Corrective Action Report/Conditional Closure Request

NOAA Site 60/Non-TPA – Lead Contaminated Soils
St. Paul Island, Alaska

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CONTENTS

TABLES

FIGURES

APPENDICES

ACRONYMS AND ABBREVIATIONS

%	Percent
±	Plus or minus
18 AAC	Title 18 *Alaska Administrative Code*
ADEC	Alaska Department of Environmental Conservation
bgs	Below ground surface
BSE	Bering Sea Eccotech, Inc.
CAP	Corrective action plan
CIH	Certified industrial hygienist
cm	Centimeter
yd^3	Cubic yard
EHS	EHS Alaska
EPA	U.S. Environmental Protection Agency
F&BI	Friedman & Bruya, Inc.
FPXRF	Field-portable x-ray fluorescence meter
ft	Foot
ft^2	Square feet
GPS	Global positioning system
HEPA	High-efficiency particulate air filtration
ICP/MS	Inductively coupled plasma/mass spectroscopy
LBP	Lead-based paint
mg/kg	Milligram per kilogram
mg/L	Milligram per liter
MT2	Metals Treatment Technologies, Limited Liability Corporation
NOAA	National Oceanic and Atmospheric Administration
PCS	Petroleum-contaminated soil
P.E.	Professional Engineer
PSI	PSI Environmental and Instrumentation
QA/QC	Quality assurance and quality control
RCRA	Resource Conservation and Recovery Act
R.G.	Registered Geologist
SGS	SGS Environmental Services Inc.
TCLP	Toxicity Characteristic Leaching Procedure
TDX	Tanadgusix Corporation
Tetra Tech	Tetra Tech EM Inc.
TOPA	Transfer of Property Agreement
TPA	Two-Party Agreement
UST	Underground storage tank

EXECUTIVE SUMMARY

This corrective action report/conditional closure request was prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) to detail corrective actions conducted at the Lead Contaminated Soils Site (NOAA Site 60/Non-Two-Party Agreement Site) on St. Paul Island, Alaska. Activities associated with this site were conducted during the 2006 field season.

The corrective actions occurred along and immediately adjacent the roof drip lines of teacher houses 101 and 103, and duplex 108/109 in St. Paul Village on St. Paul Island, Alaska. These three buildings were abated for lead-based paint and asbestos in the fall of 2006. The lead contaminated soil removal discussed in this document is integral to preventing lead-contaminated soil and dust from potentially recontaminating the abated building interiors. The buildings and lands involved with this corrective action are property of the U.S. government.

NOAA selected Bering Sea Eccotech (BSE) as its contractor to assist in implementing the corrective action plan (CAP) for the treatment, removal, and disposal of lead-contaminated soil. BSE subcontracted with PSI Environmental and Instrumentation (PSI) to direct BSE's treatment, removal, and disposal of lead-contaminated soil, as well as to perform third-party sampling. NOAA and PSI utilized one or more "qualified person" as defined in 18 Alaska Administrative Code (AAC) 75.990(100) and 18 AAC 78.995(118) during CAP implementation.

Consistent with the CAP, the study area for the site was defined as soil surrounding the teacher houses and duplex from ground surface to a maximum of two feet below ground surface, as appropriate, and from the building foundations to six feet horizontally away from the building foundations. NOAA performed site characterization, preliminary waste designation and in-situ treatability testing from June 2006 to September 2006 to finalize site treatment and removal planning. During corrective action activities in October 2006, BSE treated a total of approximately 80 cubic yards of soil in-situ using a phosphate-based soil additive; removed approximately 84 cubic yards of contaminated soil (treated and untreated) from the site; and transported the contaminated soil to NOAA's Landfill Cell C at Tract 42 for disposal by landfilling.

BSE treated, excavated, and disposed of site contaminated soil consistent with the CAP to the extent practicable. Buried utilities and other obstructions prevented further lead soil removal at the northwestern portions of both teacher houses, and along the southern portion of teacher house 103. Analytical data for confirmation samples collected from the bottoms of the excavations indicate that lead soil exceeding the ADEC residential cleanup level of 400 milligrams per kilogram remains at the southeast portion of the duplex. However, this contamination is deeper than two feet below ground surface and thus requires no treatment or removal. NOAA placed permeable landscaping fabric atop the remaining duplex contamination prior to backfilling.

Because the primary sources of contamination have been removed and lead-contaminated soil has been excavated to the maximum extent possible, NOAA requests a conditional closure determination from ADEC at the Lead Contaminated Soil Site.

1.0 INTRODUCTION

The U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), Pribilof Project Office is responsible for site characterization and restoration on St. Paul Island, Alaska, located in the Bering Sea, approximately 800 miles west-southwest of Anchorage, Alaska (Figure 1-1). Public Law 104-91 of 1996 and Public Law 106-562 of 2000 provide the mandate for NOAA's activities. A Two-Party Agreement (TPA), signed in 1996 by NOAA and the State of Alaska, provides the framework for corrective action on St. Paul Island (NOAA 1996), and the State of Alaska provides TPA oversight through its Department of Environmental Conservation (ADEC). The Lead Contaminated Soils Site, also known as NOAA Site 60, is not a TPA site. Nevertheless, during the corrective action documented herein, NOAA adhered to the tenets of the TPA. Accordingly, NOAA complied with the State of Alaska regulations for contaminated sites dated October 16, 2005 (ADEC 2005).

The Lead Contaminated Soils Site is comprised of three non-contiguous areas located along and immediately adjacent the roof drip lines of teacher houses 101 and 103 and duplex 108/109 in the City of St. Paul, Alaska (Figure 1-2). The three buildings and lands within the site are property of the U.S. government. NOAA abated these buildings for lead-based paint (LBP) and asbestos in the fall of 2006. Corrective action to remove lead contaminated soil was integral to preventing lead-contaminated soil and dust from recontaminating the abated buildings' interiors.

The objective of the corrective action was the removal of lead-contaminated soil located within 6 lateral feet (ft) of each of the three buildings' foundations, between the ground surface and a depth of up to 2 ft as appropriate due to the presence of contamination (Figures 1-3, 1-4, and 1-5; NOAA 2006a). This area is referred to as the "Lead-Contaminated Soil Study Area." Lead-contaminated soil is defined as soil that exceeds the ADEC residential land use cleanup level of 400 milligrams per kilogram (mg/kg) total lead (note 11 to Tables B1 and B2 of 18 AAC 75.341 [ADEC 2005]).

NOAA, with its contractor, Bering Sea Eccotech (BSE), implemented a corrective action plan (CAP [NOAA 2006a]) for the characterization, treatment, removal, and disposal of lead-contaminated soil associated with this site. BSE subcontracted with PSI Environmental and Instrumentation (PSI) to direct BSE's treatment, removal, and disposal of lead-contaminated soil. PSI also performed third-party sampling of the treated soil, excavation bottoms, and clean backfill. The corrective action activities were completed under the oversight of NOAA or PSI personnel in accordance with the CAP (NOAA 2006a), the TPA, and State of Alaska regulations and guidance. PSI's Keith Guyer, a registered geologist (R.G.), performed all final confirmation and clean backfill sampling. NOAA's Gregory Gervais, a professional engineer (P.E.), was the primary author for this report. Appendix A contains the Qualified Personnel Form and associated resumes for PSI and NOAA staff.

Except as noted in this corrective action report/conditional closure request, field activities for this investigation were carried out in accordance with the CAP (NOAA 2006a).

2.0 SITE DESCRIPTION

The following subsections provide a description of the site background, site geology, site hydrogeology, and previous investigations for the site.

2.1 SITE BACKGROUND

The Lead Contaminated Soils Site includes soil adjacent to teacher houses 101 and 103 on the southeastern portion of Village Hill, as well as duplex 108/109 east of Village Hill along Sandy Lane (Figure 1-2). The legal descriptions and geographic coordinates for each affected property are:

- Duplex:
    - Legal Description: Section 25 of T35S-R132W; Lot 4: Block 20; 0.32 Acres; 1976 MOU: Parcel 6f; 1984 Transfer of Property Agreement (TOPA): Site 9.
    - Coordinates: 57°07’20.52” north latitude, 170°16’37.77” west longitude
- Teacher House 101:
    - Legal Description: Section 25 of T35S-R132W; Lot 1: Block 9; 0.13 Acres; 1976 MOU: Parcel 6b; 1984 Transfer of Property Agreement (TOPA): Site 9.
    - Coordinates: 57°07’20.52” north latitude, 170°16’37.77” west longitude
- Teacher House 103:
    - Legal Description: Section 25 of T35S-R132W; Lot 3: Block 9; 0.17 Acres; 1976 MOU: Parcel 6b; 1984 Transfer of Property Agreement (TOPA): Site 9.
    - Coordinates: 57°07’20.52” north latitude, 170°16’37.77” west longitude

The two teacher houses were constructed in 1924 as single-family residences, while the duplex was constructed in the late-1950s as multi-family housing. Teacher house 101 is unoccupied and currently uninhabitable due to the extensive removal of interior finish features during the 2006 abatement. Teacher house 103 and the duplex were also abated in 2006 and are inhabitable.

2.2 SITE GEOLOGY

St. Paul Island was formed as a result of volcanic eruptions of basaltic lavas onto the southern edge of the Bering Sea Shelf. The island has never been glaciated, and many cinder cones with steep slopes and sharp crater rims are present on the island. The island soil is characterized as primarily volcanic deposits consisting of scoria of varying sizes (pebbles to cobbles) and colors (lenses of gray, red, and black) with fractured basalt occurring at depth (Barth 1956).

Soils in the vicinity of the duplex generally consist of sand to approximately 20 ft below ground surface (bgs), while soils in the vicinity of teacher houses 101 and 103 generally consist of scoria deposits to approximately 70 ft bgs (CESI 2001).

2.3 SITE HYDROGEOLOGY

Groundwater in the vicinity of the duplex is present at approximately 10 ft bgs in an unconfined aquifer and generally flows to the north, toward Village Cove (Mitretek 2005). Groundwater in the vicinity of teacher houses 101 and 103 is present at approximately 80 ft bgs in an unconfined aquifer and generally flows southwest toward the Bering Sea (Mitretek 2005). Based on analyses of existing data, groundwater beneath the City of St. Paul is considered brackish and, therefore, not potable (ADEC 2002a, Mitretek 2002). Currently, groundwater in these areas is not used for drinking water, and the groundwater is not expected for potable use in the future. The State of Alaska Department of Natural Resources designated groundwater beneath a portion of the City, including the duplex location, as a Critical Water Management Area (CWMA). This CWMA legally restricts the use of water wells to prevent the migration of petroleum-related contamination to uncontaminated areas (ADNR 2006).

2.4 PREVIOUS INVESTIGATIONS AND CORRECTIVE ACTIONS

NOAA performed corrective actions associated with leaking underground storage tanks (USTs) and petroleum-contaminated soil (PCS) at these building locations in 2002 and 2003. NOAA identified the UST/PCS sites as Tract A Lot 101 (NOAA Site 53 - TPA Site 9q); Tract A Lot 103 (NOAA Site 55 – TPA Site 9s); and E-Shop/Radio Building and Duplex (NOAA Site 24 – TPA Site 9i). Corrective action reports for each of the UST/PCS sites detail the corrective actions taken at the sites (NOAA 2004a, 2004b; Tetra Tech 2005a). Lead-contaminated soil was found at 4 ft bgs during the 2003 confirmation sampling at TPA Site 9i. The contamination, however, was located closer to the e-shop building than the adjacent duplex. In 2004, NOAA performed additional surface soil sampling near this location, but did not find lead at levels exceeding ADEC’s residential soil cleanup level of 400 mg/kg (Tetra Tech 2005a). The two teacher houses received conditional closures from ADEC in October 2004, and the duplex received ADEC’s conditional closure in February 2005 (NOAA 2004c, 2004d, 2005a).

Teacher house 103’s exterior consisted of LBP covering a cementitious skim coating atop poured concrete walls in 2005. Teacher house 103 also had LBP painted fascia boards and soffits. The house’s exterior was purportedly repainted in 2002, so that intact non-LBP covered underlying layers of LBP. Peeling LBP may have been disturbed and dislodged to the ground surface during painting preparatory work (NOAA 2005b).

Teacher house 101's exterior is similar to teacher house 103; however, T-111 wood siding and unpainted plywood cover the LBP-painted skim coating. In 2005, teacher house 101 had peeling LBP on its windows, window sills, and window frames (NOAA 2005c).

In 2005, the duplex's exterior consisted of painted cedar shake shingle siding, painted wood window frames and sills, fascia boards, and soffits (NOAA 2005d). The house's exterior was purportedly repainted during the summer of 2005, so that intact non-LBP covered underlying layers of LBP. Peeling LBP was disturbed and dislodged to the ground surface during painting preparatory work.

NOAA identified LBP hazards associated with the teacher houses and duplex during May 2005 building inspections. At that time, NOAA analyzed composite soil samples for lead using its field-portable x-ray fluorescence meter (FPXRF), and identified potentially lead-contaminated surface soil Additional details from NOAA's building inspections are documented in three phase I environmental site assessment reports (NOAA 2005b, 2005c, 2005d).

NOAA performed building risk assessments at the teacher houses and duplex during the fall of 2005. The risk assessments included the sampling and fixed-laboratory analysis of multiple discrete surface soil and paint chip samples collected along the drip lines of the buildings. Samples representing the soil at and immediately adjacent these buildings' drip lines exceeded 400 mg/kg (EHS 2005). Based on these analytical results, NOAA and ADEC agreed to establish NOAA Site 60, Lead Contaminated Soils Site.

NOAA subsequently composited the soil/paint chip samples at each building and analyzed the samples for leachable lead by the U.S. Environmental Protection Agency's (EPA's) Toxicity Characteristic Leaching Procedure (TCLP). The composite sample representing the surface soil contamination at teacher house 101 did not exceed EPA's leachable lead regulatory limit of 5.0 milligrams per liter (mg/L) for waste disposal, meaning the contaminated soil is not a characteristic hazardous waste (EHS 2006) and can be land disposed in an ADEC-permitted solid waste facility on St. Paul Island. The composite samples representing the surface soil contamination at teacher house 103 and the duplex both exceeded 5.0 mg/L (EHS 2006), meaning the contaminated soil is a characteristic hazardous waste. As such, it would require treatment and disposal at an off-island EPA-permitted Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste landfill unless an in-situ treatment approach could reduce the lead leachability to acceptable levels [see Section 3.3 below] prior to disposal.

NOAA performed abatement actions at the buildings in the fall of 2006. At teacher house 103, NOAA removed the LBP-painted fascia boards, removed loose LBP from soffits, enclosed remaining soffit LBP with wood, and encapsulated LBP on the skim coating using an encapsulating paint formulation. At teacher house 101, NOAA removed LBP painted windows, window sills, window frames, and fascia boards. NOAA also removed loose LBP from soffits and enclosed the remaining soffit LBP with wood. At the duplex, NOAA removed LBP siding, window systems, fascia, and soffits. No LBP remains on the duplex structure.

NOAA contractors conducted quarterly groundwater monitoring from June 2000 to September 2001 and from October 2003 to July 2004 at approximately 38 monitoring wells in St. Paul Village. Several of these wells represent groundwater conditions near the teacher houses and the duplex. None of the wells contained lead contamination exceeding ADEC's Table C groundwater cleanup level of 15 mg/L (ADEC 2005, IT Alaska 2002, Tetra Tech 2005b).

3.0 FIELD ACTIVITIES

The primary objective of the corrective action was to remove lead-contaminated soil exceeding the ADEC residential land use cleanup level of 400 mg/kg from the Lead-Contaminated Soil Study Area, consistent with note 11 to Tables B1 and B2 of 18 AAC 75.341 (ADEC 2005). The following subsections summarize the equipment used and the activities performed during this corrective action. Appendix B provides photographic documentation of the corrective action. Appendix C provides copies of the BSE's daily reports, as well as NOAA's and PSI's logbook notes generated during the corrective action.

3.1 CONTRACTORS AND EQUIPMENT

NOAA contracted with BSE to perform site investigation and corrective action activities. BSE provided personnel and equipment necessary to implement the CAP requirements related to soil treatment, soil removal, soil disposal, and site restoration. BSE subcontracted PSI to provide overall site management and engineering services during soil treatment and excavation activities, and the collection of screening and confirmation samples during implementation of the soil treatment and removal activities. NOAA's Nir Barnea, certified industrial hygienist (CIH), James Wright, P.E., and Greg Gervais, P.E. performed all site characterization and treatability study sampling. PSI's Keith Guyer, R.G. performed all final confirmation and clean backfill sampling. NOAA furnished several pieces of government-owned equipment for use during the corrective action. NOAA representatives performed FPXRF analyses of screening samples and provided survey support using real-time kinematic global positioning system (GPS) techniques and equipment. Appendix A contains the Qualified Personnel Form and associated resumes for PSI and NOAA staff. Debriefing and planning meetings were conducted between NOAA, BSE, and PSI site leaders before the commencement of each day's activities.

Laboratory analytical services were subcontracted to Friedman & Bruya, Inc. (F&BI [Seattle, Washington]), and SGS Environmental Services Inc. (SGS [Anchorage, Alaska]).

Equipment used on site during field activities included the following:

- Hitachi EX150 Excavator (BSE)
- Case 580 Backhoe (BSE)
- Caterpillar 416 D Backhoe (NOAA)
- Bobcat A300 (NOAA)
- Volvo L70 Loader (BSE)

- Caterpillar 966D Loader (BSE)
- Ford 9000D Flatbed Truck (BSE)
- International Dump Truck (BSE)
- Kenworth Dump Truck (BSE)
- Ford Dump Truck (BSE)
- Trimble Total Station 5700 GPS (NOAA)
- Niton 702Xlp FPXRF (NOAA)
- Troy-Bilt 6 horsepower rotary tiller (NOAA)

3.2 SITE INVESTIGATION ACTIVITIES

Before sampling activities were initiated, representatives of the City of St. Paul, Tanadgusix Corporation (TDX), and Alaska Communications Systems identified known utility lines in the vicinity of areas proposed for subsurface sampling (Figures 3-1 through 3-3). Between June 5 and June 8, 2006, and again on August 6, 2006, NOAA excavated test pits or manually advanced direct-push soil borings at 38 locations (16 at the duplex, 10 at teacher house 101, and 12 at teacher house 103). Each location represents a study sub-area measuring approximately 125 square ft (ft^2) of surface area. NOAA attempted to remove visible paint chips at each test pit or boring location prior to advancement. However, paint chip removal by high-efficiency particulate air filtration (HEPA) vacuum was determined impracticable as the mass of soil removed greatly exceeded the mass of paint chips removed. Consequently, NOAA decided that visible paint chips would be removed with contaminated soil during excavation activities.

NOAA collected samples at up to five depth intervals in each subarea, intending to characterize contamination in the following strata: surface, 0.0 to 0.5 ft bgs, 0.5 to 1.0 ft bgs, 1.0 to 1.5 ft bgs, and 1.5 to 2.0 ft bgs. NOAA collected 173 characterization samples for analysis by FPXRF and a fixed laboratory. Soil samples were collected into new, resealable plastic bags using disposable direct-push acetate sleeves, decontaminated gardening trowels, and/or Nitrile gloves. Samples were homogenized thoroughly inside the bags. Each bag was numbered uniquely and shipped to NOAA in Seattle. A total of 165 samples (plus 23 laboratory quality control duplicate samples) were analyzed by NOAA with its FPXRF. The remaining eight samples were sent to F&BI for fixed-laboratory analysis by EPA Method 200.8 (Inductively Coupled Plasma/Mass Spectroscopy [ICP/MS]). Although the CAP (NOAA 2006a) indicated EPA Method SW-846 6020 (ICP/MS) would be used for all fixed-laboratory lead analyses, NOAA approved F&BI's request to use this alternative EPA method based on the laboratory's proficiency with it as well as the method's comparable data quality and defensibility.

Consistent with the CAP (NOAA 2006a), NOAA collected duplicate aliquots of 19 characterization samples for fixed-laboratory quality assurance analysis by EPA Method 200.8 to verify NOAA's 165 FPXRF results. NOAA also used the characterization samples to create 11 representative composite samples to determine the volume of contaminated soil that would be a characteristic hazardous waste upon excavation. Additionally, NOAA sent an aliquot of the LBP paint chip/soil mixture in the HEPA vacuum's bag to determine whether it was a characteristic hazardous waste. The latter 12 samples were prepared for hazardous waste characterization using EPA Method SW-846 1311 (TCLP) to generate leachate, which was then analyzed for lead by EPA Method 200.8.

Based on the site investigation results, NOAA estimated 68 cubic yards (yd^3) of soil in the study area exceeded the residential soil cleanup level for lead. Additionally, NOAA estimated that 64 of the 68 yd^3 would be a characteristic hazardous waste upon excavation and would require treatment and disposal at a RCRA-permitted hazardous waste facility. These characterization data are interpreted as shown on Figures 3-4 through 3-6, as well as Table 3-1.

3.3 SOIL TREATABILITY STUDY AND REGULATOR COORDINATION ACTIVITIES

Based on 10 of 11 contaminated soil samples from site investigation activities exceeding the RCRA limit of 5 mg/L leachable lead, NOAA performed a treatability study to determine whether Ecobond, a commercially-available phosphate-based soil additive sold by Metals Treatment Technologies, Limited Liability Corporation (MT2), could render lead in the soil unleachable. If the Ecobond could render the lead in the soil unleachable, the contaminated soil would be considered a solid waste rather than a characteristic hazardous waste, allowing it to be land disposed in an ADEC-permitted solid waste facility on St. Paul Island. The treatability test was not described in the site CAP (NOAA 2006a) as NOAA did not determine the need to treat contaminated soil until the site investigation concluded.

NOAA collected two representative soil samples from two discrete locations in the study area, with approximately 2 pounds of soil from each location placed into a resealable plastic bag using disposable Nitrile gloves. Each sample was homogenized; then one aliquot of each sample was sent to MT2 for its own treatablity testing. MT2 found the two aliquots contained leachable lead exceeding the RCRA characteristic hazardous waste threshold prior to treatment. MT2 then mixed Ecobond with the aliquots at a rate of 2 percent (%) by mass. Post-treatment testing by MT2 indicated the lead leachability of each aliquot reduced to nearly undetectable concentrations and below 5 mg/L, rendering the waste non-hazardous. MT2 sent a sample of Ecobond to NOAA for its independent evaluation.

NOAA provided one aliquot of each untreated sample to F&BI to determine the baseline leachability of the study samples prior to treatment. The laboratory determined the total lead in each sample was 999 and 2,630 mg/kg, respectively. NOAA then mixed Ecobond into each sample at rate of 2% by mass, and sent aliquots to F&BI for analysis. The laboratory found leachable lead in the treated samples was below the laboratory practical quantitation limit of 1.0 mg/L.

NOAA coordinated with ADEC and EPA Region 10 regarding the treatability study and approval to treat lead-contaminated soil in-situ without obtaining an EPA Treatment, Storage, and Disposal Facility permit (NOAA 2006b). Both ADEC and EPA concurred that NOAA could proceed with in-situ treatment of lead-contaminated soil without obtaining additional permits. NOAA agreed that, after Ecobond in-situ treatment of soil in the 0.0 to 0.5 ft depth interval, it would collect six representative samples to verify the soil's lead leachability did not exceed 5.0 mg/L. Following verification, NOAA would treat and excavate the remaining soil.

Based on the site characterization and soil treatability study results, NOAA prepared soil treatment and excavation maps and a table to guide the treatment, testing, and removal of contaminated soil at the site (Figure 3-4 through 3-6, Table 3-1). While ADEC and EPA Region 10 verbally concurred with treating soil at a 2% by mass rate, NOAA instead proposed treating soil at 3% instead to reduce the potential for mix heterogeneity causing in-situ post-treatment waste designation samples to "fail" the leachability testing (NOAA 2006b).

3.4 SOIL TREATMENT AND EXCAVATION ACTIVITIES

Soil treatment, excavation, confirmation and waste designation sampling, and site backfill and restoration activities were conducted at the site between October 14, 2006 and October 25, 2006.

Before treatment and excavation activities were initiated, representatives of the City of St. Paul, TDX, and Alaska Communications Systems identified known utility lines in the vicinity of areas proposed for excavation. Utility identification services also were requested and conducted at various times throughout the corrective action when unknown lines were discovered. Areas of treatment and excavation were based on the maps prepared after the site investigation and treatability testing (Figures 3-4 through 3-6), as well as visual observations (e.g., visible paint chips) and in-situ field screening using NOAA's FPXRF.

Soil treatment was initiated for the contaminated 0.0 to 0.5 ft depth intervals at the three buildings. NOAA and BSE determined by experimentation that NOAA's rotary tiller was capable of tilling the surface grass into the soil, eliminating the need to separately remove the grass. Additionally, since the grass generally contained visible paint chips, tilling the grass into the soil would allow these paint chips to be treated along with the soil. BSE applied Ecobond to the ground surface, then mixed the Ecobond with the soil and surface grass using a minimum of two passes with the rotary tiller. NOAA determined in the field that using a mix rate of 2% (the treatability study mix rate) was more prudent than the planned 3% because NOAA had a limited amount of Ecobond on the island and wanted to reserve a significant quantity for potential re-treatment of hot spots.

PSI collected two waste designation samples from the treated soil and grass at each building, for a total of six designation samples (plus one blind duplicate sample), consistent with NOAA's soil treatment plan (NOAA 2006b). Based on fixed-laboratory TCLP results for leachable lead, the in-situ treatment was determined to be fully successful in removing the hazardous characteristic from the soil and grass.

BSE, under PSI's technical direction, removed the treated 0.0 to 0.5 ft bgs soil and grass using BSE's and NOAA's backhoes. BSE's backhoe initially loaded the treated soil directly into its dump trucks at the duplex. BSE found that the following aspects of the process limited the soil removal rate:

(1) treating and removing soil in 0.5 ft thick intervals though the soil contamination extended as deep as 2.0 ft bgs; and

(2) loading contaminated soil directly into dump trucks instead of temporarily stockpiling excavated soil, then loading in larger batches.

The slow removal production rates were due to poor hydraulic controls on BSE's backhoe and limited space available for staging the dump trucks for loading because of the close proximity to buildings, other obstructions (e.g., heating oil aboveground storage tanks, fences), and close proximity to other BSE personnel and equipment performing building abatement work. BSE, PSI, and NOAA thus modified the soil treatment and removal approach cited in the project planning documents (NOAA 2006a, 2006b) in the following two ways:

(1) mixing Ecobond into the soil for the full vertical treatment beginning at 0.5 ft bgs using the backhoe bucket, combining the treatment and excavating actions into one function; and

(2) staging excavated soil into nine temporary stockpiles and periodically loading the piles into dump trucks to reduce the waiting time for the trucks and the number of times the operator had to reposition the backhoe.

NOAA personnel determined that the use of the backhoe to mix Ecobond into the soil provided an adequate level of mixing based on the backhoe's visually and mechanically similar distribution of Ecobond in the soil compared with the rotary tiller. NOAA, BSE, and PSI also decided to leave the temporary stockpiles unlined given the short duration of stockpiling, the limited mobility of lead in soil, NOAA's ability to use its FPXRF to evaluate stockpile footprints for potential lead cross-contamination, and NOAA's willingness to remove cross-contaminated surface soil.

The "planned" in-situ treatment method was used on all 0.0 to 0.5 ft bgs soil at all three buildings; the backhoe mixing in-situ treatment method was used for the remaining treated soil at all three buildings once the 0.0 to 0.5 ft bgs soil was removed. The "planned" removal and loading method was used on the first two dump truck loads at the duplex for soil 0.0 to 0.5 ft bgs. The temporary stockpiling method was employed for the remaining soil at all three buildings. Stockpiles were periodically loaded into BSE dump trucks. NOAA, BSE, and PSI personnel frequently excavated contaminated soil with hand shovels in areas with visible paint chips and where FPXRF screening indicated hot spots remained.

NOAA and its contractors followed NOAA's planned treatment and excavation location plan (Table 3-1; Figures 3-4 through 3-6) with the exceptions listed below.

(1) Duplex: buried utilities prevented further excavation in several locations:
    a. potable water main vault in subarea 1a
    b. potable water shutoff valve box in subareas 2a and 2b
    c. electrical lines in subarea 3b

    Note that the potable water main vault and shutoff valve box did not prevent NOAA from removing contaminated soil. The surface soil covering the concrete vault was removed, and the vertical extent of the vault and valve box exceeded the ADEC point of compliance depth of 2 ft bgs for this site.

(2) Duplex: BSE treated and excavated most of subarea 2a to a depth of 2.5 ft bgs (planned excavation to 2.0 ft bgs) to aid with site grading to direct runoff away from the building foundation.

(3) Duplex: BSE excavated subarea 7a to a depth of 1.5 ft bgs (planned excavation to 1.0 ft bgs) because NOAA's in-situ FPXRF screening during treatment and excavation activities indicated contamination extended deeper than anticipated.

(4) Duplex: BSE removed surface soil in part of subarea 6a (no excavation planned) due to the presence of visible paint chips that had fallen from LBP-painted tin found beneath the building siding and removed during abatement activities.

(5) Teacher House 101: buried telephone lines prevented further excavation in subareas 1a, 2a and 2b.

(6) Teacher House 101:

a. BSE treated and excavated most of subarea 1a to a depth of 2.5 ft bgs (planned excavation to 1.0 ft bgs) because NOAA’s in-situ FPXRF screening indicated contamination extended deeper than anticipated. Additionally, the deeper excavation aided with site grading to direct runoff away from the building foundation.

b. BSE treated and excavated the eastern three-quarters of subarea 3a to a depth of 2.0 ft bgs (planned excavation to 1.0 ft bgs) because NOAA’s in-situ FPXRF screening indicated contamination extended deeper than anticipated. The western one-quarter of this subarea could only be treated and excavated to approximately 0.5 ft bgs due to buried telephone lines.

(7) Teacher House 103: buried utilities and other obstructions prevented further excavation in several locations:

    a. cable television trunk line in subareas 3a and 3b
    b. heating oil aboveground storage tank in subarea 6b

(8) Teacher House 103: BSE treated and excavated most of subarea 5a to a depth of 3.0 ft bgs (planned excavation to 2.0 ft bgs) because NOAA’s in-situ FPXRF screening indicated contamination extended deeper than anticipated.

(9) Teacher House 103: BSE treated and excavated most of subarea 6a to a depth of 2.0 ft bgs (planned excavation to 1.0 ft bgs) because NOAA’s in-situ FPXRF screening indicated contamination extended deeper than anticipated.

PSI collected 13 confirmation samples from the bottom of the excavations for fixed-laboratory analysis for total lead (Figures 3-7 through 3-9).

Although a soil sample collected from the excavation bottom at duplex subarea 8a indicated that lead remains above the ADEC residential cleanup level, the contamination resides deeper than 2.0 ft bgs (Figure 3-7). Consistent with the ADEC-approved CAP (NOAA 2006a), this soil does not require removal as the point of compliance for this contaminant is 0.0 to 2.0 ft bgs. NOAA placed a permeable, visible barrier at the bottom of the excavation where lead contamination remained. NOAA intends to include notification of the presence of this contamination in NOAA’s parcel 6f (including the duplex) quitclaim deed.

NOAA excavated an estimated total of 84 yd^3 of lead-contaminated soil from this site, including 29 yd^3 at the duplex, 33 yd^3 at teacher house 101, and 22 yd^3 at teacher house 103. This exceeded the 68 yd^3 of soil identified during NOAA’s site investigation as requiring removal. BSE treated 80 yd^3 of the estimated 84 yd^3 of removed soil. This exceeded the 64 yd^3 identified during NOAA site investigation as requiring treatment. NOAA treated and removed the additional 16 yd^3 due to in-situ FPXRF results. As indicated in Section 3.2, 4 yd^3 of soil was previously characterized as a non-hazardous waste and required no treatment prior to removal (Figure 3-3). The treated soil weighed about 292,000 pounds based on an assumed in-situ density of 3,645 pounds per yd^3 (NOAA 2006b). NOAA used approximately 6,000 pounds of Ecobond in treating this soil, for an average application rate of 2.06% by mass. Additionally, BSE removed an estimated 40 yd^3 of clean soil during drainage re-grading activities around the three buildings.

3.5 DISPOSAL

BSE transported an estimated 80 yd^3 of treated lead-contaminated soil, 4 yd^3 of untreated lead-contaminated soil, and 40 yd^3 of clean soil from regrading activities to NOAA-owned Tract 42. There BSE excavated four disposal trenches into the landfill's cell C closure cap and landfilled the soil. BSE performed decontamination of NOAA and BSE earthmoving equipment at a disposal trench in landfill cell C using a cold water pressure washer. BSE disposed of the decontamination water by allowing it to run into a disposal trench that contained Ecobond-treated soil. Approximately four other disposal trenches in the same area of landfill cell C were excavated by BSE for disposing of solid waste and construction and demolition debris waste generated from building abatement and roofing activities BSE performed under contract with NOAA. Most disposal trenches received both contaminated soil and building abatement and roofing waste. BSE used the trench excavation soil to cover the disposal trenches consistent with the CAP (NOAA 2006a). Figure 3-10 shows the disposal trench area.

3.6 BACKFILLING AND SITE RESTORATION

Each excavation was backfilled after FPXRF screening sample analyses indicated total lead concentrations below the ADEC cleanup level, and after fixed-laboratory confirmation samples had been collected. If remaining contamination was suspected but further excavation was prevented by the presence of groundwater or obstructions, backfill was also placed after fixed-laboratory confirmation samples had been collected. Backfill operations involved transporting clean fill material in BSE's decontaminated dump trucks from the TDX-owned Lake Hill quarry to the site (Figure 3-11); dumping the material into the excavations; and compacting the fill material with the backhoe or front-end loader bucket. Each area of excavation was restored to a grade intended to direct surface water drainage away from the building foundations.

BSE placed an estimated 70 yd^3 of clean backfill at the site.

3.7 INVESTIGATION-DERIVED WASTE MANAGEMENT

Investigation-derived waste generated during this corrective action included:

- Used nitrile sampling gloves, which were placed in trash bags and disposed as municipal solid waste.

- Used disposable cleaning wipes, which were placed in trash bags and disposed as municipal solid waste.
- Plastic bags, acetate sampling sleeves and glassware, which were emptied of soil and disposed as municipal solid waste.
- Reusable sampling equipment decontamination water from the June 2006 site characterization, which was transferred to a plastic bucket and characterized to have total lead exceeding the ADEC Table C groundwater cleanup level of 0.015 mg/L. The bucket will be disposed off-island at a permitted facility along with other IDW accumulated by NOAA during its cleanup activities during building abatement. As necessary, NOAA will provide a certificate of waste disposal for the bucket to ADEC in a separate submittal from this document.

3.8 SITE SURVEYING

NOAA representatives surveyed sampling locations and excavation extents using a survey-grade Trimble Total Station® 5700 differential GPS. The Trimble Total Station® 5700 is a GPS data collection and mapping system that combines a high-performance, dual-channel GPS receiver and antenna with a local base station and real-time differential correction system to provide survey-grade accuracy in real time. Horizontal positions of soil sampling locations and excavation boundaries were determined to within approximately plus or minus (±) 1 centimeter (cm), and elevations were determined to within approximately ± 2 cm. A repeater radio was placed at elevated locations near the site work areas to provide radio transmission from the base station to the site location. Data were collected in latitude and longitude referenced to the World Geodetic System 1984 Datum, Universal Transverse Mercator Zone 2 coordinate system in meters.

At times, the Trimble Total Station® 5700 equipment could not be used to survey the site with cm-level precision as a result of inadequate satellite coverage or a malfunctioning local base station. On these occasions, NOAA used a lower precision GPS surveying approach to approximate the locations with sub-meter accuracy.

3.9 HISTORIC PRESERVATION

BSE encountered seven glass bottles while excavating along the north side of the teacher house 101 foundation in subarea 2a. The bottles were unearthed with a hand shovel in one specific area, approximately 0.5 ft north of the building foundation at approximately 1.5 ft bgs (Figure 3-8). No other articles or broken bottles were located with the bottles. The soil surrounding the bottles was unconsolidated, but not apparently less so than other soil near teacher house 101 at this depth interval. NOAA took possession of these bottles, photographed them (Figure 3-12), then sent a photograph to NOAA’s historic preservation lead for the Pribilof Islands, Mr. Bernard Denno. The photograph was subsequently provided to a NOAA contractor with archaeologist credentials, Dr. Charles Mobley, to determine the cultural significance of the bottles. Dr. Mobley suggested that the bottles predate the teacher houses, and that their discovery location may have been an outhouse hole or some other sort of cache. No other potential culturally significant artifacts were encountered during this corrective action.

4.0 FIELD SCREENING AND ANALYTICAL SAMPLING

Throughout corrective action activities, NOAA and PSI collected FPXRF screening and fixed-laboratory definitive data samples in accordance with the CAP (NOAA 2006a) and NOAA's Master Quality Assurance Plan (NOAA 2006c). FPXRF screening sample analyses were performed by NOAA representatives and used by NOAA for excavation planning, as well as by PSI to direct excavation activities and identify locations for analytical confirmation samples. Based on evaluation of the excavation screening sample results, analytical sampling locations were selected where the greatest potential for residual contamination existed.

The following subsections describe the instrumentation used and procedures followed during the collection of FPXRF screening and fixed-laboratory site characterization, waste designation, confirmation, and clean backfill samples. The FPXRF results are discussed in Section 5. Data quality is discussed in Section 6.

4.1 FIELD-PORTABLE X-RAY FLUORESCENCE SCREENING SAMPLES

FPXRF involves the use of x-rays from a depleted radioactive source to cause a fluorescence response from metallic elements during the change of energy bands by electrons, with the response measured by a sensor then compared against standard responses using an on-board computer. ADEC approved the use of the FPXRF for site characterization and excavation screening as part of NOAA's CAP for the site (NOAA 2006a).

NOAA used FPXRF in four different applications.

(1) During site characterization, final confirmation sampling, and clean backfill characterization sampling, NOAA or PSI collected 181 samples into resealable plastic bags, with approximately 250 grams of soil collected per sample. NOAA then homogenized the soil in each bag, and analyzed each sample ex-situ with the FPXRF. The FPXRF results from this application are compared with results from the fixed laboratory to verify FPXRF accuracy.

(2) During excavation activities, NOAA used the FPXRF to rapidly screen soil in-situ at the excavation bottom to determine the presence of localized hot spots requiring additional removal.

(3) NOAA also provided in-situ FPXRF results to PSI as additional information to guide PSI's selection of final confirmation sampling locations.

(4) Finally, NOAA used the FPXRF to verify BSE removed all temporarily stockpiled lead-contaminated soil, with PSI directing additional removal when FPXRF in-situ screening indicated the presence of residual contamination.

Tables 4-1, 4-2, 4-4, and 4-5 provide a summary of FPXRF ex-situ samples collected for the site investigation, confirmation sampling, and clean fill verification sampling. FPXRF samples from excavation in-situ screening are summarized in Appendix D.

4.2 FIXED-LABORATORY SAMPLES

Fixed-laboratory analytical samples were collected according to the following procedures. First, approximately 250 grams of soil was collected from the sampling location and directly placed into a clean, resealable plastic bag and homogenized. For NOAA-collected samples, the homogenized bag was hand delivered to F&BI under chain-of-custody. For PSI-collected samples, an aliquot from the homogenized sample was placed in a 4-ounce jar. PSI then packaged and shipped the sample jars under chain-of-custody to SGS using air cargo and courier services.

Fixed-laboratory total lead analyses were performed using ICP/MS, while leachable lead analyses were performed by first extracting the samples using EPA Method SW-846 1311 (TCLP) then analyzing the leachates using an ICP/MS.

Tables 4-1 through 4-5 provide a summary of fixed-laboratory samples collected for the corrective action.

Site Characterization

NOAA sent 19 site characterization samples collected in June 2006 for fixed-laboratory total lead analysis to verify the accuracy of the 165 FPXRF site characterization analyses. NOAA sent eight site characterization samples collected in August 2006 for fixed-laboratory total lead analysis to fill data gaps identified after the June 2006 site characterization sampling concluded. NOAA sent 12 waste designation samples, composited from samples collected in June 2006, for fixed-laboratory total lead and leachable lead analyses to determine whether site contaminated soil and grass would require treatment as a hazardous waste prior to disposal.

Treatability Study

NOAA sent four treatability study samples for fixed-laboratory total lead and leachable lead analyses to verify MT2's Ecobond testing.

Post-Treatment Waste Designation

PSI sent six in-situ soil treatment samples for fixed-laboratory total lead and leachable lead analyses analysis to determine whether BSE successfully treated the soil to eliminate its hazardous waste characteristic of leachability.

Confirmation Sampling

PSI sent 13 confirmation samples for fixed-laboratory total lead analysis to confirm site excavation removed all soil exceeding the ADEC residential cleanup level at the point of compliance.

Clean Backfill Verification

PSI sent three clean backfill samples for fixed-laboratory total lead analysis to verify the Lake Hill scoria pit as a clean source of backfill material.

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5.0 ANALYTICAL RESULTS

The following subsections summarize the analytical results for soil samples collected for this corrective action. Tables 4-1 through 4-5 summarize the FPXRF and fixed-laboratory results for all samples except in-situ FPXRF samples analyzed during excavation activities. Appendix D details all FPXRF results, including in-situ samples analyzed during excavation activities to guide excavation. Appendix E provides the analytical data packages for project samples analyzed by fixed laboratories.

5.1 SITE CHARACTERIZATION SAMPLES

FPXRF and fixed-laboratory analyses indicated lead concentrations exceeded the ADEC residential cleanup level of 400 mg/kg in 29 of the 38 study area subareas. Sixteen of the 29 contaminated subareas demonstrated elevated lead concentrations to a maximum depth of 0.5 ft bgs. Only 4 of the 29 contaminated subareas demonstrated elevated lead concentrations as deep as 2.0 ft bgs. Total lead analytical results for NOAA’s 173 characterization samples ranged from non-detect to 9,936 mg/kg. Only 1 of the 12 waste designation samples collected in June 2006 contained leachable lead below the RCRA characteristic hazardous waste threshold of 5.0 mg/L, and the maximum leachable lead concentration identified was 26.2 mg/L. Figures 3-1 through 3-6 indicate the site characterization sample locations and summarize the characterized extent of contamination and locations of hazardous and non-hazardous waste at the site prior to in-situ treatment and excavation activities. Table 4-1 summarizes these analytical results.

5.2 TREATABILITY STUDY SAMPLES

Fixed-laboratory analyses by NOAA indicated pre-treatment leachable lead concentrations for the two test aliquots were 9.11 and 9.35 mg/L, and post-treatment concentrations (sample aliquots mixed with a 2% by mass quantity of Ecobond) were both less than the laboratory practical quantitation limit of 1.0 mg/L. Table 4-2 summarizes these analytical results.

5.3 POST-TREATMENT WASTE DESIGNATION

Fixed-laboratory analyses indicated none of the six post-treatment waste designation samples contained leachable lead greater than SGS’s practical quantitation limit of 0.5 mg/L, which is below the RCRA characteristic hazardous waste threshold of 5.0 mg/L. Table 4-3 summarizes these analytical results.

5.4 EXCAVATION-DIRECTING IN-SITU SAMPLES

In-situ FPXRF analyses aided PSI with determining whether additional soil required removal to meet corrective action objectives. Appendix D details these data by general location and actual time, indicating the progression of removing soil exceeding the ADEC residential cleanup level of 400 mg/kg. As described in Section 3.4, some anticipated soil removal could not be performed due to buried utilities and other obstructions. In some of these instances the Appendix D data show the remaining contaminant levels at these locations based on in-situ FPXRF screening.

5.5 CONFIRMATION SAMPLES

FPXRF and fixed-laboratory analyses indicated lead concentrations exceeded the ADEC residential cleanup level of 400 mg/kg in 1 of the 13 confirmation samples, with a concentration of 1,830 mg/kg in duplex subarea 8a at a depth of 2 ft bgs. Figures 3-7 through 3-9 indicate the confirmation sample locations and summarize the results. Table 4-4 also summarizes the analytical results.

5.6 BACKFILL CHARACTERIZATION SAMPLES

FPXRF and fixed-laboratory analyses indicated lead concentrations were below the ADEC residential cleanup level of 400 mg/kg in all three backfill characterization samples collected from the Lake Hill quarry. Figure 3-11 indicates the backfill characterization sample locations. Table 4-5 summarizes these analytical results.

6.0 QUALITY ASSURANCE AND QUALITY CONTROL

To ensure that information obtained from field and laboratory procedures is an accurate and defensible representation of site conditions, quality assurance and quality control (QA/QC) procedures were implemented. NOAA followed the operational guidelines set forth in the ADEC Environmental Laboratory Data and Quality Assurance Requirements memorandum (ADEC 2006a) as well as those stipulated in the Pribilof Islands site restoration Master Quality Assurance Plan (NOAA 2006c). These documents provide detailed QA/QC information pertaining to each quality control item discussed in this section. Table 6-1 is a completed copy of the ADEC-required Laboratory Data Review Checklist (ADEC 2006b).

Based on the data quality review detailed in Table 6-1, all project chemical data presented in Section 5 met project data quality requirements and are satisfactory for decision-making purposes.

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7.0 CONCEPTUAL SITE MODEL

A conceptual site model is used to evaluate exposure pathways for human health and ecological receptors (ADEC 2000). The following subsections provide an evaluation for each of the elements of the conceptual site model for the site including historical contamination sources, release mechanisms, impacted media, migration pathways, exposure routes, potential receptors, and the need for a cumulative risk assessment.

7.1 HISTORICAL SOURCES OF CONTAMINATION

Historical sources of contamination were abated in the fall 2006. NOAA and its contractors removed LBP-painted soffits, fascia, and cedar shake siding, and encapsulated or enclosed the remaining LBP.

7.2 RELEASE MECHANISMS

Potential release mechanisms include paint peeling from exterior building components.

7.3 IMPACTED MEDIA

As a result of releases, lead-contaminated soil was identified during previous investigations. In this 2006 corrective action, approximately 84 yd^3 of lead-contaminated soil were removed to a maximum depth of 3 feet bgs. The contamination remaining at the site above the ADEC residential cleanup level of 400 mg/kg resides at the southeast corner of the duplex building (Figure 3-7). Lead was detected in site groundwater at former monitoring well MWA-8, located south of teacher house 103. The maximum level at this location was 0.0023 mg/L (Tetra Tech 2005b), which is less than the ADEC Table C groundwater cleanup level of 0.015 mg/L.

7.4 MIGRATION PATHWAYS

The majority of lead has been removed from this site, and the source volume has been reduced significantly. The presence of remaining contamination is limited to soil deeper than 2 ft bgs at duplex subarea 8a and inaccessible shallow soil adjacent to buried utilities and other obstructions. Excepting approximately 340 square feet of inaccessible surface contaminated soil at teacher house 101 subarea 2a and teacher house 103 subareas 3a, 3b, and 6b, the site’s contaminated surface soil has been removed and no overland transport pathway is available. Vegetation exists at the inaccessible locations, restricting the migration of lead-contaminated soil.

7.5 EXPOSURE ROUTES

Excepting teacher house 101 subarea 2a and teacher house 103 subareas 3a, 3b, and 6b, no direct exposure pathways such as inhalation or ingestion of lead-contaminated soil exist at this site. The native grass root mass will further restrict the inhalation and ingestion exposure routes at these three subareas, presuming future site activities do not damage the root mass or otherwise create new exposure routes. Past groundwater monitoring at the site indicates lead contamination does not exceed ADEC Table C cleanup levels for lead. Given that lead contamination sources have been remediated, and that much of the City of St. Paul is designated as a Critical Water Management Area, prohibiting the use of groundwater, indirect exposure to contaminated groundwater is highly unlikely.

7.6 POTENTIAL RECEPTORS

Because potential exposure routes have been mitigated, and indirect exposure routes are not considered viable given existing site conditions, no potential receptors have been identified.

7.7 CUMULATIVE RISK ASSESSMENT

Cumulative risk is defined as the sum of risks resulting from multiple sources and pathways to which humans are exposed. When more than one hazardous substance is present at a site or multiple exposure pathways exist, the cleanup levels in Table B1 of 18 AAC 75.341 and Table C of 18 AAC 75.345 may need to be adjusted downward. There is only one hazardous substance (lead) at this site. Lead is not included in cumulative risk assessment calculations because it was deemed by ADEC and EPA to be inappropriate to apply a reference dose or cancer slope factor to lead (ADEC 2002b). Therefore, no cumulative risk assessment calculations are appropriate for this site.

7.8 MONITORING WELL NETWORK

No monitoring wells currently exist in the near vicinity of the site. Through 2004, a total of eight monitoring wells were in the vicinity of the site: MW46-13, MW46-17, MW46-18, MW46-19, MW46-20, MW46-26, MWA-7, and MWA-8 (Tetra Tech 2005b). However, lack of groundwater contamination at these locations and the presence of other monitoring wells better located for long-term monitoring allowed NOAA to decommission these wells in 2005 and 2006.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The following subsections present conclusions and recommendations for the Lead Contaminated Soils Site based on field activities performed and analytical findings obtained from corrective action activities conducted during the 2006 field season.

8.1 CONCLUSIONS

During the 2006 field season, approximately 80 yd^3 of lead-contaminated soil about the perimeters of the duplex, teacher house 101, and teacher house 103 were treated in-situ with Ecobond and rendered a non-hazardous waste. After treatment, approximately 84 yd^3 of lead-contaminated soil were removed from the treatment locations and two adjacent subareas that required no treatment. Although soil samples collected from the excavation bottom at the southeast corner of the duplex indicate that concentrations of lead remain above the ADEC residential soil cleanup level, the contamination lies deeper than the ADEC point of compliance ranging from ground surface to 2 ft bgs. In addition, about 340 square feet of inaccessible surface contaminated soil also remains at teacher houses 101 and 103, but further excavation is impracticable due to the presence of the active utility lines and an aboveground storage tank.

Groundwater in the vicinity of the site is not contaminated above the ADEC Table C cleanup level for lead.

8.2 RECOMMENDATION

Because primary sources of contamination have been removed and because the excavation of lead-contaminated soil has been conducted to the maximum extent practicable at the site, NOAA recommends no further action at this site. Prior to property transfer, NOAA will document the remaining contamination in applicable quitclaim deeds informing future landowners and other interested parties of the nature and extent of remaining lead contamination in soil.

In accordance with paragraph 59 of the TPA (NOAA 1996), NOAA requests written confirmation that NOAA completed all appropriate corrective and closure actions, to the maximum extent practicable, at the Lead Contaminated Soils Site, in accordance with the TPA and that ADEC grant a conditional closure that will not require further remedial action from NOAA. ADEC will/may require additional containment, investigation, or cleanup if subsequent information indicates that the level of contamination that remains does not protect human health, safety, or welfare, or the environment. A conditional closure request and signature blocks are found on the following page.

Request for Conditional Closure
Lead Contaminated Soils Site, NOAA Site 60/Non-Two Party Agreement
St. Paul Island, Alaska

Approvals: In accordance with Paragraph 59 of the Two Party Agreement, this is to confirm that all corrective action has been completed to the maximum extent practicable at the Lead Contaminated Soils Site on St. Paul Island in accordance with the Agreement.

For the National Oceanic and Atmospheric Administration

____ ____________________
John Lindsay Date
NOAA, Pribilof Project Office

For the Alaska Department of Environmental Conservation

____ ____________________
Louis Howard Date
Alaska Department of Environmental Conservation
Remedial Project Manager

Request for Conditional Closure
Lead Contaminated Soils Site, NOAA Site 60/Non-Two Party Agreement
St. Paul Island, Alaska

Approvals: In accordance with Paragraph 59 of the Two Party Agreement, this is to confirm that all corrective action has been completed to the maximum extent practicable at the Lead Contaminated Soils Site on St. Paul Island in accordance with the Agreement.

For the National Oceanic and Atmospheric Administration

John Lindsay
NOAA, Pribilof Project Office

2/7/2007
Date

For the Alaska Department of Environmental Conservation

Louis Howard

Louis Howard
Alaska Department of Environmental Conservation
Remedial Project Manager

2-16-07
Date

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TABLES

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Table 3-1
Soil Treatment and Removal Plan

LEGEND		
< 400 mg/kg	>400 mg/kg + Non-HW	>400 mg/kg + HW
C	NHW	HW

Building	Subarea Name	Contaminated Soil Extent (ft^2)	Planned Ecobond per Subarea (lbs.)	Depth: 0-3"	3-6"	6-12"	12-18"	18-24"	Non-HW Volume (yd^3)	HW Volume (yd^3)
Duplex	1a	91	92.1	HW	C	C	C	C	0.0	0.8
	1b	0	0.0	C	C	C	C	C	0.0	0.0
	2a	63	63.8	HW	C	C	C	C	0.0	0.6
	2b	0	0.0	C	C	C	C	C	0.0	0.0
	3a	0	0.0	C	C	C	C	C	0.0	0.0
	3b	83	84.0	HW	C	C	C	C	0.0	0.8
	4a	100	810.0	HW	HW	HW	HW	HW	0.0	7.4
	4b	138	279.5	HW	HW	C	C	C	0.0	2.6
	5a	87	264.3	HW	C	C	HW	C	0.0	2.4
	5b	0	0.0	C	C	C	C	C	0.0	0.0
	6a	0	0.0	C	C	C	C	C	0.0	0.0
	6b	0	0.0	C	C	C	C	C	0.0	0.0
	7a	63	0.0	NHW	NHW	C	C	NHW	2.3	0.0
	7b	75	0.0	C	C	NHW	C	C	1.4	0.0
	8a	82	332.1	C	C	HW	HW	C	0.0	3.0
	8b	0	0.0	C	C	C	C	C	0.0	0.0
	Total	**782**	**1926**						**4**	**18**

Building	Subarea Name	Contaminated Soil Extent (ft^2)	Planned Ecobond per Subarea (lbs.)	Depth: 0-3"	3-6"	6-12"	12-18"	18-24"	Non-HW Volume (yd^3)	HW Volume (yd^3)
TH101	1a	118	239.0	C	C	HW	C	C	0.0	2.2
	1b	0	0.0	C	C	C	C	C	0.0	0.0
	2a	111	449.6	HW	HW	HW	C	C	0.0	4.1
	2b	123	249.1	HW	HW	C	C	C	0.0	2.3
	3a	80	324.0	HW	HW	HW	C	C	0.0	3.0
	3b	90	182.3	HW	HW	C	C	C	0.0	1.7
	4a	0	0.0	C	C	C	C	C	0.0	0.0
	4b	97	196.4	HW	HW	C	C	C	0.0	1.8
	5a	109	441.5	HW	HW	HW	C	C	0.0	4.0
	5b	123	747.2	HW	HW	HW	HW	C	0.0	6.8
	Total	**851**	**2829**						**0**	**26**

Building	Subarea Name	Contaminated Soil Extent (ft^2)	Planned Ecobond per Subarea (lbs.)	Depth: 0-3"	3-6"	6-12"	12-18"	18-24"	Non-HW Volume (yd^3)	HW Volume (yd^3)
TH103	1a	0	0.0	C	C	C	C	C	0.0	0.0
	1b	0	0.0	C	C	C	C	C	0.0	0.0
	2a	77	78.0	HW	C	C	C	C	0.0	0.7
	2b	89	180.2	HW	HW	C	C	C	0.0	1.6
	3a	99	100.2	HW	C	C	C	C	0.0	0.9
	3b	113	228.8	HW	HW	C	C	C	0.0	2.1
	4a	80	324.0	HW	HW	HW	C	C	0.0	3.0
	4b	75	151.9	HW	HW	C	C	C	0.0	1.4
	5a	82	332.1	HW	HW	C	C	HW	0.0	3.0
	5b	79	160.0	HW	HW	C	C	C	0.0	1.5
	6a	109	441.5	HW	HW	HW	C	C	0.0	4.0
	6b	124	251.1	HW	HW	C	C	C	0.0	2.3
	Total	**927**	**2248**						**0**	**21**

Total- 3 Buildings	**2560**	**7002**	**4**	**64**
	Contaminated Soil Extent (ft^2)	**Planned Ecobond (lbs.)**	**Non-HW Volume (yd^3)**	**HW Volume (yd^3)**

Table 4-1
Site Investigation Data

Final Sample ID	DEPTH (ft)	Building Subarea	Sampling Date	Total Lead FPXRF Result[1] (mg/kg)	Total Lead Fixed-Lab Result (mg/kg)	Leachable Lead Fixed-Lab Result (mg/L)	False Negative Result[2] for FPXRF compared with Fixed-Lab Result (Yes/No)
				ADEC Cleanup >400 mg/kg	*ADEC Cleanup >400 mg/kg*	*RCRA Hazardous Waste >5.0 mg/L*	
DUPLEX							
SP60-CH-111-000	0.25	1a	6/7/2006	1,585	na	na	
SP60-CH-111-005	0.50	1a	6/7/2006	189	na	na	
SP60-CH-111-010	1.00	1a	6/7/2006	106	na	na	
SP60-CH-111-015	1.50	1a	6/7/2006	143	na	na	
SP60-CH-111-020	2.00	1a	6/7/2006	87	na	na	
SP60-CH-112-000	0.25	1b	6/7/2006	200	na	na	
SP60-CH-112-005	0.50	1b	6/7/2006	127	na	na	
SP60-CH-112-010	1.00	1b	6/7/2006	147	na	na	
SP60-CH-112-015	1.50	1b	6/7/2006	64	na	na	
SP60-CH-112-020	2.00	1b	6/7/2006	0	na	na	
SP60-CH-117-000	0.25	2a	6/7/2006	1,167	na	na	
SP60-CH-101-005	0.50	2a	6/5/2006	213	241	na	No
SP60-CH-101-010	1.00	2a	6/5/2006	155	143	na	No
SP60-CH-101-015	1.50	2a	6/5/2006	237	na	na	
SP60-CH-101-020	2.00	2a	6/5/2006	249	na	na	
SP60-CH-102-005	0.50	2b	6/5/2006	172	na	na	
SP60-CH-102-010	1.00	2b	6/5/2006	211	na	na	
SP60-CH-102-015	1.50	2b	6/5/2006	233	na	na	
SP60-CH-102-020	2.00	2b	6/5/2006	43	na	na	
SP60-CH-105-005	0.50	3a	6/7/2006	88	na	na	
SP60-CH-105-010	1.00	3a	6/7/2006	46	na	na	
SP60-CH-113-015	1.50	3a	6/7/2006	7	na	na	
SP60-CH-113-020	2.00	3a	6/7/2006	0	na	na	
SP60-CH-119-000	0.25	3b	6/7/2006	1,675	na	na	
SP60-CH-106-005	0.50	3b	6/7/2006	67	na	na	
SP60-CH-106-010	1.00	3b	6/7/2006	0	na	na	
SP60-CH-151-005	0.50	4a	8/6/2006	na	3,570	na	
SP60-CH-114-010	1.00	4a	6/7/2006	10	na	na	
SP60-CH-151-010	1.00	4a	8/6/2006	na	180	na	
SP60-CH-114-015	1.50	4a	6/7/2006	0	na	na	
SP60-CH-151-015	1.50	4a	8/6/2006	na	567	na	
SP60-CH-114-020	2.00	4a	6/7/2006	0	na	na	
SP60-CH-151-020	2.00	4a	8/6/2006	na	656	na	
SP60-CH-122-000	0.25	4b	6/7/2006	1,816	na	na	
SP60-CH-152-005	0.50	4b	8/6/2006	na	62	na	
SP60-CH-152-010	1.00	4b	8/6/2006	na	27	na	
SP60-CH-152-015	1.50	4b	8/6/2006	na	24	na	
SP60-CH-152-020	2.00	4b	8/6/2006	na	25	na	
SP60-CH-121-000	0.25	5a	6/7/2006	502	na	na	
SP60-CH-121-000D	0.25	5a	6/7/2006	621	na	na	
SP60-CH-115-005	0.50	5a	6/7/2006	143	na	na	
SP60-CH-115-010	1.00	5a	6/7/2006	196	na	na	
SP60-CH-115-015	1.50	5a	6/7/2006	424	na	na	
SP60-CH-115-015D	1.50	5a	6/7/2006	374	na	na	
SP60-CH-115-020	2.00	5a	6/7/2006	20	na	na	
SP60-CH-116-005	0.50	5b	6/7/2006	7	na	na	
SP60-CH-116-010	1.00	5b	6/7/2006	130	na	na	
SP60-CH-116-015	1.50	5b	6/7/2006	317	na	na	
SP60-CH-116-015D	1.50	5b	6/7/2006	239	na	na	
SP60-CH-116-020	2.00	5b	6/7/2006	12	na	na	
SP60-CH-109-005	0.50	6a	6/7/2006	139	na	na	
SP60-CH-109-010	1.00	6a	6/7/2006	53	na	na	
SP60-CH-120-000	0.25	6b	6/7/2006	223	na	na	
SP60-CH-110-005	0.50	6b	6/7/2006	31	na	na	
SP60-CH-110-010	1.00	6b	6/7/2006	0	na	na	

Table 4-1
Site Investigation Data

Final Sample ID	DEPTH (ft)	Building Subarea	Sampling Date	Total Lead FPXRF Result[1] (mg/kg)	Total Lead Fixed-Lab Result (mg/kg)	Leachable Lead Fixed-Lab Result (mg/L)	False Negative Result[2] for FPXRF compared with Fixed-Lab Result (Yes/No)
				ADEC Cleanup >400 mg/kg	*ADEC Cleanup >400 mg/kg*	*RCRA Hazardous Waste >5.0 mg/L*	
DUPLEX (cont'd…)							
SP60-CH-103-000	0.25	7a	6/7/2006	313	na	na	
SP60-CH-118-000	0.25	7a	6/7/2006	1,037	na	na	
SP60-CH-103-005	0.50	7a	6/5/2006	422	406	na	No
SP60-CH-103-005D	0.50	7a	6/5/2006	603	na	na	
SP60-CH-103-010	1.00	7a	6/5/2006	213	na	na	
SP60-CH-103-015	1.50	7a	6/5/2006	39	66	na	No
SP60-CH-103-020	2.00	7a	6/5/2006	663	na	na	
SP60-CH-104-005	0.50	7b	6/5/2006	230	na	na	
SP60-CH-104-010	1.00	7b	6/5/2006	892	60	na	No
SP60-CH-104-015	1.50	7b	6/5/2006	189	159	na	No
SP60-CH-104-015D	1.50	7b	6/5/2006	316	na	na	
SP60-CH-104-020	2.00	7b	6/5/2006	227	na	na	
SP60-CH-104-020D	2.00	7b	6/5/2006	279	na	na	
SP60-CH-107-005	0.50	8a	6/7/2006	313	341	na	No
SP60-CH-107-005D	0.50	8a	6/7/2006	264	na	na	
SP60-CH-107-010	1.00	8a	6/7/2006	743	na	na	
SP60-CH-107-015	1.50	8a	6/7/2006	790	na	na	
SP60-CH-107-020	2.00	8a	6/7/2006	92	na	na	
SP60-CH-108-000	0.25	8b	6/7/2006	192	na	na	
SP60-CH-108-005	0.50	8b	6/7/2006	150	na	na	
SP60-CH-108-010	1.00	8b	6/7/2006	100	na	na	
SP60-CH-108-015	1.50	8b	6/7/2006	0	na	na	
SP60-CH-108-020	2.00	8b	6/7/2006	35	na	na	
TEACHER HOUSE 101							
SP60-CH-205-000	0.25	1a	6/6/2006	35	na	na	
SP60-CH-205-005	0.50	1a	6/6/2006	94	na	na	
SP60-CH-205-010	1.00	1a	6/6/2006	1,077	na	na	
SP60-CH-205-015	1.50	1a	6/6/2006	395	289	na	No
SP60-CH-205-015D	1.50	1a	6/6/2006	372	na	na	
SP60-CH-205-020	2.00	1a	6/6/2006	13	na	na	
SP60-CH-206-005	0.50	1b	6/6/2006	9	na	na	
SP60-CH-206-010	1.00	1b	6/6/2006	65	na	na	
SP60-CH-206-015	1.50	1b	6/6/2006	67	na	na	
SP60-CH-206-015D	1.50	1b	6/6/2006	68	na	na	
SP60-CH-206-020	2.00	1b	6/6/2006	18	na	na	
SP60-CH-207-000	0.25	2a	6/6/2006	127	na	na	
SP60-CH-207-005	0.50	2a	6/6/2006	1,353	na	na	
SP60-CH-207-010	1.00	2a	6/6/2006	1,583	na	na	
SP60-CH-207-015	1.50	2a	6/6/2006	4	na	na	
SP60-CH-207-020	2.00	2a	6/6/2006	35	na	na	
SP60-CH-208-000	0.25	2b	6/6/2006	499	na	na	
SP60-CH-208-005	0.50	2b	6/6/2006	991	na	na	
SP60-CH-208-010	1.00	2b	6/6/2006	63	na	na	
SP60-CH-208-015	1.50	2b	6/6/2006	0	na	na	
SP60-CH-208-020	2.00	2b	6/6/2006	2	na	na	
SP60-CH-203-000	0.25	3a	6/6/2006	887	288	na	No
SP60-CH-203-005	0.50	3a	6/6/2006	9,936	na	na	
SP60-CH-203-010	1.00	3a	6/6/2006	5,841	na	na	
SP60-CH-203-015	1.50	3a	6/6/2006	0	na	na	
SP60-CH-203-020	2.00	3a	6/6/2006	0	na	na	
SP60-CH-204-000	0.25	3b	6/6/2006	445	493	na	No
SP60-CH-204-000D	0.25	3b	6/6/2006	564	na	na	

Table 4-1
Site Investigation Data

Final Sample ID	DEPTH (ft)	Building Subarea	Sampling Date	Total Lead FPXRF Result[1] (mg/kg)	Total Lead Fixed-Lab Result (mg/kg)	Leachable Lead Fixed-Lab Result (mg/L)	False Negative Result[2] for FPXRF compared with Fixed-Lab Result (Yes/No)
				ADEC Cleanup >400 mg/kg	*ADEC Cleanup >400 mg/kg*	*RCRA Hazardous Waste >5.0 mg/L*	
TH101 (cont'd…)							
SP60-CH-204-005	0.50	3b	6/6/2006	471	304	na	No
SP60-CH-204-010	1.00	3b	6/6/2006	14	14	na	No
SP60-CH-204-015	1.50	3b	6/6/2006	0	na	na	
SP60-CH-204-020	2.00	3b	6/6/2006	0	na	na	
SP60-CH-209-000	0.25	4a	6/6/2006	264	na	na	
SP60-CH-209-005	0.50	4a	6/6/2006	212	na	na	
SP60-CH-209-010	1.00	4a	6/6/2006	16	na	na	
SP60-CH-209-015	1.50	4a	6/6/2006	5	na	na	
SP60-CH-209-020	2.00	4a	6/6/2006	3	na	na	
SP60-CH-210-005	0.50	4b	6/6/2006	1,176	na	na	
SP60-CH-210-010	1.00	4b	6/6/2006	56	na	na	
SP60-CH-210-015	1.50	4b	6/6/2006	10	na	na	
SP60-CH-210-020	2.00	4b	6/6/2006	0	na	na	
SP60-CH-201-000	0.25	5a	6/6/2006	305	na	na	
SP60-CH-201-000D	0.25	5a	6/6/2006	262	na	na	
SP60-CH-201-005	0.50	5a	6/6/2006	1,342	na	na	
SP60-CH-201-010	1.00	5a	6/6/2006	373	na	na	
SP60-CH-201-010D	1.00	5a	6/6/2006	444	na	na	
SP60-CH-201-015	1.50	5a	6/6/2006	11	na	na	
SP60-CH-201-020	2.00	5a	6/6/2006	54	na	na	
SP60-CH-202-000	0.25	5b	6/6/2006	356	na	na	
SP60-CH-202-000D	0.25	5b	6/6/2006	400	na	na	
SP60-CH-202-005	0.50	5b	6/6/2006	1,350	na	na	
SP60-CH-202-010	1.00	5b	6/6/2006	387	166	na	No
SP60-CH-202-010D	1.00	5b	6/6/2006	404	na	na	
SP60-CH-202-015	1.50	5b	6/6/2006	1,331	na	na	
SP60-CH-202-020	2.00	5b	6/6/2006	219	na	na	
TEACHER HOUSE 103							
SP60-CH-303-000	0.25	1a	6/6/2006	183	na	na	
SP60-CH-303-005	0.50	1a	6/6/2006	245	na	na	
SP60-CH-303-010	1.00	1a	6/6/2006	244	242	na	No
SP60-CH-303-020	2.00	1a	6/6/2006	33	na	na	
SP60-CH-304-005	0.50	1b	6/6/2006	77	na	na	
SP60-CH-304-010	1.00	1b	6/6/2006	97	na	na	
SP60-CH-304-015	1.50	1b	6/6/2006	51	na	na	
SP60-CH-304-020	2.00	1b	6/6/2006	3	na	na	
SP60-CH-305-000	0.25	2a	6/6/2006	322	na	na	
SP60-CH-305-000D	0.25	2a	6/6/2006	421	625	na	No
SP60-CH-305-005	0.50	2a	6/6/2006	284	na	na	
SP60-CH-305-005D	0.50	2a	6/6/2006	321	na	na	
SP60-CH-305-010	1.00	2a	6/6/2006	333	310	na	No
SP60-CH-305-010D	1.00	2a	6/6/2006	325	na	na	
SP60-CH-305-015	1.50	2a	6/6/2006	124	na	na	
SP60-CH-305-020	2.00	2a	6/6/2006	5	na	na	
SP60-CH-306-005	0.50	2b	6/6/2006	461	na	na	
SP60-CH-306-005D	0.50	2b	6/6/2006	96	na	na	
SP60-CH-306-010	1.00	2b	6/6/2006	170	na	na	
SP60-CH-306-015	1.50	2b	6/6/2006	277	na	na	
SP60-CH-306-020	2.00	2b	6/6/2006	0	na	na	
SP60-CH-301-000	0.25	3a	6/6/2006	945	na	na	
SP60-CH-301-000D	0.25	3a	6/6/2006	723	na	na	
SP60-CH-301-005	0.50	3a	6/6/2006	182	na	na	

Table 4-1
Site Investigation Data

Final Sample ID	DEPTH (ft)	Building Subarea	Sampling Date	Total Lead FPXRF Result[1] (mg/kg)	Total Lead Fixed-Lab Result (mg/kg)	Leachable Lead Fixed-Lab Result (mg/L)	False Negative Result[2] for FPXRF compared with Fixed-Lab Result (Yes/No)
				ADEC Cleanup >400 mg/kg	*ADEC Cleanup >400 mg/kg*	*RCRA Hazardous Waste >5.0 mg/L*	
TH103 (cont'd…)							
SP60-CH-301-010	1.00	3a	6/6/2006	103	na	na	
SP60-CH-301-015	1.50	3a	6/6/2006	4	na	na	
SP60-CH-301-020	2.00	3a	6/6/2006	4	na	na	
SP60-CH-302-000	0.25	3b	6/6/2006	145	na	na	
SP60-CH-302-005	0.50	3b	6/6/2006	437	377	na	No
SP60-CH-302-010	1.00	3b	6/6/2006	23	na	na	
SP60-CH-302-015	1.50	3b	6/6/2006	9	1	na	No
SP60-CH-302-020	2.00	3b	6/6/2006	1	na	na	
SP60-CH-307-000	0.25	4a	6/6/2006	2,349	1,260	na	No
SP60-CH-307-005	0.50	4a	6/6/2006	3,536	na	na	
SP60-CH-307-010	1.00	4a	6/6/2006	579	na	na	
SP60-CH-307-015	1.50	4a	6/6/2006	9	na	na	
SP60-CH-307-020	2.00	4a	6/6/2006	0	na	na	
SP60-CH-308-005	0.50	4b	6/6/2006	525	na	na	
SP60-CH-308-010	1.00	4b	6/6/2006	47	na	na	
SP60-CH-308-015	1.50	4b	6/6/2006	0	na	na	
SP60-CH-308-020	2.00	4b	6/6/2006	6	na	na	
SP60-CH-309-000	0.25	5a	6/6/2006	1,217	na	na	
SP60-CH-309-005	0.50	5a	6/6/2006	2,365	na	na	
SP60-CH-309-010	1.00	5a	6/6/2006	280	na	na	
SP60-CH-309-015	1.50	5a	6/6/2006	129	na	na	
SP60-CH-309-020	2.00	5a	6/6/2006	452	na	na	
SP60-CH-310-005	0.50	5b	6/6/2006	1,118	na	na	
SP60-CH-310-010	1.00	5b	6/6/2006	54	na	na	
SP60-CH-310-015	1.50	5b	6/6/2006	36	na	na	
SP60-CH-310-020	2.00	5b	6/6/2006	0	na	na	
SP60-CH-311-000	0.25	6a	6/6/2006	543	na	na	
SP60-CH-311-005	0.50	6a	6/6/2006	531	na	na	
SP60-CH-311-005D	0.50	6a	6/6/2006	556	na	na	
SP60-CH-311-010	1.00	6a	6/6/2006	496	na	na	
SP60-CH-311-010D	1.00	6a	6/6/2006	578	na	na	
SP60-CH-311-010D	1.00	6a	6/6/2006	542	na	na	
SP60-CH-311-015	1.50	6a	6/6/2006	232	na	na	
SP60-CH-311-020	2.00	6a	6/6/2006	91	na	na	
SP60-CH-312-005	0.50	6b	6/6/2006	579	na	na	
SP60-CH-312-005D	0.50	6b	6/6/2006	312	na	na	
SP60-CH-312-010	1.00	6b	6/6/2006	115	na	na	
SP60-CH-312-015	1.50	6b	6/6/2006	0	na	na	
SP60-CH-312-020	2.00	6b	6/6/2006	168	na	na	

PRE-TREATMENT WASTE DESIGNATION		Description	Sampling Date	Total Lead FPXRF Result[1] (mg/kg)	Total Lead Fixed-Lab Result (mg/kg)	Leachable Lead Fixed-Lab Result (mg/L)	False Negative Result[2] for FPXRF compared with Fixed-Lab Result (Yes/No)
				ADEC Cleanup >400 mg/kg	*ADEC Cleanup >400 mg/kg*	*RCRA Hazardous Waste >5.0 mg/L*	
SP60-TC-101-000		Duplex composite 1	6/7/2006	na	2,020	26.2	
SP60-TC-102-000		Duplex composite 2	6/7/2006	na	448	6.07	
SP60-TC-103-000		Duplex composite 3	6/7/2006	na	318	1.92	
SP60-TC-104-000		TH101 composite 1	6/6/2006	na	2,370	21.7	
SP60-TC-105-000		TH101 composite 2	6/6/2006	na	597	7.49	
SP60-TC-106-000		TH101 composite 3	6/6/2006	na	774	16.5	
SP60-TC-107-000		TH101 composite 4	6/6/2006	na	444	8.32	
SP60-TC-108-000		TH103 composite 1	6/6/2006	na	2,100	51.9	
SP60-TC-109-000		TH103 composite 2	6/6/2006	na	348	6.37	
SP60-TC-110-000		TH103 composite 3	6/6/2006	na	399	6.88	
SP60-TC-111-000		TH103 composite 4	6/6/2006	na	400	6.91	
SP60-TC-112-000		HEPA vac bag/paintchips	6/16/2006	na	1,230	33.6	

Notes:

(1) FPXRF results reported are the most probable concentration given the observation duration. Longer observations yield smaller error bars. Some results reported as negative concentrations are considered 0 and are listed as such on this table for clarity. Raw instrument output would show a negative concentration with error bars that would yield a concentration range that spans small positive and negative concentrations.

(2) NOAA evaluated FPXRF data quality in a qualitative manner by determining whether any FPXRF results showed a sample concentration at or below the ADEC residential soil cleanup level of 400 mg/kg when its fixed-laboratory duplicate indicated that sample was greater than 400 mg/kg. This evaluation shows that FPXRF would not likely cause NOAA to leave soil in place that is actually contaminated due to the FPXRF erroneously indicating the soil is clean. NOAA found 0 of 19 duplicate samples had false negative results.

