/27/10	64333	Y	WS-G02-100113
West Site	G3	WS-G03-080619	BORON	9.2	07/20/09	59621	Y	WS-G03-080619
West Site	G4	WS-G04-080616	BORON	11	07/29/09	59889	Y	WS-G04-080616
West Site	G5	WS-G05-100108	BORON	10	01/19/10	64206	Y	WS-G05-100108
West Site	G5	WS-G05-100223	BORON	14.7	03/05/10	65036	Y	WS-G05-100223
West Site	G6	WS-G06-080616	BORON	8.8	07/29/09	59889	Y	WS-G06-080616
West Site	G6	WS-G06-100107	BORON	7.2	01/19/10	64206	Y	WS-G06-100107
West Site	G7	WS-G07-080617	BORON	7.4	07/07/09	58728	Y	WS-G07-080617
West Site	G7	WS-G07-100105	BORON	11	01/19/10	64206	Y	WS-G07-100105
West Site	H1	WS-H01-080501	BORON	15.1	07/07/09	58728	Y	WS-H01-080501
West Site	H2	WS-H02-080618	BORON	13.3	07/20/09	59621	Y	WS-H02-080618
West Site	H2	WS-H02-100113	BORON	20.6	01/27/10	64333	Y	WS-H02-100113
West Site	H3	WS-H03-080619	BORON	8.2	07/29/09	59889	Y	WS-H03-080619
West Site	H4	WS-H04-080616	BORON	9	07/29/09	59889	Y	WS-H04-080616
West Site	H5	WS-H05-100107	BORON	8.9	01/19/10	64206	Y	WS-H05-100107
West Site	H6	WS-H06-080617	BORON	12.6	07/07/09	58728	Y	WS-H06-080617
West Site	I1	WS-I01-080501	BORON	6.5	07/07/09	58728	Y	WS-I01-080501
West Site	I1	WS-I01-080501	BORON	6	07/07/09	58728	Y	DUP-5
West Site	I1	WS-I01-091013	BORON	6.8	11/05/09	62725	Y	WS-I01-091013
West Site	I2	WS-I02-080618	BORON	6.4	07/27/09	59757	Y	WS-I02-080618
West Site	I2	WS-I02-091014	BORON	5.4	11/05/09	62725	Y	WS-I02-091014
West Site	I2	WS-I02-100113	BORON	18	01/27/10	64333	Y	WS-I02-100113
West Site	I3	WS-I03-080618	BORON	13	07/29/09	59889	Y	WS-I03-080618
West Site	I3	WS-I03-091013	BORON	9.8	10/28/09	62499	Y	WS-I03-091013
West Site	I3	WS-I03-100113	BORON	19	01/27/10	64333	Y	WS-I03-100113
West Site	I4	WS-I04-080617	BORON	5.6	07/29/09	59889	Y	WS-I04-080617
West Site	I4	WS-I04-100106	BORON	8.5	01/19/10	64206	Y	WS-I04-100106
West Site	I5	WS-I05-080617	BORON	9.2	07/07/09	58728	Y	WS-I05-080617
West Site	I5	WS-I05-091013	BORON	9.2	11/05/09	62725	Y	WS-I05-091013
West Site	I5	WS-I05-100107	BORON	7.7	01/19/10	64206	Y	WS-I05-100107
West Site	I6	WS-I06-080617	BORON	10.7	07/07/09	58728	Y	WS-I06-080617
West Site	I6	WS-I06-100105	BORON	9.9	01/19/10	64206	Y	WS-I06-100105
West Site	J1	WS-J01-080505	BORON	7.3	07/07/09	58728	Y	WS-J01-080505
West Site	J1	WS-J01-080505	BORON	7.2	07/07/09	58728	Y	DUP-6
West Site	J1	WS-J01-091013	BORON	7.8	11/05/09	62725	Y	WS-J01-091013
West Site	J1	WS-J01-100112	BORON	17.8	01/27/10	64333	Y	WS-J01-100112
West Site	J2	WS-J02-080624	BORON	10.9	07/07/09	58728	Y	WS-J02-080624
West Site	J2	WS-J02-100112	BORON	23	01/27/10	64333	Y	WS-J02-100112
West Site	J3	WS-J03-080620	BORON	7.7	07/08/09	59163	Y	WS-J03-080620
West Site	J4	WS-J04-080617	BORON	5.5	07/08/09	59163	Y	WS-J04-080617
West Site	J4	WS-J04-100106	BORON	11.4	01/19/10	64206	Y	WS-J04-100106
West Site	J5	WS-J05-080618	BORON	6.9	07/08/09	59163	Y	WS-J05-080618