If a particular sample had either no FPXRF or no fixed-laboratory result, the field was left blank.

na = not analyzed

Table 4-2
Treatability Study Data

Final Sample ID	Total Lead Fixed-Lab Result (mg/kg)	Pre-Treatment Leachable Lead Fixed-Lab Result (mg/L)
	ADEC Cleanup >400 mg/kg	*RCRA Hazardous Waste >5.0 mg/L*
Sample A - Untreated	999	9.11
Sample A - Treated	na	<1.0
Sample B - Untreated	2,630	9.35
Sample B- Treated	na	<1.0

Notes:

na = not analyzed

Table 4-3
Post-Treatment Waste Designation Data

Final Sample ID	Depth (ft)	Building Subarea	Sampling Date	Total Lead Fixed-Lab Result (mg/kg)	Leachable Lead Fixed-Lab Result (mg/L)
				ADEC Cleanup >400 mg/kg	*RCRA Hazardous Waste >5.0 mg/L*
DUPLEX					
SP60-CH-06	0.50	4b	10/15/2006	268	<0.5
SP60-CH-07	0.50	1a	10/15/2006	203	<0.5
TEACHER HOUSE 101					
SP60-CH-01	0.50	5a	10/15/2006	812	<0.5
SP60-CH-02	0.50	2b	10/15/2006	376	<0.5
TEACHER HOUSE 103					
SP60-CH-03	0.50	2b	10/15/2006	159	<0.5
SP60-CH-04	0.50	4a	10/15/2006	1,490	<0.5
SP60-CH-05[1]	0.50	4a	10/15/2006	2,400	<0.5

Note:

(1) SP60-CH-05 is a duplicate of SP60-CH-04

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Table 4-4
Final Confirmation Sample Data

Final Sample ID	Depth (ft)	Building Subarea	Sampling Date	Total Lead FPXRF Result[1] (mg/kg)	Total Lead Fixed-Lab Result (mg/kg)	False Negative Result[4] for FPXRF compared with Fixed-Lab Result (Yes/No)
				ADEC Cleanup >400 mg/kg	*ADEC Cleanup >400 mg/kg*	
DUPLEX						
SP60-CS-001-020	2.0	5a	10/21/2006	29	20.1	No
SP60-CS-002-015	1.5	7a	10/21/2006	159	201	No
SP60-CS-003-020	2.0	8a	10/21/2006	**654**	**1,830**	No
SP60-CS-004-020	2.0	4a	10/21/2006	5	27	No
SP60-CS-005-025	2.0	2a	10/21/2006	37	37	No
TEACHER HOUSE 101						
SP60-CS-006-025	2.5	1a	10/22/2006	36	85.4	No
SP60-CS-007-020	2.0	2a	10/22/2006	3	5.81	No
SP60-CS-008-020	2.0	3a	10/22/2006	34	22.5	No
SP60-CS-009-015	1.5	9a	10/22/2006	40	33	No
SP60-CS-010-025[2]	2.5	1a	10/22/2006	104	118	No
TEACHER HOUSE 103						
SP60-CS-011-005	0.5	3a	10/22/2006	12	30	No
SP60-CS-012-030	3.0	5a	10/22/2006	0	15.3	No
SP60-CS-013-020	2.0	6a	10/22/2006	26	62	No
SP60-CS-014-020	2.0	2a	10/22/2006	5	4	No
SP60-CS-015-020[3]	2.0	2a	10/22/2006	4	2	No

Notes:

(1) FPXRF results reported are the most probable concentration given the observation duration. Longer observations yield smaller error bars. Some results reported as negative concentrations are considered 0 and are listed as such on this table for clarity. Raw instrument output would show a negative concentration with error bars that would yield a concentration range that spans small positive and negative concentrations.

(2) SP60-CS-010-025 is a duplicate of SP60-CS-006-025

(3) SP60-CS-015-020 is a duplicate of SP60-CS-014-020

(4) NOAA evaluated FPXRF data quality in a qualitative manner by determining whether any FPXRF results showed a sample concentration at or below the ADEC residential soil cleanup level of 400 mg/kg when its fixed-laboratory duplicate indicated that sample was greater than 400 mg/kg. This evaluation shows that FPXRF would not likely cause NOAA to leave soil in place that is actually contaminated due to the FPXRF erroneously indicating the soil is clean. NOAA found 0 of 15 duplicate samples had false negative results. If a particular sample had either no FPXRF or no fixed-laboratory result, the field was left blank.

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Table 4-5
Clean Backfill Characterization Sample Data

Final Sample ID	Depth (ft)	Sample Location	Sampling Date	Total Lead FPXRF Result[1] (mg/kg)	Total Lead Fixed-Lab Result (mg/kg)	False Negative Result[2] for FPXRF compared with Fixed-Lab Result (Yes/No)
				ADEC Cleanup >400 mg/kg	*ADEC Cleanup >400 mg/kg*	
DUPLEX						
SP60-CH-601-005	0.5	Lake Hill Scoria Pit	10/23/2006	0	0.211J	No
SP60-CH-602-005	0.5	Lake Hill Scoria Pit	10/23/2006	0	0.2J	No
SP60-CH-603-005	0.5	Lake Hill Scoria Pit	10/23/2006	0	0	No

Notes:

(1) FPXRF results reported are the most probable concentration given the observation duration. Longer observations yield smaller error bars. Some results reported as negative concentrations are considered 0 and are listed as such on this table for clarity. Raw instrument output would show a negative concentration with error bars that would yield a concentration range that spans small positive and negative concentrations.

(2) NOAA evaluated FPXRF data quality in a qualitative manner by determining whether any FPXRF results showed a sample concentration at or below the ADEC residential soil cleanup level of 400 mg/kg when its fixed-laboratory duplicate indicated that sample was greater than 400 mg/kg. This evaluation shows that FPXRF would not likely cause NOAA to leave soil in place that is actually contaminated due to the FPXRF erroneously indicating the soil is clean. NOAA found 0 of 3 duplicate samples had false negative results.

If a particular sample had either no FPXRF or no fixed-laboratory result, the field was left blank.

J = The sample was below the laboratory's practical quantitation limit but above the detection limit. The concentration reported is an estimate.

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Table 6-1
Fixed Laboratory Data Review Checklist

1. Laboratory
    a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
    ■ Yes ☐ No Comments: **ADEC approved NOAA's use of a field-portable x-ray fluorescence meter (FPXRF) for analyzing characterization samples for lead, though all confirmation and waste designation samples required fixed-laboratory ("lab") analysis by an ADEC-approved laboratory. All fixed lab samples were analyzed by ADEC-approved laboratories Friedman & Bruya (F&BI, [Seattle, WA]) or SGS Environmental Services (SGS, [Anchorage, AK]).**

    b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
    ☐ Yes ■ No Comments:

2. Chain of Custody (COC)
    a. COC information completed, signed, and dated (including released/received by)?
    ■ Yes ☐ No Comments: **Completed for 5 of 5 fixed-lab sample delivery groups (SDGs).**

    b. Correct analyses requested?
    ■ Yes ☐ No Comments: **Correct for 5 of 5 fixed-lab SDGs.**

3. Laboratory Sample receipt documentation
    a. Sample/cooler temperature documented and within range at receipt ($4^{o} \pm 2^{o}$ C)?
    ☐ Yes ■ No Comments: **Two of five SDGs received by laboratory were measured at $4^{o} + 2^{o}$ C. The other three SDGs were received between 24^{o} and 32^{o} C.**

    b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
    ■ Yes ☐ No Comments: **No preservation is required for lead soil samples.**

    c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
    ■ Yes ☐ No Comments:

Table 6-1
Fixed Laboratory Data Review Checklist

d. If there were any discrepancies, were they documented? – For example, incorrect sample containers/preservation, sample temperature outside of acceptance range, insufficient or missing samples, etc.?
■ Yes ☐ No Comments: **Samples from the June 2006 and August 2006 site characterization activities were delivered to laboratory in new, resealable plastic bags instead of 4 ounce jars as specified in NOAA's Master Quality Assurance Plan (QAP). See 3a above regarding sample temperatures.**

e. Data quality or usability affected? Impacts on data should be minimal since no samples within any coolers were received frozen, containing any ice, or with bulging septa in the sample vials.. **Use of new, resealable plastic bags instead of 4 ounce glass jars did not affect data quality or usability. Lead in soil will not migrate from or adsorb to polyethylene plastic. Sealed bags will not be subject to cross-contamination. While three batches exceeded the specified temperature range above, this should have no impact on data quality. The melting point and boiling point temperatures of lead at standard atmospheric pressure are 328 °C and 1740 °C, respectively. Lead's vapor pressure does not exceed 1 millimeter of mercury until it reaches 980 °C. Lead is a naturally occurring element. Lead is non-volatile at 32°C, and will not degrade due to biological activity or other natural processes that can degrade organic contaminants at this temperature. Consequently, the quantity of lead in project samples would not vary with temperatures ranging between 4°C and 32°C.**

4. Case Narrative

a. Present and understandable?
■ Yes ☐ No Comments: **All five sample data groups had understandable case narratives.**

b. Discrepancies, errors or QC failures identified by the lab?
☐ Yes ■ No Comments:

c. Were all corrective actions documented?
☐ Yes ☐ No Comments: **N/A – No corrective actions were noted or needed.**

d. What is the effect on data quality/usability according to the case narrative? **No effect on data quality was noted in case narratives.**

Table 6-1
Fixed Laboratory Data Review Checklist

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
      ■ Yes ☐ No Comments:

   b. All applicable holding times met?
      ■ Yes ☐ No Comments: **The maximum holding time for lead in soil is 6 months per NOAA's Master QAP. All samples were analyzed within 1 month of collection.**

   c. All soils reported on a dry weight basis?
      ■ Yes ☐ No Comments:

   d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
      ■ Yes ☐ No Comments:

   e. Data quality or usability affected? **There was no negative effect on data quality or usability.**

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      ■ Yes ☐ No Comments:

      ii. All method blank results less than PQL?
      ■ Yes ☐ No Comments:

      iii. If above PQL, what samples are affected? **Not applicable to lead soil samples.**

      iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
      ☐ Yes ☐ No Comments: **None are needed.**

      v. Data quality or usability affected? **There was no effect on data quality or usability due to method blank problems.**

Table 6-1
Fixed Laboratory Data Review Checklist

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples?

☐ Yes ☐ No Comments: **Not applicable to lead soil samples.**

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?

■ Yes ☐ No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? Or project specified DQOs? (AK Petroleum methods 75-125 %R; all other analyses see the laboratory QC pages)

■ Yes ☐ No Comments:

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? Or project specified DQOs?

☐ Yes ☐ No Comments: **No LCSD's were analyzed, so no precision data were generated for the LCS.**

v. If %R or RPD outside of acceptable limits, what samples are affected? **Not applicable.**

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments: **Not applicable.**

vii. Data quality or usability affected? **No data quality or usability effects were noted for LCS.**

c. Surrogates – Organics only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☐ Yes ☐ No Comments: **Not applicable to lead samples.**

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? Or project specified DQOs?

☐ Yes ☐ No Comments: **Not applicable to lead soil samples.**

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments: **Not applicable to lead soil samples.**

iv. Data quality or usability affected? **Not applicable to lead soil samples.**

Table 6-1
Fixed Laboratory Data Review Checklist

d. Trip Blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): water and soil

   i. One trip blank reported per matrix, analysis and cooler?

☐ Yes ☐ No Comments: **Not applicable to lead soil samples.**

   ii. All results less than PQL? **Not applicable to lead soil samples.**

☐ Yes ☐ No Comments:

   iii. If above PQL, what samples are affected? **Not applicable to lead soil samples.**

   iv. Data quality or usability affected? **Not applicable to lead soil samples.**

e. Field Duplicate

   i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐ Yes ■ No Comments: **PSI Environmental collected and analyzed field duplicates for waste treatment effectiveness/designation samples and final confirmation samples at a rate exceeding 10% (6 waste designation samples with 1 field duplicate; 13 final confirmation samples with 2 field duplicates). NOAA did not collect or analyze field duplicate samples during its June 2006 site characterization. For this sampling event, NOAA analyzed two other types of lab duplicates, consistent with its May 2006 Corrective Action Plan for the Lead Contaminated Soils Site. NOAA analyzed FPXRF laboratory quality control duplicates for its analyses at a rate greater than 10% (23 duplicate samples analyzed for 165 project samples analyzed for FPXRF). NOAA also tasked F&BI to verify the FPXRF results by analyzing quality assurance (QA) duplicates for 19 of the 165 project samples. NOAA sent QA duplicates to F&BI for fixed laboratory analysis using EPA Method 200.8. When NOAA compared the QA duplicate results to the FPXRF results and ADEC's residential cleanup level of 400 mg/kg for lead, it found no false negative results among the FPXRF data. NOAA did not analyze field duplicate samples for its August 2006 treatability testing, however it did analyze technology verification samples through F&BI to verify the vendor's in-house results for the treatment technology. NOAA analyzed 13 field duplicates for PSI's final confirmation sampling and 3 field duplicates for PSI's clean backfill characterization sampling using its FPXRF; the project samples collected by PSI were analyzed by SGS Environmental Services using EPA Method SW-846 6020. NOAA encountered no false positive FPXRF results with this 36 sample data set (19 during site investigation sampling, 13 during final confirmation sampling, and 3 during clean backfill characterization sampling).**

ii. Submitted blind to lab?

■ Yes ■ No Comments: **PSI's field duplicate samples from waste treatment effectiveness/designation and final confirmation sampling in October 2006 were submitted to SGS as blind samples. NOAA's quality assurance samples from its June 2006 site investigation were submitted to F&BI as blind samples. No samples analyzed by NOAA with its FPXRF were blind.**

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

■ Yes ☐ No Comments: **The largest RPD for fixed laboratory results is treatment effectiveness/designation sample SP60-CH-04 and its blind field duplicate SP60-CH-05 were quantified as 1,490 mg/kg and 2,400 mg/kg, respectively, by SGS. This yields a RPD of 47, which is within the error limits for this type of precision. This variation is likely due to sample heterogeneity. It is important to note both the project sample and blind field duplicate are significantly greater than the ADEC residential cleanup level of 400 mg/kg, meaning these dissimilar results would not cause an incorrect decision regarding the need for soil removal.**

iv. Data quality or usability affected? **All field duplicate submissions to the laboratory were analyzed and all sampling and analysis precision calculations were within acceptance criteria.**

f. Decontamination or Equipment Blank (if applicable)

☐ Yes ■ No Comments: **The only reusable sampling equipment requiring decontamination were the steel hand trowels and direct-push cutting shoes used during the June 2006 site characterization. NOAA thoroughly decontaminated this equipment, but did not collect rinse blanks from the decontaminated equipment. NOAA did characterize the decontamination waste water (IDW) as containing lead at 12.2 µg/L, which is about 12.2 µg/kg assuming the decon water has a density of 1 kg/L. This concentration of lead would not cause a piece of sampling equipment to cross contaminate a soil sample to a concentration exceeding the ADEC residential soil cleanup level of 400 mg/kg (i.e., 12.2 µg/kg = 0.0122 mg/kg << 400 mg/kg).**

i. All results less than PQL?

☐ Yes ☐ No Comments: **Not applicable.**

ii. If above PQL, what samples are affected? **Not applicable.**

iii. Data quality or usability affected? **Not applicable.**

Table 6-1
Fixed Laboratory Data Review Checklist

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab specific, etc.)
   a. Defined and appropriate

      ■ Yes ☐ No Comments: **A number of F&BI results are "J" flagged as estimated concentrations between the MDL and PQL. F&BI Batch 608150 has one laboratory duplicate sample (608150-02) with an RPD of 130, which is much greater than the acceptable range of <20. F&BI indicated the result was likely due to sample heterogeneity (i.e., flagged by F&BI as "h" for matrix heterogeneity). NOAA notes that the reported project sample result of 3,570 mg/kg (SP60-CH-151-005) and the laboratory duplicate sample result of 759 mg/kg are both greater than the ADEC residential cleanup level of 400 mg/kg. Sample heterogeneity, in this instance, would not cause an incorrect characterization to occur relative to the site cleanup level. All other LCS were within the acceptable RPD range.**

Completed by: **Gregory P. Gervais, P.E.**
Title: **Environmental Engineer** Date: **February 7, 2007**

Report Name: **Corrective Action Report/Conditional Closure Request, NOAA Site 60/Non-TPA – Lead Contaminated Soils. St. Paul Island, Alaska**

Report Date: **February 7, 2007**

Firm: **National Oceanic and Atmospheric Administration**

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FIGURES

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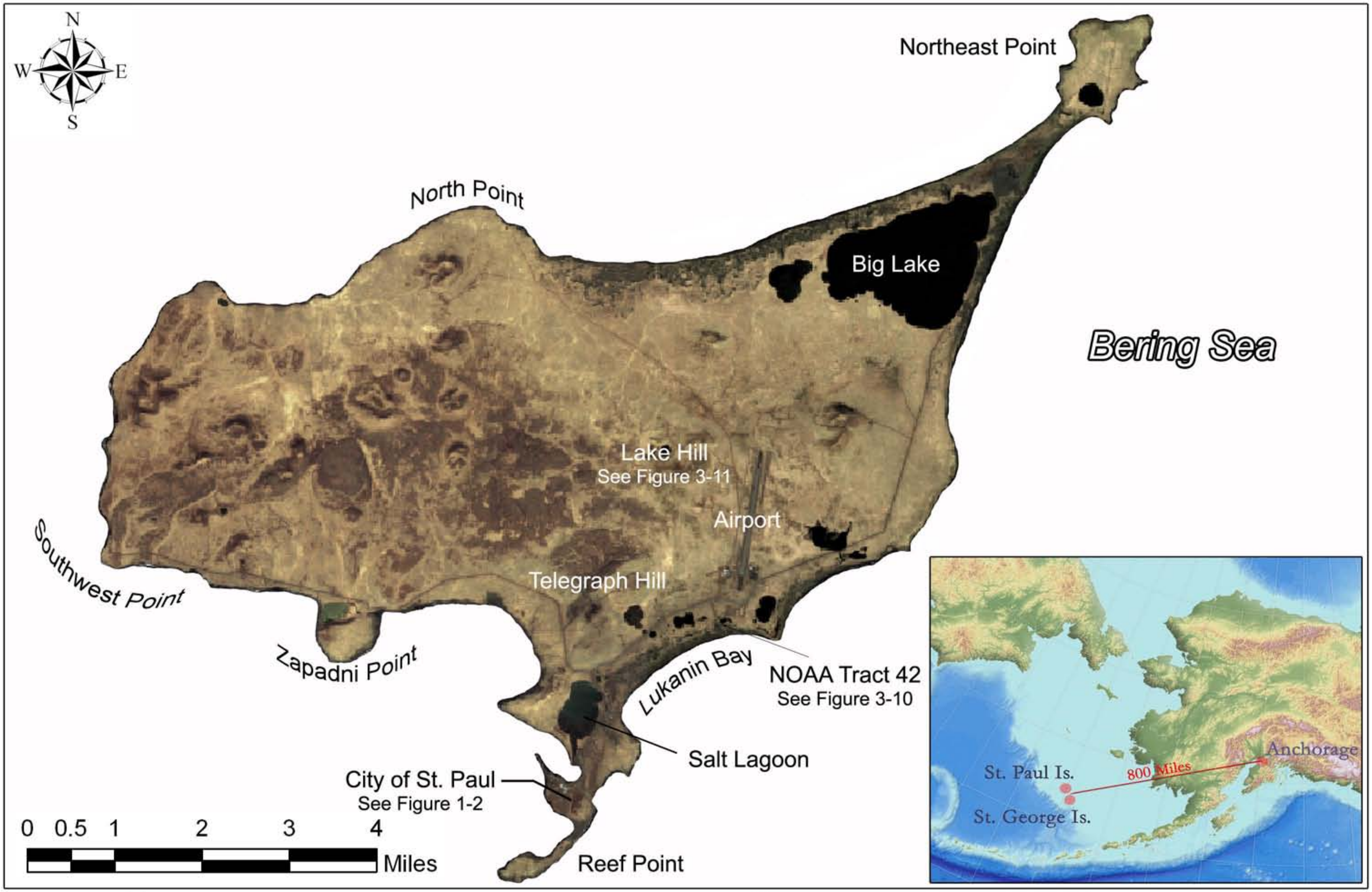

Figure

1-1

St. Paul Island Vicinity Map
Lead Contaminated Soils
Non-TPA Site 60
St. Paul Island, Alaska

Source: Ikonos Satellite
Imagery, 2001

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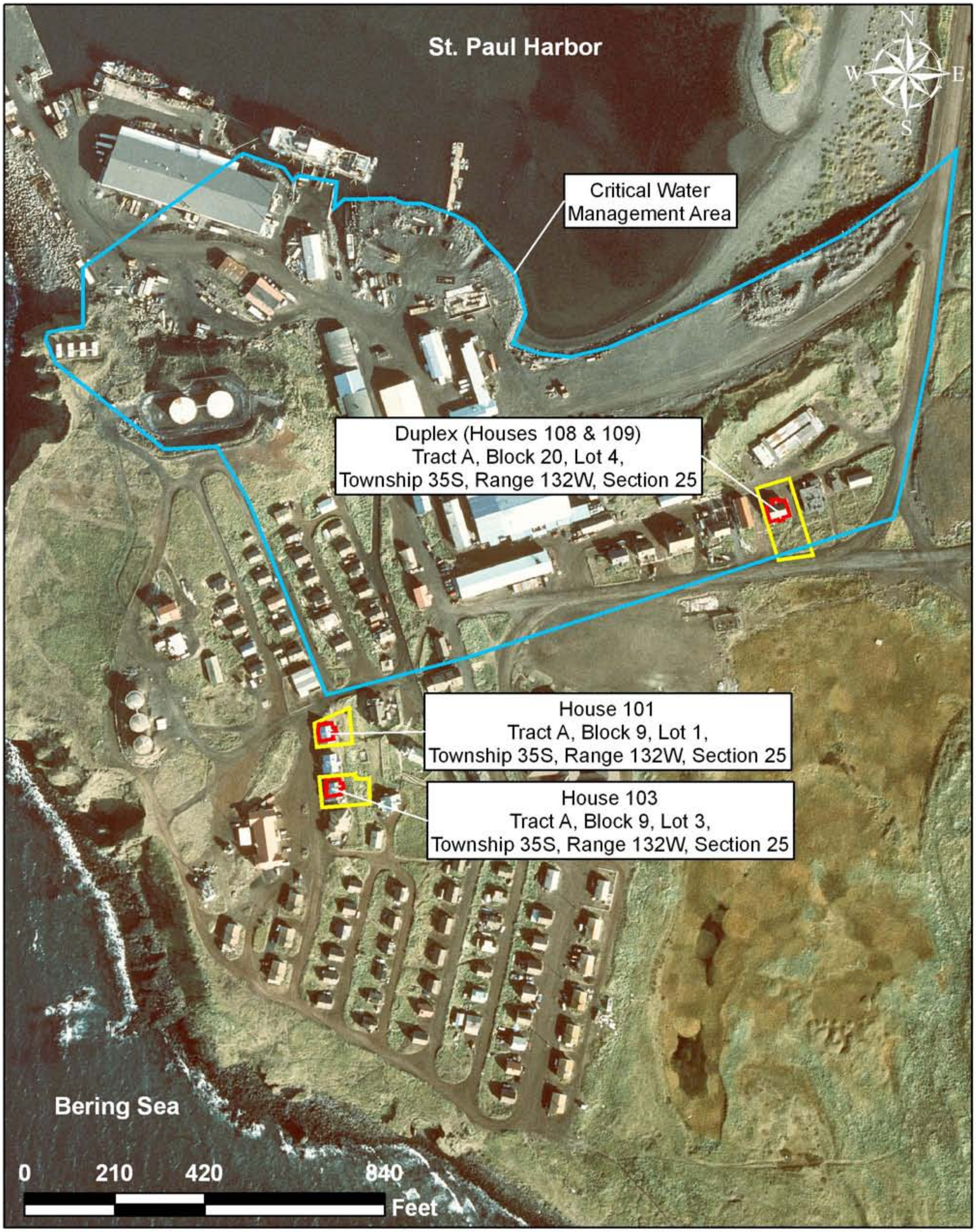
Restoration Project



Figure

1-2

Site Location Map
Lead Contaminated Soils
NOAA Site 60
St. Paul Island, Alaska

Sources: Buildings (NOAA GIS 2006), Parcels (BLM 1983), Aerial Photo (AeroMap US 1996).

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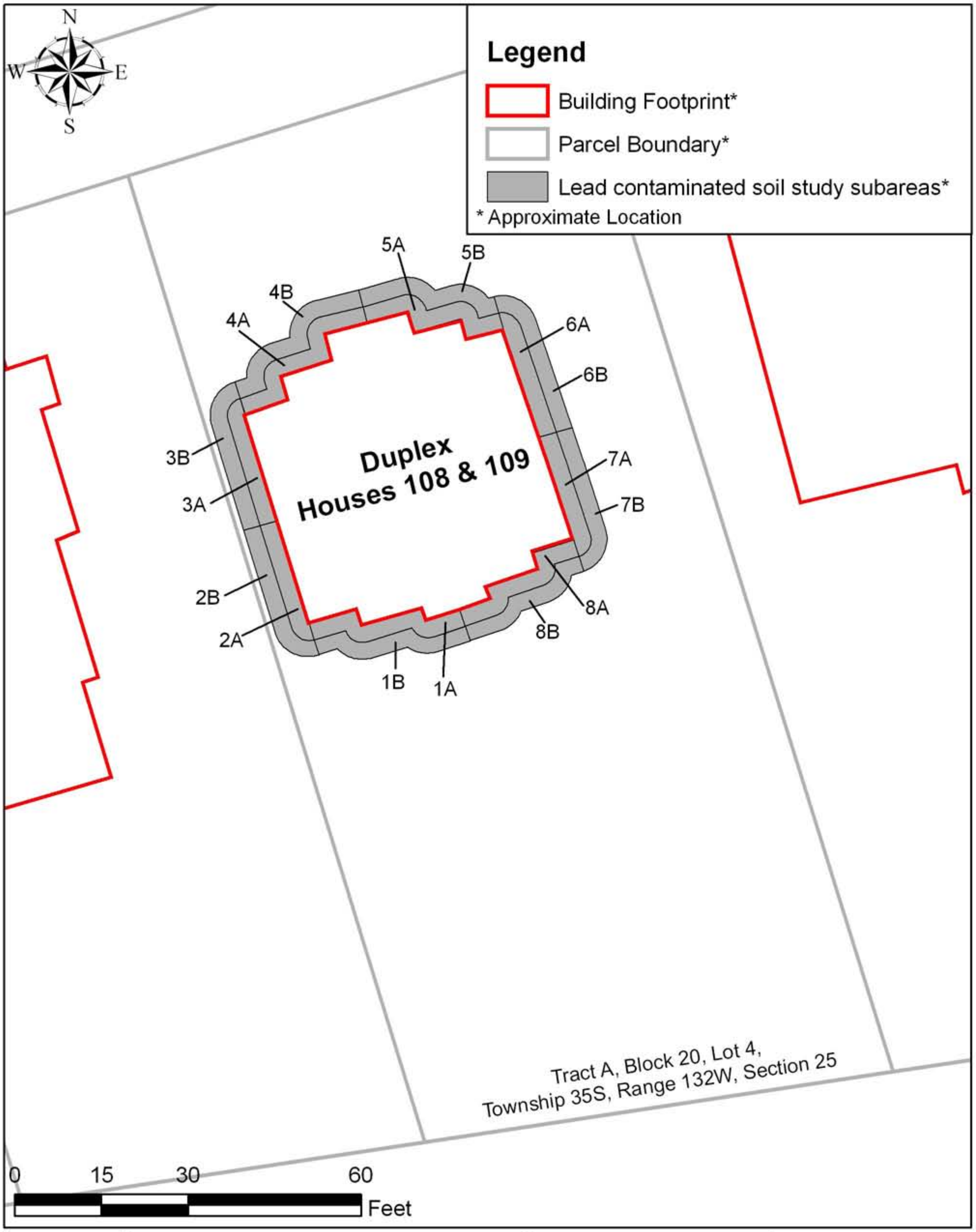

Figure

1-3

Lead-Contaminated Soil Study Area -
Duplex
NOAA Site 60
St. Paul Island, Alaska

Sources: Building and Soil Subareas (NOAA 2006), Parcel Boundaries (BLM 1983).

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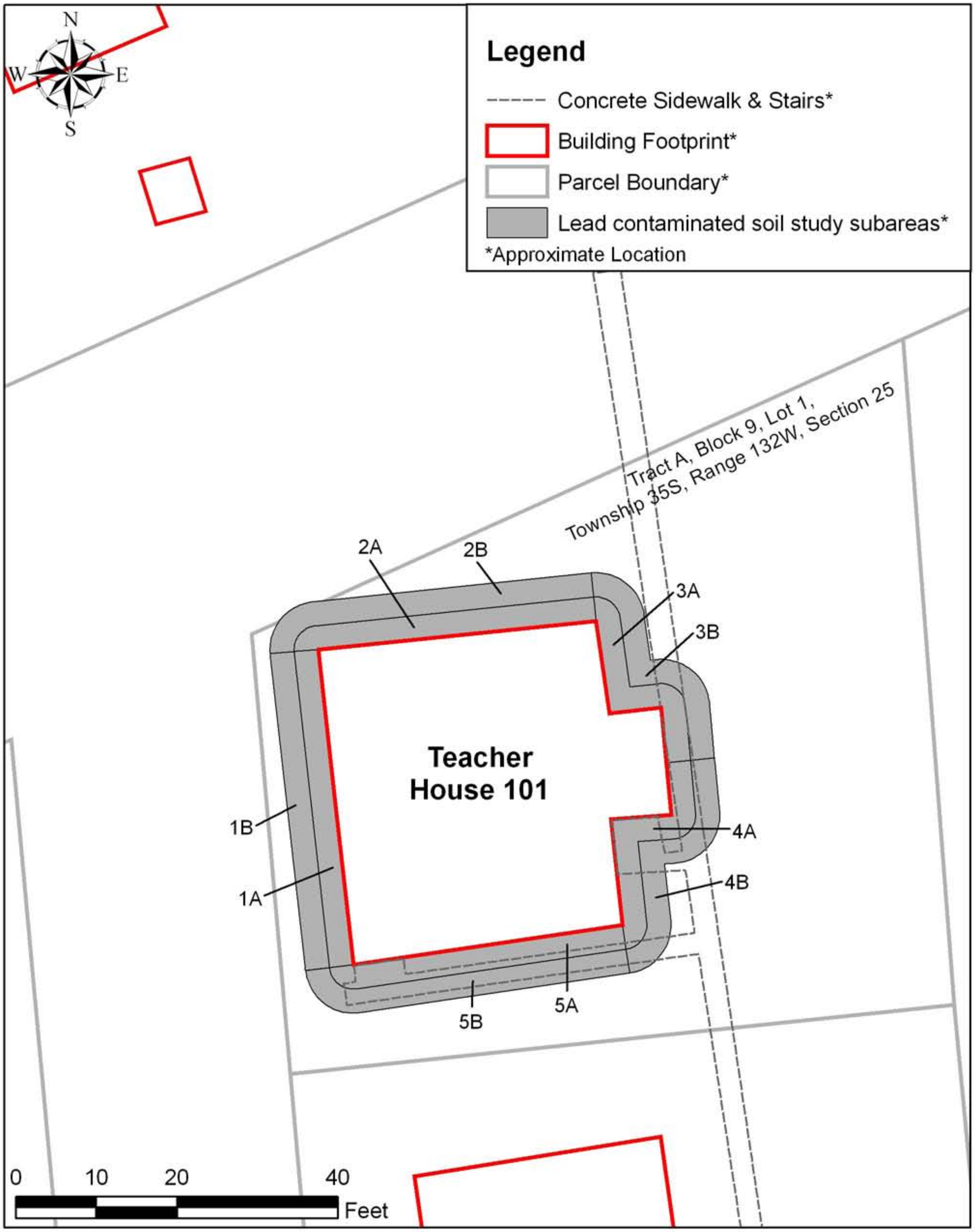

Figure 1-4

Lead-Contaminated Soil Study Area - Teacher House 101
NOAA Site 60
St. Paul Island, Alaska

Sources: Building and Soil Subareas (NOAA 2006), Parcel Boundaries (BLM 1983), Sidewalks (Hart Crowser 1999).

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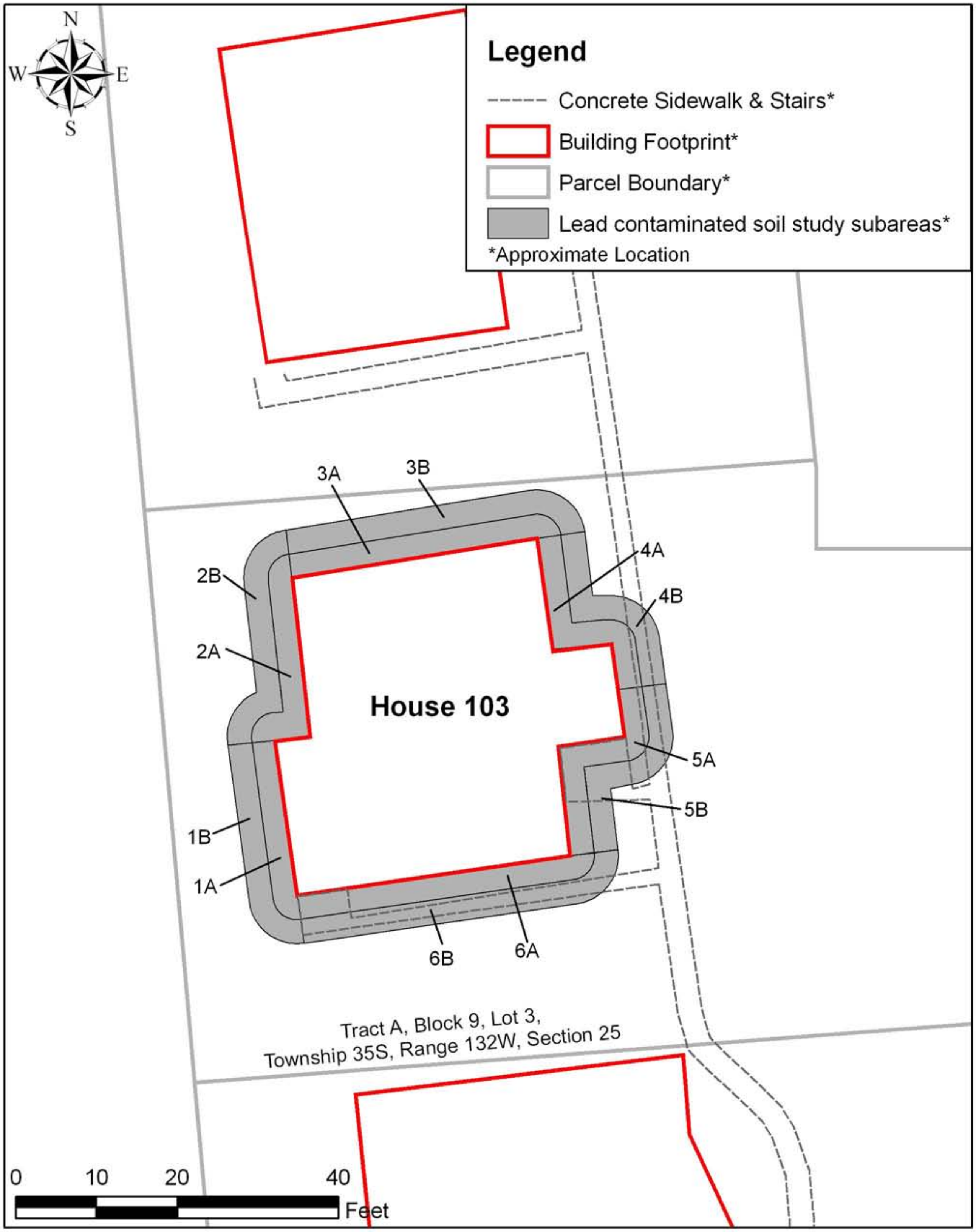

Figure

1-5

Lead-Contaminated Soil Study Area -
House 103
NOAA Site 60
St. Paul Island, Alaska

Sources: Building and Soil Subareas (NOAA 2006), Parcel Boundaries (BLM 1983), Sidewalks (Hart Crowser 1999).

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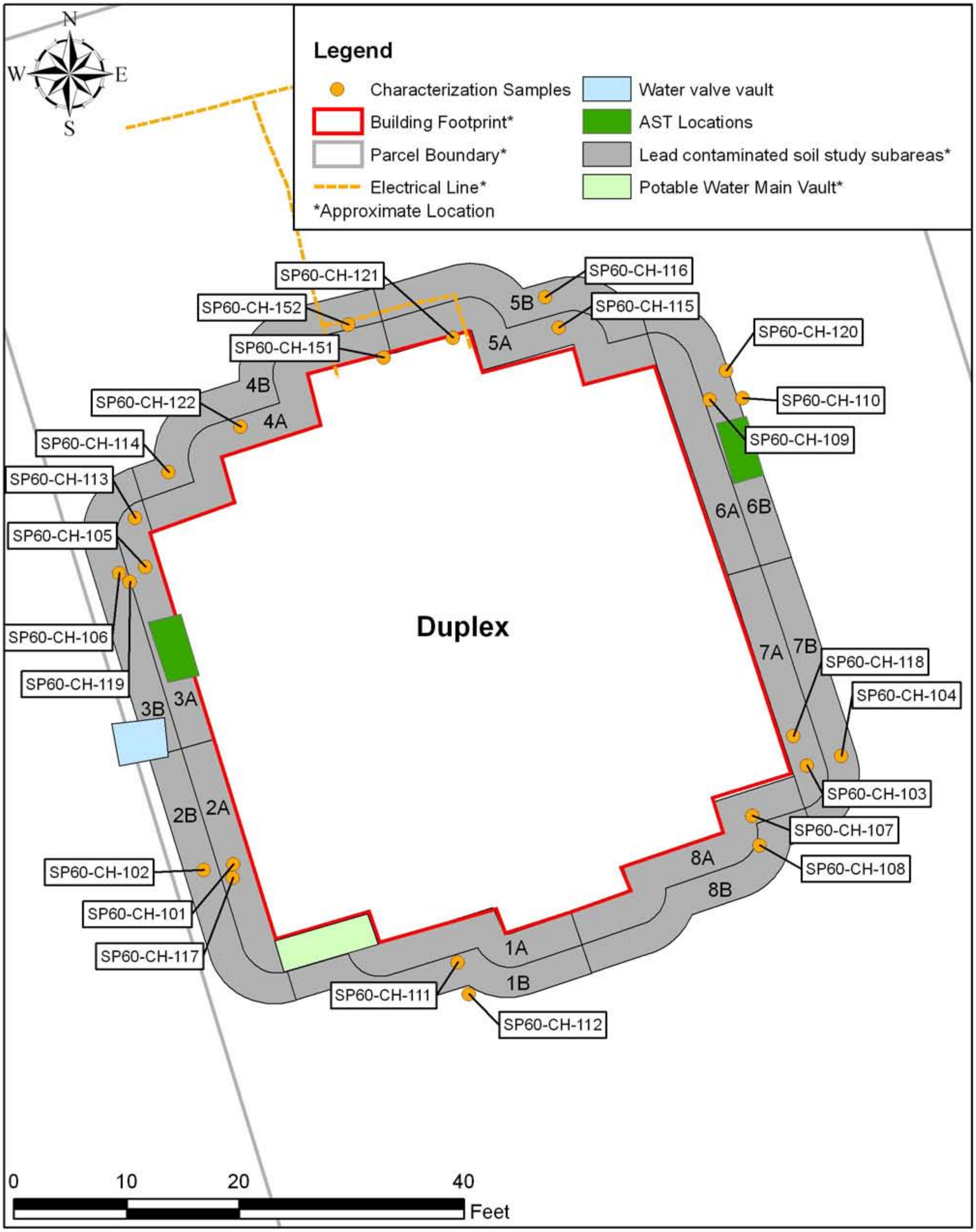

Figure 3-1	Proposed Study Area and Actual Site Investigation Sample Locations - Duplex NOAA Site 60 St. Paul Island, Alaska	Sources: Building, Subareas and Sample Locations (NOAA 2006), Parcel Boundaries (BLM 1983).

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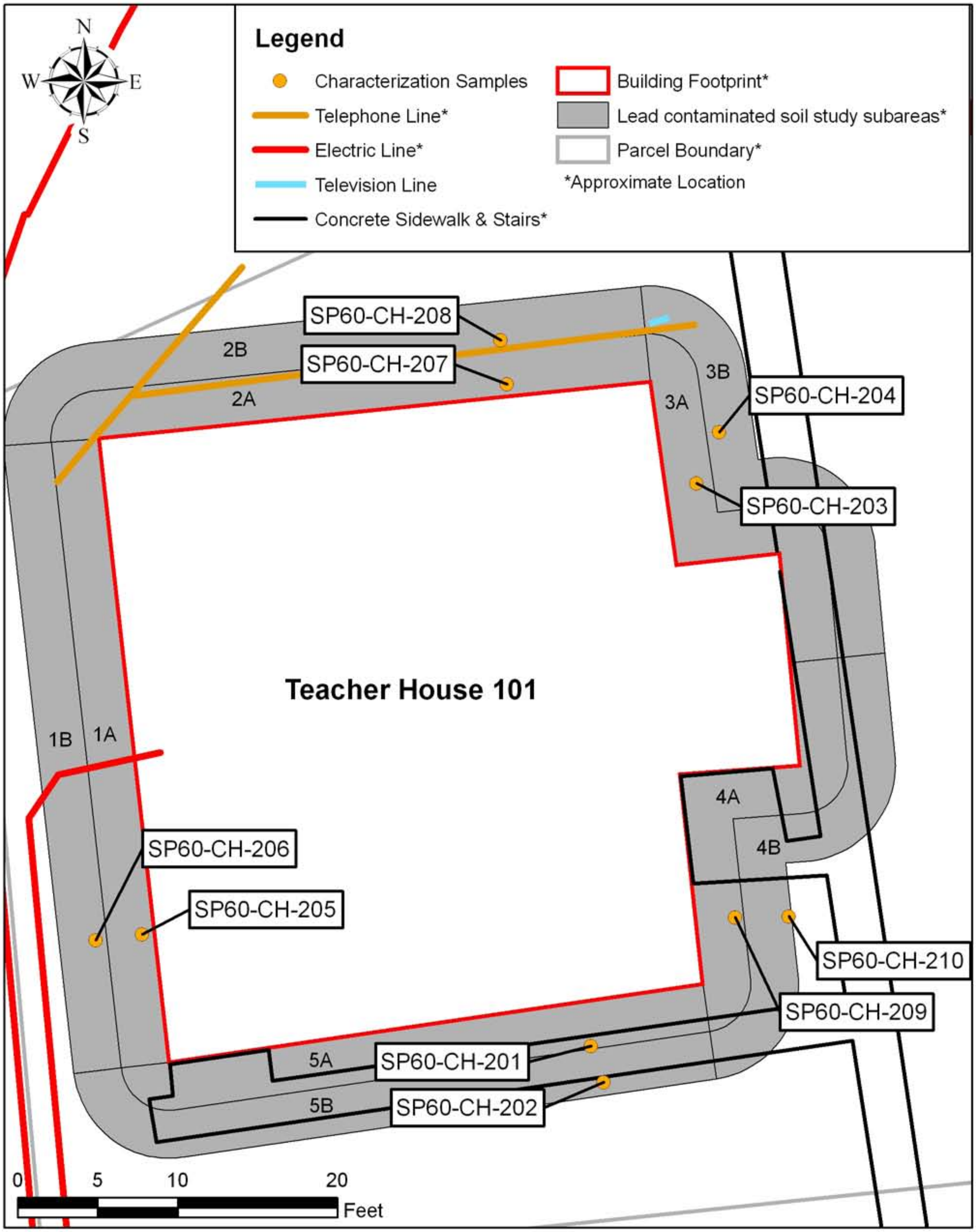

Figure

3-2

Proposed Study Area and Actual Site
Investigation Sample Locations -
Teacher House 101
NOAA Site 60
St. Paul Island, Alaska

Sources: Building, Subareas, and Sample Locations (NOAA 2006), Parcel Boundaries (BLM 1983).

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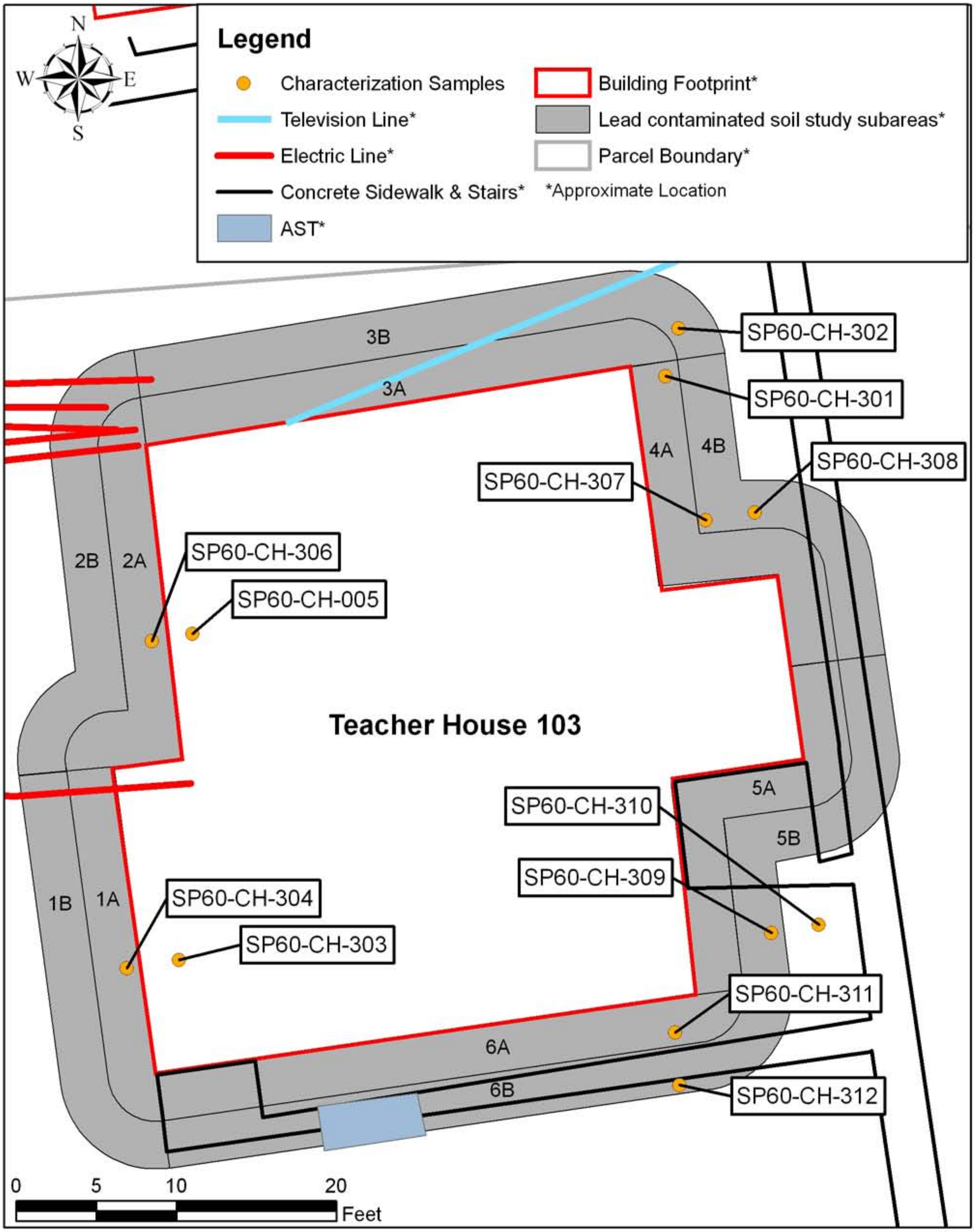
Restoration Project



Figure

3-3

Proposed Study Area and Actual Site Investigation Sample Locations - Teacher House 103
NOAA Site 60
St. Paul Island, Alaska

Sources: Building, Subareas, and Sample Locations (NOAA 2006), Parcel Boundaries (BLM 1983), Sidewalk (Hart Crowser 1999)..

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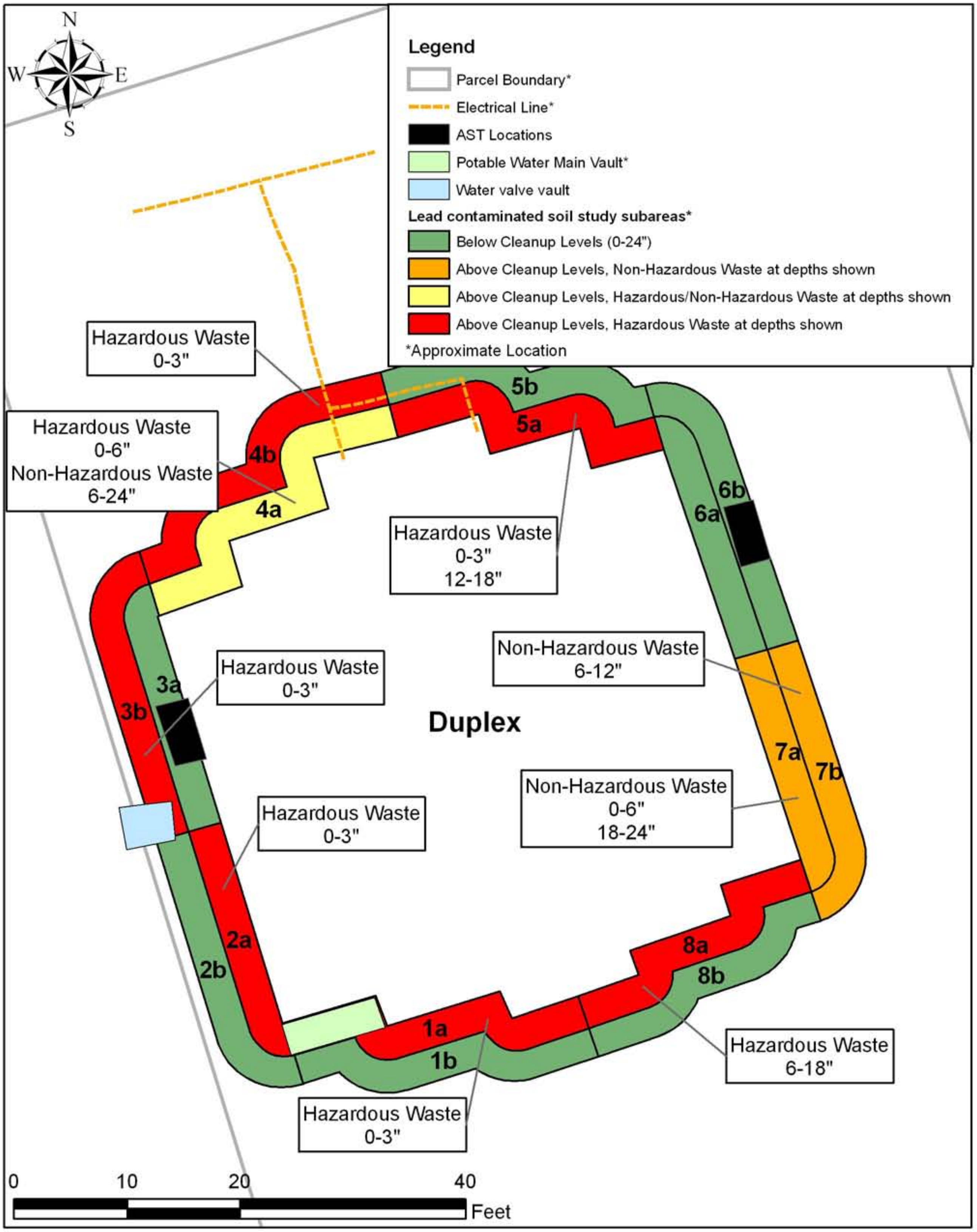


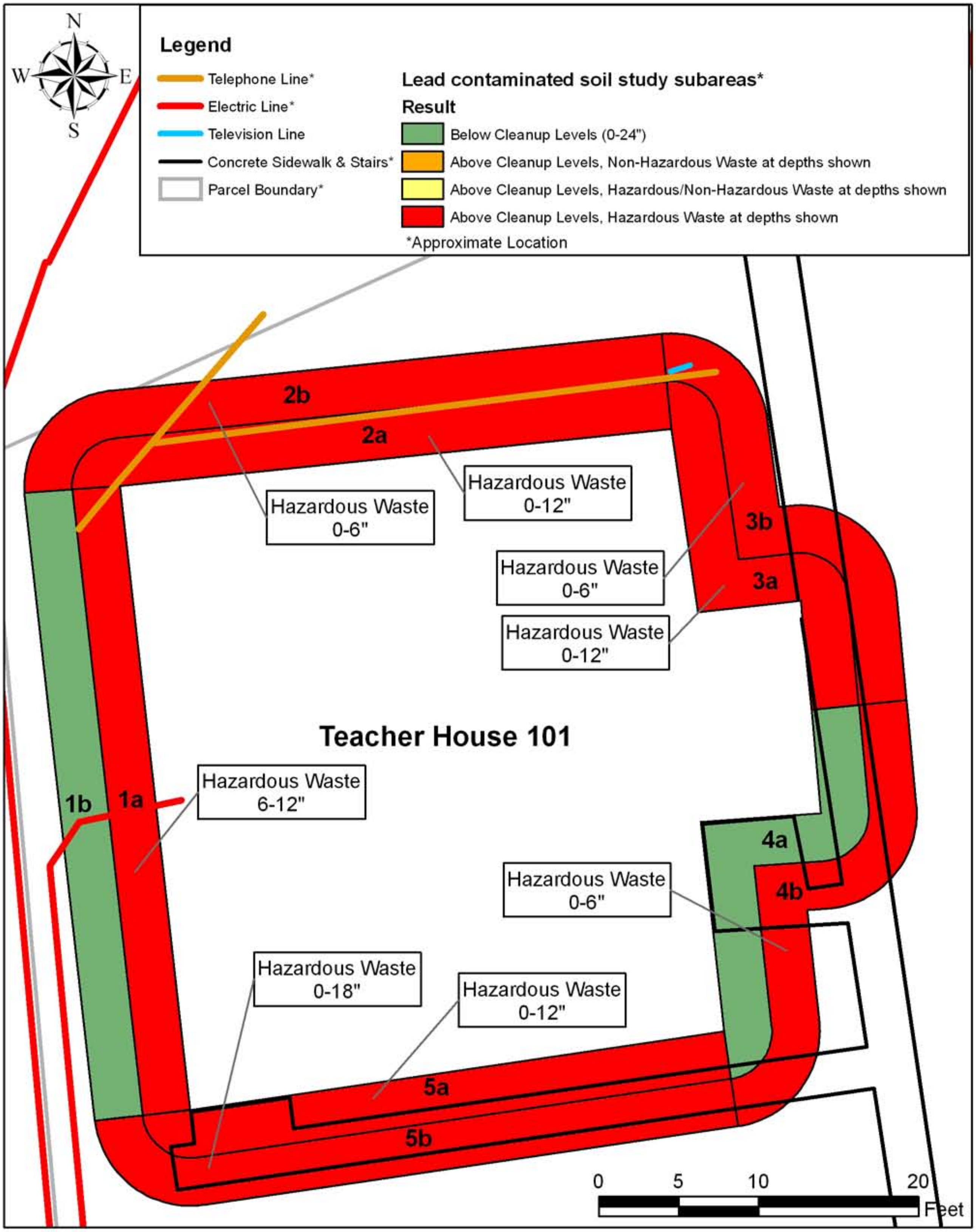
Figure

3-4

Planned Soil Treatment
and Removal - Duplex
NOAA Site 60
St. Paul Island, Alaska

Sources: Building and
Subareas (NOAA 2006),
Parcel Boundaries
(BLM 1983).

NOAA Pribilof Islands Restoration Project



Figure

3-5

Planned Soil Treatment and Removal -
Teacher House 101
NOAA Site 60
St. Paul Island, Alaska

Sources: Building and Subareas, (NOAA 2006), Parcel Boundaries (BLM 1983).

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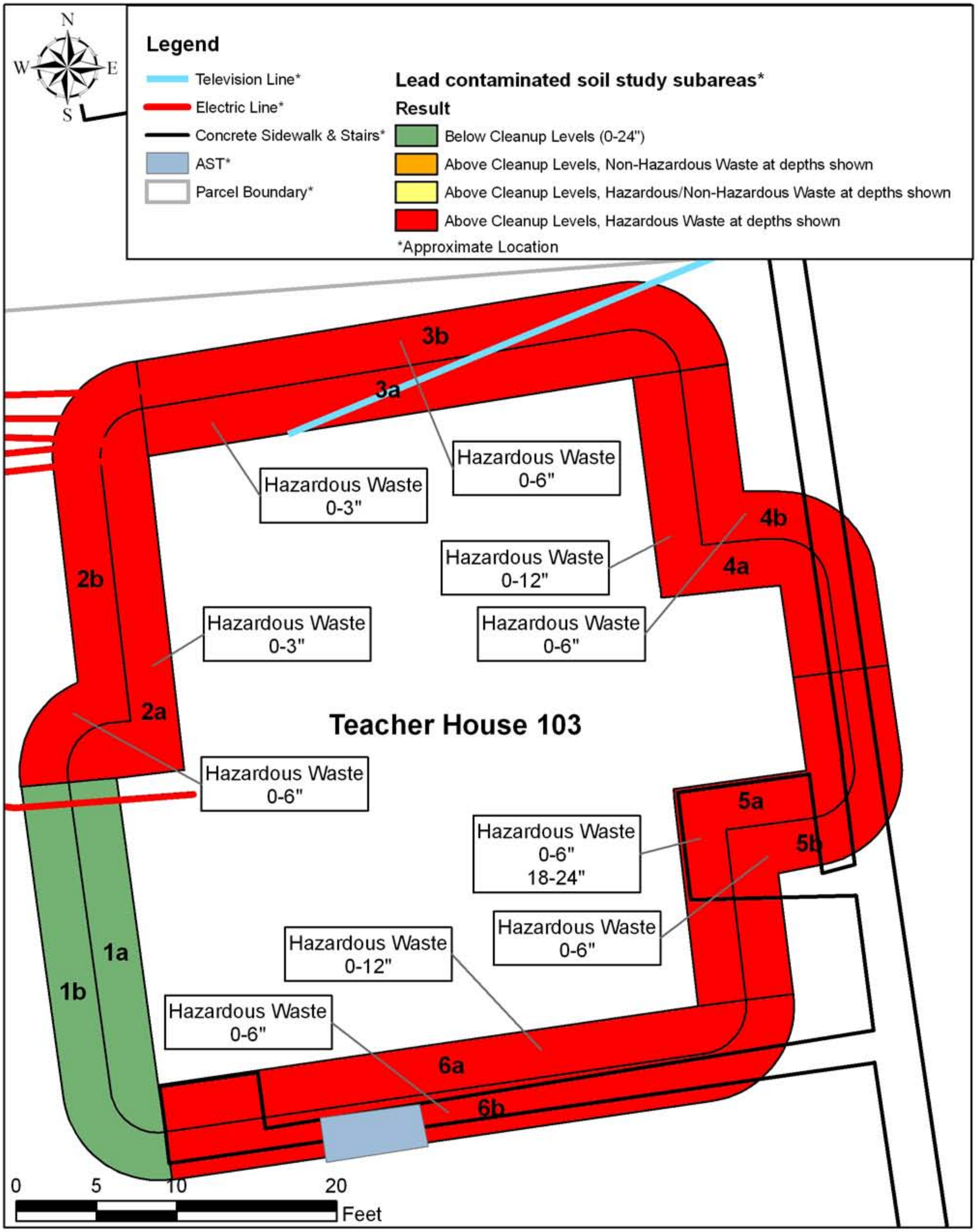

Figure

3-6

Planned Soil Treatment and Removal -
Teacher House 103
NOAA Site 60
St. Paul Island, Alaska

Sources: Building and Subareas, (NOAA 2006), Parcel Boundaries (BLM 1983), Sidewalk (Hart Crowser 1999)..

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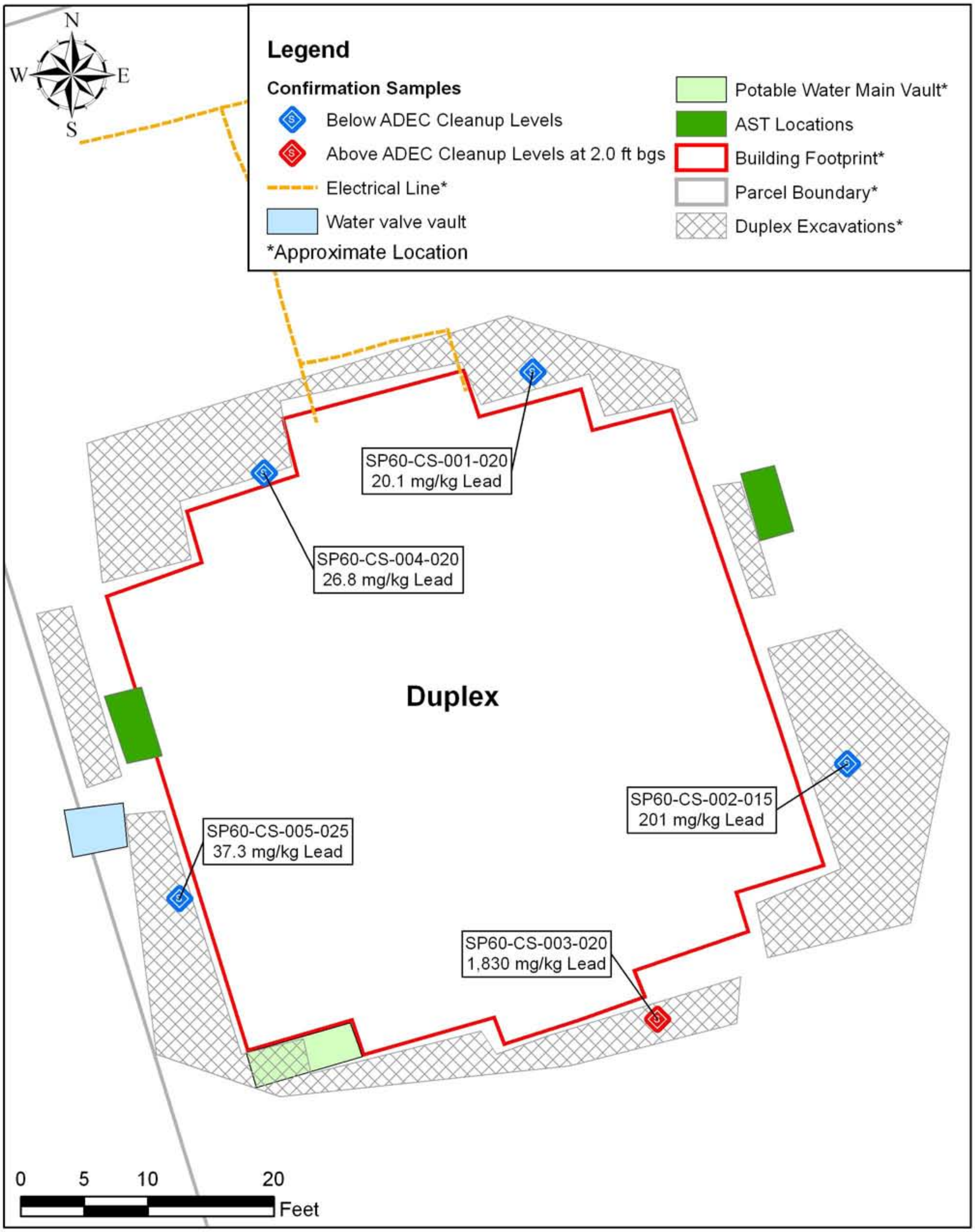


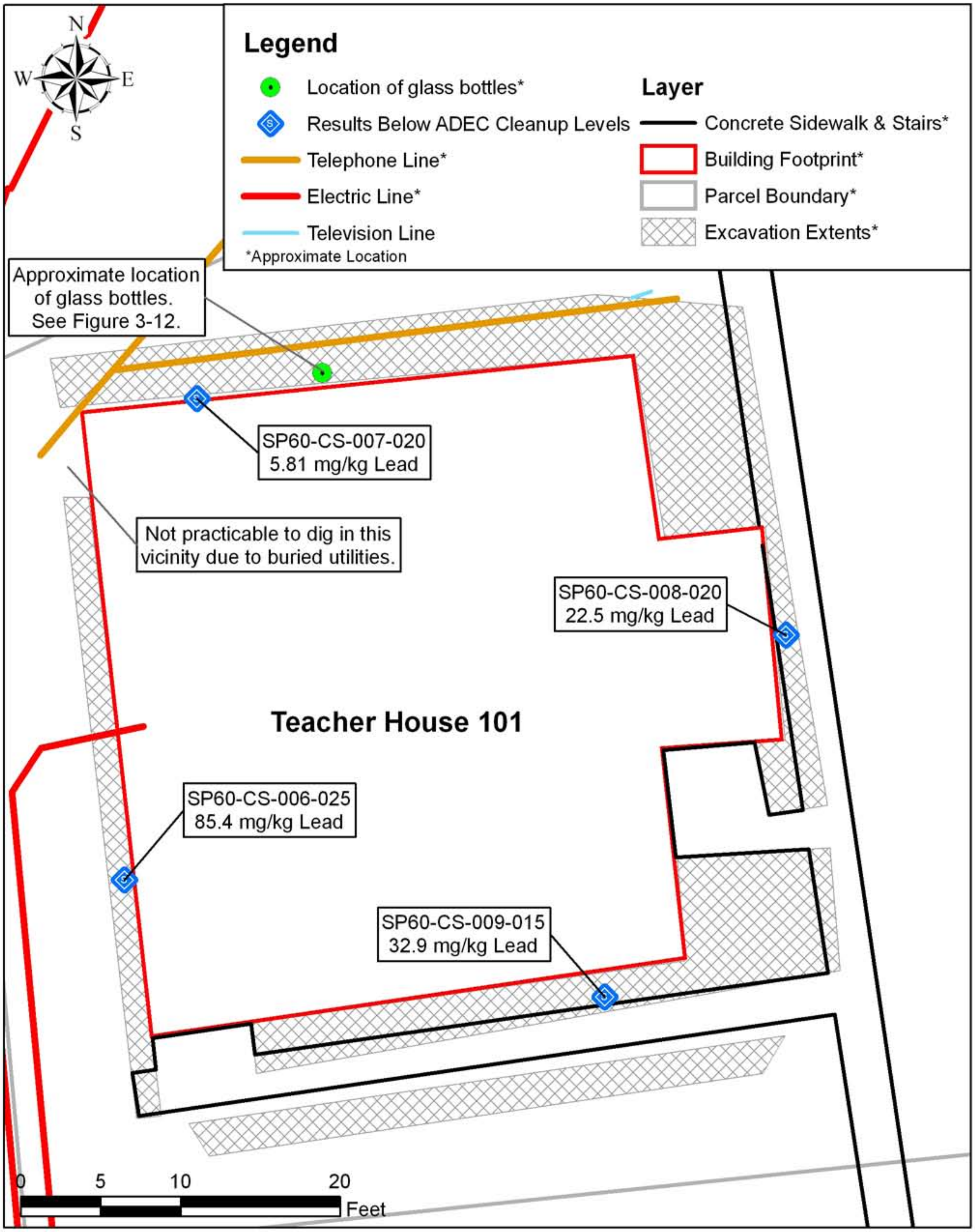
Figure

3-7

Confirmation Sampling Results and Excavation Extents
Duplex
NOAA Site 60
St. Paul Island, Alaska

Sources: Building Locations, Sample Locations, and Excavation Extents (NOAA 2006), Parcel Boundaries (BLM 1983).

Pribilof Islands Restoration Project



Figure

3-8

Confirmation Sampling Results and
Excavation Extents
Teacher House 101
NOAA Site 60
St. Paul Island, Alaska

Sources: Building Locations, Sample Locations, and Excavation Extents (NOAA 2006), Parcel Boundaries (BLM 1983), Sidewalk (Hart Crowser 1999).

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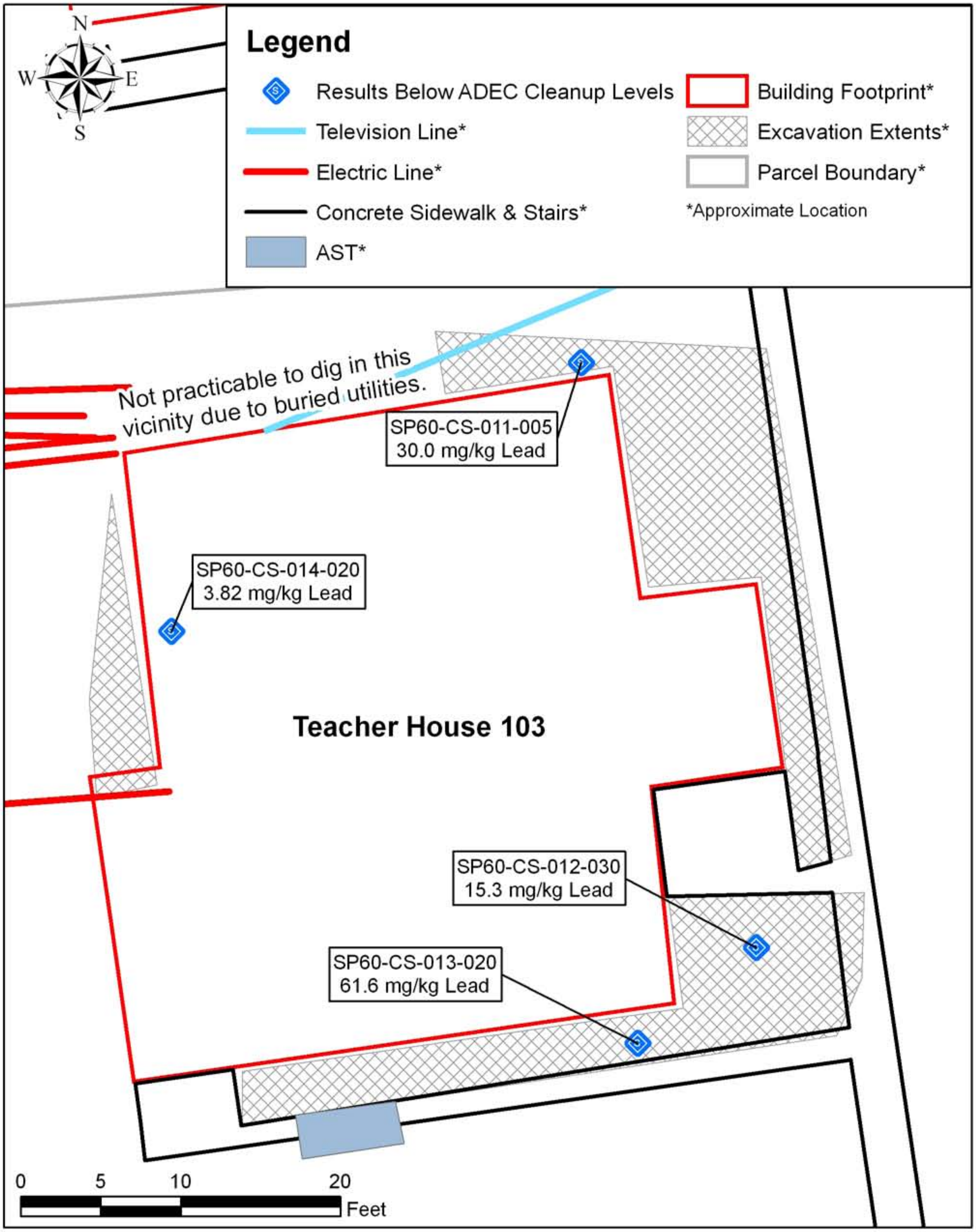


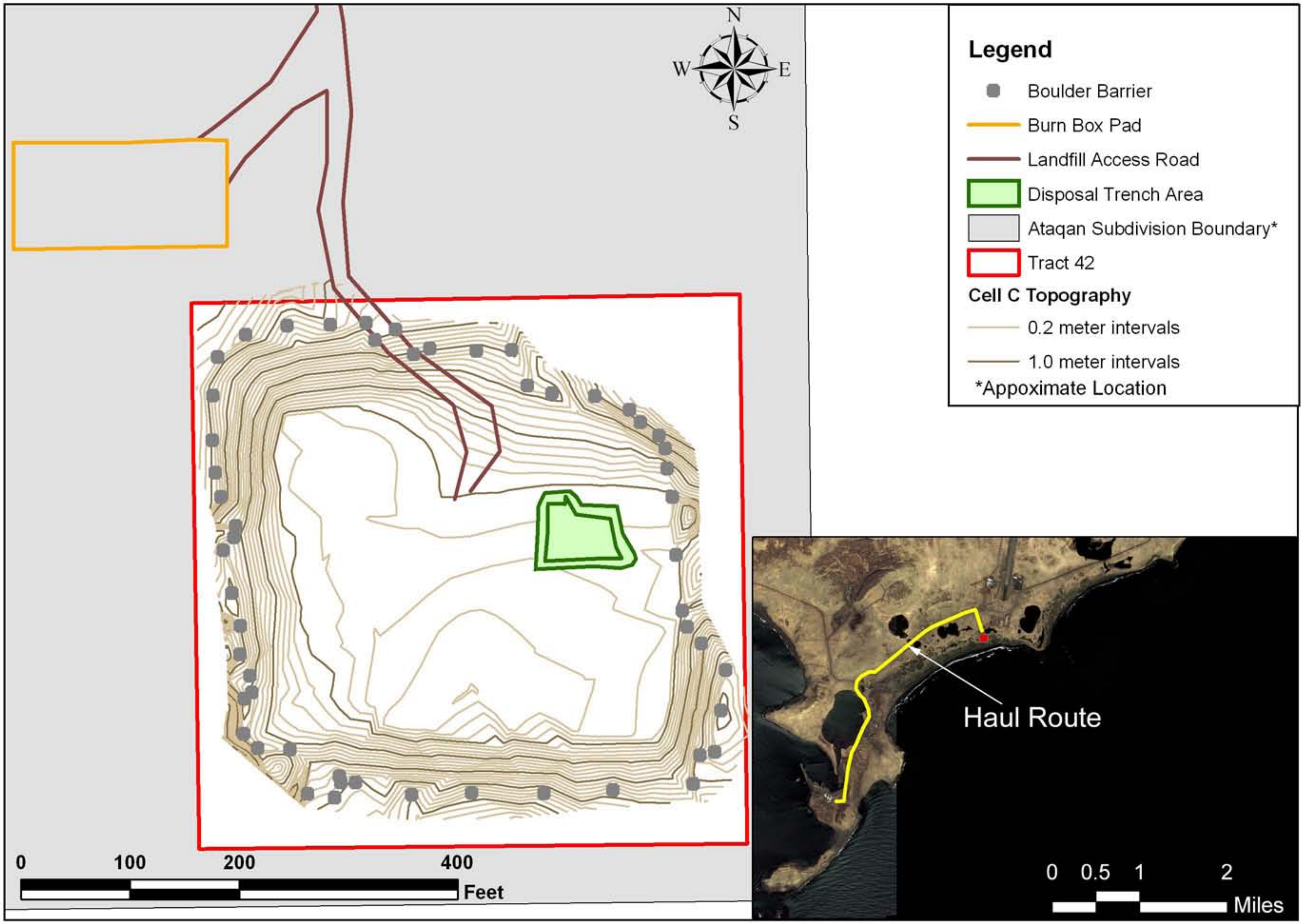
Figure

3-9

Confirmation Sampling Results and
Excavation Extents
Teacher House 103
NOAA Site 60
St. Paul Island, Alaska

Sources: Building Locations, Sample Locations, and Excavation Extents (NOAA 2006), Parcel Boundaries (BLM 1983), Sidewalk (Hart Crowser 1999).

Pribilof Islands Restoration Project



Figure

3-10

Waste Disposal Haul Route and Location
St. Paul Landfill/Tract 42
NOAA Site 60
St. Paul Island

Sources: Disposal Trench Area, Boulder Barrier, Burn Box Pad, Access Road, and Cell C Topography (NOAA 2003-2006), Tract 42 (BLM 1983), Ataqan Subdivision Boundary (Polarconsult 2001).

Pribilof Islands Restoration Project

Figure

3-11

Clean Backfill Borrow Area Haul Route
and Sample Locations
Lake Hill Scoria Pit
NOAA Site 60
St. Paul Island, Alaska

Sources: Sample Locations (NOAA 2006), Scoria Pit Location (TTEMI 1999), Satellite Imagery (Ikonos 2001).

Pribilof Islands
Restoration Project

Figure

3-12

Glass Bottles Encountered Along
Teacher House 101 Foundation
NOAA Site 60
St. Paul Island

Source: NOAA Pribilof Project Office.

Pribilof Islands Restoration Project

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APPENDIX A

NOAA AND PSI PERSONNEL QUALIFICATIONS

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APPENDIX A. ADEC STORAGE TANK PROGRAM
QUALIFIED PERSONNEL FORM

This form must be submitted before any work conducted by the assessment firm under Chapter 2, Standard Sampling Procedures of the Underground Storage Tanks Procedures Manual. Resumes and any other pertinent documents must be submitted as attachments to demonstrate that the personnel listed below are "qualified" as defined in 18 AAC 78. Resumes must contain dates of degrees obtained, educational institution's name and location where degree was obtained, and professional experience and work history relating to the equivalent of one year of professional experience requirement. The assessment firm shall notify ADEC of all amendments to this listing and submit a revised form along with documentation of personnel changes and resumes. If additional people are added, place an asterisk next to each name to identify new personnel.

Assessment Firm Name _NOAA Pribilof Project Office______________________________
Address _7600 Sand Point Way, Bldg. 3, Room 1003__________________
City, State, Zip Code _Seattle, WA 98115 _______________________________________
Phone Number _206-526-4821____
Fax Number _206-526-4819____
Principal Investigator _Greg Gervais____
QA Officer _Greg Gervais____

QUALIFIED PERSONNEL

A "qualified person" is a person who actively practices environmental science or engineering, geology, physical science, hydrology, or a related field and meets the following minimum requirements: (A) a bachelor's degree or equivalent from an accredited postsecondary institution in environmental science or engineering, geology, hydrology, physical science, or a related field; "equivalent" means that the person earned at least 128 semester hours, 168 trimester hours, or 192 quarter hours, at an accredited postsecondary institution, of which at least 24 semester credits (or at least 18 percent of credits) were in the science major and at least 16 semester credits (or at least 13 percent of credits) were in upper division level courses; and (B) at least one year of professional experience in environmental science or engineering, geology, physical science, or a related field, completed after the degree described in (A) was obtained.

1. _Greg Gervais _______________ 2._David Winandy______________

3. _Paula Souik_________________ 4. _Nir Barnea__________________

5. _James Wright________________ 6. _James Malchow______________

7. ____________________________ 8. ____________________________

9. ____________________________ 10. ____________________________

11. ____________________________ 12. ____________________________

13. ____________________________ 14. ____________________________

15. ____________________________ 16. ____________________________

17. ____________________________ 18.____________________________

19. ____________________________ 20. ____________________________

QUALIFICATIONS

GREG GERVAIS, P.E.

Environmental Engineer

Greg Gervais is an environmental engineer with over 10 years of experience designing and implementing characterizations and cleanups for hazardous, toxic, and radioactive waste (HTRW) sites. Greg has worked for NOAA's Office of Response and Restoration since 2002, functioning both as a senior environmental engineer and deputy manager for the Pribilof Project Office. Prior to NOAA, Greg was a project manager and senior chemical engineer for the U.S. Army Corps of Engineers HTRW Design Center in Seattle. With the Corps, Greg played a variety of roles on cleanup projects executed for the Department of Defense, Department of Energy, Environmental Protection Agency, Farm Service Agency, and other federal agencies. He graduated from the Corps' Leadership Development Program in 2000. Greg began his career as a cooperative education student and assistant remedial project manager with the Environmental Protection Agency's Superfund Program in Region 10-Seattle where he worked on a variety of cleanups throughout Washington and Idaho. Greg has worked on civilian and military sites during his career, with contaminants such as heavy metals, polychlorinated biphenyls, petroleum-oil-lubricants, asbestos, chlorinated solvents, wood treater chemicals including polynuclear aromatic hydrocarbons, explosives residues, chlorinated and phosphorus-based pesticides, dioxins/furans, radionuclides, seal blubber, and biohazards. Past projects include the optimization of a groundwater treatment plant and leading a treatability study on the use of constructed wetlands to remediate acid mine drainage. Greg led a multidisciplinary team’s review of the design for a multibillion dollar nuclear waste remediation. Greg scoped the characterization of a 3,800 acre former Army training facility, provided life-cycle environmental engineering of a former pesticides disposal test facility using the Triad Approach, and managed the conceptual design of an in-situ thermal remediation system. He holds a Bachelor of Science degree in chemical engineering from the University of Washington (1995) and is a licensed professional engineer, registered as qualified in environmental engineering by the State of Washington. Greg holds NOAA certification as a Contracting Officer’s Technical Representative. Greg is also 40-hour HAZWOPER certified and has an Asbestos Worker II certificate.

JIM MALCHOW

Environmental Engineer

Jim joined NOAA and the Pribilof Project team in February 2003 as an environmental engineer. Primarily, his job has been the on-site management of remediation projects on St. George Island, Alaska. Jim is the COTR for soil remediation and groundwater sampling contracts, with the corresponding responsibilities of writing contract specifications, developing government cost estimates, negotiating contract costs, overseeing contracted work, and validating invoices prior to payment. Jim prepares reports for regulatory agencies; and provides field support including GPS surveys, thin layer chromatography, and sample collection using Geoprobe direct-push technology. Jim uses his communication skills to work cooperatively with native interests toward the mutually successful completion of NOAA’s projects. Prior to coming to NOAA, Jim worked at Puget Sound Naval Shipyard (Bremerton, Washington) in the disciplines of radiological controls engineering, nuclear system test engineering, and environmental engineering. He held various management and supervisory positions, using his experience to balance facility compliance to the myriad environmental regulations with the shipyard's production goals for cost and schedule. Jim advanced to the position of Environmental Division Head within the shipyard's Environmental, Health and Safety Department. He received a Bachelor of Science degree in civil engineering from Portland State University (1985) after serving with the U.S. Navy Submarine Corps. Jim holds NOAA certification as a Contracting Officer's Technical Representative. Jim is also 40-hour HAZWOPER certified and has an Asbestos Worker II certificate.

PAULA SOUIK

Environmental Scientist

Paula Souik is an environmental scientist who began her career with NOAA as a 1997 National Sea Grant/Knauss Marine Policy Fellow. Paula currently provides oversight of remediation projects on the Pribilof Islands, Alaska, including providing field screening and GPS support. In the office, she prepares site characterization plans and reports, corrective action plans and reports, requests for no further action, and government cost estimates for the Pribilof Project. Prior to working for the Office of Response and Restoration's (OR&R's) Pribilof Project Office, Paula worked at OR&R headquarters in Silver Spring, Maryland. Her primary responsibility there was to manage the Portfields Initiative, a NOAA-led interagency initiative to address brownfields in port and harbor areas. She also designed a sampling plan and conducted sampling to assess the risk of a petroleum-contaminated site to the adjacent marine environment. Paula spent five years with NOAA's National Marine Sanctuary Program (NMSP) before coming to work for OR&R. During her time with the NMSP, she coordinated national sanctuary science activities, designed a database to track science efforts, established and maintained the Marine Sanctuaries Conservation Series, crafted pages for the NMSP web site, conducted coral reef-related fieldwork, developed monitoring plans, and contributed to drafting environmental impact statements. Paula has also worked as a field chemist servicing a hazardous waste contract with the Puget Sound Naval Shipyard.

Paula has recently completed training courses in contracting, NITON Spectrum Analyzer, asbestos abatement, survey-grade GPS, and offshore survival. She has a bachelor's degree in chemistry and biology from Ripon College (1994) and a Master of Science degree in environmental toxicology from the University of Wisconsin (1998). Paula holds NOAA certification as a Contracting Officer's Technical Representative. Paula is also 40-hour HAZWOPER certified and has an Asbestos Worker II certificate.

DAVID WINANDY

Environmental Engineer

David Winandy is an environmental engineer who began his career with NOAA in 1998, as the project engineer for the Pribilof Islands Environmental Restoration Project. David has worked both as the project engineer for the Pribilof Project Office and the facility engineer for NOAA Western Regional Center since that time. As he has throughout his career, during his tenure with NOAA, he has also served as a Contracting Officer's

Technical Representative on numerous contracts. For 3-1/2 years prior to working for the NOAA Pribilof Project Office, David was the Environmental Branch Chief for the U.S. Army Chemical Activity, Pacific, Johnston Atoll, involved in chemical weapons storage and demilitarization. He directed, oversaw and participated in the inventory of 22 years of temporarily stored chemical agent related wastes, defined the crosslinks, developed the inventory database crosslinking USEPA hazardous waste definitions to U.S. Army chemical decontamination conditions, obtained USEPA Region concurrence, arranged for JACADS and NSCMP disposal of actual chemical agent wastes, and off-island commercial disposal of other wastes. He served five years as the region engineer for the Defense Logistics Agency, Pacific, developing, managing and providing technical oversight of environmental compliance, clean-up, maintenance, repair, renovation, minor and major construction projects at sites throughout the Pacific. David has a bachelor's degree in civil and environmental engineering from Cornell University (1977). David holds NOAA certification as a Contracting Officer's Technical Representative. David is also 40-hour HAZWOPER certified and has an Asbestos Worker II certificate.

JAMES P. WRIGHT, P.E.
Environmental Engineer
Jim Wright is an environmental engineer with over 18 years of experience in the design and implementation of environmental site restoration projects, field investigation, and regulatory compliance. He is licensed as a professional environmental engineer in Washington and Alaska. Jim holds NOAA certification as a Contracting Officer's Technical Representative. Jim is also 40-hour HAZWOPER certified and has an Asbestos Worker II certificate. He began his career with four years at the Naval Facilities Engineering Command in Alexandria, Virginia and Washington, DC, bringing regional Naval facilities into compliance with regulations under the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). He then was a consulting engineer with Tetra Tech EM Inc. for a period of 13 years, working on a wide variety of environmental investigation and restoration projects in California, Oregon, Washington, Alaska and Idaho. He was Tetra Tech's lead engineer for four years for the Alameda Annex project, a PCB-contaminated Navy site on San Francisco Bay. He prepared the feasibility study and the remedial design, and then oversaw the removal of approximately 10,000 cubic yards of PCB- and cadmium-contaminated soil and successful restoration of the Alameda Annex site to commercial and residential use. His work includes field investigations of remote abandoned gold mines on Prince William Sound, Alaska, research and geographical information system (GIS) mapping of historical firing ranges at Fort Lewis Washington, and the construction oversight of brownfields sites in Astoria and North Bend, Oregon. Jim managed a project to prepare an updated GIS map of Fort Lewis, Washington to show former sites where munitions may have been used or disposed in the past, based on a review of historical documents and interviews with personnel. The locations of many former firing ranges were successfully identified. While working for NOAA, Jim did mathematical modeling of pollutant transport using the SESOIL model, successfully demonstrating that petroleum contaminated soil could be treated in land spreading facilities on St. Paul and St. George Islands without violating State of Alaska regulations, thus obtaining

regulatory approval. The land spreading facilities were successfully implemented, saving several million dollars over the previous method of soil treatment. He prepared a design for the restoration of a 250-foot section of sensitive marine shoreline where petroleum saturated soil was to be removed, applying for and receiving a permit from the Alaska District, Army Corps of Engineers. He oversaw removal of the contaminated soil and construction of the shoreline during the summer of 2004.

Jim has Bachelor of Science degrees in both civil engineering (1985) and biology (1980) from the University of Michigan. He completed solid waste management planning, permitting & design training given in 2003 by the Alaska Department of Environmental Conservation and Contracting Officer's Technical Representative training in 2004.

NIR BARNEA

Certified Industrial Hygienist; Physical Scientist

Nir Barnea has worked with OR&R since 1992, serving in several capacities. As the Health and Safety Coordinator for the office, Nir provides expert advice and direction in a broad range of industrial hygiene and site safety issues to OR&R personnel, the US Coast Guard, other federal entities, and state and local officials during oil or chemical spill response. He coordinates and tracks health and safety training of OR&R personnel, providing some of the training himself. Nir has been the OR&R focal point for in-situ burning of oil as a spill response method, promoting its use nation-wide. Nir co-chaired a federal multi-agency team that developed the Special Monitoring of Applied Response Technologies (SMART) monitoring protocol for in-situ burning and dispersant applications, and coordinated in-situ burning air monitoring during the response to the grounding of the freighter *New Carissa* in Oregon in 1999. Since May 2001, Nir has been providing oversight and on-site management to OR&R site remediation and restoration efforts on the Pribilof Islands including soil excavation, contaminated soil remediation in a thermal unit, UST extraction, hazardous materials characterization, and soil sampling. As a COTR for a native corporation contract, Nir develops government cost estimates, reviews reports and invoices, and, using diplomacy and communication skills, strives to maximize cooperation with the contractor to achieve successful completion of NOAA projects.

Nir received his Bachelor of Science (microbiology, 1989) and Master of Science (environmental health, 1991) degrees from the University of Washington. He has been a certified industrial hygienist since 1998. Nir's training includes CPR/AED instructor, HAZWOPER, asbestos supervisor, tank car specialist, offshore survival, Trimble GPS, COR, indoor air quality investigation, hazardous material and waste management, oil spill control, and environmental decision-making for managers.

END

Qualified Personnel Form

This form must be submitted before any work conducted by the assessment firm under Chapter 2, Standard Sampling Procedures of the Underground Storage Tanks Procedures Manual. Resumes and any other pertinent documents must be submitted as attachments to demonstrate that the personnel listed below are "qualified" as defined in 18 AAC 78 and 18 AAC 75. Resumes must contain dates of degrees obtained, educational institution's name and location where degree was obtained, and professional experience and work history relating to the equivalent of one year of professional experience requirement. The year's worth of experience must be completed after the bachelor degree was obtained. The assessment firm shall notify ADEC of all amendments to this listing and submit a revised form along with documentation of personnel changes and resumes. The list below must include names of all qualified persons working for the firm including any staff that need to go through the qualified person approval process. If additional staff are added and need to be approved by ADEC, place an asterisk next to each name to identify staff that need to be considered and submit a resume for each additional person to the department.

Assessment Firm Name ____**PSI Environmental & Instrumentation, LLC**___________
Address ____1611 First Avenue__________________________________
City, State, Zip Code ____Anchorage, Alaska 99501___________________________
Phone Number ____907-272-8010____
Fax Number ____907-272-9005______________________________________
Email ____**WWW.PSIENV.COM**__________________________________
Principal Investigator _____Keith O. Guyer____________________________________
QA Officer _____Keith O. Guyer_____________________________________

QUALIFIED PERSONNEL

A "qualified person" is a person who actively practices environmental science or engineering, geology, physical science, hydrology, or a related field and meets the following minimum requirements: (A) a bachelor's degree or equivalent from an accredited postsecondary institution in environmental science or engineering, geology, hydrology, physical science, or a related field; "equivalent" means that the person earned at least 128 semester hours, 168 trimester hours, or 192 quarter hours, at an accredited postsecondary institution, of which at least 24 semester credits (or at least 18 percent of credits) were in the science major and at least 16 semester credits (or at least 13 percent of credits) were in upper division level courses; and (B) at least one year of professional experience in environmental science or engineering, geology, physical science, or a related field, completed after the degree described in (A) was obtained.

1. __Keith O. Guyer___________
2. __Scott E. Nygard_________
3. ____________________________
4. ____________________________
5. ____________________________
6. ___________________________
7. ___________________________
8. ___________________________
9. ____________________________
10. ____________________________
11. ____________________________
12. ____________________________
13. ____________________________
14. ____________________________
15. ____________________________
16. ____________________________

a. Name

Scott E. Nygard

c. Name of Firm

PSI Environmental & Instrumentation, Inc.

e. Education - Degree(s) / Year / Specialty

Bachelor of Science, Chemistry/Biology, 1987, Western Washington University

b. Project Assignment

Senior Chemist

d. Years experience

4 this firm
15 other firms

f. Active Registration - Year First Registered / Discipline

N/A

Basis for Selection:

- ➢ **Over 18 years of analytical/process chemistry experience**
- ➢ **Over 5 years of sampling experience using RCRA and CERCLA test methods**
- ➢ **Current lead field chemist and data quality assessor for ongoing USACE groundwater monitoring project**

Mr. Nygard has more than 18 years of experience as a chemist. His education and experience in laboratory analysis provide him with the scientific and practical background to oversee and lead a full range of analytical field programs. He is well versed in EPA and ADEC standard methods for analysis of solid and hazardous waste, water, and wastewater samples. He is experienced in organic and inorganic methodology, sample preparation, sample packaging and transportation, analytical reporting, data management, and analytical chemistry QA/QC.

- Field Chemist
  USACE Groundwater Monitoring and Remediation System Operation, Maintenance, and Monitoring; Wildwood Air Force Station; Kenai, AK
  Responsible for performing quarterly groundwater and free product monitoring of 29 monitoring wells and collecting off-gas samples from the vapor extraction (VE) treatment system. Groundwater monitoring at this site is a focused effort to evaluate air sparge (AS)/VE treatment system effectiveness in and near the source area and to monitor natural attenuation of contaminants downgradient of the site. Monthly off-gas sampling from VE treatment system is performed to assess vapor effluent concentrations of volatile organic compounds and to obtain data necessary for calculating hydrocarbon removal rates. In addition to field sampling duties, responsible for management of data collected including QC and database development using COELT electronic data deliverables.

- Field Chemist
  Agrium Groundwater Monitoring; Kenai, AK
  Responsible for performing groundwater monitoring at the Agrium fertilizer production facility. Monitoring includes quarterly sampling of groundwater analysis of ammonia, nitrate/nitrate, urea, and arsenic for internal company compliance issues. Duties also include database development, chemical QA/QC reviews, and reporting. Client: Agrium, Inc.

- Field Chemist
  Agrium Process Stream and Utility Sampling; Kenai, AK
  Responsible for collecting and analyzing samples of process streams and utilities to obtain data necessary for facilitating QA/QC program and recommending corrective actions necessary for compliance with state and federal regulations.

- Chemist
  Unocal Chemical; Kenai, AK
  Responsible for preparing, standardizing, and checking reagents and calibration and maintenance of laboratory equipment. Analyzed samples following EPA and accepted procedures that ensured results were accurate, precise, and quality assured. He was responsible for monitoring plant operations from a broad range of chemical constituents and informed appropriate parties of corrective actions. He also routinely sampled and analyzed concurrently from multiple systems using multiple analytical techniques.

- Chemist
  Laboratory Supervisor for Unocal Chemical; Kenai, AK
  Responsible for laboratory process and product QA/QC, and supervising the sampling and analysis of plant effluents, wastes, and drinking water as required by state and federal regulations. Prepared reports on plant operations for permitted activities and compliance with regulatory requirements.

KEITH O. GUYER, R.G., Senior Project Manager, Program Manager, Senior Geologist

EDUCATION

B.S. Geology and Geophysics, University of Wisconsin, Madison, 1975
Graduate Studies, Geology and Geophysics, San Diego State University, 1979-1981
Graduate Studies, Remediation Engineering, Kennedy-Western University, 1999-on going

PROFESSIONAL REGISTRATION

California State Board of Registration—Registered Geologist #6028

ALASKA QUALIFICATION

Qualified Sampler-Alaska Department of Environmental Conservation

PROFESSIONAL SUMMARY

Mr. Guyer has more than thirty years of experience managing and performing geologic, environmental, and remediation services. He has managed a wide variety of projects for both government and industrial clients. With his strong technical background and hands on management style, he has a long record of pleasing clients by completing projects on time and within budget.

Mr. Guyer has considerable experience in arctic, interior and remote Alaska projects. His specialty has been in geologic investigation and interpretation for environmental projects. He has been a resident of Anchorage since 1996. Specifically, he has worked throughout the State of Alaska performing geologic investigations for the purpose of site remediation and site restoration. His success has been exemplified through providing the best blend of technology, regulator acceptance, and cost effectiveness.

Mr. Guyer has dealt with the rapid response, logistics of remote locations, severe weather, and unique environmental settings. He has managed contracts with values over five million dollars and projects with up to ten subcontractors. He can see the "Big Picture" but does not loose site of all of the details.

Mr. Guyer has been involved in subsurface geologic investigation ranging from his first drilling and well instillation job in 1972, to designing low cost but highly reliable means of constructing and installing nested wells to making systems work in remote Alaskan locations with on-hand equipment and supplies.

Additional Training

OSHA Hazardous Waste Training, 40 hour and 8 hour refresher (29CFR1910.120)
OSHA Supervisor Training (29CFR1910.120)
Construction Quality Management (U.S. Army COE)
Unescorted North Slope Safety Orientation (North Slope Training Co-operative)
Arctic Engineering (UAA)

SELECTED PROJECT EXPERIENCE

- ***Project Manager for an Asbestos and Lead based Paint Abatement project in Ekuk, Alaska, for Ekuk Village Council.*** Project consisted of abating asbestos containing material and lead based paint from a former school house in Ekuk, a remote village in western Alaska. Project also included bulking and disposing of over 60 drums that contained various liquids including fuel, oil and watery waste. Performed a soil excavation and removed hydrocarbon contaminated soil.

- ***Project Manager and on-site Investigator, UST replacement, Homer, Alaska, working for Site owner.*** Emergency response to remove and replace leaking heating oil tank at an operating motel during the winter. Excavated over 540 tons of contaminated soil, which was stockpiled onsite and later transported off-site for treatment and disposal. Containerized contaminated water and treated onsite saving over $20,000 in off-site transport and treatment. Provided regulatory interaction. Motel was able to continue operation without interruption during tank replacement.

- ***Lead Geologist, Skagway, St. Paul Island, Valdez and Whiter dock projects, Subcontractor to PND.*** Project required using a drill rig in a landing craft to collected soil and sediment samples from under the water to characterize material prior to dredging. Sampling operations had to be scheduled based on tide stage and dock usage which required sampling at all hours of the day and night. Sampling program reviewed and approved by the U.S. Army Corps of Engineers.

- ***Project Manager for Third Party Sampling of Post Treated Soil for Anchorage Soil Recycling.*** Managed sampling, analysis and reporting of post treated soil from thermal oxidizer operation based on ADEC approved permit. Provided sampling within 24 hours of notification and reporting within 12 hours of receiving analytical results. Sampling events were unscheduled but typically required every ten days. Provided the laboratory interface to maintain schedule and correct any errors or omissions. Provided electronic reporting to increase speed of getting reports to clients.

- ***Principal Author Storm water Pollution Prevention Plans for various construction projects including new school sites in Wasilla and Circle Alaska, Contracted by Collins Construction.*** These projects were for site development and construction of new structures under EPA Region 10 requirements. Projects included filing Notice of Intent and Notice of Termination at competition of the projects. While maintaining regulatory requirements provided practice solutions that minimized schedule or budget impacts.

- ***Project Manager for Hazardous Building Material Investigation of over 100 Housing units in Anchorage, Cook Inlet Housing Authority.*** This project consisted of both subcontracted and self performed hazardous building material inspections that included asbestos and lead based paint sampling and inventorying all hazardous and potentially hazardous material at each site. Included estimating quantities and providing abatement and disposal options. Provided electronic delivery of reporting and invoicing to increase speed and reduce paper volume.

- ***Project Manager for a Heavy Metals Contaminated Property in Anchorage, for the Alaska Department of Environmental Conservation (ADEC).*** Investigated and performed a feasibility study to remediate the site. Installed engineering controls on the site to limit unauthorized access to the site. Performed a removal action that entailed excavating over 360 tons of lead contaminated soil that was transported to a permitted landfill in the lower-48 states for disposal. Was the Prime Contractor for the site overseeing multiple subcontracts to excavate, transport and dispose of the contaminated material. Site restored with protective barrier to prevent dermal contact.

- ***Project Manager for two Kodiak projects, Buskin Beach and Long Island, for the, U.S. Army Corps of Engineers (USACOE).*** These projects were performed as part of the Total Environmental Restoration Contract (TERC). Both projects concerned removal of over 100 WW II structures and more than 30 underground storage tanks (USTs) and associated contamination. An extensive drilling program was done to investigate subsurface conditions and sample groundwater. Site remediation was completed by removal of contaminated soil that was subsequently thermally treated. Project was timed so that excavation was performed during seasonal low groundwater so that excavations could be performed in areas of shallow groundwater without negative impact to shallow groundwater. Long Island was also a tank removal project with special logistic requirements because all equipment had to be barged to Long Island and all tanks and excavated soil barged back to Kodiak for treatment and disposal. Many of these locations were remote, historically and environmentally sensitive and required hand borings in order to limit impact to sites.

- ***Project Manager for subsurface cleanup on Shemya Island (Eareckson Air Station), performed for the U.S Air Force through Air Force Center for Environmental Excellence (AFCEE).*** This project consisted of drilling multiple soil borings through and under an old runway. The investigation concluded that there was extensive hydrocarbon contamination from spilled fuel that could be remediated by active bio-venting, without removing runway paving. Soil boring holes were used to install pipes for pumping air into the subsurface. The site was quickly cleaned up without removing runway paving.

- ***Project Manager for engineered wetlands on Shemya Island (Eareckson Air Station), AFCEE.*** The wetlands were designed to augment a natural drainage downgradient from an above-grade, bulk fuel storage facility. The contaminants of concern for this project included jet fuel and Bunker C fuel. Flow calculations and residence time were taken into account when designing the wetlands. Using local fine grained materials, the wetlands were lined to prevent extensive leakage of the pond. The wetlands were sized by damming the outfall, which was equipped with a controllable weir. Specialized plants were incorporated into the wetlands design. This approach was particularly attractive given the very remote status of the site to utilities. The project was also a success because it helped to support the local bird and wildlife population.

- ***Project Manager for a Remedial Action at Galena, Alaska (Galena Air Station), AFCEE.*** This multiple remedial action project included active bioventing, free product recovery and thermal oxidation. The project was conducted at a closed Air Force base using local labor for construction and operation of remedial systems. The site is located along the Yukon River and the local water table has a thirty foot seasonal variation. Only through a good understanding of the hydrogeologic dynamics could systems be designed and operated successfully.

Employment History:

PSI Environmental & Instrumentation	2006 to Present
Program Manager	
BGES, Inc.	2002-2005
Owner/Principal	
Jacobs Engineering Group Inc.	1992-2001
Project Manager Senior Geologist	
Woodward-Clyde Consultants	1988-1992
Project Scientist	
EMEX Inc.	1987-1988
Exploration Geophysicist	
Z-Axis Exploration	1983-1987
Operations Manager	
Woodward-Clyde Consultants	1981-1983
Geophysicist	
U.S. Navy	
Lieutenant-Active	1975-1978
Reserves	1978-1991

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

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Photo 1. NTPA Site 60. Mike Baldwin, Chuck Mobley, and Jim Malchow at Site Investigation Test Pit. NOAA. 6/2006.

Photo 2. NTPA Site 60. Jim Wright Sampling During Site Investigation. NOAA. 6/2006.

Photo 3. NTPA Site 60. Jim Malchow w/Buried Cable TV Wire, NE Corner, TH101. NOAA. 6/2006.

Photo 4. NTPA Site 60. Buried Cable TV Wire, NE Corner, TH101. NOAA. 6/2006.

Photo 5. NTPA Site 60. Nir Barnea Sampling via Direct-Push, TH101. NOAA. 6/2006.

Photo 6. NTPA Site 60. Direct-Push Sample Sleeve. NOAA. 6/2006.

Photo 7. NTPA Site 60. Ray Beeter Treating Soil w/Ecobond, Duplex. NOAA. 10/2006.

Photo 8. NTPA Site 60. Ray Beeter and Nick Kozloff Excavating Soil, Duplex. NOAA. 10/2006.

Photo 9. NTPA Site 60. Excavation and Buried Telephone Lines, NW Corner,TH101. NOAA. 10/2006.

Photo 10. NTPA Site 60. Buried Telephone Lines, NW Corner,TH101. NOAA. 10/2006

Photo 11. NTPA Site 60. Excavation, NE and East Sides, TH101. NOAA. 10/2006.

Photo 12. NTPA Site 60. Richard Warner and Excavation, East Side, TH103. NOAA. 10/2006.

Photo 13. NTPA Site 60. Excavation Near AST, South Side, TH103. NOAA. 10/2006.

Photo 14. NTPA Site 60. Nick Kozloff Loading Temporary Stockpile, NE Corner, TH103. NOAA. 10/2006.

Photo 15. NTPA Site 60. Richard Warner and Nick Kozloff Loading Temporary Stockpile, SE Corner, TH103. NOAA. 10/2006.

Photo 16. NTPA Site 60. Temporary Stockpile Area After Loading, SE Corner, TH103. NOAA. 10/2006.

Photo 17. NTPA Site 60. Keith Guyer Sampling Clean Backfill, Lake Hill Scoria Pit. NOAA. 10/2006.

Photo 18. NTPA Site 60. Frank Shane Capping Disposal Pits, Landfill Cell C, Tract 42. NOAA. 12/2006.

Photo 19. NTPA Site 60. Frank Shane Capping Disposal Pits, Landfill Cell C, Tract 42. 12/2006.

Photo 20. NTPA Site 60. Greg Gervais Surveying Capped Disposal Trenches, Landfill Cell C, Tract 42. 12/2006.

APPENDIX C

DAILY REPORTS AND LOGBOOK NOTES

BSE Daily Report Summaries

Template v. 060924_Abatement

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 14-Oct-06

DCQCR Version: 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

		Previous	Today	YTD
Summary:	***Soil***	[redacted]	[redacted]	[redacted]
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel	[redacted]	[redacted]	[redacted]
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours	[redacted]	[redacted]	[redacted]
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs	[redacted]	[redacted]	[redacted]
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

BSE continued work at head start bldg, furring ext. insulation, It is a typical Saturday no one shows up for work. Framing crew was down to 3 men, Working on Headstart. Today BSE mobilzed and treated the 1st. 6" of Lead Contaminated soil around TH 101, 102, and the Duplex. At this time all parties involved need to discuss & prepare for this project to run into DEC. right up to Xmas. The work involved is more than planned. The extra work repairing rot @ the duplex, Extra framing to match windows to the 1963 picture. We were late moving tenants out of TH 102 and 103, therefore AES started working in TH 101 1st, Maintaining a effective workforce is becoming a problem. the weather is uncoperative. 35 MPH sustained winds w/gusts to 50 slow production.

Per Diem is for 5.3 FTE for BSE and 4.0 FTE for AES

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

At 9.25 Andy met with Chris and Mike to answer yesterday's 2 Q?s. Answers are: 1. OK for AES to remove remaining floor layers in 101; 2. OK for BSE to pull off the sheet metal siding from Headstart bldg.

Date: 14-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Julianna R Shane

Bering Sea Eccotech

Rev 12/4/06

~~14-Oct-06~~

Date

Subcontractor (if applicable)

14-Oct-06

Date

Received by:

National Oceanic and Atmospheric Administration

14-Oct-06

Date

Date: 14-Oct-06

Daily Log Review Comments:

1. Please verifiy that Bob Defoe worked 4 hrs at the Duplex bldg or the abatement effort. NOAA has no record/notes of Bob performing work this day at this bldg. Bob's hours have been verified against payroll as entered into Masterbuilder. MT

2. Please verify Per Diem units for this day. Personnel page shows 53 BSE work hours for off-island personnel staying at POSS Camp (53/10 = 5.3) and narrative says 4.0 AES personnel staying at POSS Camp, which adds up to 9.3 per diem units. Agreed and Corrected. MT

New NOAA Comment
(Equipment) BSE edited the cost formulas and consequently several items were calculated incorrectly. Formulas corrected, and now the total cost increased by ~$200.

National Oceanic and Atmospheric Administration

12/7/06
Date

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

12-6-06
Date

Template v. 060924_Abatement

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 15-Oct-06

DCQCR Version: 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

Summary:	***Soil***	**Previous**	**Today**	**YTD**
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel			
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours			
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs			
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

Kieth Guyer Scientist for PSI arrived today and took soils samples of the eccobond treated soils.

Per Diem is for 5.1 FTE for BSE and 4.0 FTE for AES

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

Date: 15-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Bering Sea Eccotech

Rev 12/4/06

~~15-Oct-06~~

Date

Subcontractor (if applicable)

15-Oct-06

Date

Received by:

National Oceanic and Atmospheric Administration

15-Oct-06

Date

Date: 15-Oct-06

Daily Log Review Comments:

[redacted]

National Oceanic and Atmospheric Administration

12/7/06
Date

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

12-6-06
Date

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 20-Oct-06

DCQCR Version: 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

		Previous	Today	YTD
Summary:	***Soil***			
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel			
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours			
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs			
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

Crews Spent the day insulating and siding Headstart Bldg completed west side Moved around to the North end. Called he elctricians over to remove the existing power service. The existing service is not useable it is rusted out. The facia and soffit crew moved to the west side.

The task 5 soils Ray and Nick mobized with the 580 hoe, Ford Dump end dump and 5 ton flat bed and are excavating treating and removing the contaminated soils at the duplex. The SOW for this work is written very precisely and this little task will take 2 to 3 times longer than expected. The requirement that we are to remove exact quantities of materials and not splash contaminated soils out side the 6 foot boundry is difficult. The eccobond should probably have been ordered using a 2ft deep excavation and 8 ft boundry. allowing for over excavation, consistent with standard protocol rather then in strict compliance with the Statement of Work.
On the south side of the duplex the soils tested positive at the 2' depth. On the maps area 8A.

Per Diem is for 7 FTE for BSE, 5.0 FTE for AES and 1.0 FTE for PSI

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

Date: 20-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Julianna R Stone

Bering Sea Eccotech

Rev. 12-5-06
~~20-Oct-06~~

Date

Subcontractor (if applicable)

20-Oct-06

Date

Received by:

National Oceanic and Atmospheric Administration

20-Oct-06

Date

Date: 20-Oct-06

Daily Log Review Comments:

[redacted]

National Oceanic and Atmospheric Administration

12/7/06
Date

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

12-6-06
Date

Template v. 060924_Abatement

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 21-Oct-06

DCQCR Version: 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

Summary:	***Soil***	**Previous**	**Today**	**YTD**
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel			
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours			
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs			
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

Crews Spent the day insulating and siding East side of headstart, chipping the chimney off, and placing soffit and facia an the west side.
The task 5 soils Ray and Nick, completed the soils tratment and removal @ duplex 108/109. moved to TH 101, excavated around 101 1 time we located the phone lines, as expected there is a line laying within 4 inches of the top of the ground that was not located
That line was broken, There is no way we will ever locate all the lines the way they are run out here. Abandoned Power, Phone and Cable wires are buried all over. There are many wires are improperly buried, no marking tape, improper depth, running within 4 to 6 inches of surface, across private property. NOAA approved work for tomorrow, Sunday 10/22/06. We will use Jeff Samson and Ron Arnold to operate the backhoe. The 580 Hydralics are real jerky not smooth at all. We will work with the NOAA NOS backhoe also.

Per Diem is for 5.1_ FTE for BSE, 5.0 FTE for AES and 1.0 FTE for PSI

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

Date: 21-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Julianna R Sloane

Bering Sea Eccotech

Rev 12/5/06

~~21-Oct-06~~

Date

21-Oct-06

Subcontractor (if applicable)

Date

Received by:

21-Oct-06

National Oceanic and Atmospheric Administration

Date

Date: 21-Oct-06

Daily Log Review Comments:

1. BSE Narrative - Note that "NWS backhoe" referenced is actually NOAA NOS' backhoe. Corrected. MT

2. Please verify that Hitachi EX-150 was actually used this day. Disposal trenches are not excavated, filled, or closed every day.
Hours Adjusted MT

[redacted]

National Oceanic and Atmospheric Administration

Date 12/7/06

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

Date 12-6-06

Template v. 060924_Abatement

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 22-Oct-06 **DCQCR Version:** 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

		Previous	Today	YTD
Summary:	***Soil***			
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel			
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours			
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs			
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

BSE: Crews Started work @ 12:30 PM Treated and removed lead contaminated solis around TH 103 & 101. Used 2 backhoes, BSE 580 & NoAA Caterpillar. Keith Dryer PSI was on site along with NOAA reps Greg & Andy.

Per Diem is for 5.1 FTE for BSE, 5.0 FTE for AES and 1.0 FTE for PSI

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

Date: 22-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Julianna R Shane

Bering Sea Eccotech

Rev 12/5/06

~~22-Oct-06~~

Date

22-Oct-06

Subcontractor (if applicable)

Date

Received by:

22-Oct-06

National Oceanic and Atmospheric Administration

Date

Date: 22-Oct-06

Daily Log Review Comments:

1. Cost and Hour Total Summary: Note that the Personnel Hours total for the current day is filled via a formula, and this formula got broken about a week ago so the running total of personnel hours YTD has been wrong for a week as well. It doesn't affect the cost cells, but total labor to date is a useful item to tally relative to planned total labor hours. Noted and Corrected. MT

[redacted]

National Oceanic and Atmospheric Administration

12/7/06

Date

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

12-6-06

Date

Template v. 060924_Abatement

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 23-Oct-06 **DCQCR Version:** 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

Summary:		Previous	Today	YTD
	Soil	[redacted]	[redacted]	[redacted]
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel	[redacted]	[redacted]	[redacted]
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours	[redacted]	[redacted]	[redacted]
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs	[redacted]	[redacted]	[redacted]
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

BSE: Crews Started work at 9:00 AM BSE completed the soils removal work today, We now have to backfill and establish drainage around the buildings. That will include grade work at TH 102. The abandonded cables and snarl of underground utility cables is terrible. It should be understood, common utility cables are not in utility easments they are run across private property, ACS and the City of St Paul Electric Utility have junction boxes next to house 103 and electric supplies 101 & 102 from there. Telephone pedistals are next to the corners of TH 101 & 103 There is no telling where the wires feed there is wires running up to the peds. that are diconnected and abandonded.

BSE continued siding the Head Start Building, installed the entry doors These doors were installed to swing out of the building.

Per Diem is for _3.6__ FTE for BSE and 5.0 FTE for AES

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

Date: 23-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Julianna R Shane

Bering Sea Eccotech

Rev 12/5/06

~~23-Oct-06~~

Date

23-Oct-06

Subcontractor (if applicable)

Date

Received by:

23-Oct-06

National Oceanic and Atmospheric Administration

Date

Date: 23-Oct-06

Daily Log Review Comments:

(1) Narrative - Note that AES completed the TH103 crawlspace preparations for installing EPDM liner, which will occur tomorrow. Noted and Noted on AES Daily Report MT

(2) Discussions w/NOAA Personnel - Note that Merle Beeter confirmed for Greg Gervais that all costs associated with BSE insulating the exterior walls of the Duplex (e.g., removing and re-setting the windows, installing insulation, cost of insulation material) will not be charged to NOAA as it is being done for TDX as they are scheduled to receive this property under the Transfer of Property Agreement. The daily report spreadsheet has automatically added these labor, equipment, and per diem units into the daily and YTD cost totals so this needs to get sorted out before finalizing the daily report for this and other days where Duplex insulation-related actions occurred. Confirmed MT

[redacted]

National Oceanic and Atmospheric Administration

12/7/06
Date

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

12-6-06
Date

Template v. 060924_Abatement

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 24-Oct-06

DCQCR Version: 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

		Previous	Today	YTD
Summary:	***Soil***			
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel			
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours			
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs			
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

BSE: Dirt crew started the task of backfilling and grading the building affected by the soil removal. The removal affected drainage on building not included in the soils abatement. BSE carpenters continued to side the HS building. [redacted]

Per Diem is for _5.4__ FTE for BSE and 5.0 FTE for AES

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

[redacted]

Date: 24-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Julianna R Shane

Bering Sea Eccotech

Date: ~~24-Oct-06~~ 12-5-06

Subcontractor (if applicable)

Date: 24-Oct-06

Received by:

National Oceanic and Atmospheric Administration

Date: 24-Oct-06

Date: 24-Oct-06

Daily Log Review Comments:

(1) Daily Activities - Note that backfilling at the lead soil removal sites did not start this day; re-grading continued along with final cleanup at temporary stockpile locations. Equipment decontamination occurred on 10/25, followed by the start of backfill hauling and placement. Noted MT

[redacted]

National Oceanic and Atmospheric Administration

Date 12/7/06

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

Date 12-6-06

Template v. 060924_Abatement

Daily Construction Quality Control Report (DCQCR)
Corrective Action Plan Implementation
St. Paul, Alaska

Bering Sea Eccotech IDIQ Contract -- Task Order 005 LBP ACM Restoration

Work Date: 25-Oct-06

DCQCR Version: 2

Management on Site:

Contractor: Julie Shane (lead)

NOAA: Greg Gervais (lead)

Daily Activities (Include in this section a detailed description):

		Previous	Today	YTD
Summary:	***Soil***			
	PCS Volume (CY)	[redacted]	[redacted]	[redacted]
	Backfill Volume (CY)	[redacted]	[redacted]	[redacted]
	Personnel			
	Personnel Cost	[redacted]	[redacted]	[redacted]
	Personnel Hours	[redacted]	[redacted]	[redacted]
	Equipment Hours			
	Equipment Cost	[redacted]	[redacted]	[redacted]
	Contractor Equipment Hours	[redacted]	[redacted]	[redacted]
	Government Equipment Hours	[redacted]	[redacted]	[redacted]
	Other Costs			
	Total Backfill Royalties Cost	[redacted]	[redacted]	[redacted]
	Subcontractors	[redacted]	[redacted]	[redacted]
	Supplies/Consumables	[redacted]	[redacted]	[redacted]
	Freight	[redacted]	[redacted]	[redacted]
	Travel/Per Diem	[redacted]	[redacted]	[redacted]
	Miscellaneous	[redacted]	[redacted]	[redacted]
	Sample Cost	[redacted]	[redacted]	[redacted]
	Total Cost	[redacted]	[redacted]	[redacted]

BSE: Dirt crew washed Truck beds and excavatiing equipment before continuing backfill and grading around houses 101 and 103. The carpenters continued siding the Head start Building, [redacted] [redacted]

Daily Activities (Continued):

Problems Encountered or Anticipated:

Discussions With NOAA Personnel or Island Entity Personnel:

[redacted]

Date: 25-Oct-06

Samples Collected/Summary of Other Direct Costs:

Prepared by:

Julianna R Shan[illegible]

Bering Sea Eccotech

Rev 12/5 ~~25-Oct-06~~

Date

Subcontractor (if applicable)

25-Oct-06

Date

Received by:

National Oceanic and Atmospheric Administration

25-Oct-06

Date

Date: 25-Oct-06

Daily Log Review Comments:

[redacted]

5. PCS, Backfill - Indicate the number of dump truck loads for each truck load of clean backfill this day. To Be Provided MT

[redacted]

National Oceanic and Atmospheric Administration

12/7/06

Date

Corrections/Explanations of Daily Log Review Comments:

Bering Sea Eccotech

12-6-06

Date

NOAA Field Notebook Entries

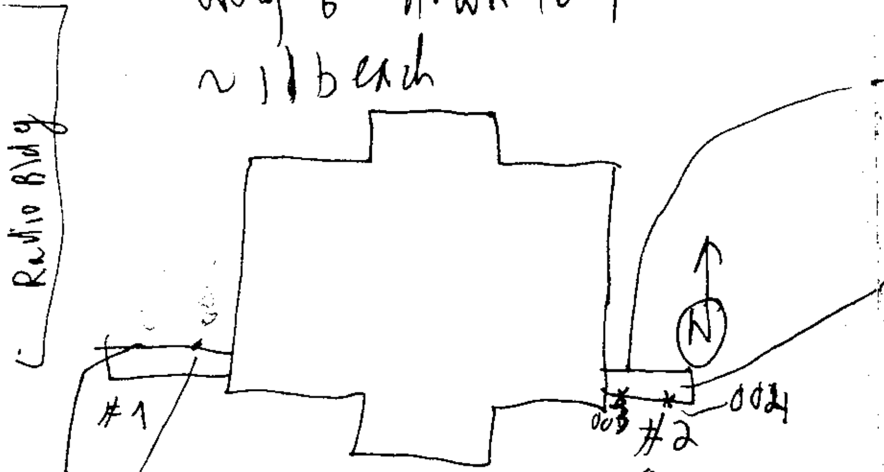
June 5/2006

5:35 Arrd Duplex 108/109 site 9I

2 ft out & 5 ft out

every 6" down to 4'

~1 lb each



Spgi-CS-001- 005 - 0 - 6"
010 - 6" - 1'
015 - 1' - 1.5'
020 - 1.5 - 2.0'

spgi-CS 002 - 005
010
015
020

5:40 started sampling #1 ~~xxx~~ 001

5:50 finished ~~001~~ #1

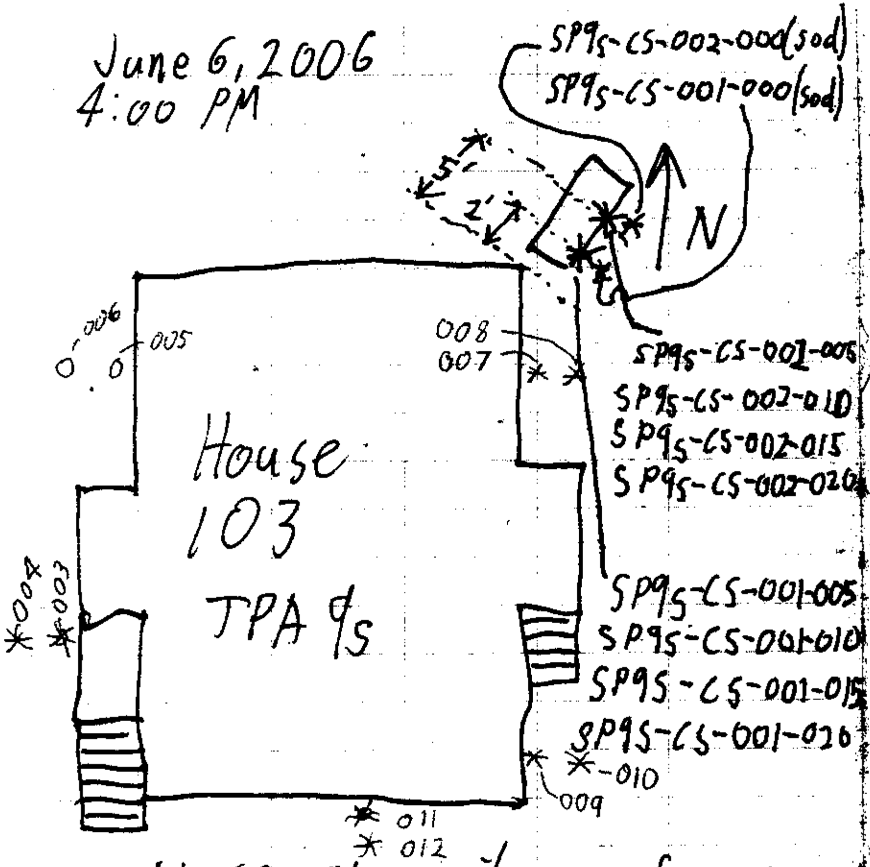
6:00 started #2

6:10 finished #2

Spgi-CS-003- 0.0 - 0.5'
0,5' - 1,0'
1,0 - 1,5'
1,5' - 2.0'

Spgi-CS-004 - 0,0' - 0.5'
0,5' - 1.0'
1,0' - 1,5'
1,5 - 2,0'

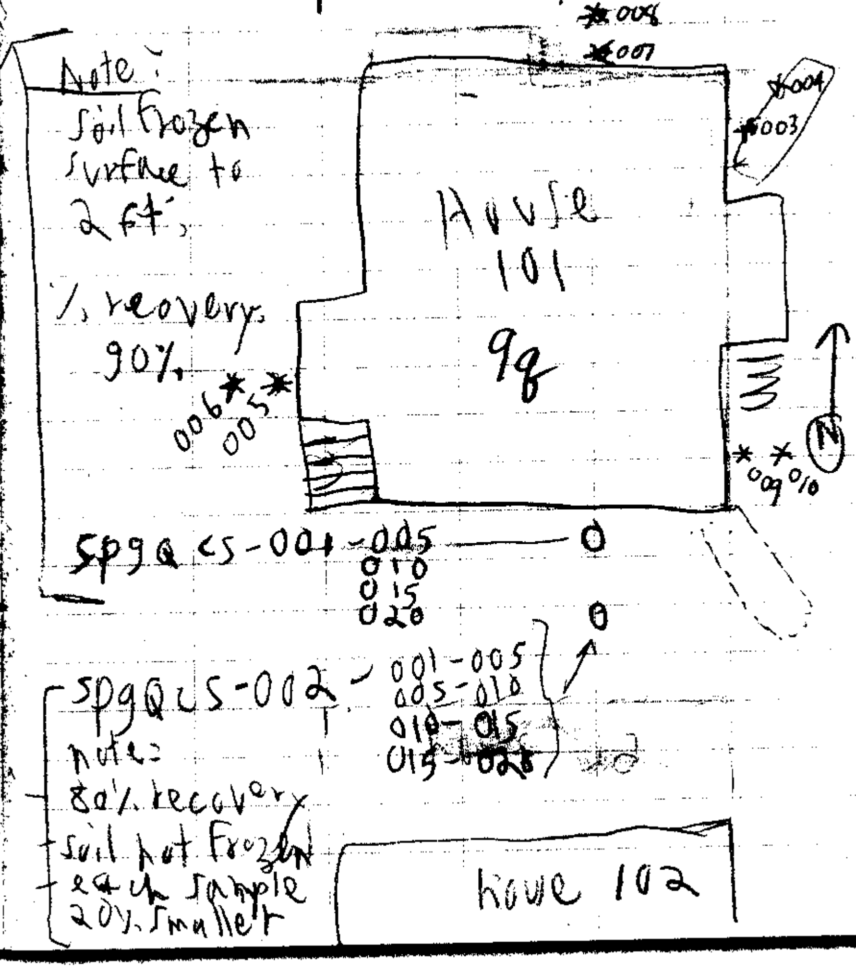
June 6, 2006
4:00 PM



- At CS-001, soil was frozen from 1' deep to 2', but deeper than 2' it is not frozen

June 6, 2006
4:40 pm

Geoprobe sample SP9Q-CS-001-005
Geoprobe sample House 101



Note:
Soil frozen surface to 2 ft.

% recovery 90%.

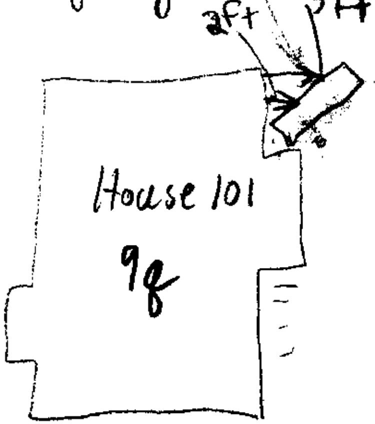
SP9Q CS-002 - 001-005
005-010
010-015
015-020

note:
- 80% recovery
- soil not frozen
- each sample 20% smaller

June 6 2006
6:00 pm

Trench sampling house 101

Note:
frozen soil:
1' - 2'



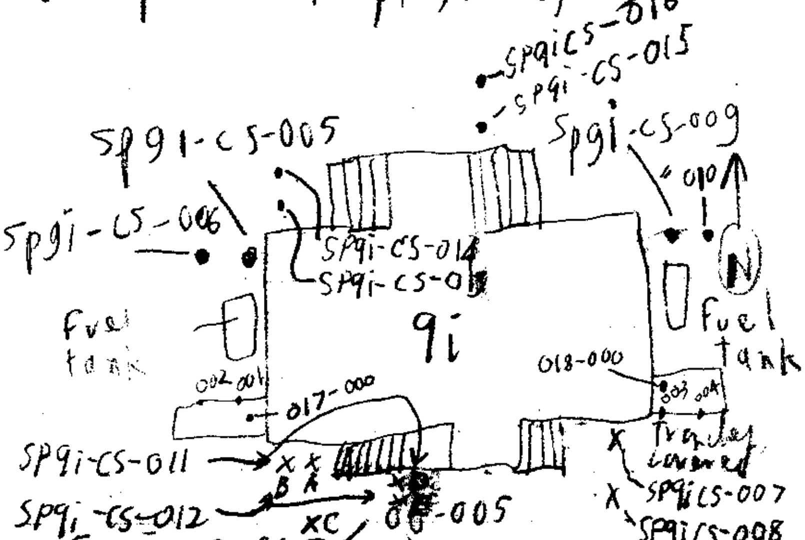
2 ft = Sp9Q-CS-003 00-005
005-010
010-015
015 020

5ft = Sp9Q-CS-004 → 00-005
005-010
010-015
015-020

note:
Soil frozen
0.1 - 2Ft

June 7 2006

2:00 pm Duplex 108/109



Sp9i-CS-005 / 00-005
005-010

note: recovery % ~40%. 2 core of same location (one next to other) were taken

Sp9i-CS-006 / 00-005
005-010

note: 2 sample taken side-by-side to increase volume both were about 40% recovery (at CS005 + CS006)

- HEPA vacuming conducted near hole
it sucked

June 7, 2006
00 - 005
, 005 - 010

SPGI-CS-009: at N.E. corner of house, 2ft from wall
note: instead of geoprobe, holes dug with shovels to ≥1 ft, samples taken from side of hole with trowel
, 00-005, 005-010

SPGI-CS-010 At NE corner of house, 5 ft from wall. Also dug with shovel, samples taken with trowel at 0-0.5' & .5-1'.

SPGI-CS-011
at "A" hit refusal at 1' deep, moved 1' laterally to W, same dist (2') from wall to "B", but also hit refusal at 1' deep. Suspect concrete - possible sidewalk

SPGI-CS-012 hit refusal at 1' deep at "C"

- Because of refusal at "A, B + C" we moved to "D and E"

Friday, 13 OCT 2006

1000-1030 Morning ablution

1030-1100 Daily's

1100 – Called to JAL. Old decomm MW debris to Tract 42 Trench from Equipment Garage.

Trying to email. Hard Rain. Starband down.

1340 – Left voicemail for Biff Baker, X3236, Re: Return of keys and padlock – containers, Need for Renovation Project Info, GAC Sandbag Transfer.

↓ Working Admin – T&A, Comp Time/ Holiday CD-81, E-Mail download,

1525 Biff Baker, Tribal Government

① Funded throug ANTHC Clinic Renovation

[redacted]

3rd Contract

- First 2 under ANTHC
- Third ANTHC & Denali Commission split funding.

He has abatement logs. & will provide.

② GAC sandbags – Transfer Monday. Call him. In Office all day.

③ Only taking ACM container will send e-mail so stating.

Scale: Square

Friday, 13 OCT 06

[redacted]

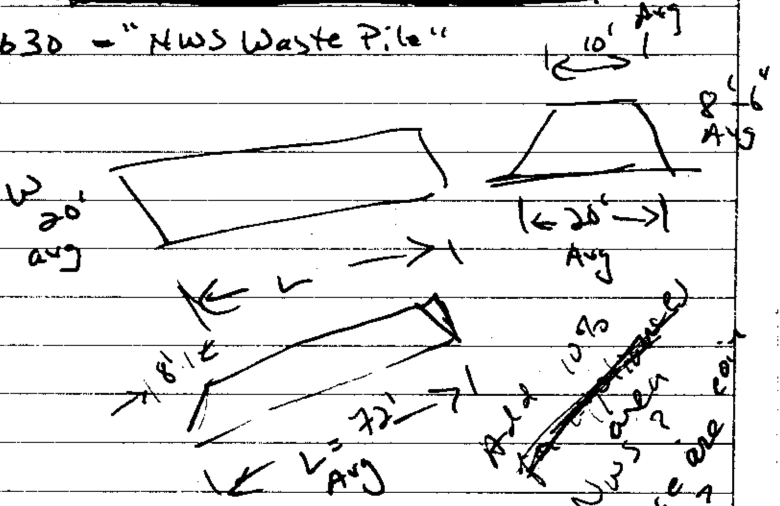
Completed

1608 – Silvia reported Paukin cancelled. Julie to fly Sun.

1610 – Departed for POSS Camp.

1620 – Met Mate. Will attempt to get him answers tonight on abatement issues. No PSI arrival. No meeting tonight. [redacted]

1630 – "NWS Waste Pile"



Add 10% All NWS area? Appliances are co spaced?

Mattresses?

Scale: 1 square = ______

FRIDAY, 13 OCT 2006

1655 – PenAir now coming in. First 10
bodies only.

1700 Meeting Andy, Chris, Merle DBW
POSS Camp Wing A.

[redacted]

AES

TH101 → Asbestos Flooring: Bathroom
& East Mudroom. Pulled Cleaned
Completed. | West Mudroom & Kitchen has 9" VAT glued under other sheet vinyl on 3/8" underlayment.
Scraping in basement. Completed tomorrow.
Winds downgraded to 50 from 70 mph | 9" VAT w/ ACM Mast

Need 49 labor hours to pull. Identical to bathroom.

Friday, 13 OCT 2006

West Mudroom and Kitchen NIS. Need NTP.

TH101 – Pulling all multi-pane windows
tomorrow and bag. No charge.
They are just doing.
TH101 – Stair treads pulled tomorrow.
BSE to install new, if NTP.
TH103 – Start Monday. – otherwise barricade.

BSE & AES need decision on crawl
spaces. Especially TH102, Re:
Hot Water Heating System. Want to
start work in TH103 on Monday.
BSE & AES.

DUPLEX 108 & 109.
No answer yet. T&M.
Metal Sheeting – All 4 sides.
108 – Installed windows.
Doors drying in POSS Camp.
DOOR Install on Monday.

TH103
~~If~~ weather holds, paint TH103 exterior
tomorrow.

HS
- Painting interior done
- Started Firring. Z-Metal.
- Started wrapping windows.
2"x8" Frame for siding & trim

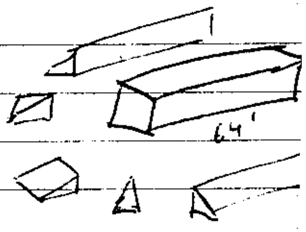
Friday 13 OCT 2006

PSI – Trying to come in on Sunday ✓

Lead Soil Abatement.

Meet @ TH101 @ 0800 ? Maybe not.
? Esther & Mike.

~~Raymond & Nick. Maybe tommorow.~~
0930 → Daylight meet.
@ TH103



Raymond
Deacons

(HE Black)
Sandy Beach

Metal Mesh
Glass

10' x 8.5' x 64' = 5,
2[½(5' x 8.5') x 64'] = 2,720 CF = 100.74 CY
½(8' x 8.5') x10' = 340 CF = 12.59 CY
2½[12' x 8' x 10'] = 480 CF = 17.78 CY
8,980 CF ~~[illegible]~~ CY
x 1.1 332.6 CY
9,878 CF ⇒ 365.9 CY

350.76

Scale: 1 square = _______

Saturday, 14 OCT 2006

0755 – Telcon w/ Greg.
0800 – No one answering @ Julio Shamo's office or home.
↓ → Starting dailies.
0845 → Andy back. Crew asking for marking paint and tiller.
Merle apparently did not tell him about his rescheduling to 0930.
0855 – @ TH103. BSE not there
1 supersack on BSE of lot bed
plastic & top partially open in rain.
0900 – Mike B. & Raymond B. have picked up rototiller from Equip Garage
0930 – Merle, Andy, Mike Baldwin & Raymond Becker @ Hse 102. Walked around site. Flood lights partial illum.
– Container & AST to be moved away from TH103. Reexplained need to be frugal w/ pellets & spread rate.
– EcoBond Pellets in ACE air freightable packaging.
1[illegible] – will clear sidewalk tops and treat soil on other "HVY soil" area.
1000 – Mike & Raymond off to retrieve 580 Backhoe to clear sidewalks.

[illegible]

CAP figures do not match TH. 3' & 6' lines painted. TH101

Scale: 1 square = _______

Saturday 14 OCT 06

1005 - Full light. Started (DBW) rocks moving away from TH101. Noticed paint chips, wood, appliances, rocks and interior abatement items around TH101. Read CAP to see if it called all removal, including chips. Did not see; however, it said ~~all LBP to be removal to be completed before~~. To the extent practicable all visible LBP chips to be removed with HEPA vacuum; NOAA to remove vegetation before paint chip removal. Paint chip removal after Bldg Ext LBP abatement. "Soil removal" activities will not occur until exterior LBP abatement concludes. Provided 6 cans of orange inverted TIP paint cans

1035 - Back (Apt 1) after trying to track down crew. Rain affecting telephone. Cannot connect to GG cell. Left msg @ home #. (~1040). No utility locates.

1058 - Call to JAL cell.

1110 - Call to JPW cell.

1115 - Talked to Merle. He'll pull latest SOW and meet @ TH102

Scale. 1 square = ______

1118 - GG.

~~3 101 & 102~~ Interior Doors leave. Hot caulk or not.

Check if new windows in TH103

There are TH101 & TH102, in TH102

If not being removed due to LBP issue, the windows and doors are to be removed.

If caulking has ABM is above 1% ~~or~~ friable, then RSE needs to identify potential time & costs.

Potential 9" ACT tiles under cabinets. OK to remove. No need ~~to~~ rip.

Clean out HEPA vac bag & replace. Bags in BOQ shed.

Biff Baker → Has some plywood.
BSE → Would need to haul more in. ~5CY

1200 - John R. Marculief called. Asked for NOAA to fill in depression (as JAL "had promised") from Headstart AST ~~release~~ last year. Becoming a mud hole. Elec. utilities underneath

Saturday, 14 OCT 06

ISSC
Flatbed w/
pellets @ TH.

JPW called back
JAL called back

1215 Mike Baldwin @ TH101 Scraping sidewalks w/ 580 backhoe.

1300 Nick Koslov & Raymond Bexter with Loader 966, Dump Truck, Roto Tiller.

~~13~~ - Worked w/ crew to move visible rocks & debris away from TH101.

1330 - To Apt. 1. Retrieved hammer and mattock, in order to dislodge rocks from tines. Jammed. Mike Baldwin & I use 2 hands to operate. Rayond B-P. uses one. Big!

- Back picking more debris & rocks.

1400 - To PPO Flammable Conex. Retrieved 5-Gallons of gas in can. Gave to Mike Baldwin, along w/ rototiller manuals, CAP & updated figures.

1500 - Done w/ T.H. 101 & 103. Loading Debris from around TH103. Rototilled around TH103 AST. In use. Paint chips blew across street toward City Hall. Picked up.

- Nick and Andy Poppen to dump w/10CY Blue Dump. Load from TH101 interior.

Saturday, 14 OCT 06

Nick supporting Abatement & Soil Remed.

~~1530~~ and misc. debris from around TH101 & TH103. [redacted]

1530 - Completed relocation to Duplex, Left CAP w/ rev figures, and gas can and rototiller w/ Mike & Raymond.

- Asked Mike Hargrave if he could have some bodies help move materials & debris away from Duplex 108 & 109. Quite a bit. Will have to rototill around in use AST.

- Ran through areas on figures 0-6" that required treat. Mike B sprayed outlines on ground (orange).

- Definite depression w/ mud between Head Start and John R. Merculief's house, toward NW corner of H.S.

- Inspected Z-strip firring on H.S.

1600 - Back to Apt 1. Updating notes.

BACK NOTES: In AM Telecon w/ Merle asked for Abatement wastes and chips outside TH101 be picked up before rototilling. Chris Skoog and another AES body spent ~40 minutes picking up well. Good job. Too wet and rainy for HEPA Vac.

→ One tine broken on rototiller due to rocks. [redacted]

Had Nick dig NOAA containers away
from TH103 for clean soil remed.
area.

Saturday, 14 OCT 2006

1620 – Winds downgraded again to 30-45 mph from last downgrade of 35-45 mph w/ gusts to 65 mph.

Bank collapse
2 sides of Duplex
@ 1655

5:00 PM Meeting

→ Initial roto till & ~~treatment~~ done @ TH101 & TH103, 2 sides done @ Duplex

→ AES

TH 101 Done Except Pulling of Windows (N~~[illegible]~~ ACM). 4 windows W 2% asbestos caulk pulled, bagged & into container. Stair treads in basement removed. Floor in W mudroom and kitchen to be removed later. [redacted]

Saturday, 14 OCT 2006

[redacted]

[redacted]

TH102 → 9" ACT under cabinets exist. in pantry. Remove cabinets, put in underlayment and install new cabinets.

Check LBP Survey.

* { Merle Question: TH101 Heat Registers to be pulled? Old Cast Iron & Painted.

Not in SOW.

⇒ Merle may have latest electronic SOW.

Head Start

Firring up. Insulation being cut for Monday install. Probable siding start on Monday.

→ Fill in hole (AST spill). May do on own.

DUPLEX

No activity today.

Head start Priority. Crew of 3

Sheet on exterior walls approved for removal.

Done w/ Soil Treatment. Second sack started. Need to restore.

Sunday, 15 OCT 2006

1600 Keith Goyer, PSI, arrival at Apt 1.

- Provided him copy of CAP Ver 3 & Revised Figures 1-5.
- Obtained wood stakes, sledge hammer and shovel, & marking tape (hot pink)

① - TH101 Samples 01 & 02, north & south side respectively, Near midspan.

② - TH103 samples 03, 04 (duplicate) & ~~#~~05. 03 & 04 on east side between East vestibule & NE Corner. 05 on West side between West vestibule/basement stairs and NW corner.

③ - Duplex Samples 06 & 07.
06 on N side between N vestibule (Rear of unit) and NW corner.

*[Found 8' long roll of ~1/8" thick of lead sheet, buried by kitchen steps. Mike & Raymond avoided rototilling area, as they thought it a pipe. Need to add pellets. Need to move.]

07 on S side between S Vestibule (Front of House) & SW Corner.

Asked Raymond to request his Dad tell workers not to move stakes.

1800 - Returned tools & wood stakes to NOAA Flammable Container CRXU 294180_0.
Keith Goyee, PSI, took stake measurements.

BJ Kibble back in Staff Quarters from ANC. First time actually scared while landing.

High tide flooded grass on Channel side of NMFS Staff Qtrs and grass north of Diesel Seep. All "low" lying areas. Storm surge effect too.

1805 Sun trying to break through. Rain stopped.

Monday 16 OCT 2006

Reading
24 TH102 Kitchen Sink Drain Line
25 " " " " "

Not Hot
0.4 Pb

1541 - Log off XRF. shutdown.
92% battery

1630: PPO SNP061016-001
RCRA D005 LBP Waste
LBP Chips, Soil, Wood, Plastic, Paper, Nitoile Gloves.
Accum Start Date: 061016
Unused ~~New~~ 55-Gal Ring Top Steel Drum

UN 1A2/Y1.7/150/03
UN 1A2/X420/S/03
1.4/1.1/1.1 208L
Machine Shop Interior Cleanup Wastes

~~DPP E-Mail~~
~~GAC E-Mail~~
HW Label
BSE Dailies
~~XRF Download~~
Photo CD

Scale: 1 square = ____

Tuesday 17 OCT 2006

0750 - Mark Ridgeway called. USCG
Have ADEC approval to use GAC as back fill, USCG C-130 site. Awaiting ADOT approval to use on their land.
Wants all GAC.

0915 - Keith Guyer, PSI Stopped by
- Obtained Soil Remediation Sample Figures. Copied, Scanned
- Yesterday, Samples off Island to SGS Environmental, ANC, 3-Day Turn Around, Already Digesting
- MW Sampling Yesterday
MW46-3
MW46-4
MW46-9
MW46-14
- MW Purge Water Disposed at NWS Landspread Site.

Sample Number(s)
SP60-CH-01
thru -07

Scale: 1 square = ____

Tues 17 OCT 2006

VMO Keith   MW46-12   Buried in spring. Dug out.
Dug out again after five ighr

Equip Rinseate
-24
-15 (Duplicate 46-99)
-12
-31
-23

Locks workable. Hinges in good shape.

1650 DPT APT 1
1700 ARR SNP
1845 DPT SNP - DELAY ON SNG. ONLY ENOUGH FUEL FOR 6 more flights, inter island, per pilot.

[1842 Ecoboard on back of BSE firstbe' outside. Needs to be inside protected from weather.

[redacted]

Wednesday 18 OCT 2006

[redacted]

[redacted]

Scale: 1 square = ________

Scale: 1 square = ________

10/19/06

1830 - Daily De-brief (Merle Booker & Plumber - BSE; Chris Skoog - AES; Keith Guyer - PSI
G. Genais, A. Poppen - NOAA)

- Merle: Tomorrow: Continue to side HS, Soil treatment & removal for HS, TH101, TH103. Will have Ray & Nick work w/ Keith. Wants all treatment, excavation, & sampling done FRI so Keith can demob. Also needs crew on other stuff as BSE is short-staffed.
- Greg: Not sure we can finish soil on FRI, may req. SAT work.
- Greg: NOAA not sure cost of encapsulating TH102, TH103 crawlspaces is commensurate w/ risk reduction. Can utilities be re-routed out of crawlspaces? How frequent will access be needed for utilities maintenance?
- Merle: Need access as facility maintenance out here ends up being breakdown repairs.
- BSE Plumber: Need to inspect plumbing to be sure but re-routing water supply & heater pipes is not feasible.
- Chris: Only aware of 3 practicable ways to abate asbestos in soil: (1) Removal = $$; (2) in-situ solidification = $$ + hazardous; (3) encapsulate w/ liner = $ but less than 1 & 2.

⟹ All agreed to meet @ TH102 on FRI @ 0930 to inspect & discuss.

2200 - Installed new wireless router & est. network for NOS.

[redacted]

10/20/06

0845 - Brought A. Poppen to E-Shed for first time. Loaded tiller & fuel can in Black Chevy. Hauled to Duplex for lead soil work.

0905 - Off-loaded tiller & fuel can. Went over excavation & Ecobond treatment plan w/ Keith Guyer of PSI & Andy. Ray & Nick arrive around 0930, a few of BSE's siding crew also showup @ 0930. Backed into tiller trying to depart for TH102 for meeting. Cracked oil dipstick channel & broke it. Temporary repair w/ duct tape. Works okay but oil seeps. Tiller works.

1500 - Just realized the tin removed from Duplex walls was painted w/ LBP. Some paint chips fell to ground & onto concrete stairs during 10/16 removal. Placed some Ecobond onto surface. Used hose to wash stairs & lower concrete footing of dirt & chips. Scraped surface soil / paint / Ecobond up & loaded to truck, what a mess. Had BSG remove 2 more sections of tin around S. entry to 108.

1815 - Unearthed old concrete utility vault @ SW corner of 108. Accessed & found apparent old water supply line & booster pump. Photographed & videographed. Will cover w/ backfill.

1930 - Loaded & dumped 3 loads of treated lead soil w/ white Ford dumptruck. Keith collected 9 screening samples. Based on FPXRF selected 5 for confirmation (high biased)

Daily Truck Count: Ford = 3
Kenworth = 0

10/21/06

0930 - Resumed work @ Duplex Pb soil. Removed another 2/3 dumptruck load with Ford.

1300 - Placed landscape erosion fabric w/ staples after Eco bond placement for SE portion of 109, as contamination > 400 ppm still present @ 2ft bgs. Photog; Videographed.

1500 - Excavating & treating Pb soil @ TH101. Going faster w/ 2 improvements.

(1) Place Ecobond but mix w/ backhoe during our excavation vs. tiller. Can treat deeper than 6" at a time. Visually this appears equivalent to 2 passes w/ tiller.

(2) Staged excavated soil in temporary unlined stockpiles. Local piles vs. one section @ a time. Obstructions like bldgs & ASTs abound. Pile removal includes overscraping & XRF to confirm no cross-contamination.

1645 - Broke apparent phone line off NW corner of TH101. Spent ~1.5 hrs hand digging to assess position of remaining lines, which bldg. may have been affected by break, etc. Line hit at ~12" bgs.. very shallow. Larger phone supply line pulled up by dead grounding cable that was wrapped under larger phone lines. No damage apparent. No more backhoe digging in this area. Shovels only where practicable.

1800 - Hand digging along N foundation of TH101 unearthed ~7 old glass bottles. Pulled aside & placed in TH102 kitchen temporarily for safe keeping. Will move to Staff Quarters later.

dvl
10/21/06, cont'd...

1810 - Loose paint chips falling off w/ grass removal from lower part of TH 101 foundation. Hand shoveling.

1820 - So far, removed another dump truck load from TH101 w/ white Ford. Still need to dig more @ TH101 per FPXRF. Need to work SUN to get to confirmation sampling before Keith demobes on MON PM. Ecobond supersack #2 nearly empty. Will need another one for SUN.

Daily Truck Dump Count

Duplex: Ford = 2/3, KW = 0

TH101: Ford = 1, KW = 0

1840 - Daily Meeting
Chris - TH103 crawlspace decon setup, general debris moved, cleaned, & placed into dumptruck. Wet down dirt & picked up large chunks of TSI
Mon = raking soil for TSI chips, rocks, leveling for liner.
TUE = EPDM, clearance; WED = Yank TH101 kitchen/Bath floor, windows
Merle - Working on HS siding; started sawing chimney; HS exterior should be nearly done by WE
Hope to start HS exterior doors next week. Master key for TH's & HS; separate Master for duplex
- Jeff Sampson, Ron Arnold, ~~Jeff Sampson~~ Ray Beeler, for soil on Sunday. Start @ 1230 hrs.

JJ
10/~~23~~22/06

1230 - Met BSE @ TH101. Crew = Jerry, Ron, Raymond, & check-ins by Merle. Retrieved NOAA Bobcat & Cat 416 backhoe for use today.

1315 - Used BSE & NOAA backhoes @ same time, diff't parts of building. Ray leaves w/ Merle to get 966 for moving conexes away from TH103.

1415 - Conexes moved. Blue Kenworth full & dumped. Move things away from S. side of TH103 to get backhoe accoss. AST is in the way but is full & in use to heat TH103 during abatement. Squeeze Cat 416 back there.

1545 - Jerry digs SE corner of TH103 but cuts himself off for hauling stockpile to dump truck. Ron moves part of pile to get Jerry out. Have to move part of Phil & Debbie's fence to clear more egress for Jerry.

1630 - XRF shows TH101 is clean & ready for confirmation samples 4+ 1QC dup. Lots of hand shoveling get last of LBP out of soil. White Ford filled & dumped

1900 - Lots of hand shoveling. We have several small stockpiles requiring removal tomorrow. FPXRF shows bldg is clean. Keith collects 4+ / QC dup for confirmation.

2000 - Finish XRF on confirmation samples, pack up gear. Keith to collect clean backfill samples MON @ LakeHill. Blue Kenworth is full & ready to dump tomorrow. Need to decon truck beds & backhoes before moving to backfilling.

Daily Truck Count

TH101: Ford = 1 , KW = 1

TH103: Ford = 0 , KW = 1/2

JH
10/~~24~~ 23/06

0850 - GPS base station memory full. Delete largest file & re-start. works now.

0930 - Met w/ Debbie ~~&~~ talked re: fence. Invite her to inspect restoration & let me know if its not good enough.