BORON Results from 12/16/10 database								
Site	quarter_acre_grid	sample_location	chemical_name	result_value	analysis_date	batch_id	detect_flag	sample_name
West Site	K1	WS-K01-080505	BORON	6.4	07/08/09	59163	Y	WS-K01-080505
West Site	K1	WS-K01-091013	BORON	8	10/28/09	62499	Y	WS-K01-091013
West Site	K2	WS-K02-080509	BORON	10.3	07/08/09	59163	Y	WS-K02-080509
West Site	K3	WS-K03-080509	BORON	6.9	07/08/09	59163	Y	WS-K03-080509
West Site	K4	WS-K04-080513	BORON	14.1	07/08/09	59163	Y	WS-K04-080513
West Site	K4	WS-K04-080513	BORON	12.5	07/27/09	59757	Y	DUP-10
West Site	K4	WS-K04-100106	BORON	8.7	01/19/10	64206	Y	WS-K04-100106
West Site	K5	WS-K05-080509	BORON	6	07/08/09	59163	Y	WS-K05-080509
West Site	L1	WS-L01-080505	BORON	7.1	07/08/09	59163	Y	WS-L01-080505
West Site	L2	WS-L02-080508	BORON	5.2	07/08/09	59163	Y	WS-L02-080508
West Site	L3	WS-L03-080508	BORON	4.5	07/08/09	59163	Y	WS-L03-080508
West Site	L4	WS-L04-080508	BORON	8	07/08/09	59163	Y	WS-L04-080508
West Site	L4	WS-L04-080508	BORON	6.9	07/08/09	59163	Y	DUP-9
West Site	M1	WS-M01-080505	BORON	7.1	07/08/09	59163	Y	DUP-7
West Site	M1	WS-M01-080505	BORON	8.4	07/08/09	59163	Y	WS-M01-080505
West Site	M2	WS-M02-080507	BORON	8.6	07/27/09	59757	Y	WS-M02-080507
West Site	M3	WS-M03-080507	BORON	3.9	07/20/09	59621	Y	DUP-8
West Site	M3	WS-M03-080507	BORON	2.8	08/05/09	60088	N	WS-M03-080507
West Site	M3	WS-M03-091217	BORON	3.3	01/05/10	63970	Y	WS-M03-091217
West Site	M3	WS-M03-091217	BORON	5.8	03/05/10	65036	Y	DUP-48
West Site	M4	WS-M04-080507	BORON	4.3	08/05/09	60088	Y	WS-M04-080507
West Site	M4	WS-M04-091218	BORON	2.8	01/05/10	63970	Y	WS-M04-091218
West Site	M4	WS-M04-091218	BORON	9.9	01/19/10	64128	Y	DUP-44
West Site	N1	WS-N01-080506	BORON	9.6	08/05/09	60088	Y	WS-N01-080506
West Site	N2	WS-N02-080506	BORON	7.5	07/16/09	59381	Y	WS-N02-080506
West Site	N3	WS-N03-080507	BORON	3.4	07/07/09	58728	Y	WS-N03-080507
West Site	O1	WS-O01-080506	BORON	6.2	07/16/09	59381	Y	WS-O01-080506
West Site	O2	WS-O02-080506	BORON	4.2	07/16/09	59381	Y	WS-O02-080506

Table Cd-1: Cadmium Data Quality Summary

Laboratory Performance Criteria	Criteria	Measured	Comment
Minimum LCS Recovery	greater than 80%	80%	
Minimum Matrix Spike Recovery	greater than 70%	66%	
Average LCS Recovery	N/A	93%	
Average Matrix Spike Recovery	N/A	86%	
Maximum LCS RPD	less than 20%	8%	
Maximum Laboratory Duplicate RPD	less than 20%	104%	
Average LCS RPD	N/A	2%	
Average Laboratory Duplicate RPD	N/A	14%	
Measurement Quality Objectives	**Critera**	**Measured**	
NPS CRM	Recovery greater than 0.88	Minimum Recovery =	0.18 mg/kg
EQIS CRM	See Note 1		
CVS Split Analysis RPD	RPD less than 35%	Maximum RPD =	194 %
CRM Split Analysis RPD	RPD less than 35%	Maximum RPD =	26 %
Overall QC Indicator Measurements	**Criteria**	**Measured**	
NPS CRM "Made to" (Bias measure)	N/A	Average Recovery =	46.7 %
NPS Replicate Test (Precision measure)	N/A	Standard Deviation =	0.21 mg/kg
Data Quality Relative to Remediation Goals			
Tier 1 Remediation Goal		0.57 mg/kg	
Tier 2 Remediation Goal		1.3 mg/kg	
QC Derived Reliance Level		0.56 mg/kg See Note 2	