1000 - Blue Kenworth being dumped. GPS receiver batteries die. Ask Andy to have Nick & Rory clean up stockpiles. Ray says Merle wants soil next to TH Basement stairways removed for drainage. Andy & Greg warn BSE they are responsible for any damaged utilities.

1035 - Keith & Greg to Lake Hill to sample backfill. No GPS needed as scoria is stockpiled. Ask Frank Shane to do LOF, air filter, tailgate cables on Blat Chevy.

1130 - LF trenches full, need to cover w/ 2-ft soil & dig new one.

1205 - Nick & Greg to LF. Nick covers filled trench w/ soil. Digs new disposal trench. Encountered standing water @ old PCS stockpile liner. Had Nick tear liberally.

1400 - BSE cost status mtg. rescheduled to Tue.

1430 - Nick & Richard continuing mop up of stockpile areas and along W sides near basement entries. Testing w/ FPXRF & spot cleaning.

1700 - Met briefly w/ Jerry & others from NWS house inspections.

1815 - Nick & Richard finish removing remaining lead soil from temporary stockpile locations. Returned NOAA Bobcat to E-Shed. Drove flatbed back to Poss Camp.

Daily Truck Count: White ~~Ford~~ = 2 JH ~~Blue KW = 2~~ JH

TH103: Ford = 0.5, KW = 1
TH101: Ford = 0.5, KW = 1

10/~~24~~ 23rd/06, cont'd..

1840 - Daily De brief Mtg.

- Chris - TH103 crawlspace cap prep done. Tomorrow will place EPDM, spray encapsulant, & clearance test, will move to TH102 on WED.

- Merle - In order to match TH103 w/ mudroom windows, need to move electrical svc. box out of way. Telephone box, too. Joe Lealo & another worker will move up to TH103.

[redacted]

- Merle - Grading for TH's will be done w/ Raymond & use ~~of~~ laser level. Looking for a 2% slope away from foundations. will do on TUE.

  → Greg = OK. Reminded Merle re: Need to decon dumptruck beds & backhoes' buckets prior to hauling clean. Also said BSE can use NOAA's Bobcat w/ front-end bucket.

2230 - Greg determined that TH103 does not require any window replacement under the SOW or PMP. Sent e-mail & will call Denno to discuss.

Lead Soil Removal Totals:

Assume: Due to fluffing & keeping loads below truck bed top, Ford holds 8 CY in-situ volume, KW = 6 CY

∴ Headstart = (3.67 Ford) x (8 CY/Ford) + (0 KW) x (6 CY/KW) = 29 CY
TH101 = (2.5 Ford) x (8 CY/Ford) + (2 KW) x (6 CY/KW) = 33 CY
TH103 = (1.5 Ford) x (8 CY/Ford) + (1.5 KW) x (6 CY/KW) = 22 CY
84 CY

10/24/06

[redacted]

Merle said Nick & Ray would decon trucks, do finish grading @ TH's incl. clean scovia placement, then de-mob by COB today.

[redacted]

1055 - Photographed Old Movie Theater wooden waterpipe in flammables conex by Garco for Sovik.

1110 - Met w/ Mike Hargrave (BSE) @ Duplex. Informed Mike of TH103 window situation. Siding @ Headstart continuing. nearly complete w/ East side. S. side ~~roof~~ attic vent installation proceeding. Nick & Ray stop by for break @ 1125. Photos of Headstart taken.

1140 - Photos of TH101, 103 windows taken

10/24/06, cont'd...

1215 - Chris Skoog (Arrowhead) verified he understood the scope of abatement in TH103 excluded window removal.

1225 - Reminded Nick & Ray to include Ecobond prior to loading soil from re-grading. Also recommended they ask TDX to locate major cable TV line bet. TH102 & TH103.

1227 - Stopped Mike Hargrave & asked him to get TDX to locate cable TV.

1230 - Stopped by Headstart. New window on SE wall trimmed out. N. wall has siding up to brown plywood.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

10/24/06, cont'd...

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

1545 - Mich arrives. Tours abatement bldgs. w/ Eng. Greg asks Mike Haygowe to defer siding N. Gable end on Headstart [redacted]

1845 - Daily Debrief Mtg.

- Δ Chris Skoog - EPDM installed in TH103, wet wiped & HEPA vacuumed. Encapsulant sprayed. will pull air clearance samples WED AM. Should be cleared for BSE/NOAA access WED PM. AES to pull windows & 9x9" tile from TH101 by COB WED.
- Δ Merle: will send crew to Machine Shop to complete soffit installation, stack securing & collar/flashing.

[redacted]

[redacted]

[redacted]

[redacted]

10/24/06, cont'd...

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

10/25/06

0800 - Worked with Mark & CAO's "Richard" via phone to get wireless card working on his computer.

1010 - Arrived @ Headstart & Duplex. 2 person crew re-setting Duplex windows (No NOMA cost). Mike Hargrave said they started this yesterday pm. 2 person crew installing Z-metal fur strips on S. side of Headstart, 2 person crew installing new attic vent & trim along N. Side of HS. Making own cuts inside. 2 person crew installing door trim/jambs @ S. entry to HS. Walter Shane drops Cat 416 @ Duplex. Heading back to LF. Direct Mike to complete lap siding on N. Side of HS.

Also hammering concrete off chimney

1005 - Drop Walter @ LF. Ray & Nick done w/ decon. Heading to Lake Hill to start hauling clean scoria backfill.

1200 - Inspected Machine Shop. Remaining work limited to enclosing ends.

1835 - Daily Debrief

- Chris Skoog (Arrowhead) - TH103 & 101 complete. Moving to 102.
- Greg - N. Gable end siding complete. [redacted]

[redacted]

-[redacted]

-

PSI Field Notebook Entries

Heavy overcast, Rain somewhat
Hail

10/19/06

0845 - check equipment - close up when dry

1030 ACE flight - send out 4 coolers

1100 Take photos of Bldg 101+103 - soil
treatment + sample locations

1230 - 1300 Lunch

1300 - Go over paper work - organize

1600 PenAir flight - Greg arrives

1630 Meet briefly - agree to go out to Duplex

1645 At Duplex - go over sample locations

1715 Drive to Airport to get battery to use with
NOAA Survey equipment

1730 Take GPS measurements of all 7 soil
sample locations

1815 Head for Airport

1830 Meeting BSE - NOAA

1930 Go to Supper

Overcast slight wind
≈40°F
10-20-06

0830 - load up equipment in pickup
0900 AT duplex
0915 NOAA arrives w/ rototiller
0930 Go over plan
0945 - NOAA backs over tiller
1000 Back hoe arrives
1015 I drive to airport to find dump truck
1040 Start Excavating on SE side of
duplex
1130 Go to NOAA bldg to get plastic sheeting to
cover load
1215 Dump truck head to landfill ①
1230 Start applying Ecobond on S-SE side of
duplex - rototillin
1340 Get ride out to Airport
1345 - Lunch
1410 Drive back out to Duplex - continue
digging + treating soil
1800 find large cement vault in SW corner
2000 - Finish + drive in to Airport
2015 Supper

Heavy overcast, some rain
≈40°F

10-21-06

0830 - 1,3 + last GW samples on COC

0930 At duplex - still too dark to sample

1000 start loading stockpiled contaminated soil

1045 Scrape surface of NE corner around AST - paint chips

1125 Start collecting bags of soil - collect 9 & NOAA test with XRF

1200 Sample on SW side Fai's - area 2a

1205 Reapply Eco bond & till in

1210 Finish loading stockpiles & start digging in area 2a.

1218 Start collecting confirmation sampling

1226 Collect SP60-CS-001-025

1238 Collect SP60-CS-002-015

1243 Collect SP60-CS-003-020

1251 Collect SP60-CS-004-020

1258 Collect SP60-CS-005-025

1315 Put remaining bag samples in NOAA pickup

1324 Go to lunch

1405 Go to Bldg 101

1416 At Bldg 101 - waiting

1425 Start Excavating at Bldg 101

1619 Drive first dump truck load from 101 to overcast, gusty wind

10-21-06 Continue

Dump

1620 Continue excavating

1830 Go look for fuel truck - backhoe low

1930 Finish Excavating for day

1940 Help off load rototill in NOAA garage

2000 At Airport - Supper

Partly Cloudy, light breeze

10-22-06

1215 Drive out to Bldg 101
1300 Start reexcavating at Bldg 101
1430 Drive white dump truck to land fill ②
1500 Start Excavation at 103
Note using BSE Case 580 + NOAA-CA-416
1700 Started to Snow
1715 Set up to collect bag samples at Bldg 101
1827 SP60-CS-006-025-B101-1a
1830 SP60-CS-010-025 dup of 006
Note drove Blue dump truck ½ dirt, ½ building material to land fill at 1710 ③
1832 White dump truck to land fill ④
1833 SP60-CS-007-020 at B101 2a
1836 SP60-CS-008-020 at B101-3a
1839 SP60-CS-009-015-B101-9a
1955 SP60-CS-011-005 at Bldg 103-3a
1958 SP60-CS-012-030 at Bldg 103 5a
2000 SP60-CS-013-020 at Bldg 103 6a
2018 SP60-CS-014-020 at Bld 103-2a
2025 Take down NOAA-GPS repeater
2035 Leave site

Note Duplicate SP60-CS-015-020 colocated at SP60-CS-014-020.

10-23-06

0840 - Packup cooler + equipment for shipment back to Anchorage

0936 - Call ACE - setup for shipment

1040 - NOAA - drive out to Scoria pit - collect 3 samples

105 Collect SP60-CH-601-005
Collect SP60-CH-602-005
Collect SP60-CH-603-005

1120 Back at POSS camp - close out last cooler

APPENDIX D

IN-SITU FPXRF DATA

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NOAA Pribilof Project Office
St. Paul Island, Alaska
NOAA Site 60 - Lead Contaminated Soils
Field-Portable XRF Readings for In-Situ Analyses
Soil Removal Activities

Reading No	Time	Type	Duration	Units	Sequence	SAMPLE	LOCATION	NOTE	Pb	Pb Error
26	10/20/2006 12:23	SHUTTER_CAL	44.16	cps	Final				2.69	0
27	10/20/2006 12:27	BULK	5.24	ppm	Final	SP60-XR-501-020	DUPLEX-7A	SCREENING	196.54	86.22
28	10/20/2006 12:29	BULK	7.07	ppm	Final	SP60-XR-501-020	DUPLEX-7A	SCREENING	179.16	63.77
29	10/20/2006 12:30	BULK	4.56	ppm	Final	SP60-XR-501-020	DUPLEX-7A	SCREENING	199.43	86.45
34	10/20/2006 13:26	BULK	2.74	ppm	Final	SP60-XR-502	DUPLEX-1A		177.97	118.83
35	10/20/2006 13:36	BULK	7.29	ppm	Final	SP60-XR-502	DUPLEX-1A		134	55.27
36	10/20/2006 13:37	BULK	2.97	ppm	Final	SP60-XR-502	DUPLEX-1A		7036.21	459.35
38	10/20/2006 15:15	BULK	2.28	ppm	Final	SP60-XR-503	DUPLEX-1A		861.69	219.56
39	10/20/2006 18:45	BULK	6.61	ppm	Final	SP60-XR-503	DUPLEX-1A		563.21	107.88
40	10/20/2006 18:46	BULK	9.12	ppm	Final	SP60-XR-503	DUPLEX-1A		542.79	84.79
41	10/20/2006 18:48	BULK	14.14	ppm	Final	SP60-XR-503	DUPLEX-1A		387.62	59.57
42	10/20/2006 18:48	BULK	4.79	ppm	Final	SP60-XR-503	DUPLEX-1A		1088.2	172.72
43	10/20/2006 18:49	BULK	2.28	ppm	Final	SP60-XR-503	DUPLEX-1A		865.48	215.35
44	10/20/2006 18:51	BULK	2.97	ppm	Final	SP60-XR-504	DUPLEX-7A		182.27	92.55
45	10/20/2006 18:51	BULK	3.19	ppm	Final	SP60-XR-504	DUPLEX-7A		237.28	117.24
46	10/20/2006 18:52	BULK	2.74	ppm	Final	SP60-XR-505	DUPLEX-5A		-44.19	39.43
47	10/20/2006 18:53	BULK	5.02	ppm	Final	SP60-XR-505	DUPLEX-5A		86	62.23
48	10/20/2006 18:54	BULK	2.51	ppm	Final	SP60-XR-506	DUPLEX-4A		179.16	108.57
49	10/20/2006 18:56	BULK	7.07	ppm	Final	SP60-XR-506	DUPLEX-4A		40.57	44.9
50	10/20/2006 18:57	BULK	0.91	ppm	Final	SP60-XR-507	DUPLEX-3A		22.16	126.46
51	10/20/2006 18:57	BULK	2.05	ppm	Final	SP60-XR-507	DUPLEX-3A		69.73	82.43
52	10/20/2006 18:57	BULK	5.25	ppm	Final	SP60-XR-507	DUPLEX-3A		108.13	60.68
53	10/20/2006 19:01	BULK	0.91	ppm	Final	SP60-XR-508	DUPLEX-2A		426.74	231.97
54	10/20/2006 19:01	BULK	2.74	ppm	Final	SP60-XR-508	DUPLEX-2A		256.98	110.6
55	10/20/2006 19:01	BULK	3.88	ppm	Final	SP60-XR-508	DUPLEX-2A		272.21	101.44
56	10/20/2006 19:35	BULK	2.28	ppm	Final	SP60-XR-509	DUPLEX-8A		482.57	161.64
57	10/20/2006 19:36	BULK	3.88	ppm	Final	SP60-XR-509	DUPLEX-8A		441.6	116.79
58	10/20/2006 19:37	BULK	1.82	ppm	Final	SP60-XR-509	DUPLEX-8A		653.16	205.02
59	10/21/2006 9:48	SHUTTER_CAL	46.17	cps	Final				2.4	0
60	10/21/2006 10:12	BULK	1.82	ppm	Final	SP60-XR-010-000	DUPLEX-6A		5860.39	764.22
61	10/21/2006 10:12	BULK	1.14	ppm	Final	SP60-XR-010-000	DUPLEX-6A		4418.22	895.17
62	10/21/2006 10:14	BULK	1.37	ppm	Final	SP60-XR-010-000	DUPLEX-6A		849.34	346.69
63	10/21/2006 11:19	BULK	2.05	ppm	Final	SP60-XR-011	DUPLEX-2A		425.16	176.77
64	10/21/2006 11:19	BULK	0.23	ppm	Final	SP60-XR-011	DUPLEX-2A		249.31	383.14
65	10/21/2006 11:20	BULK	3.41	ppm	Final	SP60-XR-011	DUPLEX-2A		299.2	112.03
66	10/21/2006 11:21	BULK	10.25	ppm	Final	SP60-XR-011	DUPLEX-2A		486.56	80.84
67	10/21/2006 11:22	BULK	4.56	ppm	Final	SP60-XR-011	DUPLEX-2A		343.91	110.79
68	10/21/2006 11:23	BULK	4.55	ppm	Final	SP60-XR-011	DUPLEX-2A		1053.21	173.61
69	10/21/2006 11:23	BULK	3.87	ppm	Final	SP60-XR-011	DUPLEX-2A		178.76	85.71
70	10/21/2006 11:28	BULK	4.1	ppm	Final	SP60-XR-011	DUPLEX-2A		-17.2	33.22
71	10/21/2006 11:29	BULK	11.61	ppm	Final	SP60-XR-011	DUPLEX-2A		4.44	20.7
72	10/21/2006 11:31	BULK	9.79	ppm	Final	SP60-XR-011	DUPLEX-2A		38.49	31.02
73	10/21/2006 11:34	BULK	29.83	ppm	Final	SP60-XR-011	DUPLEX-2A		424.42	40.71
74	10/21/2006 11:37	BULK	0.46	ppm	Final	SP60-XR-011	DUPLEX-2A		714.56	408.46
75	10/21/2006 11:38	BULK	10.93	ppm	Final	SP60-XR-011	DUPLEX-2A		494.05	70.17
76	10/21/2006 11:40	BULK	8.65	ppm	Final	SP60-XR-011	DUPLEX-2A		250.53	63.69
77	10/21/2006 11:42	BULK	6.15	ppm	Final	SP60-XR-011	DUPLEX-2A		180.64	65.46
78	10/21/2006 11:45	BULK	4.55	ppm	Final	SP60-XR-011	DUPLEX-2A		167.34	82.23
79	10/21/2006 11:49	BULK	10.48	ppm	Final	SP60-XR-011	DUPLEX-2A		8.28	23.97
80	10/21/2006 12:37	BULK	7.29	ppm	Final	SP60-XR-011	DUPLEX-2A		267.84	73.03
81	10/21/2006 12:37	BULK	6.15	ppm	Final	SP60-XR-011	DUPLEX-2A		14.94	50.61
82	10/21/2006 17:13	BULK	3.87	ppm	Final	SP60-XR-012	TH101-1A		190.8	91.68
83	10/21/2006 17:14	BULK	22.78	ppm	Final	SP60-XR-012	TH101-1A		308.16	49.52
84	10/21/2006 17:15	BULK	2.96	ppm	Final	SP60-XR-012	TH101-1A		740.81	175.66
85	10/21/2006 17:15	BULK	2.96	ppm	Final	SP60-XR-012	TH101-1A		991.82	225.03
86	10/21/2006 18:06	BULK	5.92	ppm	Final	SP60-XR-013	TH101-2A		568.64	111.98
87	10/21/2006 18:07	BULK	2.5	ppm	Final	SP60-XR-013	TH101-2A		2413.87	335.06
88	10/21/2006 18:08	BULK	4.1	ppm	Final	SP60-XR-014	TH101-2B		1325.14	199.06
89	10/21/2006 18:10	BULK	4.32	ppm	Final	SP60-XR-014	TH101-2B		555.1	136.52
90	10/21/2006 19:46	SHUTTER_CAL	44.2	cps	Final				2.32	0
91	10/21/2006 19:48	BULK	1.59	ppm	Final	SP60-XR-015	TH101-2A		1201.71	310.15
92	10/21/2006 19:49	BULK	4.78	ppm	Final	SP60-XR-015	TH101-2A		31.17	52.09
93	10/21/2006 19:49	BULK	4.56	ppm	Final	SP60-XR-015	TH101-2A		625.56	125
94	10/21/2006 19:50	BULK	13.68	ppm	Final	SP60-XR-015	TH101-2A		385.98	59.92
95	10/21/2006 19:52	BULK	4.78	ppm	Final	SP60-XR-016	TH101-3A		59.38	51.18
96	10/21/2006 19:52	BULK	5.92	ppm	Final	SP60-XR-016	TH101-3A		19.27	40.89
102	10/22/2006 13:48	SHUTTER_CAL	44.21	cps	Final				2.67	0
103	10/22/2006 13:51	BULK	2.73	ppm	Final	SP60-XR-021	TH101-1A		637.29	211.24
104	10/22/2006 13:52	BULK	2.27	ppm	Final	SP60-XR-021	TH101-1A		237.19	131.31
105	10/22/2006 13:52	BULK	0.68	ppm	Final	SP60-XR-021	TH101-1A		3584.58	886.37
106	10/22/2006 13:52	BULK	2.52	ppm	Final	SP60-XR-021	TH101-1A		360.03	157.18
107	10/22/2006 14:33	BULK	6.37	ppm	Final	SP60-XR-022	TH101-3A		186.14	68.64
108	10/22/2006 14:33	BULK	3.18	ppm	Final	SP60-XR-022	TH101-3A		544.08	158.37
109	10/22/2006 14:34	BULK	2.5	ppm	Final	SP60-XR-022	TH101-3A		285.59	135.83
110	10/22/2006 14:34	BULK	3.42	ppm	Final	SP60-XR-022	TH101-3A		368.44	133.98
111	10/22/2006 14:35	BULK	2.27	ppm	Final	SP60-XR-022	TH101-3A		1826.83	321.16
112	10/22/2006 14:36	BULK	4.55	ppm	Final	SP60-XR-022	TH101-3A		216.7	86.88
113	10/22/2006 14:37	BULK	4.55	ppm	Final	SP60-XR-022	TH101-3A		178.77	79.34
114	10/22/2006 14:38	BULK	1.36	ppm	Final	SP60-XR-022	TH101-3A		48.38	95.02
115	10/22/2006 14:38	BULK	3.18	ppm	Final	SP60-XR-022	TH101-3A		63	66.93
116	10/22/2006 14:40	BULK	3.86	ppm	Final	SP60-XR-023	TH101-4A		79.71	69.04
117	10/22/2006 14:40	BULK	3.86	ppm	Final	SP60-XR-023	TH101-4A		165.9	95.34
118	10/22/2006 14:41	BULK	0.68	ppm	Final	SP60-XR-024	TH101-5A		2292.21	644.08
119	10/22/2006 14:42	BULK	3.41	ppm	Final	SP60-XR-024	TH101-5A		52.99	64.96
120	10/22/2006 14:42	BULK	2.73	ppm	Final	SP60-XR-024	TH101-5A		66.91	64.35

Reading No	Time	Type	Duration	Units	Sequence	SAMPLE	LOCATION	NOTE	Pb	Pb Error
121	10/22/2006 14:42	BULK	2.95	ppm	Final	SP60-XR-024	TH101-5A		222.38	108.11
122	10/22/2006 14:45	BULK	3.41	ppm	Final	SP60-XR-025	TH101-1A		224.67	120.28
123	10/22/2006 14:45	BULK	4.32	ppm	Final	SP60-XR-025	TH101-1A		374.73	119.1
124	10/22/2006 14:47	BULK	2.28	ppm	Final	SP60-XR-025	TH101-1A		146.25	93.47
125	10/22/2006 15:42	BULK	3.87	ppm	Final	SP60-XR-026	TH101-2A		571.5	139.43
126	10/22/2006 15:42	BULK	10.23	ppm	Final	SP60-XR-026	TH101-2A		369.98	68.81
127	10/22/2006 15:43	BULK	4.32	ppm	Final	SP60-XR-026	TH101-2A		547.02	131.32
128	10/22/2006 15:44	BULK	7.51	ppm	Final	SP60-XR-026	TH101-2A		314.65	90.16
129	10/22/2006 15:44	BULK	3.18	ppm	Final	SP60-XR-026	TH101-2A		47.72	71.97
130	10/22/2006 15:46	BULK	2.05	ppm	Final	SP60-XR-026	TH101-2A		393.11	163.66
131	10/22/2006 15:46	BULK	2.27	ppm	Final	SP60-XR-026	TH101-2A		750.49	200.29
132	10/22/2006 15:47	BULK	3.64	ppm	Final	SP60-XR-027	TH101-1A		46.69	72.44
133	10/22/2006 15:48	BULK	5.23	ppm	Final	SP60-XR-027	TH101-1A		448.95	112.98
134	10/22/2006 15:49	BULK	5.91	ppm	Final	SP60-XR-027	TH101-1A		418.66	107.28
135	10/22/2006 15:49	BULK	3.19	ppm	Final	SP60-XR-027	TH101-1A		234.02	119.5
136	10/22/2006 15:50	BULK	4.55	ppm	Final	SP60-XR-027	TH101-1A		110.6	67.54
137	10/22/2006 16:56	BULK	1.14	ppm	Final	SP60-XR-028	TH101-1A		261.96	195.64
138	10/22/2006 16:57	BULK	2.5	ppm	Final	SP60-XR-028	TH101-1A		253.66	131.54
139	10/22/2006 16:57	BULK	3.86	ppm	Final	SP60-XR-028	TH101-1A		144	87.81
140	10/22/2006 16:58	BULK	3.86	ppm	Final	SP60-XR-029	TH101-2A		136.21	81.8
141	10/22/2006 16:59	BULK	5.91	ppm	Final	SP60-XR-029	TH101-2A		28.23	52.53
142	10/22/2006 16:59	BULK	3.41	ppm	Final	SP60-XR-029	TH101-2A		275.1	113.3
143	10/22/2006 17:00	BULK	1.14	ppm	Final	SP60-XR-030	TH101-5B		82.09	121.42
144	10/22/2006 17:01	BULK	2.95	ppm	Final	SP60-XR-030	TH101-5B		204.17	108.14
145	10/22/2006 17:01	BULK	3.86	ppm	Final	SP60-XR-030	TH101-5B		233.69	101.17
146	10/22/2006 17:02	BULK	2.27	ppm	Final	SP60-XR-030	TH101-5B		228.94	121.11
152	10/22/2006 18:21	BULK	1.36	ppm	Final	SP60-XR-040	TH103-6A		1017.6	293.24
153	10/22/2006 18:22	BULK	2.29	ppm	Final	SP60-XR-040	TH103-6A		89.47	90.07
154	10/22/2006 18:22	BULK	2.27	ppm	Final	SP60-XR-040	TH103-6A		18.92	59.83
155	10/22/2006 18:23	BULK	5.23	ppm	Final	SP60-XR-040	TH103-6A		82.42	51.91
156	10/22/2006 19:28	BULK	5.23	ppm	Final	SP60-XR-041	TH103-2A		97.98	56.77
157	10/22/2006 19:29	BULK	5.68	ppm	Final	SP60-XR-041	TH103-2A		48.99	51.34
158	10/22/2006 19:29	BULK	2.5	ppm	Final	SP60-XR-041	TH103-2A		251.23	111.52
159	10/22/2006 19:30	BULK	3.41	ppm	Final	SP60-XR-041	TH103-2A		223.05	97.04
160	10/22/2006 19:30	BULK	5.91	ppm	Final	SP60-XR-041	TH103-2A		-10.21	37.85
161	10/22/2006 19:31	BULK	2.73	ppm	Final	SP60-XR-041	TH103-2A		221.89	106.56
162	10/22/2006 19:32	BULK	2.95	ppm	Final	SP60-XR-041	TH103-2A		171.67	95.01
163	10/22/2006 19:32	BULK	4.09	ppm	Final	SP60-XR-041	TH103-2A		160.71	80.73
164	10/22/2006 19:33	BULK	1.59	ppm	Final	SP60-XR-041	TH103-2A		343.88	184.73
165	10/22/2006 19:33	BULK	2.95	ppm	Final	SP60-XR-041	TH103-2A		415.5	142.08
169	10/22/2006 20:00	BULK	7.28	ppm	Final	SP60-XR-051	TH103-2A		403.62	90.08
170	10/22/2006 20:00	BULK	3.18	ppm	Final	SP60-XR-051	TH103-2A		540.63	152.57
173	10/23/2006 11:54	SHUTTER_CAL	44.26	cps	Final				2.48	0
176	10/23/2006 12:43	BULK	11.13	ppm	Final	SP60-CH-601-000	LAKE HILL		-30.34	23.82
177	10/23/2006 12:45	BULK	10.67	ppm	Final	SP60-CH-602-005	LAKE HILL		-30.45	22.65
178	10/23/2006 12:46	BULK	10.44	ppm	Final	SP60-CH-603-005	LAKE HILL		-3.44	29.22
179	10/23/2006 15:33	SHUTTER_CAL	46.22	cps	Final				2.06	0
180	10/23/2006 15:36	BULK	4.09	ppm	Final	SP60-XR-071	I101-STOCKPILES		296.47	99.15
181	10/23/2006 15:37	BULK	2.73	ppm	Final	SP60-XR-071	I101-STOCKPILES		214.24	101.23
182	10/23/2006 15:37	BULK	2.04	ppm	Final	SP60-XR-071	I101-STOCKPILES		1563.25	307.06
183	10/23/2006 15:38	BULK	4.77	ppm	Final	SP60-XR-071	I101-STOCKPILES		352.22	90.5
184	10/23/2006 15:44	BULK	1.82	ppm	Final	SP60-XR-072	I103-STOCKPILES		929.6	229.56
185	10/23/2006 15:45	BULK	3.86	ppm	Final	SP60-XR-072	I103-STOCKPILES		444.05	115.36
186	10/23/2006 15:46	BULK	2.72	ppm	Final	SP60-XR-072	I103-STOCKPILES		329.91	123.51
187	10/23/2006 17:53	BULK	4.54	ppm	Final	SP60-XR-073	I101-STOCKPILES		13.51	37.97
188	10/23/2006 17:54	BULK	2.72	ppm	Final	SP60-XR-073	I101-STOCKPILES		296.49	119.18
189	10/23/2006 17:54	BULK	2.73	ppm	Final	SP60-XR-073	I101-STOCKPILES		182.22	94.66
190	10/23/2006 17:55	BULK	2.05	ppm	Final	SP60-XR-073	I101-STOCKPILES		208.54	116.54
191	10/23/2006 17:55	BULK	1.59	ppm	Final	SP60-XR-073	I101-STOCKPILES		939.43	287.3
192	10/23/2006 18:06	BULK	4.77	ppm	Final	SP60-XR-074	I103-STOCKPILES		473.41	116.09
193	10/23/2006 18:06	BULK	2.5	ppm	Final	SP60-XR-074	I103-STOCKPILES		35.3	55.02
194	10/23/2006 18:10	BULK	1.59	ppm	Final	SP60-XR-074	I103-STOCKPILES		1008.31	273.36
195	10/23/2006 18:13	BULK	3.41	ppm	Final	SP60-XR-074	I103-STOCKPILES		468.17	127.17
196	10/23/2006 18:13	BULK	1.36	ppm	Final	SP60-XR-074	I103-STOCKPILES		416.12	177.81
197	10/23/2006 18:13	BULK	2.5	ppm	Final	SP60-XR-074	I103-STOCKPILES		-7.21	52.71
198	10/23/2006 18:17	BULK	2.05	ppm	Final	SP60-XR-074	I103-STOCKPILES		-5.19	39.13
199	10/23/2006 18:17	BULK	5.9	ppm	Final	SP60-XR-074	I103-STOCKPILES		395.19	89.21
END OF RECORD										

APPENDIX E

FIXED LABORATORY DATA

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Site Characterization Fixed Laboratory Data (June 2006)
Friedman & Bruya
SDG 606247

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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July 10, 2006

Greg Gervais, Project Manager
USDOC NOAA NOS OR&R PPO
7600 Sand Point Way NE
Seattle, WA 98115-6349

Dear Mr. Gervais:

Included are the results from the testing of material submitted on June 26, 2006 from the NOAA Site SNP 60, PO#D8K3RBA, F&BI 606247 project. There are 50 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
NAA0710R

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 26, 2006 by Friedman & Bruya, Inc. (ADEC laboratory approval number UST-007) from the USDOC NOAA NOS OR&R PPO NOAA Site SNP 60, PO#D8K3RBA, F&BI 606247 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	USDOC NOAA	Date Sampled
606247-01	SP9I-CS-001-005	06/05/06
606247-02	SP9S-CS-002-015	06/05/06
606247-03	SP9S-CS-007-000	06/05/06
606247-04	SP9Q-CS-003-000	06/05/06
606247-05	SP9I-CS-001-010	06/05/06
606247-06	SP9S-CS-003-010	06/05/06
606247-07	SP9S-CS-005-010	06/05/06
606247-08	SP9Q-CS-005-015	06/05/06
606247-09	SP9I-CS-003-015	06/05/06
606247-10	SP9Q-CS-004-000	06/05/06
606247-11	SP9I-CS-007-005	06/05/06
606247-12	SP9I-CS-004-015	06/05/06
606247-13	SP9S-CS-002-005	06/05/06
606247-14	SP9S-CS-005-000	06/05/06
606247-15	SP9Q-CS-002-010	06/05/06
606247-16	SP9Q-CS-004-005	06/05/06
606247-17	SP9Q-CS-004-010	06/05/06
606247-18	SP9I-CS-003-005	06/05/06
606247-19	SP9I-CS-004-010	06/05/06
606247-20	SP60-TC-101-000	06/05/06
606247-21	SP60-TC-102-000	06/05/06
606247-22	SP60-TC-103-000	06/05/06
606247-23	SP60-TC-104-000	06/05/06
606247-24	SP60-TC-105-000	06/05/06
606247-25	SP60-TC-106-000	06/05/06
606247-26	SP60-TC-107-000	06/05/06
606247-27	SP60-TC-108-000	06/05/06
606247-28	SP60-TC-109-000	06/05/06
606247-29	SP60-TC-110-000	06/05/06
606247-30	SP60-TC-111-000	06/05/06
606247-31	SP60-TC-112-000	06/16/06

The samples were analyzed as follows.

Total Lead (soil) - Analysis Method 200.8, Extraction Method 3050
All quality control requirements were acceptable.

TCLP Lead (soil) - Analysis Method 200.8, Extraction Method 1311
All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9I-CS-001-005	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-01
Date Analyzed:	06/27/06	Data File:	606247-01.057
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration ug/g (ppm)
Lead	241

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9S-CS-002-015	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-02
Date Analyzed:	06/27/06	Data File:	606247-02.060
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration ug/g (ppm)
Lead	1.42

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9S-CS-007-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-03
Date Analyzed:	06/27/06	Data File:	606247-03.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	80	60	125

Analyte:	Concentration ug/g (ppm)
Lead	1,260

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9Q-CS-003-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-04
Date Analyzed:	06/27/06	Data File:	606247-04.062
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration ug/g (ppm)
Lead	288

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9I-CS-001-010	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-05
Date Analyzed:	06/27/06	Data File:	606247-05.063
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	78	60	125

Analyte:	Concentration ug/g (ppm)
Lead	143

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9S-CS-003-010	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-06
Date Analyzed:	06/27/06	Data File:	606247-06.064
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	242

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9S-CS-005-010	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-07
Date Analyzed:	06/27/06	Data File:	606247-07.065
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	310

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9Q-CS-005-015	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-08
Date Analyzed:	06/27/06	Data File:	606247-08.066
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	289

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9I-CS-003-015	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-09
Date Analyzed:	06/27/06	Data File:	606247-09.068
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	81	60	125

Analyte:	Concentration ug/g (ppm)
Lead	65.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9Q-CS-004-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-10
Date Analyzed:	06/27/06	Data File:	606247-10.069
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	493

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9I-CS-007-005	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-11
Date Analyzed:	06/27/06	Data File:	606247-11.070
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration ug/g (ppm)
Lead	341

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9I-CS-004-015	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-12
Date Analyzed:	06/27/06	Data File:	606247-12.071
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	159

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9S-CS-002-005	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-13
Date Analyzed:	06/27/06	Data File:	606247-13.072
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration ug/g (ppm)
Lead	377

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9S-CS-005-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-14
Date Analyzed:	06/27/06	Data File:	606247-14.073
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	74	60	125

Analyte:	Concentration ug/g (ppm)
Lead	625

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9Q-CS-002-010	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-15
Date Analyzed:	06/27/06	Data File:	606247-15.074
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration ug/g (ppm)
Lead	166

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9Q-CS-004-005	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-16
Date Analyzed:	06/27/06	Data File:	606247-16.075
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	306

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9Q-CS-004-010	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-17
Date Analyzed:	06/27/06	Data File:	606247-17.076
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	73	60	125

Analyte:	Concentration ug/g (ppm)
Lead	13.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9I-CS-003-005	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-18
Date Analyzed:	06/27/06	Data File:	606247-18.077
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	74	60	125

Analyte:	Concentration ug/g (ppm)
Lead	406

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP9I-CS-004-010	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-19
Date Analyzed:	06/27/06	Data File:	606247-19.079
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	78	60	125

Analyte:	Concentration ug/g (ppm)
Lead	60.2

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ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-101-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-20
Date Analyzed:	06/27/06	Data File:	606247-20.080
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	78	60	125

Analyte:	Concentration ug/g (ppm)
Lead	2,020

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-102-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-21
Date Analyzed:	06/27/06	Data File:	606247-21.083
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	448

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-103-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-22
Date Analyzed:	06/27/06	Data File:	606247-22.084
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	318

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-104-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-23
Date Analyzed:	06/27/06	Data File:	606247-23.087
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration ug/g (ppm)
Lead	2,370

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-105-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-24
Date Analyzed:	06/27/06	Data File:	606247-24.088
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration ug/g (ppm)
Lead	597

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-106-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-25
Date Analyzed:	06/27/06	Data File:	606247-25.090
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration ug/g (ppm)
Lead	774

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-107-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-26
Date Analyzed:	06/27/06	Data File:	606247-26.091
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration ug/g (ppm)
Lead	444

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-108-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-27
Date Analyzed:	06/27/06	Data File:	606247-27.092
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	74	60	125

Analyte:	Concentration ug/g (ppm)
Lead	2,100

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-109-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-28
Date Analyzed:	06/27/06	Data File:	606247-28.093
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration ug/g (ppm)
Lead	348

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-110-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-29
Date Analyzed:	06/27/06	Data File:	606247-29.094
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	73	60	125

Analyte:	Concentration ug/g (ppm)
Lead	399

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-111-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-30
Date Analyzed:	06/27/06	Data File:	606247-30.095
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	72	60	125

Analyte:	Concentration ug/g (ppm)
Lead	400

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TC-112-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-31
Date Analyzed:	06/27/06	Data File:	606247-31.096
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	74	60	125

Analyte:	Concentration ug/g (ppm)
Lead	1,230

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	I6-294 mb
Date Analyzed:	06/27/06	Data File:	I6-294 mb.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	74	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	I6-295 mb
Date Analyzed:	06/27/06	Data File:	I6-295 mb.081
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<1

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-101-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-20
Date Analyzed:	06/29/06	Data File:	606247-20.019
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	84	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	26.2	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-102-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-21
Date Analyzed:	06/29/06	Data File:	606247-21.022
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	82	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	6.07	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-103-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-22
Date Analyzed:	06/29/06	Data File:	606247-22.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	81	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	1.92	5.0

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ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-104-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-23
Date Analyzed:	06/29/06	Data File:	606247-23.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	83	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	21.7	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-105-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-24
Date Analyzed:	06/29/06	Data File:	606247-24.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	7.49	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-106-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-25
Date Analyzed:	06/29/06	Data File:	606247-25.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	16.5	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-107-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-26
Date Analyzed:	06/29/06	Data File:	606247-26.028
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	8.32	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-108-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-27
Date Analyzed:	06/29/06	Data File:	606247-27.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	51.9	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-109-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-28
Date Analyzed:	06/29/06	Data File:	606247-28.030
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	6.37	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-110-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-29
Date Analyzed:	06/29/06	Data File:	606247-29.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	76	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	6.88	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-111-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-30
Date Analyzed:	06/29/06	Data File:	606247-30.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	77	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	6.91	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TC-112-000	Client:	USDOC NOAA
Date Received:	06/26/06	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	606247-31
Date Analyzed:	06/29/06	Data File:	606247-31.033
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	75	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	33.6	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	NOAA Site SNP 60, PO#D8K3RBA
Date Extracted:	06/27/06	Lab ID:	I6-292 mb
Date Analyzed:	06/29/06	Data File:	I6-292 mb.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	83	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Date of Report: 07/10/06
Date Received: 06/26/06
Project: NOAA Site SNP 60, PO#D8K3RBA, F&BI 606247

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR METALS BY EPA METHOD 200.8

Laboratory Code: 606247-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	241	247	2	0-20

Laboratory Code: 606247-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	ug/g (ppm)	20	241	0 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/g (ppm)	20	99	70-130

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

Date of Report: 07/10/06
Date Received: 06/26/06
Project: NOAA Site SNP 60, PO#D8K3RBA, F&BI 606247

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR METALS BY EPA METHOD 200.8

Laboratory Code: 606247-22 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	318	342	7	0-20

Laboratory Code: 606247-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	ug/g (ppm)	20	318	1,710 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/g (ppm)	20	98	70-130

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

Date of Report: 07/10/06
Date Received: 06/26/06
Project: NOAA Site SNP 60, PO#D8K3RBA, F&BI 606247

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF THE TCLP EXTRACTS FOR METALS BY EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 606247-20 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	mg/L (ppm)	26.2	26.6	2	0-20

Laboratory Code: 606247-20 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	26.2	94 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	102	70-130

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

606247

SAMPLE CHAIN OF CUSTODY

ME 6/26/06 B12

Send Report To Greg.Gervais@noaa.gov
Company NOAA
Address
City, State, ZIP
Phone # 206-526-4821 Fax #

SAMPLERS (*signature*)

PROJECT NAME/NO. NOAA Site SNP 60

PO # D8K3RBA

REMARKS

Page # ____ of 4

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☒ Will call with instructions

Field ID	Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TOTAL LEAD	TCLP LEAD				Notes
001	SP9I-CS-001-005	01	6/5/06	—	SOIL	1							X					
002	SP9S-CS-002-015	02	"	—	"	1							X					
003	SP9S-CS-007-000	03	"	—	"	1							X					
004	SP9Q ~~SP9Q~~-CS-003-000	04	"	—	"	1							X					
005	SP9I-CS-001-010	05	"	—	"	1							X					
006	SP9S-CS-003-010	06	"	—	"	1							X					
007	SP9S-CS-005-010	07	"	—	"	1							X					
008	SP9Q-CS-005-015	08	"	—	"	1							X					
009	SP9I-CS-003-015	09	"	—	"	1							X					
010	SP9Q-CS-004-000	10	"	—	"	1							X					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		GREG GERVAIS	NOAA	6/26/06	1410
Received by:	S. Osborne	S. Osborne	F+B, Inc	6/26/06	2:10
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

606247

ME 6/26/06 BI2

SAMPLE CHAIN OF CUSTODY

Page # 2 of 4

Send Report To Greg.Gervais@noaa.gov
Company NOAA
Address
City, State, ZIP
Phone # 206-526-482 Fax #

SAMPLERS (*signature*)

PROJECT NAME/NO. NOAA Site SNP 60

PO # D8K3RBA

REMARKS

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☒ Will call with instructions

Field ID	Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TOTAL LEAD	TCLP LEAD				Notes
011	SP9I-CS-007-005	11	6/5/06	—	SOIL	1							X					
012	SP9I-CS-004-015	12	"	—	"	1							X					
013	SP9S-CS-002-005	13	"	—	"	1							X					
014	SP9S-CS-005-000	14	"	—	"	1							X					
015	SP9Q-CS-002-010	15	"	—	"	1							X					
016	SP9Q-CS-004-005	16	"	—	"	1							X					
017	SP9Q-CS-004-010	17	"	—	"	1							X					
018	SP9I-CS-003-005	18	"	—	"	1							X					
~~019~~ 021	SP9I-CS-004-010	19	"	—	"	1							X					
~~020~~ 019	SP60-TC-101-000	20	"	—	"	1							X	X				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		GREG GERVAIS	NOAA	6/26/06	1410
Received by:	S. O	S. Ob	F&B, Inc	6/26/06	2:10p
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

606247

SAMPLE CHAIN OF CUSTODY

ME 6/26/06 BI2

Send Report To Greg.Gervais@noaa.gov
Company NOAA
Address
City, State, ZIP
Phone # 206-526-4821 Fax #

SAMPLERS (*signature*)

PROJECT NAME/NO. NOAA Site SNP 60

PO # D8K3RBA

REMARKS

Page # 3 of 4

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☒ Will call with instructions

							ANALYSES REQUESTED											
Field ID	Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TOTAL LEAD	TCLP LEAD				Notes
~~020~~ 021	SP60-TC-102-000	21	6/5/06	—	SOIL	1							X	X				
022	SP60-TC-103-000	22	"	—	"	1							X	X				
023	SP60-TC-104-000	23	"	—	"	1							X	X				
024	SP60-TC-105-000	24	"	—	"	1							X	X				
025	SP60-TC-106-000	25	"	—	"	1							X	X				
026	SP60-TC-107-000	26	"	—	"	1							X	X				
027	SP60-TC-108-000	27	"	—	"	1							X	X				
028	SP60-TC-109-000	28	"	—	"	1							X	X				
029	SP60-TC-110-000	29	"	—	"	1							X	X				
030	SP60-TC-111-000	30	"	—	"	1							X	X				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		GREG GERVAIS	NOAA	6/26/06	1410
Received by:	S. O[illegible]	S. O[illegible]	F&B, Inc	6/26/06	2:10P
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

606247

ME 6/26/06 BI2

SAMPLE CHAIN OF CUSTODY

Send Report To Greg. Gervais@noaa.gov

Company NOAA

Address

City, State, ZIP

Phone # 206-526-4814 Fax #

SAMPLERS (*signature*)

PROJECT NAME/NO. NOAA site SNP 60

PO # D8K3RBA

REMARKS

Page # 4 of 4

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☑ Will call with instructions

Field ID	Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TOTAL LEAD	TCLP LEAD				Notes
031	SP60-TC~~[illegible]~~112 000 JA	31	6/16/06	1500	SOIL	1							X	X				

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		GREG GERVAIS	NOAA	6/26/06	1410
Received by:	S. Ob	S. Obom	F&B, Inc	6/26/06	2:12P
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 606247 CLIENT NOAA INITIALS/DATE: 6/26/06 HN

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 32 °C

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

Is the COC* complete and in agreement with the samples received? ☑ YES ☐ NO
(explain "no" answers below)

Sample ID's	☑ Yes	☐ No	# of Containers	☑ Yes	☐ No
Date Sampled	☐ Yes	☑ No	Relinquished	☑ Yes	☐ No
Time Sampled	☐ Yes	☑ No	Requested analysis	☑ Yes	☐ No

Number of days samples have been sitting prior to receipt at laboratory 21 days

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Are samples for PCB testing, or do samples originate out of the country? (if yes, put a red sticker on each sample) ☐ YES ☑ NO

Was client notified of sample receipt? ☑ Over the Counter ☐ Picked up by F&BI
☐ YES ☐ NO (explain)

If Yes, name of person contacted ______ ☐ Left Message

Special Instructions from Client ______

Describe "no" items from above (use the back if needed)
No date no time in coc and sample

FRIEDMAN & BRUYA, INC./FORMS/CHECKIN/SAMPCON Rev. 11/06/02

WORKSHEETS, 606247

BI-2

TOTAL METALS BY ICP/MS EXTRACTION WORKSHEET (SOIL/PRODUCT)

Project #: 606247
Client: NOAA
QC Batch ID: I6-294
Samples checked against COC:

Date Received: 6/26/06
Date Extracted: 6.27.06
Date Analyzed:
Sequence Date:

Analysis Method:
☑ 200.8
☐ Other

Matrix:
☑ Soil
☐ Product
☐ Other

Requested Analytes:
☐ RCRA (7)
☐ MTCA (4)
☐ Priority Pollutant
☐ CAM 17 (16)
☐ Other as Marked Below

Reporting Units:
☑ µg/g (ppm)
☐ Other

Analyte List: Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sb Ba Tl [✓ Pb]

Sample ID	Sample Weight	Final Volume	Dilutions Amt. Extract	Dilutions Amt. Solvent	Dilution Factor	Pan ID	Wet Sample Weight (grams)	Pan & Dry Sample Weight	Percent Solids	Observations
01	2.0 g	50 mL	250µl	10ml	1000x	L27	9.9	9.3	94	
02						ID	9.5	7.0	74	
03						L17	9.9	7.3	74	
04						H7	9.7	7.3	75	
05						R29	9.2	8.8	96	
06						R	9.5	8.2	86	
07						L18	9.4	8.2	87	
08						K19	9.8	8.1	.83	
09						L30	9.5	8.7	92	
10						F18	10.0	7.8	~~74~~ 78	
11						34	9.5	8.3	87	
Initials										

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent(s)		2 mL	approx. 70%	HNO_3	22-51		6.27.06
		7 mL	approx. 37%	HCl	II-37		
Other							
Internal Standard(s)		~~20~~ 10 µL per 10 mL sample	10 mg/L	^{6}Li, ^{45}Sc, ^{72}Ge, ^{89}Y, ^{115}In, ^{159}Tb, ^{165}Ho, ^{209}Bi	II-38		
Other							

Project Leader Initials:

NOTES: Need EDD/Data Pack

Calculated by: 6/28/06

Reviewed by: 6/28/06

TOTAL METALS BY ICP/MS EXTRACTION WORKSHEET (SOIL/PRODUCT)

Project #: 606247
Client: NOAA
QC Batch ID: I6-294, I6-295
Samples checked against COC

Date Received: 6/26/06
Date Extracted: 6·27·06
Date Analyzed:
Sequence Date:

Analysis Method:
- ☑ 200.8
- ☐ Other

Matrix:
- ☑ Soil
- ☐ Product
- ☐ Other

Requested Analytes:
- ☐ RCRA (7)
- ☐ MTCA (4)
- ☐ Priority Pollutant
- ☐ CAM 17 (16)
- ☐ Other as Marked Below

Reporting Units:
- ☑ µg/g (ppm)
- ☐ Other

Analyte List: Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sb Ba Tl [✓ Pb]

Sample ID	Sample Weight	Final Volume	Dilutions		Dilution Factor	Pan ID	Wet Sample Weight (grams)	Pan & Dry Sample Weight	Percent Solids	Observations
			Amt. Extract	Amt. Solvent						
12	2.0 g	50 mL	250µl	10ml	1000x	L26	9.7	9.0	93	
13						K22	9.6	6.9	72	
14						L04	9.9	9.0	91	
15						L28	9.9	7.8	79	
16						L12	9.9	6.8	69	
17						K7	9.6	7.9	82	
18						K14	9.3	8.4	90	
19						K9	9.4	8.5	.90	
20						23	9.2	8.9	97	
21						035	9.4	8.4	89	
22						NV	9.7	8.8	91	
Initials										

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent(s)		2 mL	approx. 70%	HNO_3	22-51		6.27.06
		7 mL	approx. 37%	HCl	II-37		
Other							
Internal Standard(s)		~~20~~ 10 µL per 10 mL sample	10 mg/L	^{6}Li, ^{45}Sc, ^{72}Ge, ^{89}Y, ^{115}In, ^{159}Tb, ^{165}Ho, ^{209}Bi	II-38		
Other							

Project Leader Initials: MG

NOTES:

Calculated by: 6/28/06

Reviewed by: 6/28/06

TOTAL METALS BY ICP/MS EXTRACTION WORKSHEET (SOIL/PRODUCT)

Project #: 606247
Client: NOAA
QC Batch ID: Ib-295
Samples checked against COC

Date Received: 6/26/06
Date Extracted: 6-27-06
Date Analyzed:
Sequence Date:

Analysis Method:
☒ 200.8
☐ Other

Matrix:
☒ Soil
☐ Product
☐ Other

Requested Analytes:
☐ RCRA (7)
☐ MTCA (4)
☐ Priority Pollutant
☐ CAM 17 (16)
☐ Other as Marked Below

Reporting Units:
☒ µg/g (ppm)
☐ Other

Analyte List: Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sb Ba Tl [✓ Pb]

Sample ID	Sample Weight	Final Volume	Dilutions		Dilution Factor	Pan ID	Wet Sample Weight (grams)	Pan & Dry Sample Weight	Percent Solids	Observations
			Amt. Extract	Amt. Solvent						
23	2.0 g	50 mL	250µl	10 mL	1000x	S	9.8	7.4	76	
24						Y	10.0	7.5	75	
25						K18	9.4	7.1	~~70~~ 76	
26						E	9.6	7.7	80	
27						K2	9.3	7.5	81	
28						C-11	9.2	7.8	85	
29						W	9.9	7.6	77	
30						G-8	9.4	7.7	~~81~~	82
31						10	9.7	9.5	~~89~~ 98	
Initials										

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent(s)		2 mL	approx. 70%	HNO_3	22-51		6.27.06
		7 mL	approx. 37%	HCl	II-37		
Other							
Internal Standard(s)		~~20~~ µL per 10 mL 10 sample	10 mg/L	^{6}Li, ^{45}Sc, ^{72}Ge, ^{89}Y, ^{115}In, ^{159}Tb, ^{165}Ho, ^{209}Bi	II-38		
Other							

Project Leader Initials: MG

NOTES:

Calculated by 6/28/06

Reviewed by 6/28/06

FORMS\LAB\EXTRACT\METALS_ICPMS

Rev. 03-28-06

BI-2

TCLP METALS EXTRACTION WORKSHEET

Project #: 606247
Client: NOAA
QC Batch ID: I6-292
Samples checked against COC S

Date Received: 6/26/06
Date Extracted: 6.27.06
Date Analyzed: 6-29-06
Sequence Date:

Analysis Method:
☐ 6010B
☒ Other 200.8

Matrix:
☒ Soil
☐ Product
☐ Other

Requested Analytes
☒ TCLP Metals Pb
☐ TCLP Metals + Cu, Ni, Zn
☐ Other as Marked

Extraction Method:
☒ 1311/3005A
☐ Other

Reporting Units:
☒ mg/L (ppm)
☐ Other

Date/Time on Tumbler: 6/28/06 3:30 pm
Initials:
Date/ Time off Tumbler: 6/29/06 10:00 Am
Initials:

TCLP Solution
☒ Type I, 500 mL
☐ Type II, 500 mL

(Not TCLP Analytes)

Sample ID	Sample Weight/ Volume	pH	As	Ba	Cd	Cr	Pb	Se	Ag	Cu	Ni	Zn
20	25 g	4.9										
21												
22												
23												
24												
25												
26												
27	24.8g											
28	25.0g											
29												
		TCLP Limit	5.0	100	1.0	5.0	5.0	1.0	5.0			
Initials	S											

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent	✓	0.5 mL	approx 70%	HNO_3	2251		6/27/06
		0.5 mL	approx 37%	HCl			
Other							

Project Leader Initials:

NOTES: Need EDD, Data Pack ICP → [illegible] 100x

Calculated by 6/30/06 Reviewed by 7/7/06

FORMS\LAB\EXTRACT\METALS_ICP Rev. 09/06/05

12

TCLP METALS EXTRACTION WORKSHEET

Project #: 606247

Client: NOAA

QC Batch ID: I6-292

Samples checked against COC ✓

Date Received: 6/26/06

Date Extracted: 6/27/05

Date Analyzed: 6/29/05

Sequence Date:

Analysis Method:
☐ 6010B
☒ Other 200.8

Matrix:
☒ Soil
☐ Product
☐ Other

Requested Analytes
☒ TCLP Metals
☐ TCLP Metals + Cu, Ni, Zn
☐ Other as Marked

Extraction Method:
☒ 1311/3005A
☐ Other

Reporting Units:
☒ mg/L (ppm)
☐ Other

Date/Time on Tumbler:

Initials:

Date/ Time off Tumbler:

Initials:

TCLP Solution
☐ Type I, 500 mL
☐ Type II, 500 mL

										(Not TCLP Analytes)		
Sample ID	Sample Weight/ Volume	pH	As	Ba	Cd	Cr	Pb	Se	Ag	Cu	Ni	Zn
30	25 g	4.5										
31	|	4.9										
		TCLP Limit	5.0	100	1.0	5.0	5.0	1.0	5.0			
Initials												

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent	✓	0.5 mL	approx 70%	HNO_3	2251		6/7/06
		0.5 mL	approx 37%	HCl			
Other							

Project Leader Initials:

NOTES: 10µl → 10ml 100x

Calculated by 6/30/06 Reviewed by 7/7/06

FORMS\LAB\EXTRACT\METALS_ICP

Rev. 09/06/05

TOTAL METALS DATA, 606247

Dataset Report

User Name: btb
Computer Name: ICPMS
Dataset File Path: D:\ICPMS Data\DataSet\06-27-06\
Report Date/Time: Monday, July 10, 2006 15:17:36

The Dataset

Batch ID	Sample ID	Date and Time	Read Type	Samp. File Name	Description
	blank	10:51:50 Tue 27-Jun-06	Blank	blank.001	
	1 ppb i1-56a	10:55:22 Tue 27-Jun-06	Standard #1	1 ppb i1-56a.002	
	5 ppb i1-56b	10:58:55 Tue 27-Jun-06	Standard #2	5 ppb i1-56b.003	
	10 ppb i1-56c	11:02:28 Tue 27-Jun-06	Standard #3	10 ppb i1-56c.004	
	25 ppb i1-56d	11:06:03 Tue 27-Jun-06	Standard #4	25 ppb i1-56d.005	
	50 ppb i1-56e	11:09:36 Tue 27-Jun-06	Standard #5	50 ppb i1-56e.006	
	25 ppb i1-57a	11:13:08 Tue 27-Jun-06	Sample	25 ppb i1-57a.007	
	i6-286 mb	11:51:57 Tue 27-Jun-06	Sample	i6-286 mb.008	water
	i6-286 lcs	11:55:40 Tue 27-Jun-06	Sample	i6-286 lcs.009	water
	606149-01	11:59:24 Tue 27-Jun-06	Sample	606149-01.010	water
	i6-286 ms 60614	12:03:07 Tue 27-Jun-06	Sample	i6-286 ms 606149-01.011	water
	i6-286 dup 6061	12:06:50 Tue 27-Jun-06	Sample	i6-286 dup 606149-01.012	water
	606220-01	12:10:34 Tue 27-Jun-06	Sample	606220-01.013	water
	606220-02	12:14:17 Tue 27-Jun-06	Sample	606220-02.014	water
	606220-03	12:18:00 Tue 27-Jun-06	Sample	606220-03.015	water
	606220-04	12:21:44 Tue 27-Jun-06	Sample	606220-04.016	
	25 ppb i1-57a	12:25:28 Tue 27-Jun-06	Sample	25 ppb i1-57a.017	water
	i6-296 mb	12:29:13 Tue 27-Jun-06	Sample	i6-296 mb.018	water
	i6-296 lcs	12:32:58 Tue 27-Jun-06	Sample	i6-296 lcs.019	water
	606205-01	12:36:43 Tue 27-Jun-06	Sample	606205-01.020	water
	i6-296 ms 60620	12:40:27 Tue 27-Jun-06	Sample	i6-296 ms 606205-05.021	
	i6-296 dup 6062	12:44:10 Tue 27-Jun-06	Sample	i6-296 dup 606205-01.022	
	606205-02	12:47:54 Tue 27-Jun-06	Sample	606205-02.023	water
	606205-05	12:51:38 Tue 27-Jun-06	Sample	606205-05.024	water
	606205-07	12:55:21 Tue 27-Jun-06	Sample	606205-07.025	water
	606205-10	12:59:05 Tue 27-Jun-06	Sample	606205-10.026	water
	606205-12	13:02:48 Tue 27-Jun-06	Sample	606205-12.027	water
	25 ppb i1-57a	13:06:33 Tue 27-Jun-06	Sample	25 ppb i1-57a.028	water
	606159-01	13:10:17 Tue 27-Jun-06	Sample	606159-01.029	water
	606159-02	13:14:00 Tue 27-Jun-06	Sample	606159-02.030	water
	606168-01 10x	13:17:45 Tue 27-Jun-06	Sample	606168-01 10x.031	water
	606164-01 10x	13:21:29 Tue 27-Jun-06	Sample	606164-01 10x.032	water
	606223-01 10x	13:25:14 Tue 27-Jun-06	Sample	606223-01 10x.033	water
	25 ppb i1-57a	13:28:59 Tue 27-Jun-06	Sample	25 ppb i1-57a.034	water
	i6-293 mb	15:41:47 Tue 27-Jun-06	Sample	i6-293 mb.035	soil
	i6-293 lcs	15:45:31 Tue 27-Jun-06	Sample	i6-293 lcs.036	soil
	606220-06	15:49:15 Tue 27-Jun-06	Sample	606220-06.037	soil
	606220-07	15:52:59 Tue 27-Jun-06	Sample	606220-07.038	soil
	606220-08	15:56:43 Tue 27-Jun-06	Sample	606220-08.039	soil
	i6-293 ms 60622	16:00:27 Tue 27-Jun-06	Sample	i6-293 ms 606220-08.040	soil
	i6-293 dup 6062	16:04:11 Tue 27-Jun-06	Sample	i6-293 dup 606220-08.041	soil
	606220-09	16:07:55 Tue 27-Jun-06	Sample	606220-09.042	soil
	606220-10	16:11:39 Tue 27-Jun-06	Sample	606220-10.043	soil
	606220-11	16:15:23 Tue 27-Jun-06	Sample	606220-11.044	soil

25 ppb i1-57a	16:19:08 Tue 27-Jun-06	Sample	25 ppb i1-57a.045	water
606220-13	16:22:53 Tue 27-Jun-06	Sample	606220-13.046	soil
606220-14	16:26:38 Tue 27-Jun-06	Sample	606220-14.047	soil
606220-16	16:30:22 Tue 27-Jun-06	Sample	606220-16.048	soil
606200-24	16:34:07 Tue 27-Jun-06	Sample	606200-24.049	soil
606220-26	16:37:51 Tue 27-Jun-06	Sample	606220-26.050	soil
606220-30	16:41:35 Tue 27-Jun-06	Sample	606220-30.051	soil
606220-35	16:45:20 Tue 27-Jun-06	Sample	606220-35.052	soil
606220-36	16:49:04 Tue 27-Jun-06	Sample	606220-36.053	soil
i6-294 mb	16:52:48 Tue 27-Jun-06	Sample	i6-294 mb.054	soil
i6-294 lcs	16:56:33 Tue 27-Jun-06	Sample	i6-294 lcs.055	soil
25 ppb i1-57a	17:00:17 Tue 27-Jun-06	Sample	25 ppb i1-57a.056	water
606247-01	17:04:02 Tue 27-Jun-06	Sample	606247-01.057	soil
i6-294 ms 60624	17:07:46 Tue 27-Jun-06	Sample	i6-294 ms 606247-01.058	soil
i6-294 dup 6062	17:11:31 Tue 27-Jun-06	Sample	i6-294 dup 606247-01.059	soil
606247-02	17:15:16 Tue 27-Jun-06	Sample	606247-02.060	soil
606247-03	17:19:00 Tue 27-Jun-06	Sample	606247-03.061	soil
606247-04	17:22:45 Tue 27-Jun-06	Sample	606247-04.062	soil
606247-05	17:26:30 Tue 27-Jun-06	Sample	606247-05.063	soil
606247-06	17:30:15 Tue 27-Jun-06	Sample	606247-06.064	soil
606247-07	17:33:59 Tue 27-Jun-06	Sample	606247-07.065	soil
606247-08	17:37:44 Tue 27-Jun-06	Sample	606247-08.066	soil
25 ppb i1-57a	17:41:29 Tue 27-Jun-06	Sample	25 ppb i1-57a.067	water
606247-09	17:45:13 Tue 27-Jun-06	Sample	606247-09.068	soil
606247-10	17:48:58 Tue 27-Jun-06	Sample	606247-10.069	soil
606247-11	17:52:43 Tue 27-Jun-06	Sample	606247-11.070	soil
606247-12	17:56:27 Tue 27-Jun-06	Sample	606247-12.071	soil
606247-13	18:00:12 Tue 27-Jun-06	Sample	606247-13.072	soil
606247-14	18:03:57 Tue 27-Jun-06	Sample	606247-14.073	soil
606247-15	18:07:42 Tue 27-Jun-06	Sample	606247-15.074	soil
606247-16	18:11:28 Tue 27-Jun-06	Sample	606247-16.075	soil
606247-17	18:15:13 Tue 27-Jun-06	Sample	606247-17.076	soil
606247-18	18:18:59 Tue 27-Jun-06	Sample	606247-18.077	soil
25 ppb i1-57a	18:22:44 Tue 27-Jun-06	Sample	25 ppb i1-57a.078	water
606247-19	18:26:29 Tue 27-Jun-06	Sample	606247-19.079	soil
606247-20	18:30:14 Tue 27-Jun-06	Sample	606247-20.080	soil
i6-295 mb	18:34:00 Tue 27-Jun-06	Sample	i6-295 mb.081	soil
i6-295 lcs	18:37:45 Tue 27-Jun-06	Sample	i6-295 lcs.082	soil
606247-21	18:41:30 Tue 27-Jun-06	Sample	606247-21.083	soil
606247-22	18:45:15 Tue 27-Jun-06	Sample	606247-22.084	soil
i6-295 ms 60624	18:49:01 Tue 27-Jun-06	Sample	i6-295 ms 606247-22.085	soil
i6-295 dup 6062	18:52:46 Tue 27-Jun-06	Sample	i6-295 dup 606247-22.086	soil
606247-23	18:56:31 Tue 27-Jun-06	Sample	606247-23.087	soil
606247-24	19:00:17 Tue 27-Jun-06	Sample	606247-24.088	soil
25 ppb i1-57a	19:04:02 Tue 27-Jun-06	Sample	25 ppb i1-57a.089	water
606247-25	19:07:47 Tue 27-Jun-06	Sample	606247-25.090	soil
606247-26	19:11:33 Tue 27-Jun-06	Sample	606247-26.091	soil
606247-27	19:15:19 Tue 27-Jun-06	Sample	606247-27.092	soil
606247-28	19:19:04 Tue 27-Jun-06	Sample	606247-28.093	soil
606247-29	19:22:50 Tue 27-Jun-06	Sample	606247-29.094	soil
606247-30	19:26:35 Tue 27-Jun-06	Sample	606247-30.095	soil
606247-31	19:30:21 Tue 27-Jun-06	Sample	606247-31.096	soil
606255-01	19:34:07 Tue 27-Jun-06	Sample	606255-01.097	soil
606255-02	19:37:52 Tue 27-Jun-06	Sample	606255-02.098	soil
606255-03	19:41:38 Tue 27-Jun-06	Sample	606255-03.099	soil
25 ppb i1-57a	19:45:23 Tue 27-Jun-06	Sample	25 ppb i1-57a.100	water

606255-04	19:49:09 Tue 27-Jun-06	Sample	606255-04.101	soil
606255-05	19:52:55 Tue 27-Jun-06	Sample	606255-05.102	soil
606255-06	19:56:41 Tue 27-Jun-06	Sample	606255-06.103	soil
606244-01	20:00:27 Tue 27-Jun-06	Sample	606244-01.104	soil
25 ppb i1-57a	20:04:12 Tue 27-Jun-06	Sample	25 ppb i1-57a.105	water

Daily Performance Report

Sample ID: Daily Performance Check
Sample Date/Time: Tuesday, June 27, 2006 10:40:56
Sample Description:
Method File: D:\ICPMS Data\Method\FBI-Daily.mth
Dataset File: D:\ICPMS Data\Dataset\Default\Daily Performance Check.909
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Dual Detector Mode: Dual

Acq. Dead Time(ns): 55
Current Dead Time (ns): 55

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Mg	24.0	180480.7	180480.735	2229.946	1.2
	Rh	102.9	722307.6	722307.601	10945.336	1.5
	In	114.9	882975.8	882975.789	13245.595	1.5
	Pb	208.0	561609.1	561609.103	5501.310	1.0
	U	238.1	1118290.4	1118290.429	12670.474	1.1
⌈>	Ba	137.9	721219.4	721219.360	10891.410	1.5
⌊	Ba++	69.0	11793.1	0.016	0.000	1.3
⌈>	Ce	139.9	879059.1	879059.065	13836.345	1.6
⌊	CeO	155.9	25701.7	0.029	0.001	2.9
	Bkgd	220.0	3.6	3.600	0.760	21.1

Current Optimization File Data

Current Value	Description
0.95	Nebulizer Gas Flow
8.00	Lens Voltage
1200.00	ICP RF Power
-2112.50	Analog Stage Voltage
1250.00	Pulse Stage Voltage
75.00	Discriminator Threshold
-5.50	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	15	7.0	22865.4
Co	59	15	7.0	406401.7
In	115	15	9.0	860419.2

SmartTune Wizard - Summary

Optimization Summary

Wizard file: D:\ICPMS Data\Wizard\SmartTune\fbi-Basic Opt.swz

Start Time: 10:30:49, Tuesday, June 27, 2006
End Time: 10:43:52, Tuesday, June 27, 2006

Mass Calibration and Resolution - [Passed] Optimum value(s): N/A
Target/Obtained mass (3.016/3.026), Target/Obtained resolution (0.7/0.716)
Target/Obtained mass (23.985/23.979), Target/Obtained resolution (0.7/0.704)
Target/Obtained mass (102.905/102.928), Target/Obtained resolution (0.7/0.701)
Target/Obtained mass (139.905/139.878), Target/Obtained resolution (0.7/0.704)
Target/Obtained mass (207.977/207.979), Target/Obtained resolution (0.7/0.707)
Target/Obtained mass (238.05/238.026), Target/Obtained resolution (0.7/0.706)

Nebulizer Gas - [Passed] Optimum value(s): 0.95
Obtained Intensity (Rh 102.905): 716926 Obtained Formula (CeO 155.9 / Ce 139.905): 0.030 (=27121 / 908549)

Lens Voltage - [Passed] Optimum value(s): 8
Obtained Intensity (Rh 102.905): 722687

Auto Lens Calibration - [Passed] Optimum value(s): y = 0.019 x + 6.495

Daily Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Ba 137.905): 723703
Obtained Intensity (Ba++ 68.9525): 11793
Obtained Intensity (Bkgd 220): 4
Obtained Intensity (Ce 139.905): 879059
Obtained Intensity (CeO 155.9): 25702
Obtained Intensity (In 114.904): 882976
Obtained Intensity (Mg 23.985): 180481
Obtained Intensity (Pb 207.977): 561609
Obtained Intensity (Rh 102.905): 722308
Obtained Intensity (U 238.05): 1118290
Obtained Formula (CeO 155.9 / Ce 139.905): 0.029 (=25702 / 879059)

SmartTune Wizard - Details

```
Optimization Details

Wizard file: D:\ICPMS Data\Wizard\SmartTune\fbi-Basic Opt.swz

Optimization Status

Start Time: 10:30:49, Tuesday, June 27, 2006

Mass Calibration and Resolution
    Optimization Settings:
        Method: D:\ICPMS Data\Method\FBI-Tuning.mth.
        Tuning File: default.tun
        Iterations: 6
        Target accuracy (+/- amu): 0.05 for Mass Cal. and 0.05 for Resolution
        Peak height (%) for Res. Opt.: 10
    Optimization Results:
        Warning: Autosampler is not defined. (Aspirate optimization solution and click OK)
    First pass
        Target/Obtained mass (3.016/3.026), Target/Obtained resolution (0.7/0.716)
        Target/Obtained mass (23.985/23.979), Target/Obtained resolution (0.7/0.704)
        Target/Obtained mass (102.905/102.928), Target/Obtained resolution (0.7/0.701)
        Target/Obtained mass (139.905/139.878), Target/Obtained resolution (0.7/0.704)
        Target/Obtained mass (207.977/207.979), Target/Obtained resolution (0.7/0.707)
        Target/Obtained mass (238.05/238.026), Target/Obtained resolution (0.7/0.706)
[Passed]  Optimum value(s): N/A

Nebulizer Gas
    Optimization Settings:
        Method: D:\ICPMS Data\Method\fbi-Optimize.mth.
        First pass - Start/End/Step: 0.75/1.2/0.05.
        Intensity Criterion: Rh 102.905 Maximum
        Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.033
    Optimization Results:
        Warning: Autosampler is not defined. (Aspirate optimization solution and click OK)
    First pass
        Obtained Intensity (Rh 102.905): 716926
        Obtained Intensity (Rh 102.905): 716926     Obtained Formula (CeO 155.9 / Ce 139.905): 0.030 (=27121 / 908549)
[Passed]  Optimum value(s): 0.95

Lens Voltage
    Optimization Settings:
        Method: D:\ICPMS Data\Method\fbi-Optimize.mth.
        First pass - Start/End/Step: 2/15/0.5.
        Intensity Criterion: Rh 102.905 Maximum
    Optimization Results:
        Warning: Autosampler is not defined. (Aspirate optimization solution and click OK)
    First pass
        Obtained Intensity (Rh 102.905): 722687
[Passed]  Optimum value(s): 8

Auto Lens Calibration
    Optimization Settings:
        Method: D:\ICPMS Data\Method\fbi-AutoLens Calibration.mth.
        First pass - Start/End/Step: 2/16/1.
```

```
    Optimization Results:
        Warning: Autosampler is not defined. (Aspirate optimization solution and click OK)
    First pass
[Passed]  Optimum value(s): y = 0.019 x + 6.495

Daily Performance Check
    Optimization Settings:
        Method: D:\ICPMS Data\Method\FBI-Daily.mth.
        Intensity Criterion: Ba 137.905 > 10000
        Intensity Criterion: Ba++ 68.9525 > 10000
        Intensity Criterion: Bkgd 220 <= 30
        Intensity Criterion: Ce 139.905 > 10000
        Intensity Criterion: CeO 155.9 > 10000
        Intensity Criterion: In 114.904 > 300000
        Intensity Criterion: Mg 23.985 > 50000
        Intensity Criterion: Pb 207.977 > 100000
        Intensity Criterion: Rh 102.905 > 10000
        Intensity Criterion: U 238.05 > 300000
        Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.033
    Optimization Results:
        Warning: Autosampler is not defined. (Aspirate optimization solution and click OK)
    First pass
        Obtained Intensity (Ba 137.905): 723703
        Obtained Intensity (Ba++ 68.9525): 11793
        Obtained Intensity (Bkgd 220): 4
        Obtained Intensity (Ce 139.905): 879059
        Obtained Intensity (CeO 155.9): 25702
        Obtained Intensity (In 114.904): 882976
        Obtained Intensity (Mg 23.985): 180481
        Obtained Intensity (Pb 207.977): 561609
        Obtained Intensity (Rh 102.905): 722308
        Obtained Intensity (U 238.05): 1118290
        Obtained Formula (CeO 155.9 / Ce 139.905): 0.029 (=25702 / 879059)
[Passed]  Optimum value(s): N/A

End Time: 10:43:52, Tuesday, June 27, 2006
```

Quantitative Analysis Calibration Report

File Name:	06-27-06.cal
File Path:	D:\ICPMS Data\System
Calibration Type:	External Calibration

Analyte	Mass	Curve Type	Slope	Intercept	Corr. Coeff.
Li	6.015	Linear Thru Zero	0.00	0.00	0.000000
Be	9.012	Linear Thru Zero	0.00	0.00	0.999982
Al	26.982	Linear Thru Zero	0.03	0.00	0.999944
Sc	44.956	Linear Thru Zero	0.00	0.00	0.000000
V	50.944	Linear Thru Zero	0.04	0.00	0.999978
V-1	50.944	Linear Thru Zero	0.04	0.00	0.999980
Cr	51.941	Linear Thru Zero	0.04	0.00	0.999979
Cr	52.941	Linear Thru Zero	0.00	0.00	0.999992
Mn	54.938	Linear Thru Zero	0.05	0.00	0.999949
Co	58.933	Linear Thru Zero	0.05	0.00	0.999968
Ni	59.933	Linear Thru Zero	0.01	0.00	0.999987
Ni	61.928	Linear Thru Zero	0.00	0.00	0.999986
Cu	62.930	Linear Thru Zero	0.02	0.00	0.999983
Cu	64.928	Linear Thru Zero	0.01	0.00	0.999977
Zn	65.926	Linear Thru Zero	0.01	0.00	0.999953
Zn	66.927	Linear Thru Zero	0.00	0.00	0.999950
Zn	67.925	Linear Thru Zero	0.00	0.00	0.999932
Ge	71.922	Linear Thru Zero	0.00	0.00	0.000000
As	74.922	Linear Thru Zero	0.01	0.00	0.999944
As-1	74.922	Linear Thru Zero	0.01	0.00	0.999926
Se	76.920	Linear Thru Zero	0.00	0.00	0.999872
Se	81.917	Linear Thru Zero	0.00	0.00	0.999929
Y	88.905	Linear Thru Zero	0.00	0.00	0.000000
Mo	94.906	Linear Thru Zero	0.01	0.00	0.999879
Mo	96.906	Linear Thru Zero	0.01	0.00	0.999953
Mo	97.906	Linear Thru Zero	0.02	0.00	0.999890
Ag	106.905	Linear Thru Zero	0.04	0.00	0.999959
Ag	108.905	Linear Thru Zero	0.04	0.00	0.999942
Cd	105.907	Linear Thru Zero	0.00	0.00	0.999948
Cd	107.904	Linear Thru Zero	0.00	0.00	0.999917
Cd	110.904	Linear Thru Zero	0.01	0.00	0.999961
Cd	113.904	Linear Thru Zero	0.02	0.00	0.999961
In	114.904	Linear Thru Zero	0.00	0.00	0.000000
Sb	120.904	Linear Thru Zero	0.03	0.00	0.999967
Sb	122.904	Linear Thru Zero	0.02	0.00	0.999972
Ba	134.906	Linear Thru Zero	0.01	0.00	0.999951
Ba	136.905	Linear Thru Zero	0.01	0.00	0.999905
Tb	158.925	Linear Thru Zero	0.00	0.00	0.000000
Ho	164.930	Linear Thru Zero	0.00	0.00	0.000000
Hg	200.970	Linear Thru Zero	0.00	0.00	0.259364

Hg	201.971	Linear Thru Zero	0.00	0.00	0.640679
Tl	202.972	Linear Thru Zero	0.03	0.00	0.999968
Tl	204.975	Linear Thru Zero	0.07	0.00	0.999867
Pb	207.977	Linear Thru Zero	0.09	0.00	0.999932
Bi	208.980	Linear Thru Zero	0.00	0.00	0.000000
Th	232.038	Linear Thru Zero	0.08	0.00	0.999751
U	238.050	Linear Thru Zero	0.08	0.00	0.999328
Fe	55.935	Linear Thru Zero	0.00	0.00	0.000000
Ru	100.906	Linear Thru Zero	0.00	0.00	0.000000
ArCl	76.928	Linear Thru Zero	0.00	0.00	0.000000
Kr	83.912	Linear Thru Zero	0.00	0.00	0.000000
Sn	117.902	Linear Thru Zero	0.00	0.00	0.000000

Sample ID	Li	Sc	Ger	Y	In	Te	Ho	Bi
blank	NA	NA	NA	NA	NA	NA	NA	NA
1 ppb i1-56a	101	100	100	100	101	99	100	99
5 ppb i1-56b	101	100	100	100	99	102	101	100
10 ppb i1-56c	98	97	98	99	100	97	98	97
25 ppb i1-56d	98	99	99	99	99	100	100	99
50 ppb i1-56e	98	98	97	98	100	98	99	99
25 ppb i1-57a	99	98	98	98	99	98	99	99
i6-286 mb	96	93	94	94	97	96	96	96
i6-286 lcs	92	92	93	93	96	94	94	94
606149-01	85	136 **	75	80	81	84	85	78
i6-286 ms 606149-01	88	132 **	73	78	81	83	85	76
i6-286 dup 606149-01	83	126 **	69	73	76	78	80	72
606220-01	92	133 **	66	73	79	81	81	72
606220-02	102	148 **	78	82	84	85	84	76
606220-03	108	108	77	81	83	84	84	74
606220-04	116	155 **	78	97	87	86	87	75
25 ppb i1-57a	119	94	92	94	98	96	97	91
i6-296 mb	107	85	86	87	90	88	89	85
i6-296 lcs	109	89	89	89	92	91	93	87
606205-01	118	219 **	80	92	88	86	86	75
i6-296 ms 606205-05	125	220 **	80	93	88	85	85	74
i6-296 dup 606205-01	121	216 **	77	87	84	80	80	67
606205-02	127 **	197 **	79	89	88	82	82	69
606205-05	117	198 **	79	87	83	83	81	71
606205-07	125	171 **	83	90	90	86	85	71
606205-10	126 **	181 **	86	90	90	89	90	76
606205-12	127 **	222 **	82	93	88	85	86	71
25 ppb i1-57a	130 **	93	92	93	94	90	88	79
606159-01	110	195 **	69	82	79	79	80	68
606159-02	112	206 **	71	78	81	80	80	61
606168-01 10x	119	85	84	83	87	82	83	73
606164-01 10x	113	83	79	81	85	83	83	70
606223-01 10x	109	82	77	79	83	82	82	68
25 ppb i1-57a	122	89	88	88	93	90	89	80
blank	NA	NA	NA	NA	NA	NA	NA	NA
i6-293 mb	114	77	78	78	84	80	80	72
i6-293 lcs	112	75	76	77	82	77	76	71
606220-06	117	91	79	102	83	79	79	72
606220-07	112	85	77	93	83	76	76	70
606220-08	114	87	77	92	83	77	76	70
i6-293 ms 606220-08	112	85	74	90	80	74	74	68
i6-293 dup 606220-08	113	85	75	90	81	75	74	69
606220-09	111	82	76	93	80	75	75	69
606220-10	115	88	75	99	81	76	76	69

606220-11	114	85	74	99	82	76	77	69
25 ppb i1-57a	120	83	83	84	90	86	85	78
606220-13	116	85	76	97	82	78	79	71
606220-14	116	86	74	101	81	76	76	68
606220-16	114	83	74	94	80	74	75	69
606200-24	113	86	73	99	80	75	76	69
606220-26	113	85	74	95	81	77	77	70
606220-30	113	81	74	93	81	76	77	70
606220-35	113	80	73	92	80	75	75	70
606220-36	111	85	73	98	81	76	75	69
i6-294 mb	107	71	71	72	79	74	74	70
i6-294 lcs	107	71	72	73	79	75	75	70
25 ppb i1-57a	115	81	81	83	90	86	86	80
606247-01	109	85	72	117	79	77	77	71
i6-294 ms 606247-01	106	85	71	117	78	78	77	70
i6-294 dup 606247-01	105	84	71	117	78	78	77	71
606247-02	107	90	72	118	78	77	77	68
606247-03	110	84	74	103	83	80	80	80
606247-04	104	84	70	104	79	77	77	71
606247-05	104	83	70	114	79	77	78	71
606247-06	101	79	70	97	77	75	76	70
606247-07	103	80	71	93	77	76	76	72
606247-08	103	82	71	95	77	75	76	72
25 ppb i1-57a	104	77	78	78	88	84	84	80
606247-09	104	87	74	122	81	81	81	72
606247-10	100	82	71	104	77	77	76	71
606247-11	98	80	69	107	75	75	75	69
606247-12	99	81	71	116	76	75	76	70
606247-13	100	81	71	100	77	76	75	72
606247-14	94	81	69	100	75	74	74	69
606247-15	99	82	71	102	76	74	75	72
606247-16	101	82	71	99	77	77	76	72
606247-17	99	82	71	96	76	75	73	69
606247-18	97	81	71	109	74	75	74	70
25 ppb i1-57a	99	75	77	77	84	82	83	79
606247-19	101	85	72	115	76	78	78	70
606247-20	97	82	72	109	77	78	78	74
i6-295 mb	97	68	71	72	77	75	75	70
i6-295 lcs	95	69	70	71	76	75	74	70
606247-21	97	81	70	110	75	77	76	73
606247-22	97	80	71	107	76	76	76	71
i6-295 ms 606247-22	94	80	69	108	74	74	74	71
i6-295 dup 606247-22	93	80	73	108	74	76	75	71
606247-23	94	79	70	102	76	75	76	80
606247-24	95	77	70	95	74	75	75	71
25 ppb i1-57a	96	73	75	76	82	82	82	78

606247-25	98	82	71	104	75	76	77	73
606247-26	96	79	70	97	74	75	75	70
606247-27	95	79	69	99	74	73	74	75
606247-28	96	78	69	97	74	75	75	71
606247-29	96	80	68	100	72	72	73	69
606247-30	93	75	68	96	72	72	72	68
606247-31	94	78	70	103	73	75	74	71
606255-01	93	70	68	90	73	73	72	67
606255-02	100	72	70	85	75	73	73	69
606255-03	97	73	69	86	74	73	74	69
25 ppb i1-57a	99	71	74	75	80	80	80	76
606255-04	100	72	70	86	76	74	74	69
606255-05	99	72	69	84	75	73	73	70
606255-06	98	68	68	84	73	72	72	67
606244-01	98	75	69	96	72	72	72	68
25 ppb i1-57a	98	74	77	77	83	81	82	77

** - Value out of control limits.

Quantitative Analysis - Summary Report

Sample ID: blank

Sample Date/Time: Tuesday, June 27, 2006 10:51:50
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File:
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 1
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6		54057	4.07		ug/L
Be	9		7	54.39		ug/L
Al	27		50334	0.23		ug/L
Sc	45		463094	1.04		ug/L
V	51		6917	5.29		ug/L
V-1	51		5584	2.75		ug/L
Cr	52		20686	1.99		ug/L
Cr	53		1914	2.70		ug/L
Mn	55		5964	0.76		ug/L
Co	59		598	42.49		ug/L
Ni	60		886	0.80		ug/L
Ni	62		-20173	0.69		ug/L
Cu	63		12791	0.85		ug/L
Cu	65		6061	0.39		ug/L
Zn	66		3175	1.85		ug/L
Zn	67		735	3.46		ug/L
Zn	68		2465	3.87		ug/L
Ge	72		907488	0.40		ug/L
As	75		-403	0.00		ug/L
As-1	75		296	1.91		ug/L
Se	77		395	11.46		ug/L
Se	82		193	1.10		ug/L
Y	89		749932	0.55		ug/L
Mo	95		52	12.06		ug/L
Mo	97		32	20.06		ug/L
Mo	98		72	13.71		ug/L
Ag	107		288	22.10		ug/L

	Ag	109	223	7.61	ug/L
	Cd	106	908	1.29	ug/L
	Cd	108	1	244.73	ug/L
	Cd	111	734	2.32	ug/L
	Cd	114	141	47.39	ug/L
>	In	115	806560	2.43	ug/L
	Sb	121	242	0.29	ug/L
	Sb	123	186	3.90	ug/L
	Ba	135	325	23.06	ug/L
	Ba	137	563	25.37	ug/L
	Tb	159	1187362	1.46	ug/L
>	Ho	165	1212300	0.70	ug/L
	Hg	201	98	2.89	ug/L
	Hg	202	210	5.39	ug/L
	Tl	203	52	2.72	ug/L
	Tl	205	112	6.98	ug/L
	Pb	208	6710	3.34	ug/L
	Bi	209	821507	0.46	ug/L
	Th	232	1933	21.55	ug/L
	U	238	373	46.13	ug/L
	Fe	56	6645286	0.58	ug/L
	Ru	101	4	20.20	ug/L
	ArCl	77	381	0.93	ug/L
	Kr	84	931	6.13	ug/L
	Sn	118	870	13.33	ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge					
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 1 ppb i1-56a

Sample Date/Time: Tuesday, June 27, 2006 10:55:22
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\1 ppb i1-56a.002
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File:
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 2
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	54486	0.81		ug/L
|	Be	9	7	1729	0.74	1.000	ug/L
|	Al	27	50334	68524	2.90	1.000	ug/L
|	Sc	45	463094	464402	0.08		ug/L
|	V	51	6917	37311	1.58	1.000	ug/L
|	V-1	51	5584	36461	0.06	1.000	ug/L
|	Cr	52	20686	46090	1.60	1.000	ug/L
|	Cr	53	1914	4873	0.29	1.000	ug/L
|	Mn	55	5964	44500	0.34	1.000	ug/L
|	Co	59	598	33866	1.29	1.000	ug/L
|	Ni	60	886	8168	0.66	1.000	ug/L
|	Ni	62	-20173	-19110	0.19	1.000	ug/L
|	Cu	63	12791	27660	0.72	1.000	ug/L
|	Cu	65	6061	13412	0.45	1.000	ug/L
|	Zn	66	3175	6044	1.72	1.000	ug/L
|	Zn	67	735	1271	2.56	1.000	ug/L
|	Zn	68	2465	4400	1.24	1.000	ug/L
└>	Ge	72	907488	908824	0.43		ug/L
┌	As	75	-403	3957	2.65	1.000	ug/L
|	As-1	75	296	4565	0.98	1.000	ug/L
|	Se	77	395	752	4.99	1.000	ug/L
|	Se	82	193	672	4.84	1.000	ug/L
|	Y	89	749932	747354	2.00		ug/L
|	Mo	95	52	8627	0.25	1.000	ug/L
|	Mo	97	32	5361	3.13	1.000	ug/L
|	Mo	98	72	13894	0.69	1.000	ug/L
|	Ag	107	288	32043	4.27	1.000	ug/L

|	Ag	109	223	30142	3.17	1.000	ug/L
|	Cd	106	908	1449	5.91	1.000	ug/L
|	Cd	108	1	445	7.34	1.000	ug/L
|	Cd	111	734	6557	1.47	1.000	ug/L
|	Cd	114	141	13679	2.62	1.000	ug/L
|>	In	115	806560	816789	0.46		ug/L
|	Sb	121	242	16666	1.44	1.000	ug/L
|	Sb	123	186	12990	3.46	1.000	ug/L
|	Ba	135	325	6663	1.64	1.000	ug/L
└	Ba	137	563	11617	1.54	1.000	ug/L
┌	Tb	159	1187362	1177330	1.22		ug/L
|>	Ho	165	1212300	1205289	1.42		ug/L
|	Hg	201	98	99	11.43	1.000	ug/L
|	Hg	202	210	217	10.43	1.000	ug/L
|	Tl	203	52	26581	0.29	1.000	ug/L
|	Tl	205	112	65275	2.70	1.000	ug/L
|	Pb	208	6710	93191	0.98	1.000	ug/L
|	Bi	209	821507	814188	0.06		ug/L
|	Th	232	1933	81791	6.07	1.000	ug/L
└	U	238	373	91906	1.60	1.000	ug/L
	Fe	56	6645286	6670756	0.09		ug/L
	Ru	101	4	4	0.00		ug/L
	ArCl	77	381	742	2.86		ug/L
	Kr	84	931	929	0.57		ug/L
	Sn	118	870	715	14.04		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge					
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

|	114	Cd
| >	115	In
|	121	Sb
|	123	Sb
|	135	Ba
└	137	Ba
┌	159	Tb
| >	165	Ho
|	201	Hg
|	202	Hg
|	203	Tl
|	205	Tl
|	208	Pb
|	209	Bi
|	232	Th
└	238	U
	56	Fe
	101	Ru
	77	ArCl
	84	Kr
	118	Sn

Quantitative Analysis - Summary Report

Sample ID: 5 ppb i1-56b

Sample Date/Time: Tuesday, June 27, 2006 10:58:55
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\5 ppb i1-56b.003
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File:
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 3
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	54514	1.71		ug/L
│	Be	9	7	10917	0.33	5.041	ug/L
│	Al	27	50334	172978	0.20	5.051	ug/L
│	Sc	45	463094	463690	0.43		ug/L
│	V	51	6917	194691	0.63	5.037	ug/L
│	V-1	51	5584	195631	0.41	5.037	ug/L
│	Cr	52	20686	182264	0.75	5.042	ug/L
│	Cr	53	1914	21092	0.44	5.045	ug/L
│	Mn	55	5964	252919	0.17	5.043	ug/L
│	Co	59	598	212225	0.63	5.042	ug/L
│	Ni	60	886	46955	0.41	5.041	ug/L
│	Ni	62	-20173	-13241	1.48	5.041	ug/L
│	Cu	63	12791	117246	1.22	5.056	ug/L
│	Cu	65	6061	56061	0.55	5.052	ug/L
│	Zn	66	3175	30433	0.13	5.093	ug/L
│	Zn	67	735	5332	0.41	5.082	ug/L
│	Zn	68	2465	21985	0.10	5.099	ug/L
└>	Ge	72	907488	908135	0.71		ug/L
┌	As	75	-403	27417	0.30	5.045	ug/L
│	As-1	75	296	27656	0.75	5.046	ug/L
│	Se	77	395	2596	1.14	5.043	ug/L
│	Se	82	193	3106	4.12	5.039	ug/L
│	Y	89	749932	752084	0.98		ug/L
│	Mo	95	52	54185	0.83	5.044	ug/L
│	Mo	97	32	33804	0.06	5.045	ug/L
│	Mo	98	72	86103	0.09	5.042	ug/L
│	Ag	107	288	160461	1.38	5.006	ug/L

|	Ag	109	223	154168	0.27	5.010	ug/L
|	Cd	106	908	4295	0.18	5.046	ug/L
|	Cd	108	1	2616	0.43	5.033	ug/L
|	Cd	111	734	37682	1.94	5.045	ug/L
|	Cd	114	141	85590	1.03	5.044	ug/L
|>	In	115	806560	797416	0.81		ug/L
|	Sb	121	242	105992	1.75	5.047	ug/L
|	Sb	123	186	81058	0.89	5.044	ug/L
|	Ba	135	325	31477	0.22	5.001	ug/L
└	Ba	137	563	55907	1.15	5.005	ug/L
┌	Tb	159	1187362	1210220	0.31		ug/L
|>	Ho	165	1212300	1225310	0.90		ug/L
|	Hg	201	98	103	1.37	4.828	ug/L
|	Hg	202	210	222	5.43	4.413	ug/L
|	Tl	203	52	167786	0.65	5.038	ug/L
|	Tl	205	112	404895	1.72	5.035	ug/L
|	Pb	208	6710	556494	1.02	5.039	ug/L
|	Bi	209	821507	818989	0.21		ug/L
|	Th	232	1933	539017	0.54	5.047	ug/L
└	U	238	373	579714	0.03	5.038	ug/L
	Fe	56	6645286	6647370	0.66		ug/L
	Ru	101	4	7	54.39		ug/L
	ArCl	77	381	2608	2.47		ug/L
	Kr	84	931	953	5.05		ug/L
	Sn	118	870	837	6.25		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge					
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

|	114	Cd
| >	115	In
|	121	Sb
|	123	Sb
|	135	Ba
└	137	Ba
┌	159	Tb
| >	165	Ho
|	201	Hg
|	202	Hg
|	203	Tl
|	205	Tl
|	208	Pb
|	209	Bi
|	232	Th
└	238	U
	56	Fe
	101	Ru
	77	ArCl
	84	Kr
	118	Sn

Quantitative Analysis - Summary Report

Sample ID: 10 ppb i1-56c

Sample Date/Time: Tuesday, June 27, 2006 11:02:28
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\10 ppb i1-56c.004
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File:
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 4
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	52743	2.97		ug/L
|	Be	9	7	21526	0.36	10.026	ug/L
|	Al	27	50334	313199	0.60	10.203	ug/L
|	Sc	45	463094	451030	0.60		ug/L
|	V	51	6917	379860	1.93	10.040	ug/L
|	V-1	51	5584	382841	1.32	10.038	ug/L
|	Cr	52	20686	339886	1.15	10.033	ug/L
|	Cr	53	1914	39375	0.20	10.010	ug/L
|	Mn	55	5964	494790	1.60	10.035	ug/L
|	Co	59	598	416656	0.86	10.020	ug/L
|	Ni	60	886	91329	0.01	10.017	ug/L
|	Ni	62	-20173	-6191	0.44	10.015	ug/L
|	Cu	63	12791	220455	0.44	10.051	ug/L
|	Cu	65	6061	107310	1.18	10.087	ug/L
|	Zn	66	3175	58963	0.71	10.124	ug/L
|	Zn	67	735	10343	1.08	10.162	ug/L
|	Zn	68	2465	42205	1.51	10.116	ug/L
└>	Ge	72	907488	891403	0.58		ug/L
┌	As	75	-403	55494	0.03	10.016	ug/L
|	As-1	75	296	54831	1.17	10.000	ug/L
|	Se	77	395	4799	0.27	10.003	ug/L
|	Se	82	193	6185	1.82	10.059	ug/L
|	Y	89	749932	740313	1.60		ug/L
|	Mo	95	52	107094	1.13	9.982	ug/L
|	Mo	97	32	67240	0.26	9.996	ug/L
|	Mo	98	72	172445	0.45	10.009	ug/L
|	Ag	107	288	323355	0.45	10.008	ug/L

	Ag	109	223	305043	1.17	9.971	ug/L
	Cd	106	908	7583	1.29	9.972	ug/L
	Cd	108	1	5130	0.27	9.961	ug/L
	Cd	111	734	73287	0.32	9.968	ug/L
	Cd	114	141	172244	0.71	10.020	ug/L
>	In	115	806560	802168	0.64		ug/L
	Sb	121	242	213089	0.09	10.020	ug/L
	Sb	123	186	163741	0.23	10.029	ug/L
	Ba	135	325	62590	1.46	9.987	ug/L
	Ba	137	563	110569	1.90	9.977	ug/L
	Tb	159	1187362	1146771	0.43		ug/L
>	Ho	165	1212300	1188136	0.89		ug/L
	Hg	201	98	85	0.00	15.491	ug/L
	Hg	202	210	223	10.15	9.663	ug/L
	Tl	203	52	334399	1.55	10.071	ug/L
	Tl	205	112	806311	1.23	10.069	ug/L
	Pb	208	6710	1091405	1.11	10.052	ug/L
	Bi	209	821507	798815	1.38		ug/L
	Th	232	1933	1074093	1.41	10.079	ug/L
	U	238	373	1141832	1.21	10.048	ug/L
	Fe	56	6645286	6609228	1.51		ug/L
	Ru	101	4	11	77.14		ug/L
	ArCl	77	381	4828	2.26		ug/L
	Kr	84	931	922	3.84		ug/L
	Sn	118	870	1661	41.69		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge					
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-56d

Sample Date/Time: Tuesday, June 27, 2006 11:06:03
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\25 ppb I1-56d.005
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File:
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	53132	0.33		ug/L
Be	9	7	54232	1.84	25.001	ug/L
Al	27	50334	711425	0.02	25.055	ug/L
Sc	45	463094	458833	1.26		ug/L
V	51	6917	931095	0.56	24.935	ug/L
V-1	51	5584	943569	0.04	24.949	ug/L
Cr	52	20686	813948	1.22	24.942	ug/L
Cr	53	1914	96505	0.81	25.000	ug/L
Mn	55	5964	1218598	0.84	24.938	ug/L
Co	59	598	1046206	0.55	24.987	ug/L
Ni	60	886	227021	0.61	24.964	ug/L
Ni	62	-20173	14048	2.25	24.964	ug/L
Cu	63	12791	533061	0.35	24.984	ug/L
Cu	65	6061	255755	0.29	24.932	ug/L
Zn	66	3175	145042	1.04	25.077	ug/L
Zn	67	735	25172	0.50	25.091	ug/L
Zn	68	2465	102255	1.03	25.021	ug/L
Ge	72	907488	900575	0.95		ug/L
As	75	-403	138439	0.53	25.005	ug/L
As-1	75	296	137688	0.61	25.057	ug/L
Se	77	395	11772	1.82	25.162	ug/L
Se	82	193	14578	1.54	24.879	ug/L
Y	89	749932	741183	0.04		ug/L
Mo	95	52	270246	1.18	25.058	ug/L
Mo	97	32	165469	0.21	24.959	ug/L
Mo	98	72	432213	1.03	25.041	ug/L
Ag	107	288	801348	0.91	24.995	ug/L

│	Ag	109	223	771506	1.42	25.064	ug/L
│	Cd	106	908	17821	0.83	25.069	ug/L
│	Cd	108	1	12877	0.83	25.027	ug/L
│	Cd	111	734	183016	0.25	25.033	ug/L
│	Cd	114	141	430774	0.26	25.038	ug/L
│>	In	115	806560	797247	0.51		ug/L
│	Sb	121	242	534071	0.73	25.047	ug/L
│	Sb	123	186	415595	0.68	25.103	ug/L
│	Ba	135	325	155794	1.87	25.015	ug/L
└	Ba	137	563	275974	0.45	25.022	ug/L
┌	Tb	159	1187362	1182989	0.10		ug/L
│>	Ho	165	1212300	1214013	2.27		ug/L
│	Hg	201	98	126	2.82	34.697	ug/L
│	Hg	202	210	315	7.87	27.594	ug/L
│	Tl	203	52	829208	0.53	24.906	ug/L
│	Tl	205	112	1971819	0.02	24.845	ug/L
│	Pb	208	6710	2703806	0.30	24.908	ug/L
│	Bi	209	821507	813456	0.83		ug/L
│	Th	232	1933	2422813	0.77	24.497	ug/L
└	U	238	373	2432744	0.33	24.216	ug/L
	Fe	56	6645286	6657788	0.21		ug/L
	Ru	101	4	9	24.96		ug/L
	ArCl	77	381	11641	1.82		ug/L
	Kr	84	931	1006	9.73		ug/L
	Sn	118	870	1258	3.09		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge					
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Г      159  Tb
|>     165  Ho
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 50 ppb i1-56e

Sample Date/Time: Tuesday, June 27, 2006 11:09:36
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\50 ppb i1-56e.006
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File:
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 6
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	53192	1.38		ug/L
Be	9	7	106783	0.14	50.128	ug/L
Al	27	50334	1350975	0.31	50.150	ug/L
Sc	45	463094	453790	0.47		ug/L
V	51	6917	1832539	1.04	50.134	ug/L
V-1	51	5584	1857251	0.76	50.133	ug/L
Cr	52	20686	1585826	0.37	50.125	ug/L
Cr	53	1914	186484	1.16	50.024	ug/L
Mn	55	5964	2226432	0.22	49.247	ug/L
Co	59	598	1870198	0.38	48.985	ug/L
Ni	60	886	445406	1.70	50.091	ug/L
Ni	62	-20173	46426	0.92	49.909	ug/L
Cu	63	12791	1020861	0.25	49.936	ug/L
Cu	65	6061	496464	0.77	50.068	ug/L
Zn	66	3175	278332	0.52	49.989	ug/L
Zn	67	735	48042	0.26	49.976	ug/L
Zn	68	2465	199790	1.05	50.186	ug/L
Ge	72	907488	876935	0.24		ug/L
As	75	-403	273767	0.10	49.734	ug/L
As-1	75	296	270129	0.52	49.694	ug/L
Se	77	395	22518	1.30	49.622	ug/L
Se	82	193	28744	1.28	49.732	ug/L
Y	89	749932	730571	2.47		ug/L
Mo	95	52	526247	0.41	49.595	ug/L
Mo	97	32	328181	1.42	49.764	ug/L
Mo	98	72	843262	0.25	49.609	ug/L
Ag	107	288	1585621	1.36	49.754	ug/L

│	Ag	109	223	1517812	0.61	49.718	ug/L
│	Cd	106	908	34320	0.87	49.761	ug/L
│	Cd	108	1	25246	1.24	49.660	ug/L
│	Cd	111	734	362106	0.39	49.792	ug/L
│	Cd	114	141	828490	0.64	49.440	ug/L
│>	In	115	806560	805590	0.24		ug/L
│	Sb	121	242	1060137	2.46	49.817	ug/L
│	Sb	123	186	827631	0.87	49.880	ug/L
│	Ba	135	325	307139	1.82	49.730	ug/L
└	Ba	137	563	539049	0.74	49.625	ug/L
┌	Tb	159	1187362	1163723	0.40		ug/L
│>	Ho	165	1212300	1204109	3.10		ug/L
│	Hg	201	98	95	9.73	-21.661	ug/L
│	Hg	202	210	231	0.61	18.631	ug/L
│	Tl	203	52	1630409	0.23	49.857	ug/L
│	Tl	205	112	3433192	0.95	48.365	ug/L
│	Pb	208	6710	4961034	0.45	49.051	ug/L
│	Bi	209	821507	812128	0.43		ug/L
│	Th	232	1933	4890543	0.35	49.974	ug/L
└	U	238	373	4839944	0.65	49.666	ug/L
	Fe	56	6645286	6571675	0.51		ug/L
	Ru	101	4	17	16.64		ug/L
	ArCl	77	381	22262	1.06		ug/L
	Kr	84	931	1068	5.87		ug/L
	Sn	118	870	843	1.76		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge					
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Tuesday, June 27, 2006 11:13:08
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\25 ppb i1-57a.007
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File:
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 7
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	53628	5.41		ug/L
|	Be	9	7	53945	0.85	25.025	ug/L
|	Al	27	50334	720040	0.51	25.531	ug/L
|	Sc	45	463094	451886	0.42		ug/L
|	V	51	6917	932850	1.64	25.129	ug/L
|	V-1	51	5584	945905	1.59	25.160	ug/L
|	Cr	52	20686	813836	0.38	25.108	ug/L
|	Cr	53	1914	95110	0.31	24.967	ug/L
|	Mn	55	5964	1227293	0.20	26.772	ug/L
|	Co	59	598	1049795	0.67	27.167	ug/L
|	Ni	60	886	228099	0.45	25.305	ug/L
|	Ni	62	-20173	14398	1.45	25.534	ug/L
|	Cu	63	12791	531457	0.00	25.396	ug/L
|	Cu	65	6061	255753	0.75	25.199	ug/L
|	Zn	66	3175	144098	0.49	25.306	ug/L
|	Zn	67	735	24859	0.43	25.191	ug/L
|	Zn	68	2465	102256	1.24	25.089	ug/L
└>	Ge	72	907488	887371	1.36		ug/L
┌	As	75	-403	139205	0.61	25.508	ug/L
|	As-1	75	296	138030	1.08	25.549	ug/L
|	Se	77	395	11518	0.10	25.139	ug/L
|	Se	82	193	14876	1.24	25.772	ug/L
|	Y	89	749932	737789	0.39		ug/L
|	Mo	95	52	270770	0.84	25.706	ug/L
|	Mo	97	32	170551	0.15	26.049	ug/L
|	Mo	98	72	434159	0.45	25.726	ug/L
|	Ag	107	288	793557	0.19	25.078	ug/L

│	Ag	109	223	773688	1.08	25.522	ug/L
│	Cd	106	908	17889	1.35	25.482	ug/L
│	Cd	108	1	13076	0.30	25.911	ug/L
│	Cd	111	734	186101	0.24	25.730	ug/L
│	Cd	114	141	432466	0.84	25.990	ug/L
│>	In	115	806560	799981	2.57		ug/L
│	Sb	121	242	563651	0.45	26.676	ug/L
│	Sb	123	186	431618	1.93	26.192	ug/L
│	Ba	135	325	154339	0.73	25.149	ug/L
└	Ba	137	563	272940	0.99	25.283	ug/L
┌	Tb	159	1187362	1166416	0.21		ug/L
│>	Ho	165	1212300	1200293	0.25		ug/L
│	Hg	201	98	94	1.50	-22.441	ug/L
│	Hg	202	210	218	2.93	7.934	ug/L
│	Tl	203	52	828597	1.24	25.407	ug/L
│	Tl	205	112	1953315	0.07	27.595	ug/L
│	Pb	208	6710	2724711	0.66	26.985	ug/L
│	Bi	209	821507	813659	0.13		ug/L
│	Th	232	1933	2512364	0.58	25.734	ug/L
└	U	238	373	2498731	0.75	25.712	ug/L
	Fe	56	6645286	6550860	0.41		ug/L
	Ru	101	4	9	24.96		ug/L
	ArCl	77	381	11749	0.47		ug/L
	Kr	84	931	953	0.49		ug/L
	Sn	118	870	893	10.38		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		97.783			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                                99.184
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                99.010
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: i6-286 mb

Sample Date/Time: Tuesday, June 27, 2006 11:51:57
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-27-06\i6-286 mb.008
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 38
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	51871	1.27		ug/L
Be	9	7	2	47.14	-0.002	ug/L
Al	27	50334	53016	22.80	0.224	ug/L
Sc	45	463094	428879	1.42		ug/L
V	51	6917	6816	3.43	0.009	ug/L
V-1	51	5584	4463	3.69	-0.022	ug/L
Cr	52	20686	19209	0.22	-0.009	ug/L
Cr	53	1914	1519	4.52	-0.079	ug/L
Mn	55	5964	8998	13.05	0.073	ug/L
Co	59	598	370	2.49	-0.005	ug/L
Ni	60	886	349	7.91	-0.056	ug/L
Ni	62	-20173	-19796	0.04	-0.627	ug/L
Cu	63	12791	8485	1.41	-0.181	ug/L
Cu	65	6061	4125	1.23	-0.165	ug/L
Zn	66	3175	3046	3.18	0.011	ug/L
Zn	67	735	699	5.57	0.007	ug/L
Zn	68	2465	2236	2.63	-0.022	ug/L
Ge	72	907488	854223	0.65		ug/L
As	75	-403	-382	11.05	0.002	ug/L
As-1	75	296	229	16.67	-0.011	ug/L
Se	77	395	357	9.32	-0.060	ug/L
Se	82	193	202	3.16	0.027	ug/L
Y	89	749932	704542	0.00		ug/L
Mo	95	52	105	6.91	0.005	ug/L
Mo	97	32	77	3.90	0.007	ug/L
Mo	98	72	166	3.32	0.006	ug/L
Ag	107	288	106	14.68	-0.006	ug/L

	Ag	109	223	124	26.23	-0.003	ug/L
	Cd	106	908	840	3.47	-0.060	ug/L
	Cd	108	1	-10	38.37	-0.022	ug/L
	Cd	111	734	661	4.02	-0.007	ug/L
	Cd	114	141	34	21.10	-0.006	ug/L
>	In	115	806560	781141	0.24		ug/L
	Sb	121	242	420	9.27	0.009	ug/L
	Sb	123	186	332	15.34	0.009	ug/L
	Ba	135	325	91	15.54	-0.037	ug/L
	Ba	137	563	161	14.93	-0.037	ug/L
	Tb	159	1187362	1133820	1.06		ug/L
>	Ho	165	1212300	1163198	2.14		ug/L
	Hg	201	98	95	17.86	8.960	ug/L
	Hg	202	210	205	3.45	2.974	ug/L
	Tl	203	52	46	20.20	-0.000	ug/L
	Tl	205	112	113	11.26	0.000	ug/L
	Pb	208	6710	5053	1.02	-0.013	ug/L
	Bi	209	821507	783883	1.67		ug/L
	Th	232	1933	7017	25.19	0.054	ug/L
	U	238	373	44	6.43	-0.003	ug/L
	Fe	56	6645286	6496097	0.07		ug/L
	Ru	101	4	4	35.36		ug/L
	ArCl	77	381	360	5.70		ug/L
	Kr	84	931	969	1.49		ug/L
	Sn	118	870	776	7.47		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		94.131			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

Quantitative Analysis - Summary Report

Sample ID: i6-294 mb

Sample Date/Time: Tuesday, June 27, 2006 16:52:48
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-294 mb.054
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 80
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
⌈	Li	6	54057	57896	0.99		ug/L
|	Be	9	7	6	94.28	0.001	ug/L
|	Al	27	50334	150916	5.59	6.012	ug/L
|	Sc	45	463094	330363	0.19		ug/L
|	V	51	6917	-7984	44.28	-0.481	ug/L
|	V-1	51	5584	191347	0.70	6.882	ug/L
|	Cr	52	20686	19338	0.47	0.200	ug/L
|	Cr	53	1914	65149	1.77	23.446	ug/L
|		55	5964	9595	0.32	0.153	ug/L
|	Co	59	598	290	11.22	-0.005	ug/L
|	Ni	60	886	3306	1.60	0.409	ug/L
|	Ni	62	-20173	-15321	1.62	-0.978	ug/L
|	Cu	63	12791	7056	0.57	-0.138	ug/L
|	Cu	65	6061	3279	2.89	-0.144	ug/L
|	Zn	66	3175	3958	2.63	0.418	ug/L
|	Zn	67	735	4724	3.68	6.018	ug/L
|	Zn	68	2465	3428	1.44	0.577	ug/L
L>	Ge	72	907488	646377	0.14		ug/L
⌈	As	75	-403	-941	6.79	-0.142	ug/L
|	As-1	75	296	8190	0.95	1.847	ug/L
|	Se	77	395	3004	1.62	7.612	ug/L
|	Se	82	193	165	14.57	0.028	ug/L
|	Y	89	749932	541509	1.25		ug/L
|	Mo	95	52	139	7.55	0.012	ug/L
|	Mo	97	32	87	2.34	0.012	ug/L
|	Mo	98	72	202	11.49	0.011	ug/L
|	Ag	107	288	212	1.33	-0.001	ug/L

	Ag	109	223	180	5.50	0.000	ug/L
	Cd	106	908	562	3.90	-0.295	ug/L
	Cd	108	1	-224	4.42	-0.559	ug/L
	Cd	111	734	612	1.40	0.005	ug/L
	Cd	114	141	45	28.72	-0.005	ug/L
>	In	115	806560	638924	1.08		ug/L
	Sb	121	242	5454	23.01	0.311	ug/L
	Sb	123	186	4152	23.80	0.304	ug/L
	Ba	135	325	571	54.98	0.064	ug/L
	Ba	137	563	1001	35.60	0.064	ug/L
	Tb	159	1187362	880028	0.77		ug/L
>	Ho	165	1212300	898373	0.74		ug/L
	Hg	201	98	108	15.13	345.640	ug/L
	Hg	202	210	278	6.10	135.453	ug/L
	Tl	203	52	297	11.69	0.011	ug/L
	Tl	205	112	725	6.24	0.011	ug/L
	Pb	208	6710	15162	8.29	0.127	ug/L
	Bi	209	821507	575375	0.24		ug/L
	Th	232	1933	703	2.52	-0.010	ug/L
	U	238	373	79	13.51	-0.003	ug/L
	Fe	56	6645286	5173900	1.51		ug/L
	Ru	101	4	10	7.44		ug/L
	ArCl	77	381	3055	0.79		ug/L
	Kr	84	931	650	3.46		ug/L
	Sn	118	870	9577	1.35		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55						
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		71.227			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                                   79.216
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
Γ     159  Tb
|>    165  Ho                                   74.105
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: i6-294 lcs

Sample Date/Time: Tuesday, June 27, 2006 16:56:33
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-294 lcs.055
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 81
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
⌈	Li	6	54057	57692	0.00		ug/L
│	Be	9	7	10282	2.18	6.491	ug/L
│	Al	27	50334	73029	18.36	1.909	ug/L
│	Sc	45	463094	326999	0.78		ug/L
│	V	51	6917	796539	1.39	29.240	ug/L
│	V-1	51	5584	1053628	0.12	38.228	ug/L
│	Cr	52	20686	1215186	1.17	51.692	ug/L
│	Cr	53	1914	218685	1.20	79.209	ug/L
│	Mn	55	5964	7084	2.37	0.080	ug/L
│	Co	59	598	633751	0.26	20.910	ug/L
│	Ni	60	886	175615	0.81	26.524	ug/L
│	Ni	62	-20173	11555	0.06	26.529	ug/L
│	Cu	63	12791	782383	0.81	51.505	ug/L
│	Cu	65	6061	368959	1.51	50.057	ug/L
│	Zn	66	3175	216467	0.56	52.331	ug/L
│	Zn	67	735	39835	1.24	55.834	ug/L
│	Zn	68	2465	154197	0.08	52.132	ug/L
L>	Ge	72	907488	651839	0.34		ug/L
⌈	As	75	-403	41535	0.51	9.559	ug/L
│	As-1	75	296	51954	0.20	11.991	ug/L
│	Se	77	395	5394	0.51	14.347	ug/L
│	Se	82	193	2521	0.56	5.194	ug/L
│	Y	89	749932	549402	0.89		ug/L
│	Mo	95	52	158	31.48	0.014	ug/L
│	Mo	97	32	63	15.16	0.007	ug/L
│	Mo	98	72	198	7.29	0.010	ug/L
│	Ag	107	288	226164	0.17	8.927	ug/L

│	Ag	109	223	217390	1.45	8.958	ug/L
│	Cd	106	908	5996	2.77	9.889	ug/L
│	Cd	108	1	3766	3.07	9.323	ug/L
│	Cd	111	734	60720	0.26	10.432	ug/L
│	Cd	114	141	141690	0.86	10.256	ug/L
│>	In	115	806560	639935	1.09		ug/L
│	Sb	121	242	322821	2.23	19.092	ug/L
│	Sb	123	186	246407	2.67	18.691	ug/L
│	Ba	135	325	247633	0.20	50.477	ug/L
└	Ba	137	563	428995	1.95	49.714	ug/L
┌	Tb	159	1187362	888004	0.80		ug/L
│>	Ho	165	1212300	906425	0.51		ug/L
│	Hg	201	98	132	6.43	575.579	ug/L
│	Hg	202	210	266	1.06	119.622	ug/L
│	Tl	203	52	120831	1.01	4.905	ug/L
│	Tl	205	112	287474	2.34	4.849	ug/L
│	Pb	208	6710	1616189	0.79	19.924	ug/L
│	Bi	209	821507	570256	0.95		ug/L
│	Th	232	1933	670	13.84	-0.011	ug/L
└	U	238	373	85	14.23	-0.003	ug/L
	Fe	56	6645286	4998604	0.18		ug/L
	Ru	101	4	7	40.41		ug/L
	ArCl	77	381	5387	0.87		ug/L
	Kr	84	931	661	1.09		ug/L
	Sn	118	870	5573	2.04		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		71.829			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                                79.341
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                74.769
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Tuesday, June 27, 2006 17:00:17
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\25 ppb i1-57a.056
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	62333	2.10		ug/L
Be	9	7	53831	0.50	30.110	ug/L
Al	27	50334	619510	1.21	26.553	ug/L
Sc	45	463094	372540	0.47		ug/L
V	51	6917	763935	0.16	24.811	ug/L
V-1	51	5584	819211	0.40	26.280	ug/L
Cr	52	20686	676313	1.19	25.158	ug/L
Cr	53	1914	94379	0.96	29.968	ug/L
Mn	55	5964	1042715	0.23	26.116	ug/L
Co	59	598	853982	0.08	24.959	ug/L
Ni	60	886	188551	0.01	25.219	ug/L
Ni	62	-20173	12402	1.70	25.948	ug/L
Cu	63	12791	431635	0.37	24.855	ug/L
Cu	65	6061	205918	0.62	24.442	ug/L
Zn	66	3175	121132	0.69	25.655	ug/L
Zn	67	735	23930	0.45	29.358	ug/L
Zn	68	2465	86592	0.48	25.625	ug/L
Ge	72	907488	735947	0.16		ug/L
As	75	-403	113616	1.90	23.008	ug/L
As-1	75	296	113456	1.00	23.198	ug/L
Se	77	395	10345	0.92	24.937	ug/L
Se	82	193	12743	1.07	24.365	ug/L
Y	89	749932	620754	0.97		ug/L
Mo	95	52	217810	0.93	22.841	ug/L
Mo	97	32	136238	1.01	22.987	ug/L
Mo	98	72	351365	0.86	23.001	ug/L
Ag	107	288	677506	0.65	23.653	ug/L

|	Ag	109	223	655520	0.75	23.892	ug/L
|	Cd	106	908	15684	0.58	24.643	ug/L
|	Cd	108	1	11413	1.06	24.984	ug/L
|	Cd	111	734	166195	0.47	25.382	ug/L
|	Cd	114	141	393267	0.30	25.173	ug/L
|>	In	115	806560	723902	0.12		ug/L
|	Sb	121	242	491537	1.73	25.698	ug/L
|	Sb	123	186	378849	0.57	25.403	ug/L
|	Ba	135	325	134557	1.09	24.218	ug/L
L	Ba	137	563	235540	0.52	24.104	ug/L
[	Tb	159	1187362	1018545	0.09		ug/L
|>	Ho	165	1212300	1047043	0.35		ug/L
|	Hg	201	98	128	7.21	363.915	ug/L
|	Hg	202	210	290	0.73	102.736	ug/L
|	Tl	203	52	689205	0.63	24.225	ug/L
|	Tl	205	112	1619752	1.12	23.658	ug/L
|	Pb	208	6710	2240825	0.18	23.926	ug/L
|	Bi	209	821507	659485	1.17		ug/L
|	Th	232	1933	1902635	0.07	22.338	ug/L
L	U	238	373	1930612	0.69	22.773	ug/L
	Fe	56	6645286	5256031	1.59		ug/L
	Ru	101	4	8	66.00		ug/L
	ArCl	77	381	10334	2.08		ug/L
	Kr	84	931	677	1.87		ug/L
	Sn	118	870	1976	1.65		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		81.097			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

|	114	Cd	
| >	115	In	89.752
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	86.368
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-01

Sample Date/Time: Tuesday, June 27, 2006 17:04:02
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-01.057
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 82
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.94

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	58651	1.11		ug/L
|	Be	9	7	828	4.02	0.487	ug/L
|	Al	27	50334	174081238	0.79	8454.196	ug/L
|	Sc	45	463094	391612	0.29		ug/L
|	V	51	6917	814599	0.46	28.043	ug/L
|	V-1	51	5584	986905	1.20	33.564	ug/L
|	Cr	52	20686	353201	0.36	13.661	ug/L
|	Cr	53	1914	95208	0.43	32.069	ug/L
|	Mn	55	5964	7611981	0.69	202.653	ug/L
|	Co	59	598	274807	2.67	8.493	ug/L
|	Ni	60	886	196413	0.27	27.826	ug/L
|	Ni	62	-20173	[-3872815]	[81.52]	[-3675.024]	ug/L
|	Cu	63	12791	260096	0.14	15.671	ug/L
|	Cu	65	6061	130435	0.32	16.230	ug/L
|	Zn	66	3175	1137321	0.59	260.021	ug/L
|	Zn	67	735	174965	1.12	232.330	ug/L
|	Zn	68	2465	791652	0.27	253.307	ug/L
└>	Ge	72	907488	653473	0.66		ug/L
┌	As	75	-403	21071	4.02	4.632	ug/L
|	As-1	75	296	29499	1.68	6.435	ug/L
|	Se	77	395	3005	0.92	7.215	ug/L
|	Se	82	193	328	13.80	0.367	ug/L
|	Y	89	749932	875153	0.27		ug/L
|	Mo	95	52	5817	5.67	0.650	ug/L
|	Mo	97	32	3587	3.30	0.645	ug/L
|	Mo	98	72	9563	5.74	0.668	ug/L
|	Ag	107	288	4420	15.13	0.157	ug/L

	Ag	109	223	4436	10.53	0.167	ug/L
	Cd	106	908	3786	2.41	5.462	ug/L
	Cd	108	1	652	12.15	1.530	ug/L
	Cd	111	734	10148	1.90	1.574	ug/L
	Cd	114	141	19129	1.14	1.306	ug/L
>	In	115	806560	634278	0.28		ug/L
	Sb	121	242	23197	5.66	1.291	ug/L
	Sb	123	186	17604	7.30	1.257	ug/L
	Ba	135	325	219618	1.95	42.449	ug/L
	Ba	137	563	385534	0.70	42.369	ug/L
	Tb	159	1187362	917531	0.99		ug/L
>	Ho	165	1212300	933920	1.61		ug/L
	Hg	201	98	478	12.72	3596.551	ug/L
	Hg	202	210	1140	1.05	979.067	ug/L
	Tl	203	52	1588	12.20	0.057	ug/L
	Tl	205	112	4051	6.27	0.061	ug/L
	Pb	208	6710	21361563	0.33	240.967	ug/L
	Bi	209	821507	582624	0.02		ug/L
	Th	232	1933	91984	4.47	1.120	ug/L
	U	238	373	26268	1.30	0.323	ug/L
	Fe	56	6645286	S	S		ug/L
	Ru	101	4	8	9.43		ug/L
	ArCl	77	381	2963	2.53		ug/L
	Kr	84	931	-1232	24.75		ug/L
	Sn	118	870	37660	2.56		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		72.009			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	78.640
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	77.037
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: i6-294 ms 606247-01

Sample Date/Time: Tuesday, June 27, 2006 17:07:46
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-294 ms 606247-01.058
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 83
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.94

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	57472	1.31		ug/L
Be	9	7	10826	2.01	6.529	ug/L
Al	27	50334	188289988	0.78	9317.251	ug/L
Sc	45	463094	394811	0.46		ug/L
V	51	6917	1595782	0.24	56.146	ug/L
V-1	51	5584	1818861	0.28	63.151	ug/L
Cr	52	20686	1462921	0.67	59.589	ug/L
Cr	53	1914	237026	1.26	82.074	ug/L
Mn	55	5964	7851930	1.37	212.991	ug/L
Co	59	598	867636	0.40	27.354	ug/L
Ni	60	886	348609	0.84	50.394	ug/L
Ni	62	-20173	-1577652	0.03	-1521.389	ug/L
Cu	63	12791	931402	1.27	58.698	ug/L
Cu	65	6061	448729	1.05	58.295	ug/L
Zn	66	3175	1038543	0.44	241.892	ug/L
Zn	67	735	165695	1.17	224.152	ug/L
Zn	68	2465	726231	0.26	236.737	ug/L
Ge	72	907488	641361	1.01		ug/L
As	75	-403	57786	2.09	12.783	ug/L
As-1	75	296	67546	1.32	15.039	ug/L
Se	77	395	4914	0.29	12.541	ug/L
Se	82	193	2355	6.40	4.658	ug/L
Y	89	749932	878846	2.08		ug/L
Mo	95	52	4730	0.64	0.536	ug/L
Mo	97	32	2875	3.93	0.524	ug/L
Mo	98	72	7520	0.44	0.533	ug/L
Ag	107	288	210689	0.52	8.014	ug/L

│	Ag	109	223	204659	0.75	8.127	ug/L
│	Cd	106	908	7918	3.82	13.031	ug/L
│	Cd	108	1	3581	1.22	8.542	ug/L
│	Cd	111	734	61978	0.16	10.266	ug/L
│	Cd	114	141	141077	1.26	9.840	ug/L
│>	In	115	806560	624293	2.17		ug/L
│	Sb	121	242	311036	0.80	17.727	ug/L
│	Sb	123	186	238544	2.73	17.441	ug/L
│	Ba	135	325	464853	0.11	91.364	ug/L
└	Ba	137	563	812344	0.54	90.773	ug/L
┌	Tb	159	1187362	920088	0.44		ug/L
│>	Ho	165	1212300	930314	1.15		ug/L
│	Hg	201	98	254	3.90	1606.160	ug/L
│	Hg	202	210	620	2.40	460.846	ug/L
│	Tl	203	52	115562	1.43	4.296	ug/L
│	Tl	205	112	275080	0.95	4.250	ug/L
│	Pb	208	6710	17340240	0.18	196.336	ug/L
│	Bi	209	821507	576040	0.84		ug/L
│	Th	232	1933	81824	2.17	0.999	ug/L
└	U	238	373	25598	0.03	0.316	ug/L
	Fe	56	6645286	533762549	0.09		ug/L
	Ru	101	4	11	25.71		ug/L
	ArCl	77	381	5040	0.42		ug/L
	Kr	84	931	-537	5.16		ug/L
	Sn	118	870	47516	1.12		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		70.674			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                          77.402
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                          76.740
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: i6-294 dup 606247-01

Sample Date/Time: Tuesday, June 27, 2006 17:11:31
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-294 dup 606247-01.059
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 84
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.94

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	56974	2.57		ug/L
Be	9	7	817	1.90	0.488	ug/L
Al	27	50334	176478696	1.82	8698.493	ug/L
Sc	45	463094	386922	0.54		ug/L
V	51	6917	817583	0.73	28.566	ug/L
V-1	51	5584	996863	0.46	34.411	ug/L
Cr	52	20686	354004	0.06	13.906	ug/L
Cr	53	1914	98848	0.17	33.814	ug/L
Mn	55	5964	7647801	0.04	206.637	ug/L
Co	59	598	274796	0.51	8.620	ug/L
Ni	60	886	194627	0.13	27.984	ug/L
Ni	62	-20173	-1642936	1.18	-1578.578	ug/L
Cu	63	12791	258766	0.44	15.828	ug/L
Cu	65	6061	129195	1.05	16.317	ug/L
Zn	66	3175	1135345	1.65	263.425	ug/L
Zn	67	735	176813	0.85	238.300	ug/L
Zn	68	2465	797641	1.60	259.018	ug/L
Ge	72	907488	643906	0.44		ug/L
As	75	-403	20839	1.18	4.612	ug/L
As-1	75	296	29812	0.42	6.547	ug/L
Se	77	395	3074	3.75	7.451	ug/L
Se	82	193	316	4.71	0.345	ug/L
Y	89	749932	875250	0.28		ug/L
Mo	95	52	5028	1.37	0.565	ug/L
Mo	97	32	3122	0.88	0.564	ug/L
Mo	98	72	8013	0.11	0.563	ug/L
Ag	107	288	3511	8.56	0.124	ug/L

	Ag	109	223	3633	4.63	0.136	ug/L
	Cd	106	908	3900	1.26	5.711	ug/L
	Cd	108	1	657	0.68	1.550	ug/L
	Cd	111	734	10250	1.77	1.602	ug/L
	Cd	114	141	19467	1.06	1.338	ug/L
>	In	115	806560	630231	1.51		ug/L
	Sb	121	242	23729	9.94	1.331	ug/L
	Sb	123	186	18631	7.99	1.340	ug/L
	Ba	135	325	225783	0.56	43.929	ug/L
	Ba	137	563	391754	0.28	43.336	ug/L
	Tb	159	1187362	922288	1.38		ug/L
>	Ho	165	1212300	933326	1.00		ug/L
	Hg	201	98	438	6.30	3239.554	ug/L
	Hg	202	210	1110	6.56	949.371	ug/L
	Tl	203	52	1539	1.38	0.056	ug/L
	Tl	205	112	3680	1.63	0.055	ug/L
	Pb	208	6710	21894777	0.19	247.116	ug/L
	Bi	209	821507	578629	0.24		ug/L
	Th	232	1933	82544	0.29	1.004	ug/L
	U	238	373	31036	26.06	0.383	ug/L
	Fe	56	6645286	547942382	1.09		ug/L
	Ru	101	4	13	50.91		ug/L
	ArCl	77	381	3127	1.63		ug/L
	Kr	84	931	-1313	42.70		ug/L
	Sn	118	870	38662	0.82		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		70.955			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                78.138
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                76.988
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-02

Sample Date/Time: Tuesday, June 27, 2006 17:15:16
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-02.060
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 85
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.74

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	57603	2.41		ug/L
Be	9	7	817	0.35	0.382	ug/L
Al	27	50334	242455011	0.25	9343.338	ug/L
Sc	45	463094	418515	0.84		ug/L
V	51	6917	1302994	0.05	35.673	ug/L
V-1	51	5584	1492673	0.11	40.337	ug/L
Cr	52	20686	335962	1.06	10.290	ug/L
Cr	53	1914	98059	1.05	26.221	ug/L
Mn	55	5964	9118938	2.08	192.620	ug/L
Co	59	598	299066	2.14	7.334	ug/L
Ni	60	886	156323	0.76	17.557	ug/L
Ni	62	-20173	-1862535	0.85	-1400.385	ug/L
Cu	63	12791	219607	1.86	10.429	ug/L
Cu	65	6061	113430	1.68	11.142	ug/L
Zn	66	3175	116576	2.52	20.774	ug/L
Zn	67	735	23523	0.66	24.303	ug/L
Zn	68	2465	72912	0.58	18.104	ug/L
Ge	72	907488	648413	1.28		ug/L
As	75	-403	24979	0.72	4.357	ug/L
As-1	75	296	33535	0.76	5.823	ug/L
Se	77	395	3218	1.80	6.196	ug/L
Se	82	193	470	6.48	0.529	ug/L
Y	89	749932	886741	1.09		ug/L
Mo	95	52	3053	2.30	0.270	ug/L
Mo	97	32	1952	0.27	0.277	ug/L
Mo	98	72	4838	0.90	0.267	ug/L
Ag	107	288	2104	5.21	0.056	ug/L

	Ag	109	223	2912	7.19	0.085	ug/L
	Cd	106	908	5330	3.43	6.535	ug/L
	Cd	108	1	1313	0.56	2.451	ug/L
	Cd	111	734	2984	4.21	0.316	ug/L
	Cd	114	141	736	3.52	0.034	ug/L
>	In	115	806560	627935	1.81		ug/L
	Sb	121	242	6011	8.63	0.260	ug/L
	Sb	123	186	4637	8.82	0.257	ug/L
	Ba	135	325	118844	1.17	18.249	ug/L
	Ba	137	563	207238	0.14	18.095	ug/L
	Tb	159	1187362	908795	0.78		ug/L
>	Ho	165	1212300	926868	0.21		ug/L
	Hg	201	98	166	1.70	646.214	ug/L
	Hg	202	210	352	2.81	152.061	ug/L
	Tl	203	52	1090	0.19	0.031	ug/L
	Tl	205	112	2627	1.00	0.031	ug/L
	Pb	208	6710	163782	0.45	1.420	ug/L
	Bi	209	821507	559089	2.65		ug/L
	Th	232	1933	52510	0.24	0.501	ug/L
	U	238	373	31661	0.02	0.309	ug/L
	Fe	56	6645286	619561248	0.84		ug/L
	Ru	101	4	9	24.96		ug/L
	ArCl	77	381	3119	3.67		ug/L
	Kr	84	931	-40	516.46		ug/L
	Sn	118	870	11452	0.08		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		71.451			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

│	114	Cd	
│>	115	In	77.853
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│>	165	Ho	76.455
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-03

Sample Date/Time: Tuesday, June 27, 2006 17:19:00
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-03.061
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 86
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.74

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	59642	1.55		ug/L
|	Be	9	7	596	5.34	0.270	ug/L
|	Al	27	50334	157218409	1.14	5893.799	ug/L
|	Sc	45	463094	387966	1.08		ug/L
|	V	51	6917	675701	0.18	17.929	ug/L
|	V-1	51	5584	873934	0.35	22.929	ug/L
|	Cr	52	20686	499965	1.35	15.109	ug/L
|	Cr	53	1914	119788	0.49	31.228	ug/L
|	Mn	55	5964	7277826	1.14	149.541	ug/L
|	Co	59	598	288484	0.06	6.883	ug/L
|	Ni	60	886	191525	0.67	20.940	ug/L
|	Ni	62	-20173	-1467404	0.63	-1070.865	ug/L
|	Cu	63	12791	500749	0.33	23.690	ug/L
|	Cu	65	6061	243489	0.93	23.751	ug/L
|	Zn	66	3175	3898611	0.21	688.975	ug/L
|	Zn	67	735	631105	0.50	648.248	ug/L
|	Zn	68	2465	2701335	1.35	668.161	ug/L
└>	Ge	72	907488	666528	1.29		ug/L
┌	As	75	-403	15084	0.30	2.499	ug/L
|	As-1	75	296	23958	1.26	3.902	ug/L
|	Se	77	395	3171	0.60	5.701	ug/L
|	Se	82	193	307	0.00	0.230	ug/L
|	Y	89	749932	773074	0.08		ug/L
|	Mo	95	52	3872	0.29	0.322	ug/L
|	Mo	97	32	2444	2.54	0.328	ug/L
|	Mo	98	72	6398	0.59	0.333	ug/L
|	Ag	107	288	1986	2.21	0.049	ug/L

│	Ag	109	223	2398	2.42	0.065	ug/L
│	Cd	106	908	2588	2.18	2.446	ug/L
│	Cd	108	1	245	41.56	0.429	ug/L
│	Cd	111	734	9213	0.32	1.060	ug/L
│	Cd	114	141	17900	2.29	0.914	ug/L
│>	In	115	806560	667119	1.00		ug/L
│	Sb	121	242	22161	0.65	0.922	ug/L
│	Sb	123	186	16752	1.36	0.894	ug/L
│	Ba	135	325	660174	0.69	95.586	ug/L
└	Ba	137	563	1152724	1.09	94.888	ug/L
┌	Tb	159	1187362	947764	0.30		ug/L
│>	Ho	165	1212300	972378	0.17		ug/L
│	Hg	201	98	861	2.79	5291.818	ug/L
│	Hg	202	210	1944	1.82	1344.360	ug/L
│	Tl	203	52	692	2.66	0.018	ug/L
│	Tl	205	112	1678	1.05	0.018	ug/L
│	Pb	208	6710	147948892	0.30	1261.929	ug/L
│	Bi	209	821507	657287	0.29		ug/L
│	Th	232	1933	39731	0.89	0.358	ug/L
└	U	238	373	20686	0.97	0.192	ug/L
	Fe	56	6645286	489931596	0.61		ug/L
	Ru	101	4	16	26.52		ug/L
	ArCl	77	381	3088	3.60		ug/L
	Kr	84	931	53	731.21		ug/L
	Sn	118	870	36572	0.40		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		73.448			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|     114  Cd
|>    115  In                                 82.712
|     121  Sb
|     123  Sb
|     135  Ba
└     137  Ba
┌     159  Tb
|>    165  Ho                                 80.209
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
└     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-04

Sample Date/Time: Tuesday, June 27, 2006 17:22:45
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-04.062
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 87
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.75

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	56298	0.32		ug/L
Be	9	7	695	8.04	0.336	ug/L
Al	27	50334	177014193	2.44	7075.216	ug/L
Sc	45	463094	387957	0.47		ug/L
V	51	6917	812171	1.72	23.015	ug/L
V-1	51	5584	1003979	1.21	28.108	ug/L
Cr	52	20686	405624	1.14	13.001	ug/L
Cr	53	1914	107954	0.50	29.990	ug/L
Mn	55	5964	7600217	0.23	166.536	ug/L
Co	59	598	295091	0.96	7.508	ug/L
Ni	60	886	218712	0.33	25.513	ug/L
Ni	62	-20173	[-6102709]	[0.01]	[-4785.897]	ug/L
Cu	63	12791	262337	1.87	13.027	ug/L
Cu	65	6061	131333	1.80	13.466	ug/L
Zn	66	3175	913712	0.85	171.857	ug/L
Zn	67	735	145256	2.46	158.664	ug/L
Zn	68	2465	640551	0.49	168.610	ug/L
Ge	72	907488	633496	0.26		ug/L
As	75	-403	14873	1.26	2.617	ug/L
As-1	75	296	24170	0.28	4.186	ug/L
Se	77	395	3017	2.13	5.764	ug/L
Se	82	193	248	7.14	0.158	ug/L
Y	89	749932	778806	0.46		ug/L
Mo	95	52	4275	0.16	0.379	ug/L
Mo	97	32	2740	2.10	0.391	ug/L
Mo	98	72	7115	0.68	0.394	ug/L
Ag	107	288	1428	5.15	0.036	ug/L

|	Ag	109	223	1829	3.13	0.051	ug/L
|	Cd	106	908	2334	0.71	2.288	ug/L
|	Cd	108	1	-50	0.85	-0.095	ug/L
|	Cd	111	734	2889	2.00	0.302	ug/L
|	Cd	114	141	2932	0.10	0.154	ug/L
|>	In	115	806560	636252	1.32		ug/L
|	Sb	121	242	8387	1.54	0.366	ug/L
|	Sb	123	186	6486	0.33	0.363	ug/L
|	Ba	135	325	506746	1.40	77.956	ug/L
└	Ba	137	563	896506	0.08	78.423	ug/L
┌	Tb	159	1187362	911425	1.45		ug/L
|>	Ho	165	1212300	929152	0.97		ug/L
|	Hg	201	98	300	4.71	1613.835	ug/L
|	Hg	202	210	754	1.97	475.793	ug/L
|	Tl	203	52	712	0.00	0.020	ug/L
|	Tl	205	112	1678	0.42	0.020	ug/L
|	Pb	208	6710	31890016	0.42	288.490	ug/L
|	Bi	209	821507	581346	0.26		ug/L
|	Th	232	1933	47111	0.40	0.453	ug/L
└	U	238	373	21792	1.62	0.214	ug/L
	Fe	56	6645286	S	S		ug/L
	Ru	101	4	12	23.57		ug/L
	ArCl	77	381	3175	1.67		ug/L
	Kr	84	931	-53	125.48		ug/L
	Sn	118	870	35300	1.37		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		69.808			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|      114  Cd
|>     115  In                                  78.885
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                  76.644
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-05

Sample Date/Time: Tuesday, June 27, 2006 17:26:30
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-05.063
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 88
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.96

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	56073	2.38		ug/L
|	Be	9	7	739	8.04	0.455	ug/L
|	Al	27	50334	169840317	0.12	8619.955	ug/L
|	Sc	45	463094	385094	0.86		ug/L
|	V	51	6917	784399	0.18	28.217	ug/L
|	V-1	51	5584	973190	0.07	34.591	ug/L
|	Cr	52	20686	303735	1.05	12.203	ug/L
|	Cr	53	1914	94732	0.58	33.354	ug/L
|	Mn	55	5964	7098528	0.23	197.495	ug/L
|	Co	59	598	260123	1.73	8.402	ug/L
|	Ni	60	886	183754	0.87	27.202	ug/L
|	Ni	62	-20173	-1528671	1.65	-1511.556	ug/L
|	Cu	63	12791	293185	0.41	18.550	ug/L
|	Cu	65	6061	145696	0.18	19.027	ug/L
|	Zn	66	3175	774499	0.63	184.886	ug/L
|	Zn	67	735	122301	0.15	169.514	ug/L
|	Zn	68	2465	541671	0.18	180.953	ug/L
└>	Ge	72	907488	638600	0.14		ug/L
┌	As	75	-403	19751	0.54	4.432	ug/L
|	As-1	75	296	28911	0.71	6.430	ug/L
|	Se	77	395	3158	0.31	7.773	ug/L
|	Se	82	193	287	12.32	0.287	ug/L
|	Y	89	749932	857147	0.34		ug/L
|	Mo	95	52	4068	0.33	0.462	ug/L
|	Mo	97	32	2660	0.58	0.487	ug/L
|	Mo	98	72	6641	0.35	0.472	ug/L
|	Ag	107	288	2826	3.88	0.099	ug/L

	Ag	109	223	3050	1.65	0.115	ug/L
	Cd	106	908	3403	7.57	4.873	ug/L
	Cd	108	1	244	24.59	0.582	ug/L
	Cd	111	734	4179	4.90	0.604	ug/L
	Cd	114	141	4927	0.10	0.337	ug/L
>	In	115	806560	635190	0.30		ug/L
	Sb	121	242	11679	1.94	0.657	ug/L
	Sb	123	186	8984	1.18	0.649	ug/L
	Ba	135	325	199018	1.38	39.225	ug/L
	Ba	137	563	348030	2.13	39.001	ug/L
	Tb	159	1187362	918009	0.20		ug/L
>	Ho	165	1212300	946685	1.05		ug/L
	Hg	201	98	313	4.07	2131.848	ug/L
	Hg	202	210	707	8.00	548.136	ug/L
	Tl	203	52	1198	4.49	0.043	ug/L
	Tl	205	112	2849	0.25	0.043	ug/L
	Pb	208	6710	12616989	0.07	143.353	ug/L
	Bi	209	821507	581152	0.57		ug/L
	Th	232	1933	81487	1.20	0.998	ug/L
	U	238	373	25488	2.41	0.316	ug/L
	Fe	56	6645286	509902261	1.63		ug/L
	Ru	101	4	10	0.00		ug/L
	ArCl	77	381	3163	1.90		ug/L
	Kr	84	931	-978	142.27		ug/L
	Sn	118	870	38434	0.14		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		70.370			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	78.753
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	78.090
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-06

Sample Date/Time: Tuesday, June 27, 2006 17:30:15
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-06.064
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 89
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.86

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	54794	2.11		ug/L
Be	9	7	530	4.54	0.295	ug/L
Al	27	50334	124855047	1.62	5749.663	ug/L
Sc	45	463094	364360	1.25		ug/L
V	51	6917	585147	0.93	19.063	ug/L
V-1	51	5584	782297	0.83	25.210	ug/L
Cr	52	20686	611091	0.79	22.855	ug/L
Cr	53	1914	131027	0.58	42.042	ug/L
Mn	55	5964	6223129	0.22	157.115	ug/L
Co	59	598	233979	1.92	6.857	ug/L
Ni	60	886	166890	1.23	22.412	ug/L
Ni	62	-20173	-1162920	0.67	-1040.613	ug/L
Cu	63	12791	226936	1.28	12.916	ug/L
Cu	65	6061	112451	0.66	13.215	ug/L
Zn	66	3175	491367	0.90	106.272	ug/L
Zn	67	735	79771	0.34	100.126	ug/L
Zn	68	2465	347394	0.98	105.130	ug/L
Ge	72	907488	630456	1.66		ug/L
As	75	-403	8058	1.56	1.690	ug/L
As-1	75	296	16849	0.93	3.407	ug/L
Se	77	395	2896	0.17	6.470	ug/L
Se	82	193	231	0.92	0.159	ug/L
Y	89	749932	730263	1.09		ug/L
Mo	95	52	3376	0.68	0.350	ug/L
Mo	97	32	2035	5.33	0.339	ug/L
Mo	98	72	5459	1.18	0.354	ug/L
Ag	107	288	1210	6.14	0.034	ug/L

|	Ag	109	223	1453	0.00	0.047	ug/L
|	Cd	106	908	1903	0.32	1.994	ug/L
|	Cd	108	1	49	48.46	0.104	ug/L
|	Cd	111	734	2369	0.41	0.276	ug/L
|	Cd	114	141	2677	0.14	0.165	ug/L
| >	In	115	806560	622487	2.26		ug/L
|	Sb	121	242	28910	2.20	1.503	ug/L
|	Sb	123	186	21765	0.70	1.451	ug/L
|	Ba	135	325	220236	0.77	39.697	ug/L
L	Ba	137	563	382850	0.49	39.235	ug/L
[	Tb	159	1187362	895145	1.61		ug/L
| >	Ho	165	1212300	918930	0.20		ug/L
|	Hg	201	98	236	3.30	1340.781	ug/L
|	Hg	202	210	496	9.69	313.539	ug/L
|	Tl	203	52	624	0.23	0.020	ug/L
|	Tl	205	112	1474	1.49	0.020	ug/L
|	Pb	208	6710	23041758	0.34	241.645	ug/L
|	Bi	209	821507	577030	1.29		ug/L
|	Th	232	1933	37488	0.77	0.415	ug/L
L	U	238	373	16031	2.79	0.182	ug/L
	Fe	56	6645286	389072867	0.68		ug/L
	Ru	101	4	7	60.61		ug/L
	ArCl	77	381	2999	2.95		ug/L
	Kr	84	931	-502	6.65		ug/L
	Sn	118	870	23776	0.91		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		69.473			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|      114  Cd
|>     115  In                                        77.178
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                        75.801
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-07

Sample Date/Time: Tuesday, June 27, 2006 17:33:59
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-07.065
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 90
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.87

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	55421	1.75		ug/L
|	Be	9	7	443	10.71	0.246	ug/L
|	Al	27	50334	113900609	0.20	5231.835	ug/L
|	Sc	45	463094	371017	0.21		ug/L
|	V	51	6917	549812	0.83	17.852	ug/L
|	V-1	51	5584	746039	0.52	23.970	ug/L
|	Cr	52	20686	352103	0.36	12.892	ug/L
|	Cr	53	1914	101476	0.36	32.369	ug/L
|	Mn	55	5964	5613535	1.93	141.315	ug/L
|	Co	59	598	201659	0.53	5.892	ug/L
|	Ni	60	886	130585	1.49	17.470	ug/L
|	Ni	62	-20173	-1046314	1.50	-932.490	ug/L
|	Cu	63	12791	220897	0.79	12.517	ug/L
|	Cu	65	6061	110408	0.04	12.924	ug/L
|	Zn	66	3175	1023977	1.35	221.378	ug/L
|	Zn	67	735	160018	0.79	200.933	ug/L
|	Zn	68	2465	721042	0.68	218.204	ug/L
L>	Ge	72	907488	639490	1.63		ug/L
┌	As	75	-403	6388	2.16	1.365	ug/L
|	As-1	75	296	15092	0.45	3.074	ug/L
|	Se	77	395	2909	1.56	6.558	ug/L
|	Se	82	193	219	1.62	0.136	ug/L
|	Y	89	749932	698022	0.51		ug/L
|	Mo	95	52	2977	4.46	0.311	ug/L
|	Mo	97	32	1837	1.92	0.309	ug/L
|	Mo	98	72	4783	3.10	0.312	ug/L
|	Ag	107	288	1210	2.57	0.035	ug/L

```
|   Ag     109         223        1394      2.99      0.045  ug/L
|   Cd     106         908        1942      0.87      2.073  ug/L
|   Cd     108           1           5    148.35      0.008  ug/L
|   Cd     111         734        2895      0.11      0.360  ug/L
|   Cd     114         141        3702      1.91      0.232  ug/L
|>  In     115      806560      624154      1.15             ug/L
|   Sb     121         242       15605      1.06      0.814  ug/L
|   Sb     123         186       11853      0.63      0.793  ug/L
|   Ba     135         325      307483      0.54     55.919  ug/L
L   Ba     137         563      537501      0.15     55.579  ug/L
[   Tb     159     1187362      901825      1.39             ug/L
|>  Ho     165     1212300      922830      0.27             ug/L
|   Hg     201          98         221      8.02   1222.190  ug/L
|   Hg     202         210         563      5.53    378.055  ug/L
|   Tl     203          52         598      2.13      0.019  ug/L
|   Tl     205         112        1446      0.29      0.020  ug/L
|   Pb     208        6710    29381166      1.23    310.405  ug/L
|   Bi     209      821507      592242      0.37             ug/L
|   Th     232        1933       35532      0.86      0.395  ug/L
L   U      238         373       14823      0.19      0.169  ug/L
    Fe      56     6645286   349108803      1.42             ug/L
    Ru     101           4           7     10.88             ug/L
    ArCl    77         381        2962      0.86             ug/L
    Kr      84         931          91    160.41             ug/L
    Sn     118         870       28930      0.37             ug/L
```