Comments: Cadmium minimum laboratory control sample (LCS) recovery (80%) is low. The low minimum matrix spike recovery (66%) and low average matrix spike recovery (86%) indicate possible matrix interference and a propensity for low cadmium measurements. The maximum LCS duplicate RPD (8%) is acceptable. The maximum laboratory duplicate RPD (104%) is high and suggests compromised measurement precision, as does the large standard deviation (0.21 mg/kg) relative to mean (0.27mg/kg) for repeated tests on the same sample. Imprecision and low recovery are also indicated by high maximum RPDs for CVS splits (194%) and CRM splits (26%) and a low average recovery of the NPS CRM (46.7%). These measurement quality issues are reflected in a derived reliance level (0.56 mg/kg) that is below but very near the Tier 1 RG (0.57 mg/kg). Multiple West Site CVS results exceeded both the derived reliance level and Tier 1 RG, but none exceeded the Tier 2 RG following excavation. In evaluating whether it can be concluded with confidence that true cadmium concentrations are below the Tier 2 RG as measured, we note that RI and RA analytical results indicate that elevated metal concentrations associated with Site contamination seldom involve a single metal. In the grids at issue, all metals, including cadmium, were measured at or below their respective Tier 2 RGs. It is reasonable to conclude, therefore, that as the CVS results indicate, cadmium concentrations in these grids do not exceed the applicable RG. The fact that the cadmium CVS results are consistent with the expected results based on other correlated data adds ample confidence to the results themselves, supporting the conclusion that the cadmium RG has been attained in the grids at issue.

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Note 1: The QAPP required CRMs have only 4 analytes from each analyte group. Cadmium is not one of these analytes.

Note 2. Derived reliance level is calculated as:
(Tier 2 RG)(1.2)(Average Recovery)-(0.84)(Standard deviation) = (1.3)(1.2)(.467)-(0.84)(.21) = 0.56 mg/kg

Table Cd-2: Cadmium - NPS CRMs

Blind NPS CRM Results

Sample	Result	Analysis Date	Batch	Detect
BOR Sample 1-BOR 56	0.59	5/1/09	57223	Y
BOR SAMPLE 6-BOR 81	0.51	5/1/09	57284	Y
BOR Sample 4-BOR 82	0.7	5/11/09	57543	Y
BOR 83	0.69	5/24/09	57792	Y
BOR Sample 3-BOR 58	0.64	5/24/09	57792	Y
BOR 84	0.18	5/28/09	57847	Y
BOR Sample 7-BOR 105	0.18	5/28/09	57847	Y
BOR 85	0.31	6/9/09	58135	Y
BOR Sample 8-BOR 106	0.33	6/9/09	58135	Y
BOR 86	0.56	6/10/09	58212	Y
BOR 108	0.73	6/20/09	58565	Y
BOR 87	0.74	6/20/09	58565	Y
BOR 109	0.94	6/29/09	58728	Y
BOR 110	0.73	7/13/09	59381	Y
BOR Sample 9-BOR 107	0.38	7/27/09	59757	Y
BOR 111	0.76	7/29/09	59889	Y

CRMs		Vendor Supplied Information
Mean	0.56	*Made to*
Median	0.62	*1.20 mg/kg*
Standard Deviation	0.22	
Sample Variance	0.05	*Upper Acceptance Limit*
Kurtosis	-0.76	*1.26 mg/kg*
Skewness	-0.41	
Range	0.76	*Lower Acceptance Limit*
Minimum	0.18	*0.88 mg/kg*
Maximum	0.94	
Sum	8.97	
Count	16.0	
Largest(2)	0.8	
Smallest(2)	0.2	

Table Cd-3: Cadmium - NPS Replicate Tests on a Background Sample

Results of Replicate Analyses of a Single Sample

Sample	Result	Analysis Date	Batch	Detect
BOR 112	0.066	5/1/09	57223	Y
BOR 59	0.068	5/1/09	57284	Y
BOR 60	0.27	5/11/09	57543	Y
BOR 113	0.19	5/24/09	57792	Y
BOR 61	0.2	5/24/09	57792	Y
BOR 62	0.11	6/10/09	58212	Y
BOR 63	0.29	6/20/09	58565	Y
BOR 89	0.27	6/20/09	58565	Y
BOR 115	0.6	6/29/09	58728	Y
BOR 64	0.52	7/9/09	59163	Y
BOR 91	0.51	7/9/09	59163	Y
BOR 116	0.26	7/13/09	59381	Y
BOR 92	0.31	7/13/09	59381	Y
BOR 65	0.26	7/20/09	59621	Y
BOR 88	0.34	7/29/09	59889	Y
BOR-802	0.015	10/6/09	61790	N
BOR 804	0.084	10/28/09	62499	Y
BOR-805	0.15	11/5/09	62754	Y
BOR 800	0.018	11/9/09	61414	N
BOR-807	0.4	11/25/09	63215	Y
BOR-808	0.019	12/8/09	63405	N
BOR 813	0.89	1/19/10	64128	Y
BOR 815	0.42	1/19/10	64206	Y
BOR-816	0.24	1/27/10	64333	Y
BOR-820	0.23	3/5/10	65036	Y

Replicate analyses of Single Sample	
Mean	0.27
Median	0.26
Standard Deviation	0.21
Sample Variance	0.04
Kurtosis	2.08
Skewness	1.20
Range	0.88
Minimum	0.02
Maximum	0.89
Sum	6.73
Count	25.00
Largest(2)	0.60
Smallest(2)	0.02