QC Calculated Values

```
    Mass Analyte  QC Std % Recovery  Int Std % Recovery  Spike % Recovery  Dilution % Difference  Duplicate Rel. % Difference
[      6 Li
|      9 Be
|     27 Al
|     45 Sc
|     51 V
|     51 V-1
|     52 Cr
|     53 Cr
|     55 Mn
|     59 Co
|     60 Ni
|     62 Ni
|     63 Cu
|     65 Cu
|     66 Zn
|     67 Zn
|     68 Zn
L>    72 Ge                                   70.468
[     75 As
|     75 As-1
|     77 Se
|     82 Se
|     89 Y
|     95 Mo
|     97 Mo
|     98 Mo
|    107 Ag
|    109 Ag
|    106 Cd
|    108 Cd
|    111 Cd
```

```
|     114  Cd
|>    115  In                                   77.385
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
Γ     159  Tb
|>    165  Ho                                   76.122
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-08

Sample Date/Time: Tuesday, June 27, 2006 17:37:44
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-08.066
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 91
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.83

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	55476	1.17		ug/L
│	Be	9	7	473	4.34	0.250	ug/L
│	Al	27	50334	125383609	1.35	5483.600	ug/L
│	Sc	45	463094	378032	1.37		ug/L
│	V	51	6917	597347	1.24	18.480	ug/L
│	V-1	51	5584	786859	0.29	24.078	ug/L
│	Cr	52	20686	361491	0.09	12.615	ug/L
│	Cr	53	1914	102406	0.33	31.103	ug/L
│	Mn	55	5964	5480022	1.85	131.356	ug/L
│	Co	59	598	164695	0.21	4.580	ug/L
│	Ni	60	886	87410	1.00	11.108	ug/L
│	Ni	62	-20173	[-3535706]	[103.60]	[-3036.949]	ug/L
│	Cu	63	12791	264573	0.00	14.374	ug/L
│	Cu	65	6061	130354	1.52	14.616	ug/L
│	Zn	66	3175	988659	1.31	203.500	ug/L
│	Zn	67	735	154266	2.19	184.407	ug/L
│	Zn	68	2465	691355	0.82	199.159	ug/L
L>	Ge	72	907488	640713	0.52		ug/L
┌	As	75	-403	7248	1.18	1.474	ug/L
│	As-1	75	296	16058	0.20	3.134	ug/L
│	Se	77	395	3161	0.90	6.886	ug/L
│	Se	82	193	264	0.00	0.216	ug/L
│	Y	89	749932	714411	1.06		ug/L
│	Mo	95	52	3178	1.31	0.318	ug/L
│	Mo	97	32	2099	3.17	0.338	ug/L
│	Mo	98	72	5168	4.06	0.323	ug/L
│	Ag	107	288	2594	1.66	0.080	ug/L

|	Ag	109	223	2658	2.69	0.088	ug/L
|	Cd	106	908	-428	23.53	-1.805	ug/L
|	Cd	108	1	-2478	1.10	-5.243	ug/L
|	Cd	111	734	3442	3.42	0.426	ug/L
|	Cd	114	141	4810	1.46	0.291	ug/L
|>	In	115	806560	622076	1.86		ug/L
|	Sb	121	242	14548	1.74	0.726	ug/L
|	Sb	123	186	11381	1.60	0.728	ug/L
|	Ba	135	325	575040	1.32	100.141	ug/L
└	Ba	137	563	1004469	1.69	99.455	ug/L
┌	Tb	159	1187362	894565	1.15		ug/L
|>	Ho	165	1212300	920757	0.46		ug/L
|	Hg	201	98	244	2.61	1354.310	ug/L
|	Hg	202	210	582	5.35	378.824	ug/L
|	Tl	203	52	692	0.82	0.022	ug/L
|	Tl	205	112	1668	0.89	0.022	ug/L
|	Pb	208	6710	28595422	1.01	288.875	ug/L
|	Bi	209	821507	590689	0.25		ug/L
|	Th	232	1933	33875	0.06	0.359	ug/L
└	U	238	373	15631	2.13	0.171	ug/L
	Fe	56	6645286	S	S		ug/L
	Ru	101	4	15	4.88		ug/L
	ArCl	77	381	3033	0.56		ug/L
	Kr	84	931	7	3560.97		ug/L
	Sn	118	870	121194	1.21		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		70.603			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|      114  Cd
|>     115  In                                   77.127
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                   75.951
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Tuesday, June 27, 2006 17:41:29
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\25 ppb i1-57a.067
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	55914	1.24		ug/L
|	Be	9	7	50536	1.77	29.511	ug/L
|	Al	27	50334	638611	1.21	28.722	ug/L
|	Sc	45	463094	355632	1.01		ug/L
|	V	51	6917	724720	0.59	24.572	ug/L
|	V-1	51	5584	775021	0.29	25.956	ug/L
|	Cr	52	20686	643389	0.64	24.984	ug/L
|	Cr	53	1914	88694	0.08	29.394	ug/L
|	Mn	55	5964	988445	0.64	25.847	ug/L
|	Co	59	598	809329	0.56	24.695	ug/L
|	Ni	60	886	176571	0.44	24.654	ug/L
|	Ni	62	-20173	9960	13.15	24.137	ug/L
|	Cu	63	12791	406956	0.77	24.456	ug/L
|	Cu	65	6061	196420	0.47	24.340	ug/L
|	Zn	66	3175	115012	0.37	25.428	ug/L
|	Zn	67	735	22157	0.43	28.355	ug/L
|	Zn	68	2465	82863	0.71	25.603	ug/L
└>	Ge	72	907488	704897	0.59		ug/L
┌	As	75	-403	108495	0.54	22.423	ug/L
|	As-1	75	296	108173	1.01	22.570	ug/L
|	Se	77	395	9827	0.36	24.143	ug/L
|	Se	82	193	12235	0.31	23.867	ug/L
|	Y	89	749932	586774	0.01		ug/L
|	Mo	95	52	208347	1.82	22.299	ug/L
|	Mo	97	32	130097	1.02	22.401	ug/L
|	Mo	98	72	335734	0.19	22.426	ug/L
|	Ag	107	288	655384	2.21	23.341	ug/L

│	Ag	109	223	627905	0.18	23.352	ug/L
│	Cd	106	908	15266	1.32	24.471	ug/L
│	Cd	108	1	11033	0.14	24.644	ug/L
│	Cd	111	734	158578	0.28	24.711	ug/L
│	Cd	114	141	372880	1.30	24.359	ug/L
│>	In	115	806560	709628	2.33		ug/L
│	Sb	121	242	466489	2.48	24.893	ug/L
│	Sb	123	186	357071	1.53	24.435	ug/L
│	Ba	135	325	133023	0.17	24.431	ug/L
⌊	Ba	137	563	229702	0.54	23.987	ug/L
⌈	Tb	159	1187362	998073	2.28		ug/L
│>	Ho	165	1212300	1015813	1.89		ug/L
│	Hg	201	98	121	4.11	336.400	ug/L
│	Hg	202	210	293	0.24	114.183	ug/L
│	Tl	203	52	673519	0.46	24.407	ug/L
│	Tl	205	112	1607701	1.07	24.210	ug/L
│	Pb	208	6710	2260096	0.28	24.879	ug/L
│	Bi	209	821507	656191	2.55		ug/L
│	Th	232	1933	1914245	0.08	23.170	ug/L
⌊	U	238	373	1952696	0.11	23.745	ug/L
	Fe	56	6645286	5388302	7.22		ug/L
	Ru	101	4	10	14.14		ug/L
	ArCl	77	381	9869	1.97		ug/L
	Kr	84	931	664	4.24		ug/L
	Sn	118	870	1497	6.14		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
⌈	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
⌊>	72	Ge		77.676			
⌈	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                                        87.982
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                        83.792
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-09

Sample Date/Time: Tuesday, June 27, 2006 17:45:13
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-09.068
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 92
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.92

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	56115	2.09		ug/L
|	Be	9	7	834	2.54	0.468	ug/L
|	Al	27	50334	188570019	1.41	8734.380	ug/L
|	Sc	45	463094	402231	0.16		ug/L
|	V	51	6917	841065	0.86	27.616	ug/L
|	V-1	51	5584	1020464	1.02	33.103	ug/L
|	Cr	52	20686	348596	1.66	12.837	ug/L
|	Cr	53	1914	97223	0.36	31.230	ug/L
|	Mn	55	5964	7259637	0.96	184.326	ug/L
|	Co	59	598	253752	2.14	7.479	ug/L
|	Ni	60	886	164089	2.40	22.155	ug/L
|	Ni	62	-20173	-1596648	0.29	-1440.782	ug/L
|	Cu	63	12791	366225	0.92	21.253	ug/L
|	Cu	65	6061	180327	1.28	21.590	ug/L
|	Zn	66	3175	1018874	0.44	222.105	ug/L
|	Zn	67	735	159322	1.86	201.697	ug/L
|	Zn	68	2465	709464	0.43	216.438	ug/L
└>	Ge	72	907488	670578	0.23		ug/L
┌	As	75	-403	20984	3.01	4.392	ug/L
|	As-1	75	296	30246	1.25	6.279	ug/L
|	Se	77	395	3126	6.38	7.154	ug/L
|	Se	82	193	280	0.51	0.246	ug/L
|	Y	89	749932	914417	1.23		ug/L
|	Mo	95	52	5165	6.35	0.548	ug/L
|	Mo	97	32	3207	5.79	0.548	ug/L
|	Mo	98	72	8453	9.72	0.561	ug/L
|	Ag	107	288	4296	15.45	0.145	ug/L

	Ag	109	223	4613	8.17	0.165	ug/L
	Cd	106	908	-40886	2.32	-70.418	ug/L
	Cd	108	1	-43580	2.20	-97.400	ug/L
	Cd	111	734	5082	0.85	0.703	ug/L
	Cd	114	141	6991	6.75	0.450	ug/L
>	In	115	806560	652320	1.07		ug/L
	Sb	121	242	267505	0.29	14.275	ug/L
	Sb	123	186	204294	0.03	13.982	ug/L
	Ba	135	325	193306	0.46	35.550	ug/L
	Ba	137	563	335997	0.26	35.134	ug/L
	Tb	159	1187362	955379	0.79		ug/L
>	Ho	165	1212300	978849	2.14		ug/L
	Hg	201	98	375	5.85	2469.842	ug/L
	Hg	202	210	901	0.78	684.176	ug/L
	Tl	203	52	1757	18.24	0.059	ug/L
	Tl	205	112	4756	20.31	0.067	ug/L
	Pb	208	6710	6222169	0.00	65.505	ug/L
	Bi	209	821507	594554	2.53		ug/L
	Th	232	1933	92480	8.14	1.051	ug/L
	U	238	373	28448	0.19	0.327	ug/L
	Fe	56	6645286	531097531	0.31		ug/L
	Ru	101	4	13	16.97		ug/L
	ArCl	77	381	3190	2.59		ug/L
	Kr	84	931	-1697	12.78		ug/L
	Sn	118	870	1638601	2.03		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		73.894			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	80.877
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	80.743
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-10

Sample Date/Time: Tuesday, June 27, 2006 17:48:58
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-10.069
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 93
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.78

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	54182	0.03		ug/L
|	Be	9	7	682	2.18	0.338	ug/L
|	Al	27	50334	176232766	0.96	7211.298	ug/L
|	Sc	45	463094	379244	0.54		ug/L
|	V	51	6917	776408	0.74	22.515	ug/L
|	V-1	51	5584	962033	0.38	27.567	ug/L
|	Cr	52	20686	447275	0.60	14.719	ug/L
|	Cr	53	1914	109718	0.28	31.205	ug/L
|	Mn	55	5964	7180449	0.07	161.071	ug/L
|	Co	59	598	285114	1.35	7.426	ug/L
|	Ni	60	886	202393	1.58	24.162	ug/L
|	Ni	62	-20173	-1452733	1.04	-1157.479	ug/L
|	Cu	63	12791	1101474	2.02	57.487	ug/L
|	Cu	65	6061	532854	0.06	57.333	ug/L
|	Zn	66	3175	1594897	0.39	307.419	ug/L
|	Zn	67	735	246936	2.38	276.514	ug/L
|	Zn	68	2465	1117616	1.22	301.503	ug/L
└>	Ge	72	907488	643563	0.89		ug/L
┌	As	75	-403	17023	1.09	3.171	ug/L
|	As-1	75	296	25978	0.47	4.782	ug/L
|	Se	77	395	3136	0.34	6.401	ug/L
|	Se	82	193	315	11.22	0.293	ug/L
|	Y	89	749932	778462	1.01		ug/L
|	Mo	95	52	3599	1.28	0.338	ug/L
|	Mo	97	32	2294	0.19	0.347	ug/L
|	Mo	98	72	5883	2.84	0.346	ug/L
|	Ag	107	288	2241	1.89	0.064	ug/L

	Ag	109	223	2724	5.38	0.084	ug/L
	Cd	106	908	1417	4.48	1.073	ug/L
	Cd	108	1	-1227	1.71	-2.436	ug/L
	Cd	111	734	4890	3.32	0.600	ug/L
	Cd	114	141	7183	1.64	0.410	ug/L
>	In	115	806560	623435	2.68		ug/L
	Sb	121	242	18851	9.00	0.883	ug/L
	Sb	123	186	14321	6.21	0.861	ug/L
	Ba	135	325	568018	0.58	92.778	ug/L
	Ba	137	563	980666	1.68	91.059	ug/L
	Tb	159	1187362	914373	1.07		ug/L
>	Ho	165	1212300	916214	0.58		ug/L
	Hg	201	98	368	3.07	2223.656	ug/L
	Hg	202	210	826	2.74	565.213	ug/L
	Tl	203	52	819	15.20	0.024	ug/L
	Tl	205	112	1928	3.01	0.024	ug/L
	Pb	208	6710	51685896	0.29	493.144	ug/L
	Bi	209	821507	584107	0.35		ug/L
	Th	232	1933	50263	0.61	0.511	ug/L
	U	238	373	23777	0.02	0.247	ug/L
	Fe	56	6645286	486218759	1.08		ug/L
	Ru	101	4	15	4.88		ug/L
	ArCl	77	381	3121	0.27		ug/L
	Kr	84	931	-496	33.79		ug/L
	Sn	118	870	88689	1.24		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		70.917			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                                   77.296
|     121  Sb
|     123  Sb
|     135  Ba
└     137  Ba
┌     159  Tb
|>    165  Ho                                   75.577
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
└     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-11

Sample Date/Time: Tuesday, June 27, 2006 17:52:43
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-11.070
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 94
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.87

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	53132	4.55		ug/L
|	Be	9	7	681	2.60	0.387	ug/L
|	Al	27	50334	161490252	0.17	7586.660	ug/L
|	Sc	45	463094	368559	1.08		ug/L
|	V	51	6917	720186	0.60	23.971	ug/L
|	V-1	51	5584	903900	0.91	29.733	ug/L
|	Cr	52	20686	300480	1.37	11.181	ug/L
|	Cr	53	1914	90632	0.22	29.528	ug/L
|	Mn	55	5964	6666491	1.47	171.676	ug/L
|	Co	59	598	239177	0.22	7.150	ug/L
|	Ni	60	886	154603	0.93	21.173	ug/L
|	Ni	62	-20173	-1388268	0.74	-1269.728	ug/L
|	Cu	63	12791	189841	1.44	10.938	ug/L
|	Cu	65	6061	95195	1.67	11.334	ug/L
|	Zn	66	3175	618268	0.03	136.528	ug/L
|	Zn	67	735	98961	0.16	126.851	ug/L
|	Zn	68	2465	431159	0.41	133.227	ug/L
└>	Ge	72	907488	625223	0.23		ug/L
┌	As	75	-403	16947	0.25	3.621	ug/L
|	As-1	75	296	26093	0.57	5.513	ug/L
|	Se	77	395	3155	0.99	7.417	ug/L
|	Se	82	193	254	1.67	0.221	ug/L
|	Y	89	749932	805419	0.43		ug/L
|	Mo	95	52	3962	5.32	0.428	ug/L
|	Mo	97	32	2468	2.01	0.429	ug/L
|	Mo	98	72	6297	0.84	0.425	ug/L
|	Ag	107	288	1446	2.59	0.045	ug/L

│	Ag	109	223	1931	4.10	0.067	ug/L
│	Cd	106	908	2527	1.25	3.180	ug/L
│	Cd	108	1	391	0.09	0.889	ug/L
│	Cd	111	734	2758	0.53	0.352	ug/L
│	Cd	114	141	3161	3.19	0.203	ug/L
│>	In	115	806560	605726	1.78		ug/L
│	Sb	121	242	7939	1.03	0.422	ug/L
│	Sb	123	186	6055	4.93	0.412	ug/L
│	Ba	135	325	226674	0.80	42.474	ug/L
└	Ba	137	563	394835	1.27	42.058	ug/L
┌	Tb	159	1187362	890426	1.54		ug/L
│>	Ho	165	1212300	905615	0.32		ug/L
│	Hg	201	98	270	3.67	1680.259	ug/L
│	Hg	202	210	625	3.17	447.418	ug/L
│	Tl	203	52	1069	0.99	0.036	ug/L
│	Tl	205	112	2579	0.52	0.037	ug/L
│	Pb	208	6710	31683127	0.27	341.100	ug/L
│	Bi	209	821507	567825	1.08		ug/L
│	Th	232	1933	65049	1.82	0.752	ug/L
└	U	238	373	24115	0.07	0.283	ug/L
	Fe	56	6645286	462527453	0.77		ug/L
	Ru	101	4	6	12.86		ug/L
	ArCl	77	381	3132	2.06		ug/L
	Kr	84	931	-622	9.45		ug/L
	Sn	118	870	17215	0.08		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		68.896			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                          75.100
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                          74.702
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-12

Sample Date/Time: Tuesday, June 27, 2006 17:56:27
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbl200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-12.071
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 95
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.93

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	53514	0.15		ug/L
│	Be	9	7	768	5.80	0.454	ug/L
│	Al	27	50334	179836176	1.97	8774.496	ug/L
│	Sc	45	463094	376053	1.73		ug/L
│	V	51	6917	808355	0.28	27.956	ug/L
│	V-1	51	5584	990435	0.37	33.841	ug/L
│	Cr	52	20686	297259	1.44	11.464	ug/L
│	Cr	53	1914	91787	1.07	31.046	ug/L
│	Mn	55	5964	6929988	0.38	185.336	ug/L
│	Co	59	598	245725	0.22	7.629	ug/L
│	Ni	60	886	162351	0.06	23.091	ug/L
│	Ni	62	-20173	-1522173	0.53	-1446.707	ug/L
│	Cu	63	12791	202298	0.07	12.124	ug/L
│	Cu	65	6061	100695	1.65	12.467	ug/L
│	Zn	66	3175	739088	0.67	169.567	ug/L
│	Zn	67	735	116995	0.80	155.848	ug/L
│	Zn	68	2465	511427	0.53	164.199	ug/L
└>	Ge	72	907488	643599	0.83		ug/L
┌	As	75	-403	19496	2.51	4.382	ug/L
│	As-1	75	296	28628	1.19	6.380	ug/L
│	Se	77	395	3111	1.48	7.686	ug/L
│	Se	82	193	261	2.17	0.243	ug/L
│	Y	89	749932	865475	1.14		ug/L
│	Mo	95	52	4091	3.05	0.466	ug/L
│	Mo	97	32	2607	1.30	0.478	ug/L
│	Mo	98	72	6591	4.70	0.469	ug/L
│	Ag	107	288	2541	0.83	0.089	ug/L

|	Ag	109	223	2712	2.79	0.102	ug/L
|	Cd	106	908	2856	1.78	3.932	ug/L
|	Cd	108	1	215	33.62	0.514	ug/L
|	Cd	111	734	4823	0.17	0.716	ug/L
|	Cd	114	141	7374	2.03	0.510	ug/L
|>	In	115	806560	614363	1.06		ug/L
|	Sb	121	242	9703	0.14	0.546	ug/L
|	Sb	123	186	7503	2.87	0.541	ug/L
|	Ba	135	325	225800	0.12	44.584	ug/L
L	Ba	137	563	394689	1.34	44.307	ug/L
[	Tb	159	1187362	894422	0.79		ug/L
|>	Ho	165	1212300	925373	1.15		ug/L
|	Hg	201	98	312	10.67	2112.511	ug/L
|	Hg	202	210	706	7.92	544.818	ug/L
|	Tl	203	52	1206	5.63	0.043	ug/L
|	Tl	205	112	2787	2.39	0.042	ug/L
|	Pb	208	6710	14088152	1.07	158.638	ug/L
|	Bi	209	821507	576430	0.37		ug/L
|	Th	232	1933	79734	1.89	0.968	ug/L
L	U	238	373	25214	0.73	0.310	ug/L
	Fe	56	6645286	506385212	0.57		ug/L
	Ru	101	4	11	12.86		ug/L
	ArCl	77	381	3133	1.65		ug/L
	Kr	84	931	-442	92.64		ug/L
	Sn	118	870	33850	1.38		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		70.921			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|      114  Cd
|>     115  In                                   76.171
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                   76.332
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-13

Sample Date/Time: Tuesday, June 27, 2006 18:00:12
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-13.072
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 96
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.72

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	54141	2.20		ug/L
│	Be	9	7	619	5.25	0.285	ug/L
│	Al	27	50334	166836848	0.45	6339.237	ug/L
│	Sc	45	463094	373203	0.85		ug/L
│	V	51	6917	792828	0.45	21.353	ug/L
│	V-1	51	5584	984015	0.23	26.186	ug/L
│	Cr	52	20686	380100	0.35	11.548	ug/L
│	Cr	53	1914	103920	0.03	27.427	ug/L
│	Mn	55	5964	7378783	0.73	153.699	ug/L
│	Co	59	598	268922	0.75	6.503	ug/L
│	Ni	60	886	199947	1.34	22.166	ug/L
│	Ni	62	-20173	-1523202	0.31	-1127.554	ug/L
│	Cu	63	12791	273741	0.12	12.937	ug/L
│	Cu	65	6061	137318	0.60	13.400	ug/L
│	Zn	66	3175	1051283	0.75	188.028	ug/L
│	Zn	67	735	163562	0.38	169.907	ug/L
│	Zn	68	2465	725080	1.36	181.493	ug/L
└>	Ge	72	907488	639745	0.25		ug/L
┌	As	75	-403	13744	0.38	2.388	ug/L
│	As-1	75	296	22892	0.65	3.910	ug/L
│	Se	77	395	3179	0.31	6.041	ug/L
│	Se	82	193	345	8.42	0.321	ug/L
│	Y	89	749932	751177	0.67		ug/L
│	Mo	95	52	4075	3.14	0.356	ug/L
│	Mo	97	32	2612	1.85	0.368	ug/L
│	Mo	98	72	6696	0.36	0.366	ug/L
│	Ag	107	288	1977	1.40	0.052	ug/L

|	Ag	109	223	2898	4.32	0.084	ug/L
|	Cd	106	908	2412	1.22	2.394	ug/L
|	Cd	108	1	-63	109.00	-0.116	ug/L
|	Cd	111	734	3669	1.30	0.401	ug/L
|	Cd	114	141	4809	1.12	0.253	ug/L
|>	In	115	806560	619336	2.03		ug/L
|	Sb	121	242	15224	0.27	0.662	ug/L
|	Sb	123	186	11746	0.82	0.655	ug/L
|	Ba	135	325	494381	1.29	75.031	ug/L
L	Ba	137	563	858072	0.63	74.030	ug/L
[	Tb	159	1187362	896940	1.87		ug/L
|>	Ho	165	1212300	904397	0.74		ug/L
|	Hg	201	98	246	6.32	1222.844	ug/L
|	Hg	202	210	572	0.99	328.968	ug/L
|	Tl	203	52	706	3.00	0.020	ug/L
|	Tl	205	112	1758	2.25	0.020	ug/L
|	Pb	208	6710	42215529	0.62	376.651	ug/L
|	Bi	209	821507	592898	1.10		ug/L
|	Th	232	1933	42985	0.19	0.407	ug/L
L	U	238	373	26406	0.46	0.257	ug/L
	Fe	56	6645286	508921627	0.33		ug/L
	Ru	101	4	9	47.14		ug/L
	ArCl	77	381	3206	1.26		ug/L
	Kr	84	931	117	253.89		ug/L
	Sn	118	870	42432	0.15		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		70.496			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

|	114	Cd	
|>	115	In	76.787
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	74.602
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-14

Sample Date/Time: Tuesday, June 27, 2006 18:03:57
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-14.073
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 97
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.91

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	50851	0.32		ug/L
│	Be	9	7	656	2.37	0.391	ug/L
│	Al	27	50334	163438042	0.90	8036.265	ug/L
│	Sc	45	463094	376903	0.46		ug/L
│	V	51	6917	772555	1.33	26.926	ug/L
│	V-1	51	5584	952497	0.44	32.799	ug/L
│	Cr	52	20686	377300	0.05	14.842	ug/L
│	Cr	53	1914	100804	0.17	34.422	ug/L
│	Mn	55	5964	8169189	0.95	220.182	ug/L
│	Co	59	598	346655	1.40	10.850	ug/L
│	Ni	60	886	239605	0.93	34.388	ug/L
│	Ni	62	-20173	-1610366	1.52	-1543.793	ug/L
│	Cu	63	12791	2138811	0.85	134.681	ug/L
│	Cu	65	6061	1108135	1.90	143.857	ug/L
│	Zn	66	3175	5198801	0.83	1205.151	ug/L
│	Zn	67	735	835296	0.62	1125.596	ug/L
│	Zn	68	2465	3639898	0.54	1181.237	ug/L
└>	Ge	72	907488	624946	1.54		ug/L
┌	As	75	-403	13205	3.06	2.986	ug/L
│	As-1	75	296	21890	0.12	4.864	ug/L
│	Se	77	395	2954	1.65	7.270	ug/L
│	Se	82	193	283	2.25	0.295	ug/L
│	Y	89	749932	752556	0.61		ug/L
│	Mo	95	52	4075	0.51	0.464	ug/L
│	Mo	97	32	2544	4.09	0.466	ug/L
│	Mo	98	72	6526	0.38	0.464	ug/L
│	Ag	107	288	1864	6.19	0.063	ug/L

	Ag	109	223	2004	4.52	0.073	ug/L
	Cd	106	908	3074	5.15	4.352	ug/L
	Cd	108	1	566	3.46	1.355	ug/L
	Cd	111	734	9519	1.87	1.507	ug/L
	Cd	114	141	18849	0.74	1.315	ug/L
>	In	115	806560	601470	0.54		ug/L
	Sb	121	242	21102	1.43	1.199	ug/L
	Sb	123	186	16127	0.78	1.175	ug/L
	Ba	135	325	759442	0.86	149.978	ug/L
	Ba	137	563	1348957	1.05	151.476	ug/L
	Tb	159	1187362	875615	0.47		ug/L
>	Ho	165	1212300	892957	0.05		ug/L
	Hg	201	98	229	1.55	1415.677	ug/L
	Hg	202	210	498	4.41	347.553	ug/L
	Tl	203	52	615	7.94	0.022	ug/L
	Tl	205	112	1495	1.47	0.022	ug/L
	Pb	208	6710	54683937	0.76	624.561	ug/L
	Bi	209	821507	564389	1.47		ug/L
	Th	232	1933	53376	0.72	0.651	ug/L
	U	238	373	20490	0.45	0.254	ug/L
	Fe	56	6645286	538766158	1.48		ug/L
	Ru	101	4	23	3.14		ug/L
	ArCl	77	381	3008	4.19		ug/L
	Kr	84	931	-645	32.09		ug/L
	Sn	118	870	35358	1.12		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		68.866			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                74.572
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                73.658
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-15

Sample Date/Time: Tuesday, June 27, 2006 18:07:42
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-15.074
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 98
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.79

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	53239	3.12		ug/L
|	Be	9	7	760	4.56	0.384	ug/L
|	Al	27	50334	181372734	0.72	7570.304	ug/L
|	Sc	45	463094	377830	1.31		ug/L
|	V	51	6917	820277	0.36	24.272	ug/L
|	V-1	51	5584	1002742	0.26	29.314	ug/L
|	Cr	52	20686	272437	1.12	8.950	ug/L
|	Cr	53	1914	89711	0.91	25.952	ug/L
|	Mn	55	5964	8230056	0.26	188.315	ug/L
|	Co	59	598	260268	0.36	6.913	ug/L
|	Ni	60	886	158601	1.71	19.295	ug/L
|	Ni	62	-20173	-1548156	1.72	-1258.885	ug/L
|	Cu	63	12791	246222	0.52	12.733	ug/L
|	Cu	65	6061	125033	1.58	13.359	ug/L
|	Zn	66	3175	1003964	1.51	197.199	ug/L
|	Zn	67	735	157855	0.33	180.099	ug/L
|	Zn	68	2465	700920	0.83	192.685	ug/L
L>	Ge	72	907488	639091	1.19		ug/L
┌	As	75	-403	11780	2.49	2.281	ug/L
|	As-1	75	296	20614	0.41	3.906	ug/L
|	Se	77	395	3096	1.07	6.525	ug/L
|	Se	82	193	324	3.49	0.323	ug/L
|	Y	89	749932	762126	0.48		ug/L
|	Mo	95	52	3088	2.65	0.299	ug/L
|	Mo	97	32	1942	0.04	0.303	ug/L
|	Mo	98	72	5007	1.41	0.303	ug/L
|	Ag	107	288	2063	3.26	0.060	ug/L

|	Ag	109	223	2671	3.95	0.085	ug/L
|	Cd	106	908	4138	3.42	5.343	ug/L
|	Cd	108	1	976	6.47	1.995	ug/L
|	Cd	111	734	3709	7.89	0.452	ug/L
|	Cd	114	141	4040	1.85	0.235	ug/L
|>	In	115	806560	611767	0.13		ug/L
|	Sb	121	242	8551	0.13	0.409	ug/L
|	Sb	123	186	6631	0.26	0.407	ug/L
|	Ba	135	325	531767	1.29	89.620	ug/L
└	Ba	137	563	912945	0.77	87.481	ug/L
┌	Tb	159	1187362	877427	0.24		ug/L
|>	Ho	165	1212300	910976	0.45		ug/L
|	Hg	201	98	218	4.88	1108.522	ug/L
|	Hg	202	210	532	4.92	322.343	ug/L
|	Tl	203	52	979	4.91	0.030	ug/L
|	Tl	205	112	2313	4.01	0.030	ug/L
|	Pb	208	6710	17128020	0.04	166.436	ug/L
|	Bi	209	821507	587096	0.44		ug/L
|	Th	232	1933	56621	0.82	0.589	ug/L
└	U	238	373	25196	2.15	0.267	ug/L
	Fe	56	6645286	515773850	1.71		ug/L
	Ru	101	4	16	8.84		ug/L
	ArCl	77	381	3089	1.85		ug/L
	Kr	84	931	-171	33.78		ug/L
	Sn	118	870	17292	0.72		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		70.424			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

|	114	Cd	
|>	115	In	75.849
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	75.144
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-16

Sample Date/Time: Tuesday, June 27, 2006 18:11:28
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-16.075
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 99
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.69

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	54504	1.91		ug/L
│	Be	9	7	633	0.45	0.276	ug/L
│	Al	27	50334	175967762	2.25	6335.505	ug/L
│	Sc	45	463094	377298	0.39		ug/L
│	V	51	6917	836062	1.89	21.346	ug/L
│	V-1	51	5584	1029955	1.35	25.979	ug/L
│	Cr	52	20686	349131	0.89	10.012	ug/L
│	Cr	53	1914	101258	1.05	25.313	ug/L
│	Mn	55	5964	7180986	0.76	141.737	ug/L
│	Co	59	598	286652	0.45	6.569	ug/L
│	Ni	60	886	210409	0.91	22.106	ug/L
│	Ni	62	-20173	[-3871556]	[81.51]	[-2741.750]	ug/L
│	Cu	63	12791	663742	0.98	30.314	ug/L
│	Cu	65	6061	318829	0.53	30.018	ug/L
│	Zn	66	3175	2315023	1.18	392.846	ug/L
│	Zn	67	735	374741	1.78	369.516	ug/L
│	Zn	68	2465	1712794	0.33	406.835	ug/L
└>	Ge	72	907488	646991	0.94		ug/L
┌	As	75	-403	15411	2.83	2.542	ug/L
│	As-1	75	296	24559	1.92	3.994	ug/L
│	Se	77	395	3257	0.35	5.901	ug/L
│	Se	82	193	362	8.41	0.331	ug/L
│	Y	89	749932	744109	1.16		ug/L
│	Mo	95	52	3752	1.51	0.312	ug/L
│	Mo	97	32	2371	0.47	0.317	ug/L
│	Mo	98	72	6089	0.73	0.316	ug/L
│	Ag	107	288	2040	1.49	0.051	ug/L

|	114	Cd	
|>	115	In	77.321
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	75.964
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-17

Sample Date/Time: Tuesday, June 27, 2006 18:15:13
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-17.076
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 100
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.82

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
⌈	Li	6	54057	53621	0.77		ug/L
|	Be	9	7	554	13.27	0.288	ug/L
|	Al	27	50334	161408757	0.37	6940.316	ug/L
|	Sc	45	463094	379537	0.32		ug/L
|	V	51	6917	697497	0.92	21.238	ug/L
|	V-1	51	5584	882042	0.90	26.547	ug/L
|	Cr	52	20686	221768	0.82	7.404	ug/L
|	Cr	53	1914	83887	0.90	24.973	ug/L
|	Mn	55	5964	6394334	0.18	150.706	ug/L
|	Co	59	598	200391	0.75	5.481	ug/L
|	Ni	60	886	114100	0.04	14.279	ug/L
|	Ni	62	-20173	-1215307	1.27	-1015.448	ug/L
|	Cu	63	12791	180458	1.11	9.477	ug/L
|	Cu	65	6061	93078	1.61	10.118	ug/L
|	Zn	66	3175	142238	1.97	28.389	ug/L
|	Zn	67	735	26702	0.99	30.872	ug/L
|	Zn	68	2465	95421	0.58	26.595	ug/L
L>	Ge	72	907488	643903	1.22		ug/L
⌈	As	75	-403	9580	0.84	1.939	ug/L
|	As-1	75	296	18474	0.84	3.633	ug/L
|	Se	77	395	2976	3.07	6.489	ug/L
|	Se	82	193	280	2.78	0.252	ug/L
|	Y	89	749932	719455	0.36		ug/L
|	Mo	95	52	1800	4.16	0.179	ug/L
|	Mo	97	32	1178	2.63	0.189	ug/L
|	Mo	98	72	2976	0.26	0.186	ug/L
|	Ag	107	288	1786	2.18	0.053	ug/L

│	Ag	109	223	2044	1.56	0.066	ug/L
│	Cd	106	908	4834	0.23	6.676	ug/L
│	Cd	108	1	1230	5.97	2.616	ug/L
│	Cd	111	734	2739	3.41	0.325	ug/L
│	Cd	114	141	931	9.40	0.051	ug/L
│>	In	115	806560	611125	1.93		ug/L
│	Sb	121	242	4082	0.59	0.198	ug/L
│	Sb	123	186	3200	1.85	0.199	ug/L
│	Ba	135	325	201066	1.35	35.195	ug/L
└	Ba	137	563	347606	0.59	34.592	ug/L
┌	Tb	159	1187362	886879	0.66		ug/L
│>	Ho	165	1212300	887513	0.07		ug/L
│	Hg	201	98	156	6.35	691.840	ug/L
│	Hg	202	210	341	0.41	172.116	ug/L
│	Tl	203	52	782	5.06	0.025	ug/L
│	Tl	205	112	1921	3.53	0.026	ug/L
│	Pb	208	6710	1328476	0.81	13.706	ug/L
│	Bi	209	821507	566246	0.37		ug/L
│	Th	232	1933	56319	0.55	0.624	ug/L
└	U	238	373	20597	0.91	0.232	ug/L
	Fe	56	6645286	405115906	1.26		ug/L
	Ru	101	4	6	12.86		ug/L
	ArCl	77	381	3072	0.99		ug/L
	Kr	84	931	-76	103.55		ug/L
	Sn	118	870	12654	0.78		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		70.954			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

|	114	Cd	
|>	115	In	75.769
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	73.209
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-18

Sample Date/Time: Tuesday, June 27, 2006 18:18:59
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-18.077
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 101
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.9

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	52249	0.29		ug/L
|	Be	9	7	756	4.21	0.435	ug/L
|	Al	27	50334	173173522	1.57	8229.353	ug/L
|	Sc	45	463094	374758	1.13		ug/L
|	V	51	6917	775493	1.79	26.118	ug/L
|	V-1	51	5584	955034	1.24	31.782	ug/L
|	Cr	52	20686	317339	0.03	11.964	ug/L
|	Cr	53	1914	92313	0.05	30.422	ug/L
|	Mn	55	5964	7219830	1.54	188.078	ug/L
|	Co	59	598	263838	1.30	7.979	ug/L
|	Ni	60	886	166298	0.81	23.042	ug/L
|	Ni	62	-20173	-1491619	0.03	-1380.747	ug/L
|	Cu	63	12791	207284	0.52	12.118	ug/L
|	Cu	65	6061	105285	0.91	12.725	ug/L
|	Zn	66	3175	822993	0.16	183.995	ug/L
|	Zn	67	735	129124	1.12	167.613	ug/L
|	Zn	68	2465	574549	0.45	179.753	ug/L
└>	Ge	72	907488	639394	0.86		ug/L
┌	As	75	-403	17270	0.17	3.859	ug/L
|	As-1	75	296	26542	0.42	5.869	ug/L
|	Se	77	395	2908	1.48	7.100	ug/L
|	Se	82	193	257	1.38	0.240	ug/L
|	Y	89	749932	820165	0.78		ug/L
|	Mo	95	52	3894	3.04	0.440	ug/L
|	Mo	97	32	2486	2.01	0.452	ug/L
|	Mo	98	72	6310	0.35	0.446	ug/L
|	Ag	107	288	1299	3.10	0.041	ug/L

|	Ag	109	223	1684	1.55	0.060	ug/L
|	Cd	106	908	2669	0.68	3.597	ug/L
|	Cd	108	1	301	30.73	0.714	ug/L
|	Cd	111	734	3555	1.40	0.502	ug/L
|	Cd	114	141	4458	0.72	0.303	ug/L
|>	In	115	806560	598879	0.88		ug/L
|	Sb	121	242	5511	0.21	0.303	ug/L
|	Sb	123	186	4270	0.68	0.302	ug/L
|	Ba	135	325	172498	0.03	33.802	ug/L
L	Ba	137	563	298337	0.03	33.239	ug/L
[	Tb	159	1187362	891821	1.03		ug/L
|>	Ho	165	1212300	896028	0.57		ug/L
|	Hg	201	98	177	1.20	929.017	ug/L
|	Hg	202	210	417	9.00	261.195	ug/L
|	Tl	203	52	1074	4.21	0.038	ug/L
|	Tl	205	112	2546	0.36	0.038	ug/L
|	Pb	208	6710	36074824	1.47	406.066	ug/L
|	Bi	209	821507	577514	2.12		ug/L
|	Th	232	1933	66234	0.74	0.801	ug/L
L	U	238	373	24458	0.78	0.300	ug/L
	Fe	56	6645286	496918530	0.06		ug/L
	Ru	101	4	10	14.14		ug/L
	ArCl	77	381	3174	0.74		ug/L
	Kr	84	931	-429	39.67		ug/L
	Sn	118	870	23707	0.35		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		70.458			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

|	114	Cd	
|>	115	In	74.251
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	73.911
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Tuesday, June 27, 2006 18:22:44
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\25 ppb i1-57a.078
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	53615	1.58		ug/L
Be	9	7	48416	0.90	28.547	ug/L
Al	27	50334	780209	14.78	35.829	ug/L
Sc	45	463094	345659	1.87		ug/L
V	51	6917	716580	1.06	24.528	ug/L
V-1	51	5584	766120	0.33	25.904	ug/L
Cr	52	20686	635591	0.48	24.915	ug/L
Cr	53	1914	87658	0.37	29.328	ug/L
Mn	55	5964	969238	0.10	25.586	ug/L
Co	59	598	798785	1.43	24.606	ug/L
Ni	60	886	172955	0.05	24.381	ug/L
Ni	62	-20173	10036	1.29	24.304	ug/L
Cu	63	12791	402212	0.85	24.401	ug/L
Cu	65	6061	193748	0.63	24.238	ug/L
Zn	66	3175	115481	0.19	25.784	ug/L
Zn	67	735	22111	0.45	28.573	ug/L
Zn	68	2465	81458	0.91	25.403	ug/L
Ge	72	907488	698235	1.22		ug/L
As	75	-403	107360	1.49	23.204	ug/L
As-1	75	296	106940	0.73	23.337	ug/L
Se	77	395	9481	1.22	24.370	ug/L
Se	82	193	11790	1.70	24.058	ug/L
Y	89	749932	579044	1.60		ug/L
Mo	95	52	204758	1.42	22.915	ug/L
Mo	97	32	129887	0.21	23.389	ug/L
Mo	98	72	336882	0.38	23.536	ug/L
Ag	107	288	643334	0.56	23.971	ug/L

│	Ag	109	223	616225	0.04	23.970	ug/L
│	Cd	106	908	14901	2.15	25.006	ug/L
│	Cd	108	1	10635	2.66	24.843	ug/L
│	Cd	111	734	158257	0.60	25.797	ug/L
│	Cd	114	141	366910	0.59	25.065	ug/L
│>	In	115	806560	678295	0.44		ug/L
│	Sb	121	242	461180	1.87	25.731	ug/L
│	Sb	123	186	352986	0.98	25.260	ug/L
│	Ba	135	325	129392	0.84	24.855	ug/L
└	Ba	137	563	225498	1.93	24.630	ug/L
┌	Tb	159	1187362	975879	1.09		ug/L
│>	Ho	165	1212300	1002155	0.67		ug/L
│	Hg	201	98	110	5.81	252.834	ug/L
│	Hg	202	210	254	6.68	79.874	ug/L
│	Tl	203	52	660230	1.31	24.248	ug/L
│	Tl	205	112	1578694	0.42	24.091	ug/L
│	Pb	208	6710	2197927	1.18	24.522	ug/L
│	Bi	209	821507	648163	0.14		ug/L
│	Th	232	1933	1888123	0.21	23.162	ug/L
└	U	238	373	1921552	0.88	23.681	ug/L
	Fe	56	6645286	5196306	3.10		ug/L
	Ru	101	4	7	20.20		ug/L
	ArCl	77	381	9475	1.03		ug/L
	Kr	84	931	662	4.47		ug/L
	Sn	118	870	1520	20.47		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		76.942			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                                  84.097
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                  82.666
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-19

Sample Date/Time: Tuesday, June 27, 2006 18:26:29
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-19.079
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 102
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.9

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	54532	0.37		ug/L
|	Be	9	7	801	6.27	0.449	ug/L
|	Al	27	50334	187516363	2.23	8685.901	ug/L
|	Sc	45	463094	392283	1.01		ug/L
|	V	51	6917	861411	2.20	28.292	ug/L
|	V-1	51	5584	1034321	1.49	33.559	ug/L
|	Cr	52	20686	309734	2.40	11.353	ug/L
|	Cr	53	1914	90737	2.19	29.136	ug/L
|	Mn	55	5964	7099374	1.27	180.276	ug/L
|	Co	59	598	245981	1.44	7.251	ug/L
|	Ni	60	886	143354	2.86	19.346	ug/L
|	Ni	62	-20173	-1551332	0.09	-1400.068	ug/L
|	Cu	63	12791	204856	1.75	11.654	ug/L
|	Cu	65	6061	104233	0.74	12.262	ug/L
|	Zn	66	3175	387315	1.15	84.133	ug/L
|	Zn	67	735	63001	1.03	79.365	ug/L
|	Zn	68	2465	268312	0.24	81.535	ug/L
└>	Ge	72	907488	655953	1.58		ug/L
┌	As	75	-403	20873	3.12	4.536	ug/L
|	As-1	75	296	30067	1.19	6.488	ug/L
|	Se	77	395	3153	0.40	7.551	ug/L
|	Se	82	193	309	3.66	0.334	ug/L
|	Y	89	749932	861572	1.39		ug/L
|	Mo	95	52	5264	7.25	0.581	ug/L
|	Mo	97	32	3224	10.06	0.573	ug/L
|	Mo	98	72	8504	5.10	0.587	ug/L
|	Ag	107	288	3349	5.07	0.116	ug/L

	Ag	109	223	3480	3.19	0.128	ug/L
	Cd	106	908	2876	3.48	3.841	ug/L
	Cd	108	1	251	2.95	0.581	ug/L
	Cd	111	734	3391	2.85	0.461	ug/L
	Cd	114	141	3814	1.77	0.252	ug/L
>	In	115	806560	614147	0.02		ug/L
	Sb	121	242	9765	18.17	0.532	ug/L
	Sb	123	186	7527	17.40	0.526	ug/L
	Ba	135	325	189267	2.59	36.168	ug/L
	Ba	137	563	334023	2.69	36.293	ug/L
	Tb	159	1187362	928635	0.27		ug/L
>	Ho	165	1212300	948261	1.58		ug/L
	Hg	201	98	198	1.07	1019.351	ug/L
	Hg	202	210	434	1.47	254.307	ug/L
	Tl	203	52	1635	24.62	0.056	ug/L
	Tl	205	112	3997	12.90	0.057	ug/L
	Pb	208	6710	5664571	0.26	60.210	ug/L
	Bi	209	821507	574519	2.17		ug/L
	Th	232	1933	92639	8.87	1.064	ug/L
	U	238	373	26916	5.00	0.312	ug/L
	Fe	56	6645286	515475588	0.09		ug/L
	Ru	101	4	11	20.20		ug/L
	ArCl	77	381	3192	2.64		ug/L
	Kr	84	931	-1044	55.42		ug/L
	Sn	118	870	28104	0.23		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		72.282			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                         76.144
|     121  Sb
|     123  Sb
|     135  Ba
└     137  Ba
┌     159  Tb
|>    165  Ho                         78.220
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
└     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-20

Sample Date/Time: Tuesday, June 27, 2006 18:30:14
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-20.080
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 103
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.97

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	52513	3.17		ug/L
|	Be	9	7	732	4.44	0.448	ug/L
|	Al	27	50334	169954757	0.27	8581.904	ug/L
|	Sc	45	463094	377431	0.89		ug/L
|	V	51	6917	737153	1.15	26.368	ug/L
|	V-1	51	5584	908708	0.89	32.123	ug/L
|	Cr	52	20686	375962	0.43	15.164	ug/L
|	Cr	53	1914	97718	0.40	34.239	ug/L
|	Mn	55	5964	7534744	1.14	208.562	ug/L
|	Co	59	598	279347	1.47	8.977	ug/L
|	Ni	60	886	183346	0.18	27.002	ug/L
|	Ni	62	-20173	-1509546	1.10	-1484.623	ug/L
|	Cu	63	12791	259984	1.48	16.289	ug/L
|	Cu	65	6061	130746	2.29	16.919	ug/L
|	Zn	66	3175	2869027	0.40	682.835	ug/L
|	Zn	67	735	462034	0.46	639.146	ug/L
|	Zn	68	2465	2001151	0.65	666.655	ug/L
└>	Ge	72	907488	648569	0.95		ug/L
┌	As	75	-403	14633	0.27	3.429	ug/L
|	As-1	75	296	23437	0.12	5.408	ug/L
|	Se	77	395	3078	2.25	7.873	ug/L
|	Se	82	193	279	2.79	0.289	ug/L
|	Y	89	749932	813851	1.65		ug/L
|	Mo	95	52	4370	0.10	0.516	ug/L
|	Mo	97	32	2724	1.19	0.518	ug/L
|	Mo	98	72	7260	0.52	0.536	ug/L
|	Ag	107	288	2091	6.26	0.074	ug/L

│	Ag	109	223	2268	0.22	0.087	ug/L
│	Cd	106	908	2532	0.62	3.460	ug/L
│	Cd	108	1	-25	330.58	-0.064	ug/L
│	Cd	111	734	5599	2.61	0.878	ug/L
│	Cd	114	141	9301	0.65	0.669	ug/L
│>	In	115	806560	617685	0.86		ug/L
│	Sb	121	242	10410	2.75	0.608	ug/L
│	Sb	123	186	8118	2.89	0.608	ug/L
│	Ba	135	325	262853	3.84	53.857	ug/L
└	Ba	137	563	457657	0.40	53.308	ug/L
┌	Tb	159	1187362	920987	0.65		ug/L
│>	Ho	165	1212300	943158	1.01		ug/L
│	Hg	201	98	225	1.26	1359.599	ug/L
│	Hg	202	210	523	0.14	367.457	ug/L
│	Tl	203	52	1000	1.98	0.036	ug/L
│	Tl	205	112	2339	0.73	0.035	ug/L
│	Pb	208	6710	175615620	0.15	2024.444	ug/L
│	Bi	209	821507	608187	1.02		ug/L
│	Th	232	1933	68065	1.35	0.842	ug/L
└	U	238	373	24316	1.16	0.305	ug/L
	Fe	56	6645286	503079559	1.10		ug/L
	Ru	101	4	17	4.29		ug/L
	ArCl	77	381	3043	0.33		ug/L
	Kr	84	931	-1053	9.32		ug/L
	Sn	118	870	42138	0.48		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		71.469			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

|	114	Cd	
|>	115	In	76.583
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	77.799
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: i6-295 mb

Sample Date/Time: Tuesday, June 27, 2006 18:34:00
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-295 mb.081
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 104
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	52454	2.79		ug/L
Be	9	7	8	47.14	0.002	ug/L
Al	27	50334	182809	56.61	7.684	ug/L
Sc	45	463094	316703	0.09		ug/L
V	51	6917	-5770	32.24	-0.399	ug/L
V-1	51	5584	185925	1.11	6.687	ug/L
Cr	52	20686	19633	0.52	0.213	ug/L
Cr	53	1914	63153	2.72	22.728	ug/L
Mn	55	5964	14213	5.54	0.286	ug/L
Co	59	598	426	0.33	0.000	ug/L
Ni	60	886	1191	2.55	0.086	ug/L
Ni	62	-20173	-15964	0.03	-1.650	ug/L
Cu	63	12791	16188	0.52	0.476	ug/L
Cu	65	6061	7680	1.33	0.466	ug/L
Zn	66	3175	2995	15.92	0.181	ug/L
Zn	67	735	4244	6.70	5.334	ug/L
Zn	68	2465	3249	32.62	0.516	ug/L
Ge	72	907488	645940	0.00		ug/L
As	75	-403	-720	7.89	-0.097	ug/L
As-1	75	296	9309	1.97	2.178	ug/L
Se	77	395	3348	2.09	8.894	ug/L
Se	82	193	163	10.41	0.035	ug/L
Y	89	749932	536233	0.72		ug/L
Mo	95	52	174	4.69	0.016	ug/L
Mo	97	32	120	12.13	0.019	ug/L
Mo	98	72	292	6.44	0.018	ug/L
Ag	107	288	356	29.00	0.006	ug/L

│	Ag	109	223	303	25.20	0.006	ug/L
│	Cd	106	908	-165	30.28	-1.671	ug/L
│	Cd	108	1	-833	2.27	-2.137	ug/L
│	Cd	111	734	523	4.79	-0.007	ug/L
│	Cd	114	141	-21	41.49	-0.010	ug/L
│>	In	115	806560	618603	0.57		ug/L
│	Sb	121	242	1761	0.12	0.096	ug/L
│	Sb	123	186	1302	3.14	0.091	ug/L
│	Ba	135	325	378	45.14	0.027	ug/L
└	Ba	137	563	590	39.70	0.019	ug/L
┌	Tb	159	1187362	888471	1.27		ug/L
│>	Ho	165	1212300	905615	0.05		ug/L
│	Hg	201	98	88	2.42	140.242	ug/L
│	Hg	202	210	210	5.06	57.804	ug/L
│	Tl	203	52	286	1.48	0.010	ug/L
│	Tl	205	112	710	7.28	0.011	ug/L
│	Pb	208	6710	84183	6.40	0.980	ug/L
│	Bi	209	821507	575180	1.36		ug/L
│	Th	232	1933	2484	7.03	0.014	ug/L
└	U	238	373	94	15.88	-0.003	ug/L
	Fe	56	6645286	5291315	0.18		ug/L
	Ru	101	4	6	47.14		ug/L
	ArCl	77	381	3340	1.88		ug/L
	Kr	84	931	652	11.10		ug/L
	Sn	118	870	32395	0.78		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		71.179			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|     114  Cd
|>    115  In                                76.697
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
[     159  Tb
|>    165  Ho                                74.702
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: i6-295 lcs

Sample Date/Time: Tuesday, June 27, 2006 18:37:45
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-295 lcs.082
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 105
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	51134	1.39		ug/L
|	Be	9	7	9329	1.65	6.044	ug/L
|	Al	27	50334	95998	3.91	3.230	ug/L
|	Sc	45	463094	317521	1.05		ug/L
|	V	51	6917	774820	0.88	29.197	ug/L
|	V-1	51	5584	1019495	0.03	37.966	ug/L
|	Cr	52	20686	1165892	0.15	50.897	ug/L
|	Cr	53	1914	211444	0.38	78.603	ug/L
|	Mn	55	5964	9398	7.94	0.152	ug/L
|	Co	59	598	602276	0.66	20.395	ug/L
|	Ni	60	886	163810	0.13	25.391	ug/L
|	Ni	62	-20173	8997	1.32	24.165	ug/L
|	Cu	63	12791	747965	0.14	50.530	ug/L
|	Cu	65	6061	356883	0.96	49.692	ug/L
|	Zn	66	3175	211061	1.03	52.369	ug/L
|	Zn	67	735	38735	0.50	55.729	ug/L
|	Zn	68	2465	149704	0.22	51.948	ug/L
└>	Ge	72	907488	635104	1.32		ug/L
┌	As	75	-403	40503	0.10	9.738	ug/L
|	As-1	75	296	51977	0.24	12.538	ug/L
|	Se	77	395	5493	0.40	15.323	ug/L
|	Se	82	193	2396	0.24	5.156	ug/L
|	Y	89	749932	528133	0.45		ug/L
|	Mo	95	52	129	14.64	0.011	ug/L
|	Mo	97	32	83	28.59	0.012	ug/L
|	Mo	98	72	239	1.68	0.014	ug/L
|	Ag	107	288	219302	0.68	9.045	ug/L

	Ag	109	223	212283	0.69	9.140	ug/L
	Cd	106	908	5863	1.85	10.137	ug/L
	Cd	108	1	3821	1.17	9.887	ug/L
	Cd	111	734	58845	1.28	10.566	ug/L
	Cd	114	141	136470	0.34	10.321	ug/L
>	In	115	806560	612543	2.03		ug/L
	Sb	121	242	328554	2.02	20.306	ug/L
	Sb	123	186	250031	1.62	19.818	ug/L
	Ba	135	325	240170	2.54	51.140	ug/L
	Ba	137	563	420360	0.06	50.906	ug/L
	Tb	159	1187362	885218	2.25		ug/L
>	Ho	165	1212300	896980	0.22		ug/L
	Hg	201	98	100	7.07	272.437	ug/L
	Hg	202	210	218	11.03	69.421	ug/L
	Tl	203	52	118115	0.58	4.845	ug/L
	Tl	205	112	287193	0.02	4.895	ug/L
	Pb	208	6710	1655582	0.56	20.626	ug/L
	Bi	209	821507	577339	1.05		ug/L
	Th	232	1933	2103	15.17	0.009	ug/L
	U	238	373	104	4.08	-0.002	ug/L
	Fe	56	6645286	5084346	0.66		ug/L
	Ru	101	4	7	32.64		ug/L
	ArCl	77	381	5622	0.57		ug/L
	Kr	84	931	718	8.66		ug/L
	Sn	118	870	3042	3.46		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		69.985			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	Ag	109	223	3094	2.90	0.085	ug/L
	Cd	106	908	2781	4.37	2.758	ug/L
	Cd	108	1	-176	3.67	-0.310	ug/L
	Cd	111	734	4927	1.75	0.535	ug/L
	Cd	114	141	7289	0.67	0.368	ug/L
>	In	115	806560	623639	2.01		ug/L
	Sb	121	242	10309	0.95	0.424	ug/L
	Sb	123	186	7634	0.70	0.402	ug/L
	Ba	135	325	689229	0.48	99.549	ug/L
	Ba	137	563	1198681	0.43	98.447	ug/L
	Tb	159	1187362	909695	0.07		ug/L
>	Ho	165	1212300	920908	2.52		ug/L
	Hg	201	98	276	0.51	1342.799	ug/L
	Hg	202	210	662	3.63	374.466	ug/L
	Tl	203	52	744	1.43	0.019	ug/L
	Tl	205	112	1828	1.16	0.020	ug/L
	Pb	208	6710	36432178	2.03	305.933	ug/L
	Bi	209	821507	592125	1.58		ug/L
	Th	232	1933	58821	1.87	0.529	ug/L
	U	238	373	32203	0.11	0.296	ug/L
	Fe	56	6645286	S	S		ug/L
	Ru	101	4	16	13.69		ug/L
	ArCl	77	381	3220	0.42		ug/L
	Kr	84	931	-409	78.41		ug/L
	Sn	118	870	58186	1.69		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		71.295			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|       114  Cd
|>      115  In                                     75.945
|       121  Sb
|       123  Sb
|       135  Ba
L       137  Ba
Γ       159  Tb
|>      165  Ho                                     73.990
|       201  Hg
|       202  Hg
|       203  Tl
|       205  Tl
|       208  Pb
|       209  Bi
|       232  Th
L       238  U
         56  Fe
        101  Ru
         77  ArCl
         84  Kr
        118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-21

Sample Date/Time: Tuesday, June 27, 2006 18:41:30
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-21.083
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 106
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.89

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	52486	0.56		ug/L
Be	9	7	747	0.95	0.427	ug/L
Al	27	50334	166037792	0.39	7827.461	ug/L
Sc	45	463094	373680	0.19		ug/L
V	51	6917	754222	2.48	25.191	ug/L
V-1	51	5584	933195	2.33	30.799	ug/L
Cr	52	20686	319744	0.90	11.963	ug/L
Cr	53	1914	93635	0.86	30.615	ug/L
Mn	55	5964	7224294	1.34	186.676	ug/L
Co	59	598	256430	1.25	7.692	ug/L
Ni	60	886	162275	0.45	22.302	ug/L
Ni	62	-20173	-1490480	2.06	-1368.436	ug/L
Cu	63	12791	204375	0.58	11.846	ug/L
Cu	65	6061	102039	1.74	12.217	ug/L
Zn	66	3175	1181240	1.45	262.153	ug/L
Zn	67	735	182972	0.00	235.893	ug/L
Zn	68	2465	822324	0.33	255.436	ug/L
Ge	72	907488	637451	1.34		ug/L
As	75	-403	17138	1.76	3.751	ug/L
As-1	75	296	26362	0.18	5.708	ug/L
Se	77	395	3155	1.73	7.603	ug/L
Se	82	193	272	2.08	0.264	ug/L
Y	89	749932	824006	0.98		ug/L
Mo	95	52	4005	0.10	0.443	ug/L
Mo	97	32	2506	3.63	0.446	ug/L
Mo	98	72	6341	1.41	0.439	ug/L
Ag	107	288	2166	4.51	0.073	ug/L

	Ag	109	223	2747	6.21	0.100	ug/L
	Cd	106	908	1720	5.08	1.835	ug/L
	Cd	108	1	-498	18.38	-1.163	ug/L
	Cd	111	734	6017	0.68	0.893	ug/L
	Cd	114	141	10603	3.39	0.716	ug/L
>	In	115	806560	604673	0.24		ug/L
	Sb	121	242	33175	5.26	1.839	ug/L
	Sb	123	186	26202	2.18	1.863	ug/L
	Ba	135	325	293523	0.86	56.364	ug/L
	Ba	137	563	512499	0.78	55.955	ug/L
	Tb	159	1187362	909328	1.00		ug/L
>	Ho	165	1212300	922490	0.81		ug/L
	Hg	201	98	255	13.06	1541.622	ug/L
	Hg	202	210	594	0.24	416.751	ug/L
	Tl	203	52	1413	8.06	0.049	ug/L
	Tl	205	112	3448	10.40	0.050	ug/L
	Pb	208	6710	41418492	1.05	447.824	ug/L
	Bi	209	821507	597828	1.05		ug/L
	Th	232	1933	59635	0.47	0.690	ug/L
	U	238	373	23125	0.18	0.272	ug/L
	Fe	56	6645286	496010171	2.02		ug/L
	Ru	101	4	15	18.86		ug/L
	ArCl	77	381	3172	2.72		ug/L
	Kr	84	931	-1041	29.09		ug/L
	Sn	118	870	50954	2.57		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		70.243			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                                  74.969
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
Γ     159  Tb
|>    165  Ho                                  76.094
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-22

Sample Date/Time: Tuesday, June 27, 2006 18:45:15
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-22.084
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 107
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.91

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
[	Li	6	54057	52523	1.36		ug/L
|	Be	9	7	671	11.50	0.388	ug/L
|	Al	27	50334	160965447	0.88	7693.302	ug/L
|	Sc	45	463094	371433	1.32		ug/L
|	V	51	6917	712591	2.18	24.122	ug/L
|	V-1	51	5584	887958	1.59	29.709	ug/L
|	Cr	52	20686	288500	1.66	10.882	ug/L
|	Cr	53	1914	90037	0.93	29.827	ug/L
|	Mn	55	5964	6384842	0.60	167.269	ug/L
|	Co	59	598	216336	0.49	6.578	ug/L
|	Ni	60	886	133866	1.02	18.637	ug/L
|	Ni	62	-20173	-1317834	1.47	-1225.167	ug/L
|	Cu	63	12791	207396	0.52	12.191	ug/L
|	Cu	65	6061	104745	0.88	12.726	ug/L
|	Zn	66	3175	741470	1.55	166.654	ug/L
|	Zn	67	735	116659	0.11	152.233	ug/L
|	Zn	68	2465	520419	0.63	163.692	ug/L
L>	Ge	72	907488	642818	0.37		ug/L
[	As	75	-403	17177	2.67	3.801	ug/L
|	As-1	75	296	26383	0.19	5.775	ug/L
|	Se	77	395	3028	5.09	7.338	ug/L
|	Se	82	193	238	1.78	0.192	ug/L
|	Y	89	749932	805265	0.14		ug/L
|	Mo	95	52	5201	1.45	0.583	ug/L
|	Mo	97	32	3303	0.99	0.596	ug/L
|	Mo	98	72	8491	1.97	0.595	ug/L
|	Ag	107	288	1684	3.86	0.055	ug/L

|	Ag	109	223	2022	1.92	0.073	ug/L
|	Cd	106	908	1818	0.88	2.017	ug/L
|	Cd	108	1	-311	7.61	-0.735	ug/L
|	Cd	111	734	4290	2.21	0.617	ug/L
|	Cd	114	141	6552	2.62	0.445	ug/L
|>	In	115	806560	611641	1.63		ug/L
|	Sb	121	242	9472	3.30	0.523	ug/L
|	Sb	123	186	7058	1.58	0.500	ug/L
|	Ba	135	325	200602	0.39	38.926	ug/L
L	Ba	137	563	352497	1.80	38.887	ug/L
[	Tb	159	1187362	896298	1.69		ug/L
|>	Ho	165	1212300	921810	0.22		ug/L
|	Hg	201	98	207	2.73	1162.236	ug/L
|	Hg	202	210	582	11.91	414.825	ug/L
|	Tl	203	52	1196	4.91	0.042	ug/L
|	Tl	205	112	2828	1.25	0.041	ug/L
|	Pb	208	6710	28782567	0.40	318.419	ug/L
|	Bi	209	821507	584725	2.26		ug/L
|	Th	232	1933	64443	0.11	0.765	ug/L
L	U	238	373	22868	1.35	0.275	ug/L
	Fe	56	6645286	438232158	1.47		ug/L
	Ru	101	4	12	18.45		ug/L
	ArCl	77	381	3138	4.26		ug/L
	Kr	84	931	-933	52.59		ug/L
	Sn	118	870	45326	1.52		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		70.835			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|      114  Cd
|>     115  In                                  75.833
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                  76.038
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: i6-295 ms 606247-22

Sample Date/Time: Tuesday, June 27, 2006 18:49:01
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-295 ms 606247-22.085
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 108
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.91

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	50840	0.93		ug/L
|	Be	9	7	9631	0.35	5.750	ug/L
|	Al	27	50334	180590150	0.82	8846.237	ug/L
|	Sc	45	463094	369230	1.95		ug/L
|	V	51	6917	1474678	0.65	51.348	ug/L
|	V-1	51	5584	1690341	0.43	58.086	ug/L
|	Cr	52	20686	1363708	0.62	54.957	ug/L
|	Cr	53	1914	225713	0.62	77.345	ug/L
|	Mn	55	5964	6786732	0.86	182.236	ug/L
|	Co	59	598	757021	0.84	23.623	ug/L
|	Ni	60	886	282358	0.13	40.390	ug/L
|	Ni	62	-20173	[-3772758]	[87.07]	[-3636.299]	ug/L
|	Cu	63	12791	857244	0.61	53.445	ug/L
|	Cu	65	6061	416533	0.68	53.537	ug/L
|	Zn	66	3175	982484	1.29	226.487	ug/L
|	Zn	67	735	155297	0.07	207.938	ug/L
|	Zn	68	2465	678934	0.75	219.038	ug/L
└>	Ge	72	907488	627256	0.99		ug/L
┌	As	75	-403	53047	0.58	11.849	ug/L
|	As-1	75	296	63290	0.32	14.223	ug/L
|	Se	77	395	5003	1.47	12.938	ug/L
|	Se	82	193	2178	1.46	4.340	ug/L
|	Y	89	749932	808869	0.80		ug/L
|	Mo	95	52	4163	1.66	0.476	ug/L
|	Mo	97	32	2557	1.91	0.470	ug/L
|	Mo	98	72	6688	1.28	0.478	ug/L
|	Ag	107	288	197408	0.04	7.578	ug/L

|	Ag	109	223	189719	0.71	7.605	ug/L
|	Cd	106	908	6152	3.72	9.987	ug/L
|	Cd	108	1	2995	0.69	7.211	ug/L
|	Cd	111	734	57373	0.71	9.588	ug/L
|	Cd	114	141	132073	1.83	9.300	ug/L
|>	In	115	806560	598731	1.54		ug/L
|	Sb	121	242	317890	1.03	18.284	ug/L
|	Sb	123	186	246329	1.13	18.172	ug/L
|	Ba	135	325	438192	1.26	86.932	ug/L
└	Ba	137	563	772259	0.85	87.095	ug/L
┌	Tb	159	1187362	875536	1.64		ug/L
|>	Ho	165	1212300	901570	1.62		ug/L
|	Hg	201	98	191	7.79	1054.195	ug/L
|	Hg	202	210	503	2.96	347.695	ug/L
|	Tl	203	52	107994	2.28	4.010	ug/L
|	Tl	205	112	256727	0.07	3.962	ug/L
|	Pb	208	6710	58425943	0.93	661.062	ug/L
|	Bi	209	821507	586068	0.19		ug/L
|	Th	232	1933	63822	0.70	0.775	ug/L
└	U	238	373	23436	3.54	0.289	ug/L
	Fe	56	6645286	S	S		ug/L
	Ru	101	4	14	5.24		ug/L
	ArCl	77	381	5050	0.14		ug/L
	Kr	84	931	-862	32.07		ug/L
	Sn	118	870	47446	0.42		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		69.120			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|      114  Cd
|>     115  In                                   74.233
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                   74.369
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: i6-295 dup 606247-22

Sample Date/Time: Tuesday, June 27, 2006 18:52:46
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\i6-295 dup 606247-22.086
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 109
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.91

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	50032	0.91		ug/L
Be	9	7	703	0.30	0.397	ug/L
Al	27	50334	165674243	0.09	7733.898	ug/L
Sc	45	463094	371083	1.01		ug/L
V	51	6917	746001	0.54	24.669	ug/L
V-1	51	5584	922171	0.41	30.137	ug/L
Cr	52	20686	324295	0.07	12.005	ug/L
Cr	53	1914	92255	1.32	29.852	ug/L
Mn	55	5964	10645751	0.34	272.471	ug/L
Co	59	598	225111	0.06	6.686	ug/L
Ni	60	886	148904	0.93	20.256	ug/L
Ni	62	-20173	[-6114729]	[0.00]	[-5599.982]	ug/L
Cu	63	12791	238095	0.15	13.738	ug/L
Cu	65	6061	118682	0.10	14.142	ug/L
Zn	66	3175	779158	0.83	171.060	ug/L
Zn	67	735	123532	0.63	157.476	ug/L
Zn	68	2465	543179	1.44	166.895	ug/L
Ge	72	907488	658160	0.82		ug/L
As	75	-403	17849	3.23	4.025	ug/L
As-1	75	296	26235	0.17	5.859	ug/L
Se	77	395	2924	1.74	7.215	ug/L
Se	82	193	259	4.10	0.246	ug/L
Y	89	749932	812688	0.53		ug/L
Mo	95	52	4459	1.44	0.510	ug/L
Mo	97	32	2831	2.24	0.521	ug/L
Mo	98	72	6947	2.94	0.496	ug/L
Ag	107	288	2535	0.86	0.089	ug/L

	Ag	109	223	2773	0.87	0.104	ug/L
	Cd	106	908	2104	1.56	2.603	ug/L
	Cd	108	1	-195	7.50	-0.471	ug/L
	Cd	111	734	3906	1.48	0.566	ug/L
	Cd	114	141	5593	0.87	0.386	ug/L
>	In	115	806560	599496	0.59		ug/L
	Sb	121	242	12204	11.06	0.691	ug/L
	Sb	123	186	9331	9.86	0.678	ug/L
	Ba	135	325	212950	0.22	42.159	ug/L
	Ba	137	563	373555	1.28	42.048	ug/L
	Tb	159	1187362	898397	0.38		ug/L
>	Ho	165	1212300	909195	0.72		ug/L
	Hg	201	98	183	8.14	970.072	ug/L
	Hg	202	210	473	0.45	313.651	ug/L
	Tl	203	52	1299	5.06	0.046	ug/L
	Tl	205	112	3216	1.94	0.048	ug/L
	Pb	208	6710	30487562	0.53	341.977	ug/L
	Bi	209	821507	578399	0.14		ug/L
	Th	232	1933	73578	0.82	0.888	ug/L
	U	238	373	23294	1.98	0.285	ug/L
	Fe	56	6645286	S	S		ug/L
	Ru	101	4	14	10.10		ug/L
	ArCl	77	381	2892	5.58		ug/L
	Kr	84	931	-596	192.63		ug/L
	Sn	118	870	41558	0.39		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		72.525			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

│	114	Cd	
│>	115	In	74.327
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│>	165	Ho	74.998
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-23

Sample Date/Time: Tuesday, June 27, 2006 18:56:31
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-23.087
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 110
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.76

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
⌈	Li	6	54057	50714	0.15		ug/L
|	Be	9	7	618	1.26	0.300	ug/L
|	Al	27	50334	155359917	1.32	6241.090	ug/L
|	Sc	45	463094	366517	0.31		ug/L
|	V	51	6917	743731	2.07	21.168	ug/L
|	V-1	51	5584	932073	1.05	26.219	ug/L
|	Cr	52	20686	902082	2.03	29.644	ug/L
|	Cr	53	1914	162579	0.08	45.586	ug/L
|	Mn	55	5964	6442491	1.29	141.867	ug/L
|	Co	59	598	244483	1.43	6.250	ug/L
|	Ni	60	886	139510	1.98	16.328	ug/L
|	Ni	62	-20173	-1376296	0.28	-1076.202	ug/L
|	Cu	63	12791	527580	1.13	26.794	ug/L
|	Cu	65	6061	255572	0.93	26.762	ug/L
|	Zn	66	3175	3196720	1.44	605.345	ug/L
|	Zn	67	735	510307	1.80	561.641	ug/L
|	Zn	68	2465	2222301	0.14	589.104	ug/L
L>	Ge	72	907488	638722	1.51		ug/L
⌈	As	75	-403	18705	1.85	3.453	ug/L
|	As-1	75	296	27387	1.53	5.010	ug/L
|	Se	77	395	3063	0.09	6.208	ug/L
|	Se	82	193	361	7.05	0.375	ug/L
|	Y	89	749932	766465	2.75		ug/L
|	Mo	95	52	4159	4.66	0.389	ug/L
|	Mo	97	32	2646	0.02	0.398	ug/L
|	Mo	98	72	6559	0.67	0.383	ug/L
|	Ag	107	288	3559	0.62	0.105	ug/L

│	Ag	109	223	4028	0.97	0.127	ug/L
│	Cd	106	908	-12032	0.06	-18.976	ug/L
│	Cd	108	1	-14722	0.42	-29.013	ug/L
│	Cd	111	734	7530	2.56	0.963	ug/L
│	Cd	114	141	12855	4.45	0.734	ug/L
│>	In	115	806560	611487	2.91		ug/L
│	Sb	121	242	30985	2.54	1.450	ug/L
│	Sb	123	186	23639	1.64	1.419	ug/L
│	Ba	135	325	726718	2.45	117.903	ug/L
└	Ba	137	563	1268501	0.14	117.053	ug/L
┌	Tb	159	1187362	890232	0.53		ug/L
│>	Ho	165	1212300	918170	0.92		ug/L
│	Hg	201	98	1275	3.33	8835.320	ug/L
│	Hg	202	210	3087	3.94	2410.154	ug/L
│	Tl	203	52	921	3.76	0.027	ug/L
│	Tl	205	112	2383	3.29	0.029	ug/L
│	Pb	208	6710	254987361	0.52	2365.766	ug/L
│	Bi	209	821507	654625	1.48		ug/L
│	Th	232	1933	51612	0.10	0.511	ug/L
└	U	238	373	26773	0.30	0.271	ug/L
	Fe	56	6645286	457834322	0.25		ug/L
	Ru	101	4	13	5.66		ug/L
	ArCl	77	381	3071	1.43		ug/L
	Kr	84	931	-606	130.07		ug/L
	Sn	118	870	589978	0.07		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		70.384			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|     114  Cd
|>    115  In                                   75.814
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
[     159  Tb
|>    165  Ho                                   75.738
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-24

Sample Date/Time: Tuesday, June 27, 2006 19:00:17
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-24.088
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 111
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.75

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	51494	0.30		ug/L
Be	9	7	533	0.66	0.255	ug/L
Al	27	50334	142541207	0.14	5655.861	ug/L
Sc	45	463094	358089	0.41		ug/L
V	51	6917	649626	0.08	18.247	ug/L
V-1	51	5584	834590	0.25	23.177	ug/L
Cr	52	20686	339000	1.37	10.706	ug/L
Cr	53	1914	97534	0.81	26.858	ug/L
Mn	55	5964	6051624	1.72	131.635	ug/L
Co	59	598	223148	1.36	5.634	ug/L
Ni	60	886	148470	1.61	17.171	ug/L
Ni	62	-20173	-1243732	0.18	-959.450	ug/L
Cu	63	12791	429694	1.31	21.472	ug/L
Cu	65	6061	209060	0.20	21.542	ug/L
Zn	66	3175	1307235	0.44	244.274	ug/L
Zn	67	735	202776	0.17	220.113	ug/L
Zn	68	2465	905315	0.59	236.767	ug/L
Ge	72	907488	638166	1.16		ug/L
As	75	-403	11325	2.51	2.124	ug/L
As-1	75	296	20308	0.67	3.726	ug/L
Se	77	395	3115	0.82	6.371	ug/L
Se	82	193	268	5.80	0.219	ug/L
Y	89	749932	713863	1.82		ug/L
Mo	95	52	3227	1.73	0.303	ug/L
Mo	97	32	2077	2.10	0.314	ug/L
Mo	98	72	5106	4.90	0.299	ug/L
Ag	107	288	1899	2.31	0.053	ug/L

|	Ag	109	223	2376	5.03	0.073	ug/L
|	Cd	106	908	1324	2.49	0.973	ug/L
|	Cd	108	1	-822	2.78	-1.630	ug/L
|	Cd	111	734	3536	4.00	0.415	ug/L
|	Cd	114	141	4910	0.94	0.278	ug/L
|>	In	115	806560	600052	1.55		ug/L
|	Sb	121	242	11255	6.44	0.524	ug/L
|	Sb	123	186	8321	2.55	0.497	ug/L
|	Ba	135	325	439416	0.61	71.679	ug/L
L	Ba	137	563	774298	0.68	71.814	ug/L
[	Tb	159	1187362	890357	1.93		ug/L
|>	Ho	165	1212300	908473	1.29		ug/L
|	Hg	201	98	319	10.43	1796.585	ug/L
|	Hg	202	210	722	3.43	463.492	ug/L
|	Tl	203	52	725	3.90	0.021	ug/L
|	Tl	205	112	1779	2.82	0.021	ug/L
|	Pb	208	6710	64545397	1.12	597.211	ug/L
|	Bi	209	821507	585551	1.33		ug/L
|	Th	232	1933	39037	0.91	0.382	ug/L
L	U	238	373	21778	1.19	0.219	ug/L
	Fe	56	6645286	414810611	0.14		ug/L
	Ru	101	4	13	39.60		ug/L
	ArCl	77	381	3091	1.12		ug/L
	Kr	84	931	-463	77.04		ug/L
	Sn	118	870	61905	0.35		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		70.322			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|     114  Cd
|>    115  In                                  74.396
|     121  Sb
|     123  Sb
|     135  Ba
└     137  Ba
┌     159  Tb
|>    165  Ho                                  74.938
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
└     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Tuesday, June 27, 2006 19:04:02
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\25 ppb i1-57a.089
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	51747	1.83		ug/L
Be	9	7	47229	1.64	28.534	ug/L
Al	27	50334	693455	12.06	32.473	ug/L
Sc	45	463094	336523	0.43		ug/L
V	51	6917	699482	0.45	24.535	ug/L
V-1	51	5584	755046	0.27	26.159	ug/L
Cr	52	20686	614334	0.63	24.670	ug/L
Cr	53	1914	87738	0.20	30.090	ug/L
Mn	55	5964	958014	0.87	25.913	ug/L
Co	59	598	781617	0.44	24.671	ug/L
Ni	60	886	169382	0.67	24.466	ug/L
Ni	62	-20173	9297	1.70	23.818	ug/L
Cu	63	12791	395912	0.20	24.617	ug/L
Cu	65	6061	190969	1.73	24.485	ug/L
Zn	66	3175	112740	0.49	25.793	ug/L
Zn	67	735	21515	2.59	28.482	ug/L
Zn	68	2465	80747	0.07	25.813	ug/L
Ge	72	907488	681435	0.95		ug/L
As	75	-403	105434	0.65	23.491	ug/L
As-1	75	296	105262	0.40	23.682	ug/L
Se	77	395	9408	3.72	24.956	ug/L
Se	82	193	11682	0.42	24.579	ug/L
Y	89	749932	566150	0.22		ug/L
Mo	95	52	201456	0.90	23.245	ug/L
Mo	97	32	127835	0.09	23.731	ug/L
Mo	98	72	328878	0.42	23.688	ug/L
Ag	107	288	628722	0.18	24.151	ug/L

	Ag	109	223	605024	0.02	24.262	ug/L
	Cd	106	908	14439	0.58	24.977	ug/L
	Cd	108	1	10560	1.41	25.432	ug/L
	Cd	111	734	155725	1.22	26.172	ug/L
	Cd	114	141	362087	0.35	25.501	ug/L
>	In	115	806560	657962	0.74		ug/L
	Sb	121	242	454992	0.06	26.172	ug/L
	Sb	123	186	346672	0.32	25.576	ug/L
	Ba	135	325	129074	1.05	25.562	ug/L
	Ba	137	563	220750	0.68	24.856	ug/L
	Tb	159	1187362	968967	0.41		ug/L
>	Ho	165	1212300	998355	2.30		ug/L
	Hg	201	98	111	16.00	263.670	ug/L
	Hg	202	210	247	0.29	73.371	ug/L
	Tl	203	52	668269	0.57	24.640	ug/L
	Tl	205	112	1565420	2.07	23.991	ug/L
	Pb	208	6710	2213819	0.67	24.797	ug/L
	Bi	209	821507	643850	0.29		ug/L
	Th	232	1933	1898705	0.35	23.387	ug/L
	U	238	373	1942343	1.34	24.039	ug/L
	Fe	56	6645286	5338725	1.39		ug/L
	Ru	101	4	6	12.86		ug/L
	ArCl	77	381	9466	0.46		ug/L
	Kr	84	931	672	9.84		ug/L
	Sn	118	870	1543	5.50		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		75.090			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                   81.576
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                   82.352
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-25

Sample Date/Time: Tuesday, June 27, 2006 19:07:47
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-25.090
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 112
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.76

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	53173	3.95		ug/L
Be	9	7	791	5.28	0.381	ug/L
Al	27	50334	179964488	0.24	7164.000	ug/L
Sc	45	463094	378873	1.11		ug/L
V	51	6917	780523	1.10	22.020	ug/L
V-1	51	5584	954898	0.92	26.617	ug/L
Cr	52	20686	400239	0.71	12.762	ug/L
Cr	53	1914	101509	1.67	28.057	ug/L
Mn	55	5964	8091311	0.74	176.574	ug/L
Co	59	598	286375	0.52	7.256	ug/L
Ni	60	886	182267	1.23	21.161	ug/L
Ni	62	-20173	-1485042	0.51	-1151.306	ug/L
Cu	63	12791	310854	1.92	15.449	ug/L
Cu	65	6061	154395	0.90	15.837	ug/L
Zn	66	3175	3019707	0.99	566.590	ug/L
Zn	67	735	479722	1.84	523.130	ug/L
Zn	68	2465	2111050	1.77	554.419	ug/L
Ge	72	907488	644583	0.73		ug/L
As	75	-403	12293	0.53	2.318	ug/L
As-1	75	296	20884	0.98	3.860	ug/L
Se	77	395	3064	1.04	6.300	ug/L
Se	82	193	343	2.27	0.351	ug/L
Y	89	749932	779355	0.71		ug/L
Mo	95	52	5325	5.51	0.505	ug/L
Mo	97	32	3329	8.90	0.508	ug/L
Mo	98	72	8807	11.40	0.522	ug/L
Ag	107	288	3996	23.79	0.120	ug/L

│	Ag	109	223	4243	17.64	0.135	ug/L
│	Cd	106	908	3313	1.71	3.979	ug/L
│	Cd	108	1	441	4.49	0.878	ug/L
│	Cd	111	734	5742	2.09	0.726	ug/L
│	Cd	114	141	9145	1.62	0.528	ug/L
│>	In	115	806560	603482	0.22		ug/L
│	Sb	121	242	16854	11.72	0.795	ug/L
│	Sb	123	186	12836	9.07	0.776	ug/L
│	Ba	135	325	467526	1.31	76.837	ug/L
└	Ba	137	563	812659	0.08	75.940	ug/L
┌	Tb	159	1187362	896299	2.45		ug/L
│>	Ho	165	1212300	933566	0.54		ug/L
│	Hg	201	98	553	5.37	3454.366	ug/L
│	Hg	202	210	1283	5.13	907.586	ug/L
│	Tl	203	52	1061	7.80	0.031	ug/L
│	Tl	205	112	2549	7.27	0.031	ug/L
│	Pb	208	6710	84820396	1.43	773.882	ug/L
│	Bi	209	821507	599527	1.66		ug/L
│	Th	232	1933	65998	13.02	0.646	ug/L
└	U	238	373	26063	1.95	0.259	ug/L
	Fe	56	6645286	495973524	0.58		ug/L
	Ru	101	4	13	0.00		ug/L
	ArCl	77	381	3027	1.68		ug/L
	Kr	84	931	-397	33.63		ug/L
	Sn	118	870	33710	2.85		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		71.029			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|    114  Cd
|>   115  In                                  74.822
|    121  Sb
|    123  Sb
|    135  Ba
└    137  Ba
┌    159  Tb
|>   165  Ho                                  77.008
|    201  Hg
|    202  Hg
|    203  Tl
|    205  Tl
|    208  Pb
|    209  Bi
|    232  Th
└    238  U
      56  Fe
     101  Ru
      77  ArCl
      84  Kr
     118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-26

Sample Date/Time: Tuesday, June 27, 2006 19:11:33
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-26.091
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 113
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.8

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	51617	0.79		ug/L
Be	9	7	574	3.70	0.294	ug/L
Al	27	50334	147773363	1.02	6261.176	ug/L
Sc	45	463094	365692	2.73		ug/L
V	51	6917	670839	1.77	20.122	ug/L
V-1	51	5584	844529	1.16	25.042	ug/L
Cr	52	20686	362699	1.73	12.264	ug/L
Cr	53	1914	96933	0.98	28.502	ug/L
Mn	55	5964	6731276	0.61	156.329	ug/L
Co	59	598	216720	0.10	5.842	ug/L
Ni	60	886	131654	0.36	16.248	ug/L
Ni	62	-20173	-1237938	0.50	-1019.616	ug/L
Cu	63	12791	286166	1.02	15.103	ug/L
Cu	65	6061	142429	1.27	15.517	ug/L
Zn	66	3175	1340181	1.34	267.381	ug/L
Zn	67	735	208098	0.02	241.207	ug/L
Zn	68	2465	943707	1.00	263.525	ug/L
Ge	72	907488	637518	1.14		ug/L
As	75	-403	9267	0.91	1.882	ug/L
As-1	75	296	17986	0.43	3.549	ug/L
Se	77	395	2999	3.04	6.591	ug/L
Se	82	193	306	6.93	0.311	ug/L
Y	89	749932	725507	0.36		ug/L
Mo	95	52	3314	6.04	0.335	ug/L
Mo	97	32	2067	2.33	0.336	ug/L
Mo	98	72	5288	0.41	0.334	ug/L
Ag	107	288	2083	1.56	0.064	ug/L

│	Ag	109	223	2582	4.93	0.086	ug/L
│	Cd	106	908	2649	5.18	3.197	ug/L
│	Cd	108	1	183	14.01	0.388	ug/L
│	Cd	111	734	4166	0.27	0.542	ug/L
│	Cd	114	141	5838	3.81	0.358	ug/L
│>	In	115	806560	594313	2.31		ug/L
│	Sb	121	242	14851	2.79	0.748	ug/L
│	Sb	123	186	11449	1.28	0.740	ug/L
│	Ba	135	325	508796	0.61	89.402	ug/L
└	Ba	137	563	880427	0.54	87.971	ug/L
┌	Tb	159	1187362	889516	1.47		ug/L
│>	Ho	165	1212300	902683	1.33		ug/L
│	Hg	201	98	242	3.51	1331.008	ug/L
│	Hg	202	210	505	4.63	307.107	ug/L
│	Tl	203	52	792	3.75	0.025	ug/L
│	Tl	205	112	1944	2.91	0.025	ug/L
│	Pb	208	6710	44715575	0.09	444.164	ug/L
│	Bi	209	821507	576166	0.59		ug/L
│	Th	232	1933	43518	0.93	0.459	ug/L
└	U	238	373	20423	1.22	0.221	ug/L
	Fe	56	6645286	412593496	0.48		ug/L
	Ru	101	4	15	43.89		ug/L
	ArCl	77	381	3038	0.65		ug/L
	Kr	84	931	-375	99.54		ug/L
	Sn	118	870	32769	1.81		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		70.251			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|     114  Cd
|>    115  In                                     73.685
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
[     159  Tb
|>    165  Ho                                     74.460
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-27

Sample Date/Time: Tuesday, June 27, 2006 19:15:19
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-27.092
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 114
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.81

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	51440	0.43		ug/L
|	Be	9	7	657	2.26	0.345	ug/L
|	Al	27	50334	172118421	0.75	7474.518	ug/L
|	Sc	45	463094	365094	1.63		ug/L
|	V	51	6917	755891	1.73	23.262	ug/L
|	V-1	51	5584	933453	1.12	28.386	ug/L
|	Cr	52	20686	525551	0.59	18.458	ug/L
|	Cr	53	1914	115637	0.77	34.933	ug/L
|	Mn	55	5964	7955963	1.47	189.405	ug/L
|	Co	59	598	308831	1.29	8.537	ug/L
|	Ni	60	886	196448	0.29	24.890	ug/L
|	Ni	62	-20173	-1482453	1.44	-1254.034	ug/L
|	Cu	63	12791	812681	1.54	44.893	ug/L
|	Cu	65	6061	399529	1.09	45.506	ug/L
|	Zn	66	3175	5028908	0.54	1029.710	ug/L
|	Zn	67	735	799890	0.24	952.064	ug/L
|	Zn	68	2465	3487980	0.35	999.720	ug/L
└>	Ge	72	907488	629725	0.50		ug/L
┌	As	75	-403	21057	0.32	4.214	ug/L
|	As-1	75	296	29691	0.87	5.904	ug/L
|	Se	77	395	2979	0.21	6.551	ug/L
|	Se	82	193	347	5.71	0.386	ug/L
|	Y	89	749932	738890	1.60		ug/L
|	Mo	95	52	3876	0.96	0.393	ug/L
|	Mo	97	32	2428	0.80	0.397	ug/L
|	Mo	98	72	6069	4.30	0.385	ug/L
|	Ag	107	288	2758	1.08	0.087	ug/L

	Ag	109	223	3393	0.00	0.115	ug/L
	Cd	106	908	3397	4.82	4.408	ug/L
	Cd	108	1	682	5.85	1.457	ug/L
	Cd	111	734	12433	1.02	1.782	ug/L
	Cd	114	141	25702	0.89	1.602	ug/L
>	In	115	806560	599892	0.20		ug/L
	Sb	121	242	33020	0.01	1.679	ug/L
	Sb	123	186	25467	0.24	1.661	ug/L
	Ba	135	325	808625	0.43	142.522	ug/L
	Ba	137	563	1402635	1.88	140.563	ug/L
	Tb	159	1187362	868943	1.50		ug/L
>	Ho	165	1212300	896861	0.26		ug/L
	Hg	201	98	826	0.68	6048.080	ug/L
	Hg	202	210	1905	0.15	1572.119	ug/L
	Tl	203	52	726	12.96	0.023	ug/L
	Tl	205	112	1579	6.68	0.021	ug/L
	Pb	208	6710	207708145	0.29	2102.561	ug/L
	Bi	209	821507	611556	0.35		ug/L
	Th	232	1933	55864	1.40	0.605	ug/L
	U	238	373	30027	1.89	0.332	ug/L
	Fe	56	6645286	495324066	1.40		ug/L
	Ru	101	4	15	18.86		ug/L
	ArCl	77	381	3044	1.46		ug/L
	Kr	84	931	-399	47.62		ug/L
	Sn	118	870	40682	2.26		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		69.392			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                          74.377
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
Γ     159  Tb
|>    165  Ho                          73.980
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-28

Sample Date/Time: Tuesday, June 27, 2006 19:19:04
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-28.093
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 115
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.85

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	54057	52039	1.68		ug/L
|	Be	9	7	537	11.32	0.296	ug/L
|	Al	27	50334	142111480	1.23	6480.077	ug/L
|	Sc	45	463094	360672	0.86		ug/L
|	V	51	6917	659877	0.59	21.306	ug/L
|	V-1	51	5584	835594	0.38	26.672	ug/L
|	Cr	52	20686	471676	2.08	17.339	ug/L
|	Cr	53	1914	108558	0.07	34.413	ug/L
|	Mn	55	5964	6628494	0.60	165.695	ug/L
|	Co	59	598	256427	0.85	7.442	ug/L
|	Ni	60	886	192724	1.69	25.637	ug/L
|	Ni	62	-20173	-1325182	0.97	-1175.830	ug/L
|	Cu	63	12791	301464	0.84	17.160	ug/L
|	Cu	65	6061	148006	0.64	17.383	ug/L
|	Zn	66	3175	2216113	0.17	476.262	ug/L
|	Zn	67	735	356645	0.63	445.443	ug/L
|	Zn	68	2465	1626688	0.67	489.318	ug/L
└>	Ge	72	907488	629331	1.40		ug/L
┌	As	75	-403	10876	2.41	2.318	ug/L
|	As-1	75	296	19657	1.29	4.093	ug/L
|	Se	77	395	2993	0.95	6.923	ug/L
|	Se	82	193	266	3.46	0.244	ug/L
|	Y	89	749932	724838	1.35		ug/L
|	Mo	95	52	3457	0.36	0.368	ug/L
|	Mo	97	32	2256	1.92	0.387	ug/L
|	Mo	98	72	5805	0.83	0.387	ug/L
|	Ag	107	288	1592	0.00	0.049	ug/L

	Ag	109	223	2001	0.81	0.069	ug/L
	Cd	106	908	2172	2.12	2.551	ug/L
	Cd	108	1	116	0.01	0.258	ug/L
	Cd	111	734	4079	1.88	0.557	ug/L
	Cd	114	141	6547	0.22	0.424	ug/L
>	In	115	806560	598815	0.31		ug/L
	Sb	121	242	19824	0.28	1.056	ug/L
	Sb	123	186	15020	0.13	1.026	ug/L
	Ba	135	325	441269	0.88	81.740	ug/L
	Ba	137	563	761423	1.25	80.197	ug/L
	Tb	159	1187362	886627	0.67		ug/L
>	Ho	165	1212300	904655	0.23		ug/L
	Hg	201	98	240	0.89	1389.184	ug/L
	Hg	202	210	610	1.39	423.709	ug/L
	Tl	203	52	586	0.12	0.019	ug/L
	Tl	205	112	1402	4.19	0.019	ug/L
	Pb	208	6710	33053972	0.41	348.049	ug/L
	Bi	209	821507	583171	1.90		ug/L
	Th	232	1933	46587	1.23	0.522	ug/L
	U	238	373	20230	0.58	0.232	ug/L
	Fe	56	6645286	443292773	0.98		ug/L
	Ru	101	4	11	12.86		ug/L
	ArCl	77	381	3025	0.33		ug/L
	Kr	84	931	-368	77.75		ug/L
	Sn	118	870	26190	2.08		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		69.349			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	74.243
|	121	Sb	
|	123	Sb	
|	135	Ba	
⌊	137	Ba	
⌈	159	Tb	
|>	165	Ho	74.623
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
⌊	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-29

Sample Date/Time: Tuesday, June 27, 2006 19:22:50
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-29.094
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 116
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.77

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	51573	1.81		ug/L
Be	9	7	758	1.96	0.389	ug/L
Al	27	50334	208205125	1.54	8813.188	ug/L
Sc	45	463094	370033	1.33		ug/L
V	51	6917	903340	0.24	27.131	ug/L
V-1	51	5584	1076671	0.31	31.936	ug/L
Cr	52	20686	369477	0.02	12.512	ug/L
Cr	53	1914	97202	0.42	28.571	ug/L
Mn	55	5964	8347483	1.49	193.748	ug/L
Co	59	598	258407	0.15	6.962	ug/L
Ni	60	886	143945	1.16	17.761	ug/L
Ni	62	-20173	-1542879	0.37	-1273.077	ug/L
Cu	63	12791	272648	0.79	14.374	ug/L
Cu	65	6061	135293	0.71	14.722	ug/L
Zn	66	3175	2075358	0.91	414.014	ug/L
Zn	67	735	337755	0.05	391.546	ug/L
Zn	68	2465	1516242	0.38	423.380	ug/L
Ge	72	907488	614166	1.38		ug/L
As	75	-403	11585	1.62	2.297	ug/L
As-1	75	296	20333	1.30	3.951	ug/L
Se	77	395	2998	3.96	6.486	ug/L
Se	82	193	379	3.55	0.445	ug/L
Y	89	749932	752546	0.67		ug/L
Mo	95	52	3350	1.87	0.333	ug/L
Mo	97	32	2121	0.29	0.339	ug/L
Mo	98	72	5460	1.15	0.339	ug/L
Ag	107	288	2402	3.53	0.073	ug/L

	Ag	109	223	2944	0.31	0.097	ug/L
	Cd	106	908	4205	4.27	5.636	ug/L
	Cd	108	1	909	1.92	1.905	ug/L
	Cd	111	734	5498	0.07	0.730	ug/L
	Cd	114	141	7944	2.98	0.481	ug/L
>	In	115	806560	581713	1.36		ug/L
	Sb	121	242	11487	1.87	0.567	ug/L
	Sb	123	186	8633	3.09	0.546	ug/L
	Ba	135	325	548560	1.47	94.788	ug/L
	Ba	137	563	955488	1.40	93.855	ug/L
	Tb	159	1187362	859499	0.08		ug/L
>	Ho	165	1212300	879942	0.80		ug/L
	Hg	201	98	395	7.88	2519.680	ug/L
	Hg	202	210	909	2.72	658.299	ug/L
	Tl	203	52	735	1.92	0.022	ug/L
	Tl	205	112	1700	1.83	0.022	ug/L
	Pb	208	6710	40698226	0.58	399.123	ug/L
	Bi	209	821507	562313	0.18		ug/L
	Th	232	1933	47167	1.40	0.493	ug/L
	U	238	373	25639	2.83	0.274	ug/L
	Fe	56	6645286	513485817	0.39		ug/L
	Ru	101	4	13	21.76		ug/L
	ArCl	77	381	3106	0.43		ug/L
	Kr	84	931	-592	38.34		ug/L
	Sn	118	870	28415	1.77		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		67.678			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                      72.123
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
┌      159  Tb
|>     165  Ho                                      72.585
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-30

Sample Date/Time: Tuesday, June 27, 2006 19:26:35
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-30.095
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 117
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.81

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	49994	0.18		ug/L
Be	9	7	627	0.68	0.337	ug/L
Al	27	50334	153850525	0.84	6824.718	ug/L
Sc	45	463094	347113	0.76		ug/L
V	51	6917	680947	1.97	21.394	ug/L
V-1	51	5584	851505	0.86	26.442	ug/L
Cr	52	20686	361918	2.49	12.830	ug/L
Cr	53	1914	95378	1.47	29.367	ug/L
Mn	55	5964	7697825	2.13	187.189	ug/L
Co	59	598	276686	0.51	7.813	ug/L
Ni	60	886	197559	0.38	25.571	ug/L
Ni	62	-20173	-1401793	0.57	-1210.928	ug/L
Cu	63	12791	274767	0.94	15.180	ug/L
Cu	65	6061	136906	0.16	15.615	ug/L
Zn	66	3175	1619156	0.29	338.369	ug/L
Zn	67	735	251623	0.12	305.527	ug/L
Zn	68	2465	1132955	0.42	331.384	ug/L
Ge	72	907488	616483	1.07		ug/L
As	75	-403	13052	1.69	2.725	ug/L
As-1	75	296	21645	1.08	4.444	ug/L
Se	77	395	3023	1.31	6.917	ug/L
Se	82	193	277	1.53	0.272	ug/L
Y	89	749932	718749	0.45		ug/L
Mo	95	52	3458	0.99	0.363	ug/L
Mo	97	32	2208	2.35	0.373	ug/L
Mo	98	72	5647	1.51	0.371	ug/L
Ag	107	288	2993	2.77	0.098	ug/L

│	Ag	109	223	3438	3.27	0.121	ug/L
│	Cd	106	908	2394	4.63	2.921	ug/L
│	Cd	108	1	79	54.78	0.175	ug/L
│	Cd	111	734	5294	3.14	0.740	ug/L
│	Cd	114	141	8871	0.23	0.568	ug/L
│>	In	115	806560	579569	1.21		ug/L
│	Sb	121	242	9893	0.83	0.514	ug/L
│	Sb	123	186	7564	3.81	0.504	ug/L
│	Ba	135	325	480508	1.77	87.640	ug/L
└	Ba	137	563	843557	2.37	87.476	ug/L
┌	Tb	159	1187362	849798	0.15		ug/L
│>	Ho	165	1212300	871497	1.74		ug/L
│	Hg	201	98	278	4.07	1715.500	ug/L
│	Hg	202	210	638	2.11	450.056	ug/L
│	Tl	203	52	606	0.93	0.019	ug/L
│	Tl	205	112	1442	2.65	0.019	ug/L
│	Pb	208	6710	38404698	0.22	400.097	ug/L
│	Bi	209	821507	560078	0.50		ug/L
│	Th	232	1933	42808	0.67	0.474	ug/L
└	U	238	373	23055	0.62	0.262	ug/L
	Fe	56	6645286	468804869	0.54		ug/L
	Ru	101	4	10	37.22		ug/L
	ArCl	77	381	2974	0.02		ug/L
	Kr	84	931	-528	55.29		ug/L
	Sn	118	870	36445	1.18		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		67.933			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                              71.857
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                              71.888
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-31

Sample Date/Time: Tuesday, June 27, 2006 19:30:21
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\606247-31.096
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 118
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio: 0.98

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	50723	0.33		ug/L
Be	9	7	644	1.32	0.408	ug/L
Al	27	50334	145955330	2.31	7635.906	ug/L
Sc	45	463094	359140	1.04		ug/L
V	51	6917	600943	0.95	22.246	ug/L
V-1	51	5584	767494	0.24	28.096	ug/L
Cr	52	20686	376285	1.66	15.743	ug/L
Cr	53	1914	95984	1.55	34.858	ug/L
Mn	55	5964	7642048	0.82	219.208	ug/L
Co	59	598	260716	1.85	8.681	ug/L
Ni	60	886	165805	1.78	25.294	ug/L
Ni	62	-20173	-1455115	0.62	-1482.972	ug/L
Cu	63	12791	311080	1.04	20.334	ug/L
Cu	65	6061	152209	0.93	20.525	ug/L
Zn	66	3175	1677292	0.43	413.453	ug/L
Zn	67	735	258263	0.42	369.886	ug/L
Zn	68	2465	1181013	0.79	407.461	ug/L
Ge	72	907488	632364	1.47		ug/L
As	75	-403	11452	0.46	2.879	ug/L
As-1	75	296	20234	0.55	4.983	ug/L
Se	77	395	2891	1.69	7.895	ug/L
Se	82	193	210	8.44	0.165	ug/L
Y	89	749932	772312	1.04		ug/L
Mo	95	52	5414	1.19	0.685	ug/L
Mo	97	32	3545	1.73	0.722	ug/L
Mo	98	72	8916	0.02	0.705	ug/L
Ag	107	288	1514	5.93	0.055	ug/L

	Ag	109	223	1538	1.70	0.061	ug/L
	Cd	106	908	2058	1.08	2.818	ug/L
	Cd	108	1	-448	10.01	-1.193	ug/L
	Cd	111	734	4383	2.29	0.717	ug/L
	Cd	114	141	6512	0.70	0.498	ug/L
>	In	115	806560	584202	1.27		ug/L
	Sb	121	242	6763	1.23	0.418	ug/L
	Sb	123	186	5165	0.54	0.410	ug/L
	Ba	135	325	217310	0.67	47.549	ug/L
	Ba	137	563	379662	0.57	47.233	ug/L
	Tb	159	1187362	893578	2.38		ug/L
>	Ho	165	1212300	892899	1.81		ug/L
	Hg	201	98	152	4.20	774.474	ug/L
	Hg	202	210	409	1.73	277.690	ug/L
	Tl	203	52	790	4.03	0.030	ug/L
	Tl	205	112	1967	4.14	0.032	ug/L
	Pb	208	6710	100088669	0.04	1231.400	ug/L
	Bi	209	821507	579764	0.84		ug/L
	Th	232	1933	66279	0.73	0.876	ug/L
	U	238	373	23617	1.19	0.317	ug/L
	Fe	56	6645286	484036933	0.61		ug/L
	Ru	101	4	11	47.14		ug/L
	ArCl	77	381	2979	2.26		ug/L
	Kr	84	931	-944	6.71		ug/L
	Sn	118	870	55527	1.34		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		69.683			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	72.431
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	73.653
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Tuesday, June 27, 2006 19:45:23
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\Dataset\06-27-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-27-06.sam
Method File: D:\ICPMS Data\Method\06-27-06fbi200.8.mth
Dataset File: D:\ICPMS Data\Dataset\06-27-06\25 ppb i1-57a.100
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-27-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	54057	53591	0.84		ug/L
Be	9	7	47221	0.89	29.141	ug/L
Al	27	50334	628341	1.09	29.936	ug/L
Sc	45	463094	326577	1.08		ug/L
V	51	6917	687841	2.33	24.646	ug/L
V-1	51	5584	738768	1.11	26.147	ug/L
Cr	52	20686	606085	0.48	24.867	ug/L
Cr	53	1914	85355	0.28	29.901	ug/L
Mn	55	5964	936928	1.07	25.889	ug/L
Co	59	598	767894	0.24	24.761	ug/L
Ni	60	886	165816	0.38	24.466	ug/L
Ni	62	-20173	10207	4.50	24.919	ug/L
Cu	63	12791	385284	0.99	24.468	ug/L
Cu	65	6061	185372	0.42	24.273	ug/L
Zn	66	3175	110462	1.42	25.816	ug/L
Zn	67	735	21278	0.13	28.786	ug/L
Zn	68	2465	78795	0.60	25.729	ug/L
Ge	72	907488	667039	0.13		ug/L
As	75	-403	104325	0.13	23.617	ug/L
As-1	75	296	103624	0.16	23.688	ug/L
Se	77	395	9269	0.65	24.979	ug/L
Se	82	193	11365	0.08	24.293	ug/L
Y	89	749932	559363	0.85		ug/L
Mo	95	52	198513	0.74	23.273	ug/L
Mo	97	32	123892	0.93	23.368	ug/L
Mo	98	72	320779	0.18	23.476	ug/L
Ag	107	288	610225	0.68	23.817	ug/L

```
|    Ag     109        223      584747     0.78    23.825  ug/L
|    Cd     106        908       14273     0.24    25.095  ug/L
|    Cd     108          1       10201     0.19    24.963  ug/L
|    Cd     111        734      147977     0.94    25.266  ug/L
|    Cd     114        141      346341     0.41    24.784  ug/L
|>   In     115     806560      647551     0.81            ug/L
|    Sb     121        242      444411     2.68    25.972  ug/L
|    Sb     123        186      341627     1.80    25.607  ug/L
|    Ba     135        325      124336     1.54    25.018  ug/L
└    Ba     137        563      218403     1.79    24.990  ug/L
┌    Tb     159    1187362      946194     0.60            ug/L
|>   Ho     165    1212300      972679     0.57            ug/L
|    Hg     201         98          79     2.70    -1.228  ug/L
|    Hg     202        210         172     7.01     3.114  ug/L
|    Tl     203         52      635838     1.28    24.058  ug/L
|    Tl     205        112     1513215     0.89    23.792  ug/L
|    Pb     208       6710     2097472     0.56    24.108  ug/L
|    Bi     209     821507      622715     1.30            ug/L
|    Th     232       1933     1959802     0.17    24.771  ug/L
└    U      238        373     1914912     1.10    24.316  ug/L
     Fe      56    6645286     4920349     2.68            ug/L
     Ru     101          4           8     9.43            ug/L
     ArCl    77        381        9038     0.04            ug/L
     Kr      84        931         643     0.02            ug/L
     Sn     118        870        1281     5.47            ug/L
```

QC Calculated Values

```
   Mass Analyte  QC Std % Recovery  Int Std % Recovery  Spike % Recovery  Dilution % Difference  Duplicate Rel. % Difference
┌     6 Li
|     9 Be
|    27 Al
|    45 Sc
|    51 V
|    51 V-1
|    52 Cr
|    53 Cr
|    55 Mn
|    59 Co
|    60 Ni
|    62 Ni
|    63 Cu
|    65 Cu
|    66 Zn
|    67 Zn
|    68 Zn
└>   72 Ge                                  73.504
┌    75 As
|    75 As-1
|    77 Se
|    82 Se
|    89 Y
|    95 Mo
|    97 Mo
|    98 Mo
|   107 Ag
|   109 Ag
|   106 Cd
|   108 Cd
|   111 Cd
```

```
|       114  Cd
|>      115  In                                  80.286
|       121  Sb
|       123  Sb
|       135  Ba
└       137  Ba
┌       159  Tb
|>      165  Ho                                  80.234
|       201  Hg
|       202  Hg
|       203  Tl
|       205  Tl
|       208  Pb
|       209  Bi
|       232  Th
└       238  U
         56  Fe
        101  Ru
         77  ArCl
         84  Kr
        118  Sn
```

TCLP METALS DATA, 606247

Dataset Report

User Name: btb
Computer Name: ICPMS
Dataset File Path: D:\ICPMS Data\DataSet\06-29-06\
Report Date/Time: Friday, June 30, 2006 10:51:07

The Dataset

Batch ID	Sample ID	Date and Time	Read Type	Samp. File Name	Description
	blank	09:19:31 Thu 29-Jun-06	Blank	blank.001	
	1 ppb i1-56a	09:23:03 Thu 29-Jun-06	Standard #1	1 ppb i1-56a.002	
	5 ppb i1-56b	09:26:36 Thu 29-Jun-06	Standard #2	5 ppb i1-56b.003	
	10 ppb i1-56c	09:30:10 Thu 29-Jun-06	Standard #3	10 ppb i1-56c.004	
	25 ppb i1-56d	09:33:44 Thu 29-Jun-06	Standard #4	25 ppb i1-56d.005	
	50 ppb i1-56e	09:37:18 Thu 29-Jun-06	Standard #5	50 ppb i1-56e.006	
	25 ppb i1-57a	09:40:50 Thu 29-Jun-06	Sample	25 ppb i1-57a.007	
	i6-298 mb	10:22:30 Thu 29-Jun-06	Sample	i6-298 mb.008	water
	i6-298 lcs	10:26:13 Thu 29-Jun-06	Sample	i6-298 lcs.009	water
	606253-01	10:29:56 Thu 29-Jun-06	Sample	606253-01.010	water
	i6-298 ms 60625	10:33:39 Thu 29-Jun-06	Sample	i6-298 ms 606253-01.011	water
	i6-298 dup 6062	10:37:23 Thu 29-Jun-06	Sample	i6-298 dup 606253-01.012	water
	606253-02	10:41:06 Thu 29-Jun-06	Sample	606253-02.013	water
	606252-01	10:44:49 Thu 29-Jun-06	Sample	606252-01.014	water
	606252-02	10:48:33 Thu 29-Jun-06	Sample	606252-02.015	water
	25 ppb i1-57a	10:52:17 Thu 29-Jun-06	Sample	25 ppb i1-57a.016	water
	i6-292 mb	11:04:07 Thu 29-Jun-06	Sample	i6-292 mb.017	water
	i6-292 lcs	11:07:52 Thu 29-Jun-06	Sample	i6-292 lcs.018	water
	606247-20	11:11:37 Thu 29-Jun-06	Sample	606247-20.019	water
	i6-292 ms 60624	11:15:22 Thu 29-Jun-06	Sample	i6-292 ms 606247-20.020	water
	i6-292 dup 6062	11:19:07 Thu 29-Jun-06	Sample	i6-292 dup 606247-20.021	water
	606247-21	11:22:53 Thu 29-Jun-06	Sample	606247-21.022	water
	606247-22	11:26:38 Thu 29-Jun-06	Sample	606247-22.023	water
	606247-23	11:30:23 Thu 29-Jun-06	Sample	606247-23.024	water
	606247-24	11:34:08 Thu 29-Jun-06	Sample	606247-24.025	water
	606247-25	11:37:54 Thu 29-Jun-06	Sample	606247-25.026	water
	25 ppb i1-57a	11:41:39 Thu 29-Jun-06	Sample	25 ppb i1-57a.027	water
	606247-26	11:45:24 Thu 29-Jun-06	Sample	606247-26.028	water
	606247-27	11:49:09 Thu 29-Jun-06	Sample	606247-27.029	water
	606247-28	11:52:54 Thu 29-Jun-06	Sample	606247-28.030	water
	606247-29	11:56:40 Thu 29-Jun-06	Sample	606247-29.031	water
	606247-30	12:00:25 Thu 29-Jun-06	Sample	606247-30.032	water
	606247-31	12:04:11 Thu 29-Jun-06	Sample	606247-31.033	water
	25 ppb i1-57a	12:07:56 Thu 29-Jun-06	Sample	25 ppb i1-57a.034	water

Quantitative Analysis Calibration Report

File Name: 06-29-06.cal
File Path: D:\ICPMS Data\System
Calibration Type: External Calibration

Analyte	Mass	Curve Type	Slope	Intercept	Corr. Coeff.
Li	6.015	Linear Thru Zero	0.00	0.00	0.000000
Be	9.012	Linear Thru Zero	0.00	0.00	0.999905
Al	26.982	Linear Thru Zero	0.03	0.00	0.999504
Sc	44.956	Linear Thru Zero	0.00	0.00	0.000000
V	50.944	Linear Thru Zero	0.04	0.00	0.999851
V-1	50.944	Linear Thru Zero	0.04	0.00	0.999864
Cr	51.941	Linear Thru Zero	0.04	0.00	0.999980
Cr	52.941	Linear Thru Zero	0.00	0.00	0.999989
Mn	54.938	Linear Thru Zero	0.06	0.00	0.999964
Co	58.933	Linear Thru Zero	0.05	0.00	0.999968
Ni	59.933	Linear Thru Zero	0.01	0.00	0.999986
Ni	61.928	Linear Thru Zero	0.00	0.00	0.999974
Cu	62.930	Linear Thru Zero	0.02	0.00	0.999976
Cu	64.928	Linear Thru Zero	0.01	0.00	0.999981
Zn	65.926	Linear Thru Zero	0.01	0.00	0.999908
Zn	66.927	Linear Thru Zero	0.00	0.00	0.999878
Zn	67.925	Linear Thru Zero	0.00	0.00	0.999905
Ge	71.922	Linear Thru Zero	0.00	0.00	0.000000
As	74.922	Linear Thru Zero	0.01	0.00	0.999983
As-1	74.922	Linear Thru Zero	0.01	0.00	0.999986
Se	76.920	Linear Thru Zero	0.00	0.00	0.999977
Se	81.917	Linear Thru Zero	0.00	0.00	0.999986
Y	88.905	Linear Thru Zero	0.00	0.00	0.000000
Mo	94.906	Linear Thru Zero	0.01	0.00	0.999988
Mo	96.906	Linear Thru Zero	0.01	0.00	0.999988
Mo	97.906	Linear Thru Zero	0.02	0.00	0.999986
Ag	106.905	Linear Thru Zero	0.04	0.00	0.999989
Ag	108.905	Linear Thru Zero	0.04	0.00	0.999995
Cd	105.907	Linear Thru Zero	0.00	0.00	0.999970
Cd	107.904	Linear Thru Zero	0.00	0.00	0.999988
Cd	110.904	Linear Thru Zero	0.01	0.00	0.999989
Cd	113.904	Linear Thru Zero	0.02	0.00	0.999971
In	114.904	Linear Thru Zero	0.00	0.00	0.000000
Sb	120.904	Linear Thru Zero	0.03	0.00	0.999991
Sb	122.904	Linear Thru Zero	0.02	0.00	0.999979
Ba	134.906	Linear Thru Zero	0.01	0.00	0.999972
Ba	136.905	Linear Thru Zero	0.01	0.00	0.999995
Tb	158.925	Linear Thru Zero	0.00	0.00	0.000000
Ho	164.930	Linear Thru Zero	0.00	0.00	0.000000
Hg	200.970	Linear Thru Zero	0.00	0.00	0.432069

Hg	201.971	Linear Thru Zero	0.00	0.00	0.715775
Tl	202.972	Linear Thru Zero	0.03	0.00	0.999983
Tl	204.975	Linear Thru Zero	0.07	0.00	0.999892
Pb	207.977	Linear Thru Zero	0.09	0.00	0.999965
Bi	208.980	Linear Thru Zero	0.00	0.00	0.000000
Th	232.038	Linear Thru Zero	0.09	0.00	0.999942
U	238.050	Linear Thru Zero	0.09	0.00	0.999572
Fe	55.935	Linear Thru Zero	0.00	0.00	0.000000
Ru	100.906	Linear Thru Zero	0.00	0.00	0.000000
ArCl	76.928	Linear Thru Zero	0.00	0.00	0.000000
Kr	83.912	Linear Thru Zero	0.00	0.00	0.000000
Sn	117.902	Linear Thru Zero	0.00	0.00	0.000000

Quantitative Analysis - Summary Report

Sample ID: i6-292 mb

Sample Date/Time: Thursday, June 29, 2006 11:04:07
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\i6-292 mb.017
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 98
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	65074	0.32		ug/L
Be	9	6	6	0.00	0.001	ug/L
Al	27	65200	57585	0.34	0.184	ug/L
Sc	45	480732	390695	3.06		ug/L
V	51	6377	11141	5.99	0.183	ug/L
V-1	51	8707	5715	1.50	-0.041	ug/L
Cr	52	20096	35642	4.89	0.661	ug/L
Cr	53	3033	2292	1.30	-0.050	ug/L
Mn	55	7732	11974	1.81	0.123	ug/L
Co	59	325	387	2.19	0.003	ug/L
Ni	60	1052	2308	3.49	0.170	ug/L
Ni	62	-20447	-18595	0.67	-1.536	ug/L
Cu	63	14403	24424	1.41	0.658	ug/L
Cu	65	6850	4853	1.27	-0.079	ug/L
Zn	66	5147	1497	4.82	-0.537	ug/L
Zn	67	1202	504	0.14	-0.563	ug/L
Zn	68	3616	1135	1.06	-0.510	ug/L
Ge	72	990488	805473	0.25		ug/L
As	75	-291	-119	64.29	0.024	ug/L
As-1	75	254	262	6.22	0.012	ug/L
Se	77	335	300	4.01	0.073	ug/L
Se	82	232	220	1.29	0.064	ug/L
Y	89	857355	687014	0.36		ug/L
Mo	95	45	309	13.26	0.029	ug/L
Mo	97	33	177	13.20	0.025	ug/L
Mo	98	73	444	7.81	0.026	ug/L
Ag	107	156	371	4.01	0.009	ug/L

	Ag	109	139	347	6.33	0.009	ug/L
	Cd	106	791	706	5.46	0.119	ug/L
	Cd	108	-10	138	5.40	0.347	ug/L
	Cd	111	632	398	6.65	-0.018	ug/L
	Cd	114	48	40	41.86	0.000	ug/L
>	In	115	853515	690679	1.19		ug/L
	Sb	121	349	845	13.15	0.030	ug/L
	Sb	123	289	625	15.64	0.027	ug/L
	Ba	135	408	156	12.28	-0.031	ug/L
	Ba	137	595	307	8.29	-0.017	ug/L
	Tb	159	1157157	951376	0.58		ug/L
>	Ho	165	1161743	960243	1.47		ug/L
	Hg	201	48	41	8.73	10.959	ug/L
	Hg	202	93	107	1.99	79.907	ug/L
	Tl	203	151	128	22.74	0.000	ug/L
	Tl	205	373	281	22.44	-0.000	ug/L
	Pb	208	6668	5561	1.68	0.001	ug/L
	Bi	209	765154	621087	0.26		ug/L
	Th	232	1316	9733	14.12	0.105	ug/L
	U	238	202	255	18.06	0.001	ug/L
	Fe	56	6738323	6270142	0.86		ug/L
	Ru	101	6	6	0.00		ug/L
	ArCl	77	363	301	5.64		ug/L
	Kr	84	1078	1004	3.04		ug/L
	Sn	118	1053	1337	3.02		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		81.321			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
| >    115  In                              80.922
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
| >    165  Ho                              82.655
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: i6-292 lcs

Sample Date/Time: Thursday, June 29, 2006 11:07:52
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\i6-292 lcs.018
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 99
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	77283	65335	2.15		ug/L
|	Be	9	6	11856	0.31	5.544	ug/L
|	Al	27	65200	57016	1.38	0.193	ug/L
|	Sc	45	480732	396383	0.26		ug/L
|	V	51	6377	701023	0.35	21.646	ug/L
|	V-1	51	8707	706700	0.41	21.386	ug/L
|	Cr	52	20096	626581	0.37	21.193	ug/L
|	Cr	53	3033	72073	0.26	20.210	ug/L
|	Mn	55	7732	928265	1.14	20.166	ug/L
|	Co	59	325	790163	0.62	19.919	ug/L
|	Ni	60	1052	171872	0.81	20.311	ug/L
|	Ni	62	-20447	-4261	1.25	9.611	ug/L
|	Cu	63	14403	411773	0.74	21.013	ug/L
|	Cu	65	6850	187342	0.92	20.277	ug/L
|	Zn	66	5147	262441	0.24	52.351	ug/L
|	Zn	67	1202	41831	0.53	49.187	ug/L
|	Zn	68	3616	183486	1.48	51.724	ug/L
└>	Ge	72	990488	794416	0.18		ug/L
┌	As	75	-291	53249	0.52	11.062	ug/L
|	As-1	75	254	53141	0.49	11.199	ug/L
|	Se	77	335	2464	1.69	5.710	ug/L
|	Se	82	232	3068	0.85	5.669	ug/L
|	Y	89	857355	687387	0.95		ug/L
|	Mo	95	45	236	13.21	0.021	ug/L
|	Mo	97	33	123	25.39	0.016	ug/L
|	Mo	98	73	399	11.52	0.023	ug/L
|	Ag	107	156	104416	0.18	3.893	ug/L

	Ag	109	139	100975	1.95	3.955	ug/L
	Cd	106	791	3680	0.73	5.522	ug/L
	Cd	108	-10	2277	1.87	5.458	ug/L
	Cd	111	632	32310	1.55	5.222	ug/L
	Cd	114	48	74283	0.79	5.270	ug/L
>	In	115	853515	685225	2.32		ug/L
	Sb	121	349	401354	1.55	21.375	ug/L
	Sb	123	289	310473	0.54	21.535	ug/L
	Ba	135	408	297081	0.79	52.333	ug/L
	Ba	137	595	519059	1.99	51.982	ug/L
	Tb	159	1157157	936385	0.37		ug/L
>	Ho	165	1161743	947809	1.08		ug/L
	Hg	201	48	44	22.50	45.458	ug/L
	Hg	202	93	105	14.21	78.044	ug/L
	Tl	203	151	132852	0.88	5.064	ug/L
	Tl	205	373	314352	0.11	5.065	ug/L
	Pb	208	6668	883189	0.15	10.250	ug/L
	Bi	209	765154	606034	0.96		ug/L
	Th	232	1316	5522	13.41	0.054	ug/L
	U	238	202	107	10.57	-0.001	ug/L
	Fe	56	6738323	9870340	0.11		ug/L
	Ru	101	6	4	0.00		ug/L
	ArCl	77	363	2466	0.66		ug/L
	Kr	84	1078	1031	0.86		ug/L
	Sn	118	1053	1336	5.45		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		80.204			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                  80.283
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                  81.585
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-20

Sample Date/Time: Thursday, June 29, 2006 11:11:37
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-20.019
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 100
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
⌈	Li	6	77283	67295	1.44		ug/L
|	Be	9	6	19	22.33	0.006	ug/L
|	Al	27	65200	163686	0.16	4.235	ug/L
|	Sc	45	480732	408335	1.40		ug/L
|	V	51	6377	8933	3.89	0.106	ug/L
|	V-1	51	8707	6204	2.36	-0.033	ug/L
|	Cr	52	20096	26988	0.14	0.334	ug/L
|	Cr	53	3033	2094	1.89	-0.126	ug/L
|	Mn	55	7732	213046	0.03	4.310	ug/L
|	Co	59	325	5615	0.69	0.129	ug/L
|	Ni	60	1052	2862	1.04	0.224	ug/L
|	Ni	62	-20447	-19041	0.08	-1.400	ug/L
|	Cu	63	14403	17388	2.71	0.265	ug/L
|	Cu	65	6850	6353	0.46	0.063	ug/L
|	Zn	66	5147	600674	1.24	115.323	ug/L
|	Zn	67	1202	90665	0.96	102.964	ug/L
|	Zn	68	3616	416301	0.06	112.944	ug/L
L>	Ge	72	990488	832579	0.39		ug/L
⌈	As	75	-291	-131	30.90	0.022	ug/L
|	As-1	75	254	301	11.53	0.018	ug/L
|	Se	77	335	318	0.00	0.096	ug/L
|	Se	82	232	208	0.68	0.028	ug/L
|	Y	89	857355	718403	0.67		ug/L
|	Mo	95	45	160	5.02	0.012	ug/L
|	Mo	97	33	97	14.80	0.011	ug/L
|	Mo	98	73	247	8.68	0.012	ug/L
|	Ag	107	156	738	3.83	0.022	ug/L

	Ag	109	139	705	14.96	0.022	ug/L
	Cd	106	791	777	2.47	0.203	ug/L
	Cd	108	-10	117	20.50	0.288	ug/L
	Cd	111	632	1503	1.15	0.154	ug/L
	Cd	114	48	2421	6.28	0.163	ug/L
>	In	115	853515	712205	0.06		ug/L
	Sb	121	349	5116	25.67	0.247	ug/L
	Sb	123	289	4007	20.91	0.251	ug/L
	Ba	135	408	8959	1.71	1.462	ug/L
	Ba	137	595	15844	1.05	1.480	ug/L
	Tb	159	1157157	986623	0.62		ug/L
>	Ho	165	1161743	973770	0.90		ug/L
	Hg	201	48	44	19.28	35.984	ug/L
	Hg	202	93	95	2.98	45.860	ug/L
	Tl	203	151	300	6.85	0.006	ug/L
	Tl	205	373	634	5.25	0.005	ug/L
	Pb	208	6668	23052353	1.06	261.978	ug/L
	Bi	209	765154	668793	0.78		ug/L
	Th	232	1316	3998	6.53	0.035	ug/L
	U	238	202	260	17.17	0.001	ug/L
	Fe	56	6738323	6380537	0.07		ug/L
	Ru	101	6	8	28.28		ug/L
	ArCl	77	363	308	0.23		ug/L
	Kr	84	1078	491	17.97		ug/L
	Sn	118	1053	1377	2.05		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		84.057			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

│	114	Cd	
│>	115	In	83.444
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│>	165	Ho	83.820
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: i6-292 ms 606247-20

Sample Date/Time: Thursday, June 29, 2006 11:15:22
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\i6-292 ms 606247-20.020
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 101
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	65977	1.26		ug/L
Be	9	6	11969	0.65	5.359	ug/L
Al	27	65200	160805	1.38	4.145	ug/L
Sc	45	480732	409192	0.89		ug/L
V	51	6377	703800	0.66	20.804	ug/L
V-1	51	8707	713128	0.55	20.658	ug/L
Cr	52	20096	627646	0.91	20.305	ug/L
Cr	53	3033	73687	0.34	19.772	ug/L
Mn	55	7732	1162841	1.38	24.217	ug/L
Co	59	325	817399	0.83	19.732	ug/L
Ni	60	1052	178741	2.56	20.225	ug/L
Ni	62	-20447	-4299	0.95	9.726	ug/L
Cu	63	14403	415474	1.03	20.281	ug/L
Cu	65	6850	194232	2.75	20.125	ug/L
Zn	66	5147	873982	1.26	168.781	ug/L
Zn	67	1202	133139	0.91	152.290	ug/L
Zn	68	3616	600631	0.13	163.908	ug/L
Ge	72	990488	829625	0.60		ug/L
As	75	-291	54546	0.82	10.935	ug/L
As-1	75	254	54174	0.76	11.017	ug/L
Se	77	335	2433	0.47	5.408	ug/L
Se	82	232	3137	0.20	5.589	ug/L
Y	89	857355	707285	1.43		ug/L
Mo	95	45	154	0.01	0.012	ug/L
Mo	97	33	81	5.21	0.009	ug/L
Mo	98	73	249	11.34	0.012	ug/L
Ag	107	156	109851	0.74	3.952	ug/L

	Ag	109	139	104914	0.70	3.966	ug/L
	Cd	106	791	3795	0.36	5.491	ug/L
	Cd	108	-10	2357	5.62	5.449	ug/L
	Cd	111	632	34652	0.63	5.408	ug/L
	Cd	114	48	79777	1.56	5.461	ug/L
>	In	115	853515	709976	1.25		ug/L
	Sb	121	349	408967	0.88	21.014	ug/L
	Sb	123	289	315601	0.30	21.122	ug/L
	Ba	135	408	313257	0.52	53.253	ug/L
	Ba	137	595	538823	1.75	52.076	ug/L
	Tb	159	1157157	973215	0.39		ug/L
>	Ho	165	1161743	969257	1.37		ug/L
	Hg	201	48	53	2.67	114.509	ug/L
	Hg	202	93	92	10.76	39.272	ug/L
	Tl	203	151	144127	1.35	5.374	ug/L
	Tl	205	373	339994	1.05	5.358	ug/L
	Pb	208	6668	23766132	0.38	271.358	ug/L
	Bi	209	765154	679814	1.66		ug/L
	Th	232	1316	3421	13.94	0.028	ug/L
	U	238	202	249	15.34	0.001	ug/L
	Fe	56	6738323	10154266	0.32		ug/L
	Ru	101	6	10	66.99		ug/L
	ArCl	77	363	2438	0.67		ug/L
	Kr	84	1078	594	7.89		ug/L
	Sn	118	1053	1338	9.41		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		83.759			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	83.183
|	121	Sb	
|	123	Sb	
|	135	Ba	
L	137	Ba	
⌈	159	Tb	
|>	165	Ho	83.431
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
L	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: i6-292 dup 606247-20

Sample Date/Time: Thursday, June 29, 2006 11:19:07
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\i6-292 dup 606247-20.021
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 102
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
⌈	Li	6	77283	65582	1.11		ug/L
|	Be	9	6	18	78.57	0.006	ug/L
|	Al	27	65200	164161	3.27	4.295	ug/L
|	Sc	45	480732	405487	1.22		ug/L
|	V	51	6377	8198	9.93	0.086	ug/L
|	V-1	51	8707	6095	1.85	-0.035	ug/L
|	Cr	52	20096	25176	1.63	0.280	ug/L
|	Cr	53	3033	2104	0.87	-0.120	ug/L
|	Mn	55	7732	211609	0.09	4.308	ug/L
|	Co	59	325	5930	10.99	0.137	ug/L
|	Ni	60	1052	2995	5.39	0.241	ug/L
|	Ni	62	-20447	-19182	1.54	-1.597	ug/L
|	Cu	63	14403	17054	0.67	0.253	ug/L
|	Cu	65	6850	6314	0.22	0.063	ug/L
|	Zn	66	5147	601973	0.31	116.297	ug/L
|	Zn	67	1202	89529	0.65	102.305	ug/L
|	Zn	68	3616	417879	1.55	114.101	ug/L
L>	Ge	72	990488	827453	1.19		ug/L
⌈	As	75	-291	-121	2.15	0.024	ug/L
|	As-1	75	254	340	12.71	0.027	ug/L
|	Se	77	335	326	10.41	0.124	ug/L
|	Se	82	232	210	6.06	0.035	ug/L
|	Y	89	857355	694187	2.03		ug/L
|	Mo	95	45	135	9.69	0.010	ug/L
|	Mo	97	33	69	13.93	0.007	ug/L
|	Mo	98	73	178	12.12	0.008	ug/L
|	Ag	107	156	840	19.12	0.026	ug/L

	Ag	109	139	782	13.30	0.025	ug/L
	Cd	106	791	817	2.91	0.286	ug/L
	Cd	108	-10	135	8.55	0.333	ug/L
	Cd	111	632	1496	1.94	0.155	ug/L
	Cd	114	48	2394	0.13	0.162	ug/L
>	In	115	853515	706564	2.48		ug/L
	Sb	121	349	5519	19.42	0.271	ug/L
	Sb	123	289	4250	21.87	0.271	ug/L
	Ba	135	408	9089	5.32	1.496	ug/L
	Ba	137	595	15811	1.19	1.490	ug/L
	Tb	159	1157157	957077	2.67		ug/L
>	Ho	165	1161743	956810	0.08		ug/L
	Hg	201	48	36	17.93	-31.359	ug/L
	Hg	202	93	94	0.76	46.229	ug/L
	Tl	203	151	220	5.48	0.004	ug/L
	Tl	205	373	568	23.55	0.004	ug/L
	Pb	208	6668	23042075	0.55	266.480	ug/L
	Bi	209	765154	662737	0.29		ug/L
	Th	232	1316	2531	7.15	0.018	ug/L
	U	238	202	245	16.74	0.001	ug/L
	Fe	56	6738323	6427893	1.56		ug/L
	Ru	101	6	7	54.39		ug/L
	ArCl	77	363	319	7.33		ug/L
	Kr	84	1078	551	6.19		ug/L
	Sn	118	1053	1377	0.72		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		83.540			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                  82.783
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                  82.360
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-21

Sample Date/Time: Thursday, June 29, 2006 11:22:53
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-21.022
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 103
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	77283	64725	1.90		ug/L
|	Be	9	6	10	28.28	0.002	ug/L
|	Al	27	65200	105465	4.09	2.021	ug/L
|	Sc	45	480732	400599	2.78		ug/L
|	V	51	6377	7889	1.65	0.078	ug/L
|	V-1	51	8707	5794	2.25	-0.042	ug/L
|	Cr	52	20096	23880	0.52	0.241	ug/L
|	Cr	53	3033	1998	5.38	-0.146	ug/L
|	Mn	55	7732	77247	1.90	1.496	ug/L
|	Co	59	325	2959	0.77	0.065	ug/L
|	Ni	60	1052	2602	0.92	0.198	ug/L
|	Ni	62	-20447	-19015	0.24	-1.557	ug/L
|	Cu	63	14403	15449	1.19	0.177	ug/L
|	Cu	65	6850	5626	2.69	-0.007	ug/L
|	Zn	66	5147	261571	1.03	50.364	ug/L
|	Zn	67	1202	39253	1.08	44.471	ug/L
|	Zn	68	3616	180247	0.19	49.033	ug/L
└>	Ge	72	990488	822511	0.18		ug/L
┌	As	75	-291	-146	61.25	0.019	ug/L
|	As-1	75	254	278	8.92	0.014	ug/L
|	Se	77	335	320	4.21	0.105	ug/L
|	Se	82	232	197	1.44	0.010	ug/L
|	Y	89	857355	701450	2.23		ug/L
|	Mo	95	45	135	0.17	0.010	ug/L
|	Mo	97	33	69	18.00	0.007	ug/L
|	Mo	98	73	192	1.96	0.008	ug/L
|	Ag	107	156	471	11.27	0.012	ug/L

	Ag	109	139	403	20.20	0.011	ug/L
	Cd	106	791	872	8.62	0.380	ug/L
	Cd	108	-10	114	2.09	0.283	ug/L
	Cd	111	632	1459	3.25	0.149	ug/L
	Cd	114	48	2101	0.19	0.142	ug/L
>	In	115	853515	707833	0.36		ug/L
	Sb	121	349	2208	4.20	0.099	ug/L
	Sb	123	289	1660	4.42	0.095	ug/L
	Ba	135	408	28368	0.24	4.784	ug/L
	Ba	137	595	50002	0.01	4.804	ug/L
	Tb	159	1157157	952417	1.36		ug/L
>	Ho	165	1161743	947618	0.55		ug/L
	Hg	201	48	51	21.00	102.614	ug/L
	Hg	202	93	94	6.81	48.702	ug/L
	Tl	203	151	158	17.90	0.001	ug/L
	Tl	205	373	342	12.63	0.001	ug/L
	Pb	208	6668	5206310	0.16	60.746	ug/L
	Bi	209	765154	658767	1.40		ug/L
	Th	232	1316	2047	1.31	0.012	ug/L
	U	238	202	132	5.36	-0.000	ug/L
	Fe	56	6738323	6354839	0.09		ug/L
	Ru	101	6	6	38.57		ug/L
	ArCl	77	363	296	6.21		ug/L
	Kr	84	1078	392	20.44		ug/L
	Sn	118	1053	1287	2.75		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		83.041			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                                  82.931
|     121  Sb
|     123  Sb
|     135  Ba
└     137  Ba
┌     159  Tb
|>    165  Ho                                  81.569
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
└     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-22

Sample Date/Time: Thursday, June 29, 2006 11:26:38
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-22.023
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 104
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	77283	64457	0.86		ug/L
│	Be	9	6	10	56.57	0.002	ug/L
│	Al	27	65200	110511	1.04	2.341	ug/L
│	Sc	45	480732	395279	0.21		ug/L
│	V	51	6377	7882	3.81	0.084	ug/L
│	V-1	51	8707	5764	1.51	-0.039	ug/L
│	Cr	52	20096	24284	3.35	0.277	ug/L
│	Cr	53	3033	2024	2.62	-0.123	ug/L
│	Mn	55	7732	109400	0.32	2.240	ug/L
│	Co	59	325	2674	1.88	0.060	ug/L
│	Ni	60	1052	2495	0.06	0.194	ug/L
│	Ni	62	-20447	-19012	0.19	-1.961	ug/L
│	Cu	63	14403	15658	1.53	0.210	ug/L
│	Cu	65	6850	5689	0.42	0.017	ug/L
│	Zn	66	5147	133553	0.88	26.038	ug/L
│	Zn	67	1202	20462	0.42	23.291	ug/L
│	Zn	68	3616	92835	0.59	25.571	ug/L
└>	Ge	72	990488	800155	0.96		ug/L
┌	As	75	-291	-84	7.80	0.031	ug/L
│	As-1	75	254	244	3.78	0.008	ug/L
│	Se	77	335	318	1.33	0.123	ug/L
│	Se	82	232	210	9.43	0.045	ug/L
│	Y	89	857355	683424	1.73		ug/L
│	Mo	95	45	98	0.88	0.006	ug/L
│	Mo	97	33	54	18.47	0.005	ug/L
│	Mo	98	73	138	3.18	0.005	ug/L
│	Ag	107	156	322	2.42	0.007	ug/L

	Ag	109	139	304	4.65	0.007	ug/L
	Cd	106	791	767	4.44	0.231	ug/L
	Cd	108	-10	62	31.16	0.166	ug/L
	Cd	111	632	931	3.83	0.069	ug/L
	Cd	114	48	911	1.70	0.061	ug/L
>	In	115	853515	689341	0.78		ug/L
	Sb	121	349	1290	1.32	0.053	ug/L
	Sb	123	289	958	7.90	0.050	ug/L
	Ba	135	408	9052	1.13	1.529	ug/L
	Ba	137	595	16035	1.40	1.550	ug/L
	Tb	159	1157157	938588	2.42		ug/L
>	Ho	165	1161743	944448	1.74		ug/L
	Hg	201	48	39	18.13	3.968	ug/L
	Hg	202	93	95	7.44	53.426	ug/L
	Tl	203	151	119	8.32	-0.000	ug/L
	Tl	205	373	274	12.39	-0.000	ug/L
	Pb	208	6668	1644134	1.84	19.204	ug/L
	Bi	209	765154	634763	0.47		ug/L
	Th	232	1316	1888	7.76	0.010	ug/L
	U	238	202	99	14.29	-0.001	ug/L
	Fe	56	6738323	6341998	0.04		ug/L
	Ru	101	6	5	28.28		ug/L
	ArCl	77	363	276	6.15		ug/L
	Kr	84	1078	565	5.59		ug/L
	Sn	118	1053	1335	1.64		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		80.784			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	80.765
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	81.296
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-23

Sample Date/Time: Thursday, June 29, 2006 11:30:23
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-23.024
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 105
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	77283	63597	0.14		ug/L
|	Be	9	6	11	25.71	0.003	ug/L
|	Al	27	65200	128226	0.60	2.994	ug/L
|	Sc	45	480732	403644	1.89		ug/L
|	V	51	6377	7368	2.90	0.066	ug/L
|	V-1	51	8707	5447	0.22	-0.050	ug/L
|	Cr	52	20096	23779	2.92	0.250	ug/L
|	Cr	53	3033	2042	4.57	-0.125	ug/L
|	Mn	55	7732	75054	1.77	1.474	ug/L
|	Co	59	325	4904	3.35	0.115	ug/L
|	Ni	60	1052	2515	1.12	0.193	ug/L
|	Ni	62	-20447	-18909	1.34	-1.696	ug/L
|	Cu	63	14403	20175	2.34	0.432	ug/L
|	Cu	65	6850	7883	2.58	0.249	ug/L
|	Zn	66	5147	662305	1.46	130.783	ug/L
|	Zn	67	1202	99270	0.19	115.998	ug/L
|	Zn	68	3616	456342	0.32	127.338	ug/L
└>	Ge	72	990488	810160	0.21		ug/L
┌	As	75	-291	-210	51.29	0.005	ug/L
|	As-1	75	254	212	3.68	0.001	ug/L
|	Se	77	335	304	2.79	0.083	ug/L
|	Se	82	232	208	10.56	0.038	ug/L
|	Y	89	857355	687287	0.25		ug/L
|	Mo	95	45	97	6.42	0.006	ug/L
|	Mo	97	33	67	11.42	0.007	ug/L
|	Mo	98	73	118	3.13	0.004	ug/L
|	Ag	107	156	243	2.33	0.004	ug/L

│	Ag	109	139	233	10.04	0.005	ug/L
│	Cd	106	791	831	0.52	0.340	ug/L
│	Cd	108	-10	136	26.50	0.342	ug/L
│	Cd	111	632	1590	1.04	0.175	ug/L
│	Cd	114	48	2602	1.20	0.180	ug/L
│>	In	115	853515	692434	0.57		ug/L
│	Sb	121	349	1132	7.44	0.045	ug/L
│	Sb	123	289	903	1.62	0.046	ug/L
│	Ba	135	408	98865	0.60	17.193	ug/L
└	Ba	137	595	171078	0.30	16.922	ug/L
┌	Tb	159	1157157	949218	2.50		ug/L
│>	Ho	165	1161743	958914	1.07		ug/L
│	Hg	201	48	43	29.60	32.231	ug/L
│	Hg	202	93	92	2.32	40.399	ug/L
│	Tl	203	151	112	7.58	-0.000	ug/L
│	Tl	205	373	245	1.15	-0.001	ug/L
│	Pb	208	6668	18772495	0.46	216.632	ug/L
│	Bi	209	765154	662259	0.40		ug/L
│	Th	232	1316	1700	3.41	0.007	ug/L
└	U	238	202	213	1.00	0.001	ug/L
	Fe	56	6738323	6308055	1.15		ug/L
	Ru	101	6	7	20.20		ug/L
	ArCl	77	363	304	4.65		ug/L
	Kr	84	1078	740	1.60		ug/L
	Sn	118	1053	1342	1.69		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		81.794			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

```
|      114  Cd
|>     115  In                                  81.127
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                  82.541
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-24

Sample Date/Time: Thursday, June 29, 2006 11:34:08
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-24.025
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 106
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	62186	1.53		ug/L
Be	9	6	22	6.43	0.008	ug/L
Al	27	65200	672786	0.17	26.264	ug/L
Sc	45	480732	386737	0.57		ug/L
V	51	6377	11440	4.65	0.209	ug/L
V-1	51	8707	5559	2.75	-0.038	ug/L
Cr	52	20096	37125	5.36	0.775	ug/L
Cr	53	3033	2289	5.31	-0.018	ug/L
Mn	55	7732	80682	2.39	1.691	ug/L
Co	59	325	2947	4.37	0.070	ug/L
Ni	60	1052	3680	0.65	0.352	ug/L
Ni	62	-20447	-18452	1.01	-2.142	ug/L
Cu	63	14403	39301	2.52	1.530	ug/L
Cu	65	6850	12867	0.28	0.873	ug/L
Zn	66	5147	310823	0.97	64.384	ug/L
Zn	67	1202	47385	1.54	57.886	ug/L
Zn	68	3616	217683	0.03	63.728	ug/L
Ge	72	990488	767292	1.19		ug/L
As	75	-291	-156	38.58	0.014	ug/L
As-1	75	254	242	3.51	0.011	ug/L
Se	77	335	306	1.39	0.147	ug/L
Se	82	232	199	11.37	0.051	ug/L
Y	89	857355	658143	1.05		ug/L
Mo	95	45	116	2.10	0.009	ug/L
Mo	97	33	52	11.38	0.005	ug/L
Mo	98	73	125	4.76	0.005	ug/L
Ag	107	156	202	7.70	0.003	ug/L

|	Ag	109	139	195	4.73	0.004	ug/L
|	Cd	106	791	769	2.79	0.332	ug/L
|	Cd	108	-10	173	4.78	0.459	ug/L
|	Cd	111	632	940	4.13	0.081	ug/L
|	Cd	114	48	1282	1.14	0.094	ug/L
|>	In	115	853515	644175	0.27		ug/L
|	Sb	121	349	904	3.13	0.036	ug/L
|	Sb	123	289	703	13.85	0.036	ug/L
|	Ba	135	408	110632	0.59	20.692	ug/L
└	Ba	137	595	194033	0.47	20.640	ug/L
┌	Tb	159	1157157	878805	2.32		ug/L
|>	Ho	165	1161743	897610	0.73		ug/L
|	Hg	201	48	47	0.00	95.160	ug/L
|	Hg	202	93	100	0.71	79.766	ug/L
|	Tl	203	151	91	7.03	-0.001	ug/L
|	Tl	205	373	201	15.48	-0.001	ug/L
|	Pb	208	6668	6081184	0.82	74.926	ug/L
|	Bi	209	765154	588834	0.71		ug/L
|	Th	232	1316	1667	3.31	0.008	ug/L
└	U	238	202	973	0.65	0.011	ug/L
	Fe	56	6738323	6286795	0.86		ug/L
	Ru	101	6	5	56.57		ug/L
	ArCl	77	363	290	1.22		ug/L
	Kr	84	1078	826	0.08		ug/L
	Sn	118	1053	1271	5.51		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		77.466			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

```
|      114  Cd
|>     115  In                              75.473
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                              77.264
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-25

Sample Date/Time: Thursday, June 29, 2006 11:37:54
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-25.026
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 107
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	77283	61929	0.32		ug/L
│	Be	9	6	23	0.00	0.009	ug/L
│	Al	27	65200	585967	0.28	22.660	ug/L
│	Sc	45	480732	388763	2.30		ug/L
│	V	51	6377	11540	4.64	0.214	ug/L
│	V-1	51	8707	5525	0.64	-0.038	ug/L
│	Cr	52	20096	40305	2.62	0.893	ug/L
│	Cr	53	3033	2565	1.54	0.067	ug/L
│	Mn	55	7732	125585	0.16	2.715	ug/L
│	Co	59	325	6155	2.18	0.154	ug/L
│	Ni	60	1052	3354	3.63	0.313	ug/L
│	Ni	62	-20447	-18333	0.33	-2.080	ug/L
│	Cu	63	14403	27164	0.61	0.874	ug/L
│	Cu	65	6850	7016	0.10	0.199	ug/L
│	Zn	66	5147	1066485	0.37	223.486	ug/L
│	Zn	67	1202	158591	0.72	196.938	ug/L
│	Zn	68	3616	725960	0.05	214.984	ug/L
└>	Ge	72	990488	765592	2.22		ug/L
┌	As	75	-291	-105	102.13	0.025	ug/L
│	As-1	75	254	230	6.47	0.008	ug/L
│	Se	77	335	288	14.73	0.096	ug/L
│	Se	82	232	222	4.79	0.097	ug/L
│	Y	89	857355	658040	0.80		ug/L
│	Mo	95	45	127	6.39	0.010	ug/L
│	Mo	97	33	60	4.08	0.006	ug/L
│	Mo	98	73	129	3.05	0.005	ug/L
│	Ag	107	156	218	6.83	0.004	ug/L

|	Ag	109	139	187	6.81	0.003	ug/L
|	Cd	106	791	841	5.37	0.468	ug/L
|	Cd	108	-10	171	27.39	0.452	ug/L
|	Cd	111	632	1614	8.10	0.198	ug/L
|	Cd	114	48	2684	1.22	0.199	ug/L
|>	In	115	853515	645216	0.81		ug/L
|	Sb	121	349	1192	3.86	0.052	ug/L
|	Sb	123	289	939	2.44	0.053	ug/L
|	Ba	135	408	121512	2.66	22.694	ug/L
L	Ba	137	595	212960	0.79	22.623	ug/L
Γ	Tb	159	1157157	884888	1.20		ug/L
|>	Ho	165	1161743	898385	0.65		ug/L
|	Hg	201	48	49	2.89	113.286	ug/L
|	Hg	202	93	91	7.77	55.425	ug/L
|	Tl	203	151	87	9.75	-0.001	ug/L
|	Tl	205	373	205	2.42	-0.001	ug/L
|	Pb	208	6668	13378018	0.49	164.754	ug/L
|	Bi	209	765154	602290	0.12		ug/L
|	Th	232	1316	1343	3.32	0.004	ug/L
L	U	238	202	999	0.99	0.011	ug/L
	Fe	56	6738323	6234216	0.14		ug/L
	Ru	101	6	8	35.36		ug/L
	ArCl	77	363	288	10.58		ug/L
	Kr	84	1078	639	8.62		ug/L
	Sn	118	1053	1332	0.27		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
Γ	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		77.294			
Γ	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

│	114	Cd	
│>	115	In	75.595
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│>	165	Ho	77.331
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Thursday, June 29, 2006 11:41:39
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\25 ppb i1-57a.027
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	77283	73875	0.59		ug/L
|	Be	9	6	65256	0.18	26.672	ug/L
|	Al	27	65200	779291	0.36	25.627	ug/L
|	Sc	45	480732	451719	0.64		ug/L
|	V	51	6377	940253	0.64	25.397	ug/L
|	V-1	51	8707	951694	0.75	25.205	ug/L
|	Cr	52	20096	844087	0.34	25.047	ug/L
|	Cr	53	3033	100032	1.29	24.663	ug/L
|	Mn	55	7732	1290210	0.62	24.523	ug/L
|	Co	59	325	1091423	0.40	24.042	ug/L
|	Ni	60	1052	240170	0.83	24.824	ug/L
|	Ni	62	-20447	17569	1.75	25.141	ug/L
|	Cu	63	14403	552971	0.38	24.762	ug/L
|	Cu	65	6850	264532	0.35	25.162	ug/L
|	Zn	66	5147	150163	1.82	25.758	ug/L
|	Zn	67	1202	25488	1.18	25.647	ug/L
|	Zn	68	3616	106314	0.62	25.779	ug/L
└>	Ge	72	990488	909161	0.84		ug/L
┌	As	75	-291	139872	0.33	25.129	ug/L
|	As-1	75	254	137323	0.02	25.145	ug/L
|	Se	77	335	11459	1.03	25.138	ug/L
|	Se	82	232	14943	0.70	25.115	ug/L
|	Y	89	857355	776348	0.00		ug/L
|	Mo	95	45	270839	0.16	24.847	ug/L
|	Mo	97	33	167340	1.35	24.891	ug/L
|	Mo	98	73	432499	1.77	25.127	ug/L
|	Ag	107	156	782798	0.69	25.325	ug/L

	Ag	109	139	749290	2.73	25.477	ug/L
	Cd	106	791	17119	1.67	25.767	ug/L
	Cd	108	-10	12473	1.22	25.843	ug/L
	Cd	111	632	180462	1.83	25.608	ug/L
	Cd	114	48	411275	0.30	25.302	ug/L
>	In	115	853515	790217	0.94		ug/L
	Sb	121	349	540780	3.80	24.971	ug/L
	Sb	123	289	420144	3.06	25.269	ug/L
	Ba	135	408	164421	1.02	25.084	ug/L
	Ba	137	595	286563	0.64	24.860	ug/L
	Tb	159	1157157	1053154	0.63		ug/L
>	Ho	165	1161743	1063529	2.19		ug/L
	Hg	201	48	64	4.42	159.836	ug/L
	Hg	202	93	116	26.33	74.887	ug/L
	Tl	203	151	767333	2.33	26.086	ug/L
	Tl	205	373	1828082	0.40	26.277	ug/L
	Pb	208	6668	2531076	1.56	26.288	ug/L
	Bi	209	765154	750669	0.98		ug/L
	Th	232	1316	2378638	2.75	25.971	ug/L
	U	238	202	2421633	0.29	26.706	ug/L
	Fe	56	6738323	6085610	0.71		ug/L
	Ru	101	6	13	32.64		ug/L
	ArCl	77	363	11363	0.65		ug/L
	Kr	84	1078	1014	2.84		ug/L
	Sn	118	1053	1642	2.54		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		91.789			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                                   92.584
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
Γ     159  Tb
|>    165  Ho                                   91.546
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-26

Sample Date/Time: Thursday, June 29, 2006 11:45:24
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-26.028
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 108
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	60979	1.50		ug/L
Be	9	6	46	3.07	0.021	ug/L
Al	27	65200	668111	0.65	26.982	ug/L
Sc	45	480732	378965	1.97		ug/L
V	51	6377	12465	5.23	0.255	ug/L
V-1	51	8707	6709	19.29	0.005	ug/L
Cr	52	20096	40626	1.31	0.948	ug/L
Cr	53	3033	2658	1.14	0.119	ug/L
Mn	55	7732	117139	0.48	2.603	ug/L
Co	59	325	4100	6.56	0.104	ug/L
Ni	60	1052	3144	1.60	0.299	ug/L
Ni	62	-20447	-18445	1.27	-2.627	ug/L
Cu	63	14403	29443	1.50	1.046	ug/L
Cu	65	6850	8137	0.03	0.357	ug/L
Zn	66	5147	503717	0.33	108.298	ug/L
Zn	67	1202	75701	0.21	96.248	ug/L
Zn	68	3616	347898	0.64	105.695	ug/L
Ge	72	990488	743164	1.43		ug/L
As	75	-291	74	86.59	0.065	ug/L
As-1	75	254	473	9.73	0.065	ug/L
Se	77	335	317	2.68	0.196	ug/L
Se	82	232	202	3.50	0.066	ug/L
Y	89	857355	641783	1.13		ug/L
Mo	95	45	1781	50.42	0.200	ug/L
Mo	97	33	1002	38.66	0.181	ug/L
Mo	98	73	2584	43.37	0.183	ug/L
Ag	107	156	1381	33.49	0.051	ug/L

	Ag	109	139	1761	41.92	0.070	ug/L
	Cd	106	791	789	3.96	0.401	ug/L
	Cd	108	-10	230	12.67	0.615	ug/L
	Cd	111	632	1295	12.63	0.147	ug/L
	Cd	114	48	1994	17.07	0.151	ug/L
>	In	115	853515	630892	1.96		ug/L
	Sb	121	349	5411	27.64	0.297	ug/L
	Sb	123	289	4189	22.69	0.299	ug/L
	Ba	135	408	120319	0.78	22.987	ug/L
	Ba	137	595	206247	2.20	22.405	ug/L
	Tb	159	1157157	870293	0.99		ug/L
>	Ho	165	1161743	865246	1.24		ug/L
	Hg	201	48	34	12.48	-13.425	ug/L
	Hg	202	93	93	11.47	69.519	ug/L
	Tl	203	151	444	16.74	0.014	ug/L
	Tl	205	373	985	20.47	0.012	ug/L
	Pb	208	6668	6507077	0.85	83.176	ug/L
	Bi	209	765154	575702	2.92		ug/L
	Th	232	1316	33493	32.42	0.436	ug/L
	U	238	202	2450	21.97	0.031	ug/L
	Fe	56	6738323	6266775	1.08		ug/L
	Ru	101	6	5	56.57		ug/L
	ArCl	77	363	292	14.05		ug/L
	Kr	84	1078	733	1.08		ug/L
	Sn	118	1053	1284	1.60		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		75.030			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	73.917
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	74.478
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-27

Sample Date/Time: Thursday, June 29, 2006 11:49:09
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-27.029
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 109
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	60765	0.65		ug/L
Be	9	6	37	22.93	0.016	ug/L
Al	27	65200	727603	0.21	29.329	ug/L
Sc	45	480732	380606	1.43		ug/L
V	51	6377	11884	0.60	0.233	ug/L
V-1	51	8707	5417	4.02	-0.038	ug/L
Cr	52	20096	40438	1.34	0.930	ug/L
Cr	53	3033	2509	2.17	0.066	ug/L
Mn	55	7732	88842	0.51	1.925	ug/L
Co	59	325	8652	0.47	0.225	ug/L
Ni	60	1052	3327	1.96	0.319	ug/L
Ni	62	-20447	-18011	0.17	-2.142	ug/L
Cu	63	14403	95389	0.85	4.706	ug/L
Cu	65	6850	39962	0.24	4.114	ug/L
Zn	66	5147	1799199	1.21	385.928	ug/L
Zn	67	1202	271276	0.08	345.176	ug/L
Zn	68	3616	1239805	0.45	375.858	ug/L
Ge	72	990488	748947	0.73		ug/L
As	75	-291	1	3179.71	0.049	ug/L
As-1	75	254	332	0.21	0.032	ug/L
Se	77	335	288	8.61	0.107	ug/L
Se	82	232	204	2.43	0.066	ug/L
Y	89	857355	643560	0.43		ug/L
Mo	95	45	536	23.13	0.057	ug/L
Mo	97	33	294	25.14	0.050	ug/L
Mo	98	73	760	16.05	0.051	ug/L
Ag	107	156	542	18.79	0.017	ug/L

	Ag	109	139	499	14.33	0.017	ug/L
	Cd	106	791	1056	4.66	0.913	ug/L
	Cd	108	-10	380	16.31	0.997	ug/L
	Cd	111	632	3419	1.07	0.522	ug/L
	Cd	114	48	7139	1.01	0.543	ug/L
>	In	115	853515	635481	0.15		ug/L
	Sb	121	349	2768	11.80	0.144	ug/L
	Sb	123	289	2196	11.71	0.148	ug/L
	Ba	135	408	221757	1.71	42.104	ug/L
	Ba	137	595	384971	1.79	41.561	ug/L
	Tb	159	1157157	875161	0.74		ug/L
>	Ho	165	1161743	870800	0.15		ug/L
	Hg	201	48	41	12.22	46.655	ug/L
	Hg	202	93	78	34.45	25.477	ug/L
	Tl	203	151	214	51.55	0.004	ug/L
	Tl	205	373	406	35.05	0.002	ug/L
	Pb	208	6668	40867968	0.49	519.378	ug/L
	Bi	209	765154	576584	3.30		ug/L
	Th	232	1316	11262	21.81	0.137	ug/L
	U	238	202	1399	5.92	0.017	ug/L
	Fe	56	6738323	6122967	0.07		ug/L
	Ru	101	6	9	47.14		ug/L
	ArCl	77	363	272	2.86		ug/L
	Kr	84	1078	784	7.71		ug/L
	Sn	118	1053	1186	5.31		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		75.614			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	74.455
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	74.956
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-28

Sample Date/Time: Thursday, June 29, 2006 11:52:54
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-28.030
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 110
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	77283	62023	4.48		ug/L
|	Be	9	6	21	20.20	0.008	ug/L
|	Al	27	65200	974537	0.29	39.357	ug/L
|	Sc	45	480732	381544	0.56		ug/L
|	V	51	6377	11780	3.10	0.224	ug/L
|	V-1	51	8707	5278	2.47	-0.045	ug/L
|	Cr	52	20096	46092	2.05	1.112	ug/L
|	Cr	53	3033	3116	1.45	0.238	ug/L
|	Mn	55	7732	82360	2.82	1.745	ug/L
|	Co	59	325	4348	3.35	0.108	ug/L
|	Ni	60	1052	3370	5.98	0.318	ug/L
|	Ni	62	-20447	-17980	0.32	-1.883	ug/L
|	Cu	63	14403	37059	0.01	1.426	ug/L
|	Cu	65	6850	11666	2.80	0.746	ug/L
|	Zn	66	5147	554887	0.16	116.614	ug/L
|	Zn	67	1202	83274	0.37	103.523	ug/L
|	Zn	68	3616	381904	0.35	113.414	ug/L
└>	Ge	72	990488	760678	1.19		ug/L
┌	As	75	-291	-202	31.61	0.004	ug/L
|	As-1	75	254	272	2.08	0.018	ug/L
|	Se	77	335	259	12.86	0.012	ug/L
|	Se	82	232	193	3.31	0.035	ug/L
|	Y	89	857355	647488	2.99		ug/L
|	Mo	95	45	279	5.67	0.027	ug/L
|	Mo	97	33	161	6.02	0.025	ug/L
|	Mo	98	73	399	14.29	0.024	ug/L
|	Ag	107	156	309	9.86	0.008	ug/L

	Ag	109	139	274	2.33	0.007	ug/L
	Cd	106	791	761	10.98	0.309	ug/L
	Cd	108	-10	237	6.50	0.620	ug/L
	Cd	111	632	1080	10.69	0.104	ug/L
	Cd	114	48	1850	1.10	0.136	ug/L
>	In	115	853515	647571	0.79		ug/L
	Sb	121	349	1355	3.08	0.061	ug/L
	Sb	123	289	1084	7.96	0.063	ug/L
	Ba	135	408	126811	0.03	23.603	ug/L
	Ba	137	595	222066	2.08	23.504	ug/L
	Tb	159	1157157	885182	0.46		ug/L
>	Ho	165	1161743	889344	0.66		ug/L
	Hg	201	48	33	4.29	-31.389	ug/L
	Hg	202	93	96	3.70	70.949	ug/L
	Tl	203	151	125	4.53	0.000	ug/L
	Tl	205	373	328	39.08	0.001	ug/L
	Pb	208	6668	5121844	0.28	63.680	ug/L
	Bi	209	765154	582954	1.00		ug/L
	Th	232	1316	6800	15.49	0.076	ug/L
	U	238	202	1021	6.79	0.011	ug/L
	Fe	56	6738323	6131354	0.49		ug/L
	Ru	101	6	8	53.03		ug/L
	ArCl	77	363	309	4.36		ug/L
	Kr	84	1078	793	4.56		ug/L
	Sn	118	1053	1233	3.84		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		76.798			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
| >	115	In	75.871
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	76.553
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 606247-29

Sample Date/Time: Thursday, June 29, 2006 11:56:40
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-29.031
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 111
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	59153	2.90		ug/L
Be	9	6	41	22.70	0.018	ug/L
Al	27	65200	832078	1.18	34.062	ug/L
Sc	45	480732	381536	0.33		ug/L
V	51	6377	11778	0.88	0.232	ug/L
V-1	51	8707	5354	2.48	-0.039	ug/L
Cr	52	20096	38343	1.20	0.861	ug/L
Cr	53	3033	2247	0.79	-0.010	ug/L
Mn	55	7732	69588	1.15	1.488	ug/L
Co	59	325	3381	1.72	0.084	ug/L
Ni	60	1052	3280	1.79	0.315	ug/L
Ni	62	-20447	-17877	0.64	-2.120	ug/L
Cu	63	14403	25422	0.75	0.818	ug/L
Cu	65	6850	6390	0.96	0.148	ug/L
Zn	66	5147	676984	0.33	145.588	ug/L
Zn	67	1202	101882	1.10	129.694	ug/L
Zn	68	3616	468942	1.84	142.493	ug/L
Ge	72	990488	744478	1.53		ug/L
As	75	-291	-287	6.13	-0.016	ug/L
As-1	75	254	210	0.67	0.005	ug/L
Se	77	335	277	0.51	0.078	ug/L
Se	82	232	178	5.56	0.013	ug/L
Y	89	857355	634767	0.95		ug/L
Mo	95	45	206	11.16	0.020	ug/L
Mo	97	33	126	19.40	0.019	ug/L
Mo	98	73	273	7.38	0.016	ug/L
Ag	107	156	231	1.22	0.005	ug/L

	Ag	109	139	197	27.71	0.004	ug/L
	Cd	106	791	827	5.30	0.467	ug/L
	Cd	108	-10	219	10.64	0.585	ug/L
	Cd	111	632	1228	2.30	0.134	ug/L
	Cd	114	48	1986	2.24	0.149	ug/L
>	In	115	853515	634634	0.61		ug/L
	Sb	121	349	1165	6.38	0.052	ug/L
	Sb	123	289	903	4.53	0.052	ug/L
	Ba	135	408	142661	1.27	27.101	ug/L
	Ba	137	595	245518	0.92	26.523	ug/L
	Tb	159	1157157	865962	1.89		ug/L
>	Ho	165	1161743	882406	0.67		ug/L
	Hg	201	48	35	10.25	-14.940	ug/L
	Hg	202	93	97	5.83	77.469	ug/L
	Tl	203	151	89	3.99	-0.001	ug/L
	Tl	205	373	204	4.16	-0.001	ug/L
	Pb	208	6668	5491054	1.83	68.809	ug/L
	Bi	209	765154	572118	0.27		ug/L
	Th	232	1316	4346	12.86	0.044	ug/L
	U	238	202	1211	4.44	0.014	ug/L
	Fe	56	6738323	6087529	0.79		ug/L
	Ru	101	6	9	41.59		ug/L
	ArCl	77	363	304	4.65		ug/L
	Kr	84	1078	572	8.13		ug/L
	Sn	118	1053	1298	0.05		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		75.163			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
| >    115  In                                   74.355
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
| >    165  Ho                                   75.955
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-30

Sample Date/Time: Thursday, June 29, 2006 12:00:25
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-30.032
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 112
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	62583	2.42		ug/L
Be	9	6	21	20.20	0.008	ug/L
Al	27	65200	408997	0.93	15.161	ug/L
Sc	45	480732	392669	0.84		ug/L
V	51	6377	11238	2.11	0.203	ug/L
V-1	51	8707	5209	0.68	-0.048	ug/L
Cr	52	20096	35096	2.11	0.704	ug/L
Cr	53	3033	2070	0.68	-0.083	ug/L
Mn	55	7732	58645	0.95	1.195	ug/L
Co	59	325	2112	0.70	0.049	ug/L
Ni	60	1052	3494	4.96	0.330	ug/L
Ni	62	-20447	-17559	0.81	-1.436	ug/L
Cu	63	14403	23377	1.42	0.666	ug/L
Cu	65	6850	6185	0.34	0.103	ug/L
Zn	66	5147	480603	2.03	100.195	ug/L
Zn	67	1202	72329	0.56	89.133	ug/L
Zn	68	3616	331146	1.21	97.550	ug/L
Ge	72	990488	765960	0.83		ug/L
As	75	-291	-155	13.88	0.014	ug/L
As-1	75	254	255	1.66	0.014	ug/L
Se	77	335	273	7.25	0.055	ug/L
Se	82	232	182	10.88	0.015	ug/L
Y	89	857355	648440	0.19		ug/L
Mo	95	45	189	0.79	0.017	ug/L
Mo	97	33	100	22.00	0.014	ug/L
Mo	98	73	227	17.52	0.012	ug/L
Ag	107	156	242	7.32	0.005	ug/L

	Ag	109	139	206	9.29	0.004	ug/L
	Cd	106	791	798	2.88	0.386	ug/L
	Cd	108	-10	161	9.01	0.427	ug/L
	Cd	111	632	1380	1.42	0.158	ug/L
	Cd	114	48	2225	0.24	0.165	ug/L
>	In	115	853515	644877	0.40		ug/L
	Sb	121	349	872	4.95	0.034	ug/L
	Sb	123	289	645	0.51	0.031	ug/L
	Ba	135	408	105189	0.17	19.650	ug/L
	Ba	137	595	182976	1.46	19.440	ug/L
	Tb	159	1157157	888081	2.20		ug/L
>	Ho	165	1161743	899409	0.34		ug/L
	Hg	201	48	51	4.20	126.584	ug/L
	Hg	202	93	93	4.56	60.721	ug/L
	Tl	203	151	99	8.57	-0.001	ug/L
	Tl	205	373	205	4.83	-0.001	ug/L
	Pb	208	6668	5619234	1.31	69.089	ug/L
	Bi	209	765154	587012	0.34		ug/L
	Th	232	1316	3455	4.63	0.031	ug/L
	U	238	202	849	4.58	0.009	ug/L
	Fe	56	6738323	5979260	0.74		ug/L
	Ru	101	6	5	15.71		ug/L
	ArCl	77	363	280	3.79		ug/L
	Kr	84	1078	773	4.00		ug/L
	Sn	118	1053	1575	2.42		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		77.332			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|    114  Cd
|>   115  In                                    75.555
|    121  Sb
|    123  Sb
|    135  Ba
└    137  Ba
┌    159  Tb
|>   165  Ho                                    77.419
|    201  Hg
|    202  Hg
|    203  Tl
|    205  Tl
|    208  Pb
|    209  Bi
|    232  Th
└    238  U
      56  Fe
     101  Ru
      77  ArCl
      84  Kr
     118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 606247-31

Sample Date/Time: Thursday, June 29, 2006 12:04:11
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\606247-31.033
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 113
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	59433	0.48		ug/L
Be	9	6	26	0.00	0.011	ug/L
Al	27	65200	587956	1.21	23.386	ug/L
Sc	45	480732	383377	2.52		ug/L
V	51	6377	12339	1.27	0.250	ug/L
V-1	51	8707	5426	3.73	-0.037	ug/L
Cr	52	20096	48313	1.64	1.227	ug/L
Cr	53	3033	3296	0.06	0.313	ug/L
Mn	55	7732	299028	0.11	6.828	ug/L
Co	59	325	7233	0.35	0.188	ug/L
Ni	60	1052	3108	0.64	0.293	ug/L
Ni	62	-20447	-17828	0.25	-2.046	ug/L
Cu	63	14403	40417	0.83	1.653	ug/L
Cu	65	6850	13476	1.27	0.987	ug/L
Zn	66	5147	739835	0.08	158.820	ug/L
Zn	67	1202	110743	0.08	140.765	ug/L
Zn	68	3616	519608	0.64	157.635	ug/L
Ge	72	990488	746172	1.67		ug/L
As	75	-291	-83	68.84	0.030	ug/L
As-1	75	254	287	3.45	0.023	ug/L
Se	77	335	296	1.43	0.135	ug/L
Se	82	232	202	4.90	0.065	ug/L
Y	89	857355	636989	0.68		ug/L
Mo	95	45	165	2.96	0.015	ug/L
Mo	97	33	96	4.50	0.013	ug/L
Mo	98	73	203	2.05	0.011	ug/L
Ag	107	156	195	10.15	0.003	ug/L

	Ag	109	139	176	14.46	0.003	ug/L
	Cd	106	791	888	3.27	0.594	ug/L
	Cd	108	-10	232	15.53	0.620	ug/L
	Cd	111	632	1714	1.89	0.222	ug/L
	Cd	114	48	3055	5.28	0.232	ug/L
>	In	115	853515	632263	0.43		ug/L
	Sb	121	349	937	7.63	0.039	ug/L
	Sb	123	289	720	3.15	0.038	ug/L
	Ba	135	408	44607	2.43	8.466	ug/L
	Ba	137	595	77088	0.18	8.326	ug/L
	Tb	159	1157157	861718	0.52		ug/L
>	Ho	165	1161743	869593	1.19		ug/L
	Hg	201	48	48	4.47	113.817	ug/L
	Hg	202	93	88	1.61	55.152	ug/L
	Tl	203	151	75	9.43	-0.002	ug/L
	Tl	205	373	167	0.85	-0.002	ug/L
	Pb	208	6668	26426662	0.88	336.299	ug/L
	Bi	209	765154	590125	1.91		ug/L
	Th	232	1316	2701	8.38	0.023	ug/L
	U	238	202	1006	0.28	0.012	ug/L
	Fe	56	6738323	6050003	0.50		ug/L
	Ru	101	6	9	8.32		ug/L
	ArCl	77	363	283	2.50		ug/L
	Kr	84	1078	572	13.10		ug/L
	Sn	118	1053	1549	3.38		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		75.334			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	74.077
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	74.852
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 25 ppb i1-57a

Sample Date/Time: Thursday, June 29, 2006 12:07:56
Sample Description: water
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\06-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\06-29-06.sam
Method File: D:\ICPMS Data\Method\06-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\06-29-06\25 ppb i1-57a.034
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\06-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 5
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	77283	71570	2.44		ug/L
Be	9	6	64091	1.70	26.853	ug/L
Al	27	65200	758920	2.25	25.578	ug/L
Sc	45	480732	447202	1.02		ug/L
V	51	6377	913494	0.76	25.292	ug/L
V-1	51	8707	928756	0.37	25.214	ug/L
Cr	52	20096	820420	1.28	24.953	ug/L
Cr	53	3033	97512	0.55	24.643	ug/L
Mn	55	7732	1255460	0.78	24.461	ug/L
Co	59	325	1058760	1.90	23.908	ug/L
Ni	60	1052	228952	0.25	24.255	ug/L
Ni	62	-20447	16980	2.62	25.029	ug/L
Cu	63	14403	537839	0.98	24.687	ug/L
Cu	65	6850	254002	0.29	24.757	ug/L
Zn	66	5147	146438	0.29	25.748	ug/L
Zn	67	1202	24728	0.23	25.499	ug/L
Zn	68	3616	102441	0.75	25.452	ug/L
Ge	72	990488	886871	0.49		ug/L
As	75	-291	136765	1.08	25.485	ug/L
As-1	75	254	134075	0.44	25.462	ug/L
Se	77	335	11096	1.45	25.253	ug/L
Se	82	232	14728	0.42	25.682	ug/L
Y	89	857355	752295	0.27		ug/L
Mo	95	45	266439	0.34	25.350	ug/L
Mo	97	33	164476	1.11	25.374	ug/L
Mo	98	73	424200	0.78	25.559	ug/L
Ag	107	156	754039	2.04	25.306	ug/L

	Ag	109	139	715632	0.00	25.231	ug/L
	Cd	106	791	16666	2.23	26.031	ug/L
	Cd	108	-10	11825	0.01	25.412	ug/L
	Cd	111	632	173561	0.44	25.542	ug/L
	Cd	114	48	403140	0.68	25.719	ug/L
>	In	115	853515	762192	2.58		ug/L
	Sb	121	349	518759	0.40	24.836	ug/L
	Sb	123	289	407799	1.07	25.436	ug/L
	Ba	135	408	157617	2.42	24.928	ug/L
	Ba	137	595	274347	2.32	24.675	ug/L
	Tb	159	1157157	1034539	1.41		ug/L
>	Ho	165	1161743	1034638	0.97		ug/L
	Hg	201	48	61	3.51	145.781	ug/L
	Hg	202	93	124	4.01	101.591	ug/L
	Tl	203	151	734751	0.73	25.676	ug/L
	Tl	205	373	1756433	1.60	25.946	ug/L
	Pb	208	6668	2419434	0.80	25.819	ug/L
	Bi	209	765154	722354	2.90		ug/L
	Th	232	1316	2239766	2.69	25.143	ug/L
	U	238	202	2326917	1.22	26.374	ug/L
	Fe	56	6738323	5909137	0.38		ug/L
	Ru	101	6	6	0.00		ug/L
	ArCl	77	363	11143	2.07		ug/L
	Kr	84	1078	924	2.38		ug/L
	Sn	118	1053	1480	5.73		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		89.539			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	89.300
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	89.059
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Site Characterization Fixed Laboratory Data (August 2006)

Friedman & Bruya

SDG 608150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
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August 22, 2006

James Wright, Project Manager
USDOC NOAA NOS OR&R PPO
7600 Sand Point Way NE
Seattle, WA 98115-6349

Dear Mr. Wright:

Included are the results from the testing of material submitted on August 11, 2006 from the Lead Test, F&BI 608150 project. There are 41 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
NAA0822R

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 11, 2006 by Friedman & Bruya, Inc. (ADEC laboratory approval number UST-007) from the USDOC NOAA NOS OR&R PPO Lead Test, F&BI 608150project. The samples were received at 25°C and were refrigerated upon receipt. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	USDOC NOAA NOS OR&R PPO	Date Sampled
680150-01	SP60-ID-001	08/06/06
680150-02	SP60-CH-151-005	08/06/06
680150-03	SP60-CH-151-010	08/06/06
680150-04	SP60-CH-151-015	08/06/06
680150-05	SP60-CH-151-020	08/06/06
680150-06	SP60-CH-152-005	08/06/06
680150-07	SP60-CH-152-010	08/06/06
680150-08	SP60-CH-152-015	08/06/06
680150-09	SP60-CH-152-020	08/06/06
680150-10	LAP-01	08/06/06
680150-11	LAP-01P	08/06/06
680150-12	PLY-01	08/06/06
680150-13	PLY-01P	08/06/06
680150-14	LAP-02	08/06/06
680150-15	LAP-02P	08/06/06
680150-16	PLY-02	08/06/06
680150-17	PLY-02P	08/06/06
680150-18	SP60-TR-001-000	08/06/06
680150-19	SP60-TR-002+003	08/06/06

The samples were analyzed as follows.

Total Lead (soil/solid) - Analysis Method 200.8, Extraction Method 3050
All quality control requirements were acceptable.

TCLP Lead (soil/solid) - Analysis Method 200.8, Extraction Method 1311
All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-151-005	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-02
Date Analyzed:	08/16/06	Data File:	608150-02.035
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/g (ppm)
Lead	3,570

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-151-010	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-03
Date Analyzed:	08/16/06	Data File:	608150-03.038
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/g (ppm)
Lead	180

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-151-015	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-04
Date Analyzed:	08/16/06	Data File:	608150-04.039
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	98	60	125

Analyte:	Concentration ug/g (ppm)
Lead	567

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-151-020	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-05
Date Analyzed:	08/16/06	Data File:	608150-05.040
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/g (ppm)
Lead	656

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-152-005	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-06
Date Analyzed:	08/16/06	Data File:	608150-06.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/g (ppm)
Lead	62.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-152-010	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-07
Date Analyzed:	08/16/06	Data File:	608150-07.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	99	60	125

Analyte:	Concentration ug/g (ppm)
Lead	27.0

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-152-015	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-08
Date Analyzed:	08/16/06	Data File:	608150-08.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	98	60	125

Analyte:	Concentration ug/g (ppm)
Lead	23.7

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-CH-152-020	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-09
Date Analyzed:	08/16/06	Data File:	608150-09.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	98	60	125

Analyte:	Concentration ug/g (ppm)
Lead	25.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	LAP-01	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-10 100x
Date Analyzed:	08/16/06	Data File:	608150-10 10x.048
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration ug/g (ppm)
Lead	22,000

Analysis For Total Metals By EPA Method 200.8

Client ID:	LAP-01P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-11 100x
Date Analyzed:	08/16/06	Data File:	608150-11 100x.049
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/g (ppm)
Lead	13,200

Analysis For Total Metals By EPA Method 200.8

Client ID:	PLY-01	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-12 100x
Date Analyzed:	08/16/06	Data File:	608150-12 100x.050
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	PLY-01P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-13 100x
Date Analyzed:	08/16/06	Data File:	608150-13 100x.051
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	LAP-02	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-14 100x
Date Analyzed:	08/16/06	Data File:	608150-14 100x.052
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration ug/g (ppm)
Lead	15,800

Analysis For Total Metals By EPA Method 200.8

Client ID:	LAP-02P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-15 100x
Date Analyzed:	08/16/06	Data File:	608150-15 100x.053
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	99	60	125

Analyte:	Concentration ug/g (ppm)
Lead	4,220

Analysis For Total Metals By EPA Method 200.8

Client ID:	PLY-02	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-16 100x
Date Analyzed:	08/16/06	Data File:	608150-16 100x.055
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	94	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<50

Analysis For Total Metals By EPA Method 200.8

Client ID:	PLY-02P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-17 100x
Date Analyzed:	08/16/06	Data File:	608150-17 100x.056
Matrix:	Solid	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<50

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TR-001-000	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-18
Date Analyzed:	08/16/06	Data File:	608150-18.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration ug/g (ppm)
Lead	999

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TR-002+003	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-19
Date Analyzed:	08/16/06	Data File:	608150-19.047
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/g (ppm)
Lead	2,630

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	I6-336 mb
Date Analyzed:	08/16/06	Data File:	I6-336 mb.033
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-ID-001	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-01
Date Analyzed:	08/16/06	Data File:	608150-01.010
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	103	60	125

Analyte:	Concentration ug/L (ppb)
Lead	12.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	I6-338 mb
Date Analyzed:	08/16/06	Data File:	I6-338 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	99	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	LAP-01	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-10
Date Analyzed:	08/16/06	Data File:	608150-10.076
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	31.2	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	LAP-01P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-11
Date Analyzed:	08/16/06	Data File:	608150-11.077
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	98	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	2.45	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	PLY-01	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-12
Date Analyzed:	08/16/06	Data File:	608150-12.078
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	99	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	PLY-01P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-13
Date Analyzed:	08/16/06	Data File:	608150-13.079
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	LAP-02	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-14
Date Analyzed:	08/16/06	Data File:	608150-14.080
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	98	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	37.5	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	LAP-02P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-15
Date Analyzed:	08/16/06	Data File:	608150-15.081
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	100	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	PLY-02	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-16
Date Analyzed:	08/16/06	Data File:	608150-16.082
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	PLY-02P	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	608150-17
Date Analyzed:	08/16/06	Data File:	608150-17.083
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	Lead Test, F&BI 608150
Date Extracted:	08/16/06	Lab ID:	I6-339 mb
Date Analyzed:	08/16/06	Data File:	I6-339 mb.071
Matrix:	Solid	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-CH-151-005	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/18/06	Lab ID:	608150-02
Date Analyzed:	08/18/06	Data File:	608150-02.037
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	15.8	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-CH-151-015	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/18/06	Lab ID:	608150-04
Date Analyzed:	08/18/06	Data File:	608150-04.040
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	2.39	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-CH-151-020	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/18/06	Lab ID:	608150-05
Date Analyzed:	08/18/06	Data File:	608150-05.041
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TR-001-000	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/18/06	Lab ID:	608150-18
Date Analyzed:	08/18/06	Data File:	608150-18.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	100	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	9.11	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TR-002+003	Client:	USDOC NOAA
Date Received:	08/11/06	Project:	Lead Test, F&BI 608150
Date Extracted:	08/18/06	Lab ID:	608150-19
Date Analyzed:	08/18/06	Data File:	608150-19.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	101	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	9.35	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	Lead Test, F&BI 608150
Date Extracted:	08/18/06	Lab ID:	I6-345 mb
Date Analyzed:	08/18/06	Data File:	I6-345 mb.035
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Date of Report: 08/22/06
Date Received: 08/11/06
Project: Lead Test, F&BI 608150

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR METALS BY EPA METHOD 200.8

Laboratory Code: 608150-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	3,570	759	130 h	0-20

Laboratory Code: 608150-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	ug/g (ppm)	10	3,570	0 b	50-150

Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/g (ppm)	10	106	70-130

h - RPD results are likely outside control limits due to sample inhomogeneity.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

Date of Report: 08/22/06
Date Received: 08/11/06
Project: Lead Test, F&BI 608150

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR METALS BY EPA METHOD 200.8

Laboratory Code: 608150-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/L (ppb)	12.2	11.4	7	0-20

Laboratory Code: 608150-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	ug/L (ppb)	10	12.2	96 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	108	70-130

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

Date of Report: 08/22/06
Date Received: 08/11/06
Project: Lead Test, F&BI 608150

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF THE TCLP EXTRACT FOR METALS BY EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 608112-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	mg/L (ppm)	<1	<1	nm	0-20

Laboratory Code: 608112-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	<1	100	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	105	70-130

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

Date of Report: 08/22/06
Date Received: 08/11/06
Project: Lead Test, F&BI 608150

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF THE TCLP EXTRACT FOR METALS BY EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 608150-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	mg/L (ppm)	15.8	15.4	3	0-20

Laboratory Code: 608150-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	15.8	126 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	113	70-130

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

608150

ME 08-11-06 1 of 2 BI4

7600 Sand Point Way NE
Seattle WA 98115

tel 206-526-~~6317~~ 6410
fax 206-526-6329

CHAIN of CUSTODY

report to James P. Wright
company NOAA
address 7600 Sand Point Way NE
Bldg 3, room 1003
Seattle WA 98103

phone ( )
fax
project
project #
sampler

Turnaround Time

ASAP ☐ 48 hr ☐
12 hr ☐ 72 hr ☐
24 hr ☐ std ☐

NOAA [illegible]	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	ANALYSIS REQUESTED											# of containers	Remarks
						Total lead	TCLP-Pb									Lab ID		
	SP60-ID-001	8/6/06	2016	water	HNO_3	X										01		
	SP60-CH-151-005			Soil		↓	*									02		
	SP60-CH-151-010			Soil			*									03		
	SP60-CH-151-015			Soil			*									04		
	SP60-CH-151-020			Soil			*									05		
	SP60-CH-152-005			Soil			*									06		
	SP60-CH-152-010			Soil			*									07		
	SP60-CH-152-015			Soil			*									08		
	SP60-CH-152-020			Soil			*									09		
	LAP-01			Wood			X									10		
	LAP-01P			Wood			X									11		
	PLY-01			Wood			X									12		

Comments
* if total Pb exceeds 400 mg/kg, then conduct TCLP, in composits of 4

LUFT EDD ☐

Relinquished by:
Signature Paula Souik
Print Paula Souik
Company
Date 8/11/06 Time 12:00

Received by:
Signature
Print Michael Erdahl
Company
Date 8/11/06 Time 12:15

Sample integrity upon receipt:
Samples received intact ☐
Samples received cold ☐
Custody seals ☐
Correct container types ☐

Bill 3rd Party:

PO#
Quote yes no

Relinquished by:
Signature
Print
Company
Date Time

Received b:
Signature
Print
Company
Date Time

Page of

608150 ME 08-11-06 2 of 2 BI4

7600 Sand Point Way NE
Seattle WA 98115

tel 206-526-~~6317~~ 6410
fax 206-526-6329

CHAIN of CUSTODY

report to James P. Wright
company
address

phone ( )
fax
project
project #
sampler

ANALYSIS REQUESTED

Turnaround Time

ASAP ▨ 48 hr ▨
12 hr ▨ 72 hr ▨
24 hr ▨ std ▨

	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	Total Pb	TCLP									Lab ID	# of containers	Remarks
	PLY-01P			Wood		X	X									13		
	LAP-02			Wood		↓	X									14		
	LAP-02P			Wood		↓	X									15		
	PLY-02			Wood		↓	X									16		
	PLY-02P			Wood		↓	X									17		
	SP60-TR-001-000			Soil		X	X									18		
Composite	SP60-TR-002+003			Soil		X	X									19		

Comments

LUFT EDD ☐

Relinquished by:
Signature
Print
Company
Date Time

Received by:
Signature
Print Michel [illegible]
Company
Date 8/11/06 Time 12:15

Sample integrity upon receipt:
Samples received intact ▨
Samples received cold ▨
Custody seals ▨
Correct container types ▨

Bill 3rd Party:

PO#
Quote yes no

Relinquished by:
Signature
Print
Company
Date Time

Received b:
Signature
Print
Company
Date Time

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 608150 CLIENT NOAA INITIALS/DATE: NP 8-11-06

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 25 °C

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

Is the COC* complete and in agreement with the samples received? ☐ YES ☑ NO
(explain "no" answers below)

Sample ID's ☑ Yes ☐ No # of Containers ☑ Yes ☐ No
Date Sampled ☐ Yes ☑ No Relinquished ☑ Yes ☐ No
Time Sampled ☐ Yes ☑ No Requested analysis ☑ Yes ☐ No

Number of days samples have been sitting prior to receipt at laboratory 5 days

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Are samples for PCB testing, or do samples originate out of the country? (if yes, put a red sticker on each sample) ☐ YES ☑ NO

Was client notified of sample receipt? ☑ Over the Counter ☐ Picked up by F&BI
☐ YES ☐ NO (explain)

If Yes, name of person contacted__________ ☐ Left Message

Special Instructions from Client__________

Describe "no" items from above (use the back if needed)
NO date and time Sampled.

FRIEDMAN & BRUYA, INC./FORMS/CHECKIN/SAMPCON Rev. 11/06/02

WORKSHEETS, 608150

TCLP METALS EXTRACTION WORKSHEET

Project #: 608150
Client: NOAA
QC Batch ID: I6-339
Samples checked against COC

Date Received: 8/11/06
Date Extracted: 8/16/06
Date Analyzed:
Sequence Date:

Analysis Method: ☐ 6010B ☑ Other 200.8	**Matrix:** ☐ Soil ☐ Product ☐ Other	**Requested Analytes** ☑ TCLP Metals ☐ TCLP Metals + Cu, Ni, Zn ☐ Other as Marked	**Extraction Method:** ☐ 1311/3005A ✓ ☐ Other	**Reporting Units:** ☐ mg/L (ppm) ☐ Other
Date/Time on Tumbler 8/14/06 5:00pm	**Initials**	**Date/ Time off Tumbler** 8/15/06 10:00pm	**Initials**	**TCLP Solution** ☑ Type I, 500 mL ☐ Type II, 500 mL

(Not TCLP Analytes)

Sample ID	Sample Weight/ Volume	pH	As	Ba	Cd	Cr	Pb	Se	Ag	Cu	Ni	Zn
10	25 g	4.7										
11		↓										
12												
13												
14												
15												
16												
17		✓										
		TCLP Limit	5.0	100	1.0	5.0	5.0	1.0	5.0			
Initials												

PRIORITY
DUE Date/Time 8/18/06
PM notified
- at least 48
Extract./C
Initials

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent		0.5 mL	approx 70%	HNO_3			
		0.5 mL	approx 37%	HCl			
Other							

Project Leader Initials: VM

NOTES: Grind representative sample - not just paint
1 ml → 10 ml 100X

Calculated by: 8/17/06 Reviewed by: 8/18/06

FORMS\LAB\EXTRACT\METALS_ICP Rev. 09/06/05

METALS BY ICP/MS EXTRACTION WORKSHEET (WATER)

Project #: 608150
Client: NOAA
QC Batch ID: ~~70~~-338
Samples checked against COC ✓

Date Received: 8/11/06
Date Extracted: 8/16/06
Date Analyzed:
Sequence Date:

Analysis Method:
☒ 200.8
☐ Other________

Matrix:
☒ Water
☐ Other________

Requested Analyses:
☐ RCRA (7)
☐ MTCA (4)
☐ Priority Pollutant
☐ CAM 17 (16)
☐ Other as Marked Below

Total or Dissolved:
☒ Total
☐ Dissolved
☐ Field Filtered
☐ Lab Filtered

Reporting Units:
☒ µg/L (ppb)
☐ Other________

Analyte List: Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sb Ba Tl [✓ Pb]

Sample ID	Sample Volume	Final Volume	Dilutions		Dilution Factor	Observations
			Amt. Extract	Amt. Solvent		
01	~~10~~ mL 50	~~10~~ mL 50				

PRIORITY
DUE: Date/Time 8/18/06
PM notified if unable to meet dead[illegible] at least 48hr prior to due date
Extr[illegible]/[illegible] (circle one)________
Initials

Initials

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent(s)		0.2 mL	approx. 70%	HNO_3	[illegible]		[illegible]
		0.2 mL	approx. 37%	HCl			
Other							
Internal Standard(s)		20 µL per 10 mL sample	10 mg/L	^{6}Li, ^{45}Sc, ^{72}Ge, ^{89}Y, ^{115}In, ^{159}Tb, ^{165}Ho, ^{209}Bi			
Other							

Project Leader Initials:

NOTES:________

Calculated by: 8/18/06 Reviewed by: 8/21/06

TOTAL METALS BY ICP/MS EXTRACTION WORKSHEET (SOIL/PRODUCT)

Project #: 608156
Client: NOAA
QC Batch ID: I6-336
Samples checked against COC: [illegible]

Date Received: 8/11/06
Date Extracted: 8-16-06
Date Analyzed: 8/16/06
Sequence Date:

Analysis Method: ☒ 200.8 ☐ Other____

Matrix: ☐ Soil ☐ Product ☒ Other wood

Requested Analytes: ☐ RCRA (7) ☐ MTCA (4) ☐ Priority Pollutant ☐ CAM 17 (16) ☐ Other as Marked Below

Reporting Units: ☐ µg/g (ppm) ☐ Other____

Analyte List: Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sb Ba Tl [✓ Pb]

Sample ID	Sample Weight	Final Volume	Dilutions		Dilution Factor	Pan ID	Wet Sample Weight (grams)	Pan & Dry Sample Weight	Percent Solids	Observations
			Amt. Extract	Amt. Solvent						
10	2.0 g	50 mL	25µl	~~10ml~~ 100	~~1:10~~ 100x	L 01	2.0	1.9 2.0	1.00	10 µl [illegible] total dil
11						L 11	2.0	1.9	1.05	
12						K 11	2.1	1.9	~~9~~ 1.11	
13						34	2.0	1.9	1.05	
14						L 28	2.3	2.1	~~1.0~~ 1.10	
15						L 26	2.2	2.0	1.10	
16						K 14	2.4	2.2	1.09	
17						03 5	2.1	1.9 8/18/06	1.11	
Initials										

[illegible]: Date/[illegible]
[illegible] notified [illegible]
- at least 48hr. prior to [illegible]
Extract./Calcula. (circle one)____ initials

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent(s)		2 mL	approx. 70%	HNO_3	22-51		8/16/06
		7 mL	approx. 37%	HCl	II-37		
Other							
Internal Standard(s)		~~20~~ 10 µL per 10 mL sample	10 mg/L	^{6}Li, ^{45}Sc, ^{72}Ge, ^{89}Y, ^{115}In, ^{159}Tb, ^{165}Ho, ^{209}Bi	II-38		8/16/06
Other							

Project Leader Initials:

NOTES: GRIND REPRESENTITIVE SAMPLE - NOT JUST PAINT

Calculated by 8/17/06 Reviewed by 8/18/06

8

TOTAL METALS BY ICP/MS EXTRACTION WORKSHEET (SOIL/PRODUCT)

Project #: 608150
Client: NOAA
QC Batch ID: I6-336
Samples checked against COC

Date Received: 8/11/06
Date Extracted: 8-16-06
Date Analyzed:
Sequence Date:

Analysis Method:
☑ 200.8
☐ Other

Matrix:
☑ Soil
☐ Product
☐ Other

Requested Analytes:
☐ RCRA (7)
☐ MTCA (4)
☐ Priority Pollutant
☐ CAM 17 (16)
☐ Other as Marked Below

Reporting Units:
☐ µg/g (ppm)
☐ Other

Analyte List: Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sb Ba Tl [✓ Pb]

Sample ID	Sample Weight	Final Volume	Dilutions		Dilution Factor	Pan ID	Wet Sample Weight (grams)	Pan & Dry Sample Weight	Percent Solids	Observations
			Amt. Extract	Amt. Solvent						
02	2.0 g	50 mL	25µl	10ml	100x	M	9.7	8.9	1.09	
03						22	9.8	9.0	1.09	
04						L10	9.5	8.9	1.07	
05						F	9.5	8.9	107	
06						L16	9.2	8.5	1.08	
07						L02	9.7	9.3	1.04	
08						K19	9.5	9.1	1.04	
09						28	9.6	9.2	1.04	
18						R6	9.8	8.4	1.16	
19						L14	9.5	6.8	1.37	
Initials										

DUE: Date/Time 8/16/06
PM notified ... at least 48hr ...
Extract./Calcul...

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent(s)		2 mL	approx. 70%	HNO_3	22-51		8/16/06
		7 mL	approx. 37%	HCl	II-57		
Other							
Internal Standard(s)		~~20~~ µL per 10 mL 1.0 sample	10 mg/L	^{6}Li, ^{45}Sc, ^{72}Ge, ^{89}Y, ^{115}In, ^{159}Tb, ^{165}Ho, ^{209}Bi	II-38		8/16/06
Other							

Project Leader Initials:

NOTES: If >400ppm Lead, Do TCLP on composites

Calculated by 8/17/06 Reviewed by KWT 8/18/06

10

METALS DATA, 608150

Dataset Report

User Name: btb
Computer Name: ICPMS
Dataset File Path: D:\ICPMS Data\DataSet\08-16-06\
Report Date/Time: Thursday, September 07, 2006 13:13:47

The Dataset

Batch ID	Sample ID	Date and Time	Read Type	Samp. File Name	Description
	blank	12:44:20 Wed 16-Aug-06	Blank	blank.001	
	1 ppb i1-56a	12:47:52 Wed 16-Aug-06	Standard #1	1 ppb i1-56a.002	
	5 ppb i1-56b	12:51:25 Wed 16-Aug-06	Standard #2	5 ppb i1-56b.003	
	10 ppb i1-56c	12:54:59 Wed 16-Aug-06	Standard #3	10 ppb i1-56c.004	
	25 ppb i1-56d	12:58:33 Wed 16-Aug-06	Standard #4	25 ppb i1-56d.005	
	50 ppb i1-56e	13:02:06 Wed 16-Aug-06	Standard #5	50 ppb i1-56e.006	
	25 ppb i1-57a	13:05:39 Wed 16-Aug-06	Sample	25 ppb i1-57a.007	
	i6-338 mb	14:38:09 Wed 16-Aug-06	Sample	i6-338 mb.008	
	i6-338 lcs	14:41:52 Wed 16-Aug-06	Sample	i6-338 lcs.009	
	608150-01	14:45:35 Wed 16-Aug-06	Sample	608150-01.010	
	i6-338 ms 60815	14:49:19 Wed 16-Aug-06	Sample	i6-338 ms 608150-01.011	
	i6-338 dup 6081	14:53:02 Wed 16-Aug-06	Sample	i6-338 dup 608150-01.012	
	607192-10 100x	14:56:45 Wed 16-Aug-06	Sample	607192-10 100x.013	
	607192-10 10x	15:00:29 Wed 16-Aug-06	Sample	607192-10 10x.014	
	601134-01 100x	15:04:13 Wed 16-Aug-06	Sample	601134-01 100x.015	
	601134-01 10x	15:07:58 Wed 16-Aug-06	Sample	601134-01 10x.016	
	608144-01 100x	15:11:44 Wed 16-Aug-06	Sample	608144-01 100x.017	
	rinse	15:15:28 Wed 16-Aug-06	Sample	rinse.018	
	25 ppb i1-57-a	15:19:12 Wed 16-Aug-06	Sample	25 ppb i1-57-a.019	
	608156-01	15:22:56 Wed 16-Aug-06	Sample	608156-01.020	
	608160-01	15:26:40 Wed 16-Aug-06	Sample	608160-01.021	
	25 ppb i1-57-a	15:30:24 Wed 16-Aug-06	Sample	25 ppb i1-57-a.022	
	608160-02	15:34:09 Wed 16-Aug-06	Sample	608160-02.023	
	i6-337 mb	15:37:54 Wed 16-Aug-06	Sample	i6-337 mb.024	soil
	i6-337 lcs	15:41:38 Wed 16-Aug-06	Sample	i6-337 lcs.025	soil
	608152-24 comp	15:45:23 Wed 16-Aug-06	Sample	608152-24 comp.026	soil
	608162-01	15:49:06 Wed 16-Aug-06	Sample	608162-01.027	soil
	608162-02	15:52:50 Wed 16-Aug-06	Sample	608162-02.028	soil
	608162-03	15:56:34 Wed 16-Aug-06	Sample	608162-03.029	soil
	i6-337 ms 60816	16:00:17 Wed 16-Aug-06	Sample	i6-337 ms 608162-03.030	soil
	i6-337 dup 6081	16:04:01 Wed 16-Aug-06	Sample	i6-337 dup 608162-03.031	soil
	25 ppb i1-57-a	16:07:45 Wed 16-Aug-06	Sample	25 ppb i1-57-a.032	soil
	i6-336 mb	16:11:29 Wed 16-Aug-06	Sample	i6-336 mb.033	soil
	i6-336 lcs	16:15:13 Wed 16-Aug-06	Sample	i6-336 lcs.034	soil
	608150-02	16:18:57 Wed 16-Aug-06	Sample	608150-02.035	soil
	i6-336 ms 60815	16:22:41 Wed 16-Aug-06	Sample	i6-336 ms 608150-02.036	soil
	i6-336 dup 6081	16:26:26 Wed 16-Aug-06	Sample	i6-336 dup 608150-02.037	soil
	608150-03	16:30:10 Wed 16-Aug-06	Sample	608150-03.038	soil
	608150-04	16:33:55 Wed 16-Aug-06	Sample	608150-04.039	soil
	608150-05	16:37:39 Wed 16-Aug-06	Sample	608150-05.040	soil
	608150-06	16:41:23 Wed 16-Aug-06	Sample	608150-06.041	soil
	608150-07	16:45:07 Wed 16-Aug-06	Sample	608150-07.042	soil
	25 ppb i1-57-a	16:48:51 Wed 16-Aug-06	Sample	25 ppb i1-57-a.043	soil
	608150-08	16:52:35 Wed 16-Aug-06	Sample	608150-08.044	soil

608150-09	16:56:19 Wed 16-Aug-06	Sample	608150-09.045	soil
608150-18	17:00:03 Wed 16-Aug-06	Sample	608150-18.046	soil
608150-19	17:03:47 Wed 16-Aug-06	Sample	608150-19.047	soil
608150-10 10x	17:07:31 Wed 16-Aug-06	Sample	608150-10 10x.048	soil
608150-11 10x	17:11:15 Wed 16-Aug-06	Sample	608150-11 10x.049	soil
608150-12 10x	17:15:00 Wed 16-Aug-06	Sample	608150-12 10x.050	soil
608150-13 10x	17:18:45 Wed 16-Aug-06	Sample	608150-13 10x.051	soil
608150-14 10x	17:22:30 Wed 16-Aug-06	Sample	608150-14 10x.052	soil
608150-15 10x	17:26:14 Wed 16-Aug-06	Sample	608150-15 10x.053	soil
25 ppb i1-57-a	17:30:34 Wed 16-Aug-06	Sample	25 ppb i1-57-a.054	soil
608150-16 10x	17:34:54 Wed 16-Aug-06	Sample	608150-16 10x.055	soil
608150-17 10x	17:38:38 Wed 16-Aug-06	Sample	608150-17 10x.056	soil
rinse	17:42:57 Wed 16-Aug-06	Sample	rinse.057	soil
608174-01	17:47:16 Wed 16-Aug-06	Sample	608174-01.058	soil
608174-02	17:51:00 Wed 16-Aug-06	Sample	608174-02.059	soil
608174-03	17:54:44 Wed 16-Aug-06	Sample	608174-03.060	soil
608174-04	17:58:29 Wed 16-Aug-06	Sample	608174-04.061	soil
608174-05	18:02:13 Wed 16-Aug-06	Sample	608174-05.062	soil
608174-06	18:05:58 Wed 16-Aug-06	Sample	608174-06.063	soil
25 ppb i1-57-a	18:09:43 Wed 16-Aug-06	Sample	25 ppb i1-57-a.064	soil
607244-09 100x	18:14:03 Wed 16-Aug-06	Sample	607244-09 100x.065	
607244-09 10x	18:17:48 Wed 16-Aug-06	Sample	607244-09 10x.066	
607244-09	18:21:33 Wed 16-Aug-06	Sample	607244-09.067	
509037-01 10x	18:25:17 Wed 16-Aug-06	Sample	509037-01 10x.068	
509037-01	18:29:02 Wed 16-Aug-06	Sample	509037-01.069	
25 ppb i1-57-a	18:32:47 Wed 16-Aug-06	Sample	25 ppb i1-57-a.070	soil
i6-339 mb	18:37:07 Wed 16-Aug-06	Sample	i6-339 mb.071	
i6-339 lcs	18:41:28 Wed 16-Aug-06	Sample	i6-339 lcs.072	
608112-01	18:45:48 Wed 16-Aug-06	Sample	608112-01.073	
i6-339 ms 60811	18:50:09 Wed 16-Aug-06	Sample	i6-339 ms 608112-01.074	
i6-339 dup 6081	18:54:29 Wed 16-Aug-06	Sample	i6-339 dup 608112-01.075	
608150-10	18:58:49 Wed 16-Aug-06	Sample	608150-10.076	
608150-11	19:03:10 Wed 16-Aug-06	Sample	608150-11.077	
608150-12	19:07:30 Wed 16-Aug-06	Sample	608150-12.078	
608150-13	19:11:50 Wed 16-Aug-06	Sample	608150-13.079	
608150-14	19:16:11 Wed 16-Aug-06	Sample	608150-14.080	
608150-15	19:20:32 Wed 16-Aug-06	Sample	608150-15.081	
608150-16	19:24:52 Wed 16-Aug-06	Sample	608150-16.082	
608150-17	19:29:13 Wed 16-Aug-06	Sample	608150-17.083	
rinse	19:33:33 Wed 16-Aug-06	Sample	rinse.084	
rinse	19:37:51 Wed 16-Aug-06	Sample	rinse.085	
25 ppb i5-57-a	19:42:10 Wed 16-Aug-06	Sample	25 ppb i5-57-a.086	

Instrument Tuning Report

File Name: default.tun
File Path: D:\ICPMS Data\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
He	3.016	2.975	592	2077	0.726	
Mg	23.985	23.979	5682	2080	0.707	
Rh	102.905	102.879	24847	2156	0.709	
Ce	139.905	139.929	33855	2196	0.707	
Pb	207.977	207.979	50426	2274	0.715	
U	238.050	238.076	57748	2313	0.706	

Quantitative Analysis Calibration Report

File Name:	08-16-06.cal
File Path:	D:\ICPMS Data\System
Calibration Type:	External Calibration

Analyte	Mass	Curve Type	Slope	Intercept	Corr. Coeff.
Li	6.015	Linear Thru Zero	0.00	0.00	0.000000
Be	9.012	Linear Thru Zero	0.00	0.00	0.999978
Al	26.982	Linear Thru Zero	0.02	0.00	0.999783
Sc	44.956	Linear Thru Zero	0.00	0.00	0.000000
V	50.944	Linear Thru Zero	0.04	0.00	0.999995
V-1	50.944	Linear Thru Zero	0.04	0.00	0.999993
Cr	51.941	Linear Thru Zero	0.04	0.00	0.999993
Cr	52.941	Linear Thru Zero	0.00	0.00	0.999990
Mn	54.938	Linear Thru Zero	0.05	0.00	0.999910
Co	58.933	Linear Thru Zero	0.04	0.00	0.999773
Ni	59.933	Linear Thru Zero	0.01	0.00	0.999912
Ni	61.928	Linear Thru Zero	0.00	0.00	0.999996
Cu	62.930	Linear Thru Zero	0.02	0.00	0.999996
Cu	64.928	Linear Thru Zero	0.01	0.00	0.999872
Zn	65.926	Linear Thru Zero	0.01	0.00	0.999984
Zn	66.927	Linear Thru Zero	0.00	0.00	0.999954
Zn	67.925	Linear Thru Zero	0.00	0.00	0.999979
Ge	71.922	Linear Thru Zero	0.00	0.00	0.000000
As	74.922	Linear Thru Zero	0.01	0.00	0.999957
As-1	74.922	Linear Thru Zero	0.01	0.00	0.999971
Se	76.920	Linear Thru Zero	0.00	0.00	0.999989
Se	81.917	Linear Thru Zero	0.00	0.00	0.999960
Y	88.905	Linear Thru Zero	0.00	0.00	0.000000
Mo	94.906	Linear Thru Zero	0.01	0.00	0.999990
Mo	96.906	Linear Thru Zero	0.01	0.00	0.999962
Mo	97.906	Linear Thru Zero	0.02	0.00	0.999952
Ag	106.905	Linear Thru Zero	0.04	0.00	0.999960
Ag	108.905	Linear Thru Zero	0.04	0.00	0.999973
Cd	105.907	Linear Thru Zero	0.00	0.00	0.999977
Cd	107.904	Linear Thru Zero	0.00	0.00	0.999988
Cd	110.904	Linear Thru Zero	0.01	0.00	0.999914
Cd	113.904	Linear Thru Zero	0.02	0.00	0.999929
In	114.904	Linear Thru Zero	0.00	0.00	0.000000
Sb	120.904	Linear Thru Zero	0.03	0.00	0.999990
Sb	122.904	Linear Thru Zero	0.02	0.00	0.999943
Ba	134.906	Linear Thru Zero	0.01	0.00	0.999953
Ba	136.905	Linear Thru Zero	0.01	0.00	0.999963
Tb	158.925	Linear Thru Zero	0.00	0.00	0.000000
Ho	164.930	Linear Thru Zero	0.00	0.00	0.000000
Hg	200.970	Linear Thru Zero	-0.00	0.00	-0.108927

Hg	201.971	Linear Thru Zero	0.00	0.00	0.354121
Tl	202.972	Linear Thru Zero	0.03	0.00	0.999958
Tl	204.975	Linear Thru Zero	0.06	0.00	0.999878
Pb	207.977	Linear Thru Zero	0.08	0.00	0.999918
Bi	208.980	Linear Thru Zero	0.00	0.00	0.000000
Th	232.038	Linear Thru Zero	0.07	0.00	0.999972
U	238.050	Linear Thru Zero	0.07	0.00	0.999828
Fe	55.935	Linear Thru Zero	0.00	0.00	0.000000
Ru	100.906	Linear Thru Zero	0.00	0.00	0.000000
ArCl	76.928	Linear Thru Zero	0.00	0.00	0.000000
Kr	83.912	Linear Thru Zero	0.00	0.00	0.000000
Sn	117.902	Linear Thru Zero	0.00	0.00	0.000000

Quantitative Analysis - Summary Report

Sample ID: 608150-01

Sample Date/Time: Wednesday, August 16, 2006 14:45:35
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-01.010
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 40
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	70670	2.34		ug/L
│	Be	9	15	52	39.82	0.014	ug/L
│	Al	27	30236	2560238	0.56	64.742	ug/L
│	Sc	45	700355	1142725	5.50		ug/L
│	V	51	16349	195967	1.33	2.468	ug/L
│	V-1	51	7600	136761	2.88	1.743	ug/L
│	Cr	52	46918	364652	1.14	4.880	ug/L
│	Cr	53	2548	22552	4.47	2.567	ug/L
│	Mn	55	4069	15535931	0.83	171.193	ug/L
│	Co	59	728	185766	2.30	2.359	ug/L
│	Ni	60	2164	362374	1.21	19.793	ug/L
│	Ni	62	547	55359	0.57	19.796	ug/L
│	Cu	63	3953	4147859	1.88	95.544	ug/L
│	Cu	65	1949	2010100	0.11	98.123	ug/L
│	Zn	66	5390	8783664	1.44	786.285	ug/L
│	Zn	67	1013	1406671	1.07	729.999	ug/L
│	Zn	68	4021	6180204	0.76	754.679	ug/L
└>	Ge	72	1798281	1846040	0.17		ug/L
┌	As	75	-902	11589	1.37	1.065	ug/L
│	As-1	75	259	11746	0.61	0.998	ug/L
│	Se	77	806	2572	1.95	1.798	ug/L
│	Se	82	487	3071	3.91	2.025	ug/L
│	Y	89	1627756	1750857	1.43		ug/L
│	Mo	95	755	1084624	1.08	45.013	ug/L
│	Mo	97	489	697039	0.81	46.283	ug/L
│	Mo	98	1246	1739501	0.57	45.210	ug/L
│	Ag	107	229	2641	44.75	0.035	ug/L

	Ag	109	178	2242	44.35	0.032	ug/L
	Cd	106	2442	4365	2.39	1.278	ug/L
	Cd	108	11	4284	6.72	3.809	ug/L
	Cd	111	1914	11270	0.58	0.592	ug/L
	Cd	114	199	26955	2.74	0.748	ug/L
>	In	115	1708474	1734341	1.50		ug/L
	Sb	121	376	25836	8.88	0.586	ug/L
	Sb	123	240	19151	9.86	0.585	ug/L
	Ba	135	629	226284	1.71	17.640	ug/L
	Ba	137	1074	387447	1.03	17.672	ug/L
	Tb	159	1781693	1819477	0.08		ug/L
>	Ho	165	1759123	1803647	0.54		ug/L
	Hg	201	45	162	4.82	-4767.639	ug/L
	Hg	202	83	380	4.66	3043.695	ug/L
	Tl	203	114	4263	8.00	0.090	ug/L
	Tl	205	208	9719	12.12	0.092	ug/L
	Pb	208	4961	1734566	1.20	12.196	ug/L
	Bi	209	1048210	985488	2.43		ug/L
	Th	232	279	27355	67.59	0.201	ug/L
	U	238	625	4551	29.41	0.030	ug/L
	Fe	56	16567515	35355346	3.70		ug/L
	Ru	101	12	39	12.86		ug/L
	ArCl	77	768	2553	0.94		ug/L
	Kr	84	2212	3464	73.84		ug/L
	Sn	118	1708	8654	3.68		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		102.656			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	101.514
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	102.531
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-02

Sample Date/Time: Wednesday, August 16, 2006 16:18:57
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-02.035
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 58
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	65249	2.81		ug/L
Be	9	15	963	5.22	0.375	ug/L
Al	27	30236	310419447	2.01	8102.911	ug/L
Sc	45	700355	851038	1.63		ug/L
V	51	16349	1580342	0.61	21.973	ug/L
V-1	51	7600	1966277	0.59	26.995	ug/L
Cr	52	46918	747546	0.80	11.013	ug/L
Cr	53	2548	205035	0.19	26.594	ug/L
Mn	55	4069	16117135	2.13	181.181	ug/L
Co	59	728	570503	0.98	7.411	ug/L
Ni	60	2164	358275	2.83	19.966	ug/L
Ni	62	547	72915	0.29	26.665	ug/L
Cu	63	3953	927505	0.14	21.720	ug/L
Cu	65	1949	458044	1.96	22.735	ug/L
Zn	66	5390	1765394	2.15	160.770	ug/L
Zn	67	1013	293050	0.59	154.688	ug/L
Zn	68	4021	1266417	0.30	157.344	ug/L
Ge	72	1798281	1810058	1.56		ug/L
As	75	-902	45668	0.05	4.268	ug/L
As-1	75	259	76655	0.75	7.155	ug/L
Se	77	806	10629	1.23	10.904	ug/L
Se	82	487	849	1.75	0.330	ug/L
Y	89	1627756	2436640	1.54		ug/L
Mo	95	755	11575	3.09	0.486	ug/L
Mo	97	489	7344	3.31	0.493	ug/L
Mo	98	1246	18467	2.01	0.485	ug/L
Ag	107	229	7764	12.09	0.119	ug/L

	Ag	109	178	8516	13.05	0.139	ug/L
	Cd	106	2442	10038	0.41	5.654	ug/L
	Cd	108	11	1794	0.83	1.715	ug/L
	Cd	111	1914	11769	0.91	0.682	ug/L
	Cd	114	199	13981	3.38	0.416	ug/L
>	In	115	1708474	1608766	0.32		ug/L
	Sb	121	376	54153	19.01	1.336	ug/L
	Sb	123	240	40409	20.36	1.340	ug/L
	Ba	135	629	526143	0.66	44.282	ug/L
	Ba	137	1074	891550	1.42	43.910	ug/L
	Tb	159	1781693	1762407	1.31		ug/L
>	Ho	165	1759123	1709572	1.10		ug/L
	Hg	201	45	407	0.17	-15815.299	ug/L
	Hg	202	83	845	3.51	8334.492	ug/L
	Tl	203	114	2552	1.88	0.056	ug/L
	Tl	205	208	6142	6.81	0.060	ug/L
	Pb	208	4961	440698860	1.47	3278.768	ug/L
	Bi	209	1048210	1051241	1.02		ug/L
	Th	232	279	131851	2.33	1.029	ug/L
	U	238	625	37945	0.53	0.303	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	32	0.00		ug/L
	ArCl	77	768	10601	1.56		ug/L
	Kr	84	2212	-3370	0.85		ug/L
	Sn	118	1708	44866	0.52		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		100.655			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	94.164
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	97.183
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-03

Sample Date/Time: Wednesday, August 16, 2006 16:30:10
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-03.038
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 61
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	58855	0.47		ug/L
|	Be	9	15	992	1.21	0.395	ug/L
|	Al	27	30236	304339755	4.35	8121.300	ug/L
|	Sc	45	700355	808318	0.56		ug/L
|	V	51	16349	1408626	1.56	19.992	ug/L
|	V-1	51	7600	1813009	0.76	25.431	ug/L
|	Cr	52	46918	602317	0.41	8.937	ug/L
|	Cr	53	2548	200864	3.19	26.629	ug/L
|	Mn	55	4069	16384506	2.07	188.213	ug/L
|	Co	59	728	576264	0.56	7.650	ug/L
|	Ni	60	2164	378304	2.79	21.552	ug/L
|	Ni	62	547	73208	3.01	27.361	ug/L
|	Cu	63	3953	613828	2.40	14.660	ug/L
|	Cu	65	1949	310283	1.35	15.707	ug/L
|	Zn	66	5390	805740	1.08	74.730	ug/L
|	Zn	67	1013	134821	1.11	72.447	ug/L
|	Zn	68	4021	570366	0.41	72.142	ug/L
└>	Ge	72	1798281	1771093	0.94		ug/L
┌	As	75	-902	40431	5.11	3.687	ug/L
|	As-1	75	259	72572	1.37	6.588	ug/L
|	Se	77	806	11294	1.57	11.301	ug/L
|	Se	82	487	866	3.27	0.325	ug/L
|	Y	89	1627756	2490555	1.83		ug/L
|	Mo	95	755	11625	1.87	0.475	ug/L
|	Mo	97	489	7475	2.30	0.488	ug/L
|	Mo	98	1246	18740	2.74	0.478	ug/L
|	Ag	107	229	4286	3.45	0.062	ug/L

	Ag	109	178	4933	3.97	0.077	ug/L
	Cd	106	2442	8350	3.54	4.254	ug/L
	Cd	108	11	1346	12.49	1.250	ug/L
	Cd	111	1914	8858	5.79	0.466	ug/L
	Cd	114	199	9392	2.01	0.270	ug/L
>	In	115	1708474	1653611	0.80		ug/L
	Sb	121	376	18043	9.28	0.427	ug/L
	Sb	123	240	13545	7.79	0.432	ug/L
	Ba	135	629	364312	2.23	29.817	ug/L
	Ba	137	1074	626426	1.02	30.000	ug/L
	Tb	159	1781693	1757321	1.17		ug/L
>	Ho	165	1759123	1703139	1.14		ug/L
	Hg	201	45	279	1.01	-10302.166	ug/L
	Hg	202	83	627	0.90	5984.119	ug/L
	Tl	203	114	1897	1.38	0.041	ug/L
	Tl	205	208	4525	0.22	0.044	ug/L
	Pb	208	4961	22116545	0.07	165.146	ug/L
	Bi	209	1048210	983864	0.44		ug/L
	Th	232	279	114792	1.83	0.899	ug/L
	U	238	625	38130	1.51	0.305	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	26	16.32		ug/L
	ArCl	77	768	10984	3.33		ug/L
	Kr	84	2212	-1374	13.69		ug/L
	Sn	118	1708	35343	0.39		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		98.488			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                                    96.789
|     121  Sb
|     123  Sb
|     135  Ba
└     137  Ba
┌     159  Tb
|>    165  Ho                                    96.818
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
└     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608150-04

Sample Date/Time: Wednesday, August 16, 2006 16:33:55
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-04.039
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 62
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	56189	1.87		ug/L
Be	9	15	951	0.97	0.387	ug/L
Al	27	30236	318870785	1.68	8700.394	ug/L
Sc	45	700355	797221	2.74		ug/L
V	51	16349	1656137	1.40	24.088	ug/L
V-1	51	7600	2049779	0.58	29.424	ug/L
Cr	52	46918	630704	0.43	9.624	ug/L
Cr	53	2548	192759	2.20	26.127	ug/L
Mn	55	4069	16201731	1.90	190.317	ug/L
Co	59	728	579926	2.22	7.874	ug/L
Ni	60	2164	348271	0.10	20.283	ug/L
Ni	62	547	71850	0.23	27.469	ug/L
Cu	63	3953	469761	1.93	11.452	ug/L
Cu	65	1949	234717	0.59	12.129	ug/L
Zn	66	5390	768379	1.41	72.879	ug/L
Zn	67	1013	131557	2.76	72.290	ug/L
Zn	68	4021	546747	1.02	70.721	ug/L
Ge	72	1798281	1731669	0.58		ug/L
As	75	-902	48328	3.54	4.435	ug/L
As-1	75	259	79334	1.48	7.277	ug/L
Se	77	806	10782	1.71	10.868	ug/L
Se	82	487	881	5.78	0.344	ug/L
Y	89	1627756	2433849	0.37		ug/L
Mo	95	755	11925	0.67	0.493	ug/L
Mo	97	489	7803	1.95	0.516	ug/L
Mo	98	1246	19153	0.97	0.495	ug/L
Ag	107	229	4326	3.71	0.064	ug/L

	Ag	109	178	4883	0.17	0.077	ug/L
	Cd	106	2442	11515	2.30	6.586	ug/L
	Cd	108	11	2265	3.94	2.131	ug/L
	Cd	111	1914	9466	3.25	0.513	ug/L
	Cd	114	199	7563	0.53	0.219	ug/L
>	In	115	1708474	1637306	1.50		ug/L
	Sb	121	376	13318	4.52	0.316	ug/L
	Sb	123	240	9767	5.14	0.312	ug/L
	Ba	135	629	369862	1.62	30.570	ug/L
	Ba	137	1074	624998	0.57	30.235	ug/L
	Tb	159	1781693	1751075	2.28		ug/L
>	Ho	165	1759123	1716237	0.00		ug/L
	Hg	201	45	204	3.82	-6930.352	ug/L
	Hg	202	83	510	6.10	4660.606	ug/L
	Tl	203	114	2060	0.03	0.044	ug/L
	Tl	205	208	4925	2.17	0.048	ug/L
	Pb	208	4961	71552919	0.56	530.262	ug/L
	Bi	209	1048210	972586	1.26		ug/L
	Th	232	279	127177	1.84	0.989	ug/L
	U	238	625	38724	0.34	0.308	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	33	4.29		ug/L
	ArCl	77	768	10634	1.24		ug/L
	Kr	84	2212	-4113	81.89		ug/L
	Sn	118	1708	31963	1.68		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		96.296			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                             95.834
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                             97.562
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608150-05

Sample Date/Time: Wednesday, August 16, 2006 16:37:39
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-05.040
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 63
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	56594	0.42		ug/L
Be	9	15	1103	1.67	0.460	ug/L
Al	27	30236	308581473	3.23	8592.647	ug/L
Sc	45	700355	785780	0.28		ug/L
V	51	16349	1218591	3.14	18.029	ug/L
V-1	51	7600	1611583	2.30	23.587	ug/L
Cr	52	46918	519287	3.74	7.967	ug/L
Cr	53	2548	186398	1.69	25.780	ug/L
Mn	55	4069	19102637	0.23	229.036	ug/L
Co	59	728	636417	2.81	8.820	ug/L
Ni	60	2164	442583	1.21	26.343	ug/L
Ni	62	547	79572	0.11	31.074	ug/L
Cu	63	3953	804354	0.60	20.084	ug/L
Cu	65	1949	396627	1.34	20.989	ug/L
Zn	66	5390	904193	0.33	87.622	ug/L
Zn	67	1013	151049	0.58	84.810	ug/L
Zn	68	4021	656424	0.78	86.769	ug/L
Ge	72	1798281	1696731	0.55		ug/L
As	75	-902	31447	1.70	2.966	ug/L
As-1	75	259	62913	0.85	5.874	ug/L
Se	77	806	11065	3.63	11.396	ug/L
Se	82	487	913	0.31	0.386	ug/L
Y	89	1627756	2558957	1.49		ug/L
Mo	95	755	12394	0.46	0.524	ug/L
Mo	97	489	7830	2.05	0.528	ug/L
Mo	98	1246	19497	0.45	0.514	ug/L
Ag	107	229	4090	0.52	0.061	ug/L

	Ag	109	178	4425	2.09	0.071	ug/L
	Cd	106	2442	9496	2.87	5.265	ug/L
	Cd	108	11	1513	1.77	1.446	ug/L
	Cd	111	1914	9295	1.30	0.513	ug/L
	Cd	114	199	9035	2.45	0.267	ug/L
>	In	115	1708474	1607325	0.23		ug/L
	Sb	121	376	12300	1.92	0.297	ug/L
	Sb	123	240	9341	0.06	0.304	ug/L
	Ba	135	629	382588	0.03	32.215	ug/L
	Ba	137	1074	658423	0.87	32.445	ug/L
	Tb	159	1781693	1752889	1.12		ug/L
>	Ho	165	1759123	1678639	1.34		ug/L
	Hg	201	45	197	4.31	-6837.967	ug/L
	Hg	202	83	458	1.54	4207.078	ug/L
	Tl	203	114	1595	4.12	0.035	ug/L
	Tl	205	208	3808	0.65	0.037	ug/L
	Pb	208	4961	80905778	1.38	613.120	ug/L
	Bi	209	1048210	961319	0.15		ug/L
	Th	232	279	125726	1.45	1.000	ug/L
	U	238	625	39082	0.74	0.318	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	28	10.10		ug/L
	ArCl	77	768	10807	0.03		ug/L
	Kr	84	2212	385	235.64		ug/L
	Sn	118	1708	42695	0.96		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		94.353			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                   94.080
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
┌      159  Tb
|>     165  Ho                                   95.425
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608150-06

Sample Date/Time: Wednesday, August 16, 2006 16:41:23
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-06.041
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 64
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	56505	2.82		ug/L
Be	9	15	893	4.36	0.365	ug/L
Al	27	30236	328327097	0.41	8999.338	ug/L
Sc	45	700355	824057	0.97		ug/L
V	51	16349	1624956	2.97	23.738	ug/L
V-1	51	7600	2091792	1.25	30.164	ug/L
Cr	52	46918	594975	2.42	9.081	ug/L
Cr	53	2548	196565	1.05	26.770	ug/L
Mn	55	4069	17060450	1.00	201.325	ug/L
Co	59	728	552958	0.57	7.542	ug/L
Ni	60	2164	309883	1.59	18.116	ug/L
Ni	62	547	67432	3.46	25.884	ug/L
Cu	63	3953	487017	0.81	11.931	ug/L
Cu	65	1949	251213	0.11	13.048	ug/L
Zn	66	5390	450759	1.15	42.741	ug/L
Zn	67	1013	83145	1.27	45.700	ug/L
Zn	68	4021	320212	1.09	41.397	ug/L
Ge	72	1798281	1723850	0.17		ug/L
As	75	-902	36652	6.24	3.378	ug/L
As-1	75	259	69391	2.87	6.353	ug/L
Se	77	806	11134	0.28	11.231	ug/L
Se	82	487	815	6.59	0.289	ug/L
Y	89	1627756	2424918	2.71		ug/L
Mo	95	755	10495	2.47	0.429	ug/L
Mo	97	489	6593	0.19	0.430	ug/L
Mo	98	1246	16495	0.11	0.421	ug/L
Ag	107	229	5003	3.86	0.074	ug/L

│	Ag	109	178	5185	6.07	0.082	ug/L
│	Cd	106	2442	13769	4.86	8.192	ug/L
│	Cd	108	11	3333	2.20	3.135	ug/L
│	Cd	111	1914	8732	7.58	0.463	ug/L
│	Cd	114	199	4318	3.62	0.122	ug/L
│>	In	115	1708474	1639532	0.20		ug/L
│	Sb	121	376	13481	1.49	0.320	ug/L
│	Sb	123	240	10300	1.70	0.330	ug/L
│	Ba	135	629	439474	1.20	36.284	ug/L
└	Ba	137	1074	762334	0.34	36.834	ug/L
┌	Tb	159	1781693	1783623	0.71		ug/L
│>	Ho	165	1759123	1707058	1.63		ug/L
│	Hg	201	45	119	5.94	-3291.994	ug/L
│	Hg	202	83	291	1.22	2293.798	ug/L
│	Tl	203	114	1933	0.91	0.042	ug/L
│	Tl	205	208	4477	0.13	0.044	ug/L
│	Pb	208	4961	7701775	1.40	57.365	ug/L
│	Bi	209	1048210	951672	1.66		ug/L
│	Th	232	279	113908	0.67	0.890	ug/L
└	U	238	625	37284	3.13	0.298	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	36	5.98		ug/L
	ArCl	77	768	11134	1.25		ug/L
	Kr	84	2212	-2270	50.83		ug/L
	Sn	118	1708	32740	2.81		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		95.861			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

|	114	Cd	
| >	115	In	95.965
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	97.040
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-07

Sample Date/Time: Wednesday, August 16, 2006 16:45:07
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-07.042
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 65
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	54719	2.53		ug/L
|	Be	9	15	943	0.98	0.385	ug/L
|	Al	27	30236	329315109	0.60	9020.014	ug/L
|	Sc	45	700355	800264	3.51		ug/L
|	V	51	16349	1839373	1.13	26.881	ug/L
|	V-1	51	7600	2249200	0.24	32.419	ug/L
|	Cr	52	46918	649413	1.68	9.972	ug/L
|	Cr	53	2548	203628	0.43	27.724	ug/L
|	Mn	55	4069	15470378	2.59	182.426	ug/L
|	Co	59	728	550993	0.83	7.509	ug/L
|	Ni	60	2164	332943	1.86	19.459	ug/L
|	Ni	62	547	68695	0.57	26.354	ug/L
|	Cu	63	3953	354601	0.01	8.656	ug/L
|	Cu	65	1949	180953	3.88	9.364	ug/L
|	Zn	66	5390	358768	0.53	33.893	ug/L
|	Zn	67	1013	68438	0.31	37.494	ug/L
|	Zn	68	4021	252074	1.27	32.458	ug/L
└>	Ge	72	1798281	1725082	0.07		ug/L
┌	As	75	-902	55727	4.92	5.004	ug/L
|	As-1	75	259	90385	1.90	8.131	ug/L
|	Se	77	806	11461	2.12	11.360	ug/L
|	Se	82	487	799	2.57	0.263	ug/L
|	Y	89	1627756	2449871	2.66		ug/L
|	Mo	95	755	12220	0.66	0.495	ug/L
|	Mo	97	489	7784	2.20	0.504	ug/L
|	Mo	98	1246	19966	1.25	0.506	ug/L
|	Ag	107	229	4921	6.20	0.072	ug/L

	Ag	109	178	4735	0.81	0.073	ug/L
	Cd	106	2442	14902	1.54	8.810	ug/L
	Cd	108	11	3881	10.47	3.586	ug/L
	Cd	111	1914	8607	3.41	0.444	ug/L
	Cd	114	199	2977	0.84	0.081	ug/L
>	In	115	1708474	1669850	0.25		ug/L
	Sb	121	376	8330	3.08	0.191	ug/L
	Sb	123	240	6168	2.60	0.191	ug/L
	Ba	135	629	332430	0.40	26.935	ug/L
	Ba	137	1074	570668	0.83	27.059	ug/L
	Tb	159	1781693	1773678	1.45		ug/L
>	Ho	165	1759123	1733284	1.40		ug/L
	Hg	201	45	99	5.71	-2352.368	ug/L
	Hg	202	83	239	2.37	1691.781	ug/L
	Tl	203	114	2335	0.21	0.050	ug/L
	Tl	205	208	5495	0.48	0.053	ug/L
	Pb	208	4961	3546605	0.90	25.995	ug/L
	Bi	209	1048210	952299	0.73		ug/L
	Th	232	279	133997	1.78	1.032	ug/L
	U	238	625	38556	0.16	0.303	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	30	2.40		ug/L
	ArCl	77	768	11734	2.65		ug/L
	Kr	84	2212	-6000	65.06		ug/L
	Sn	118	1708	16285	0.10		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		95.930			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	97.739
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	98.531
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-08

Sample Date/Time: Wednesday, August 16, 2006 16:52:35
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-08.044
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 66
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	54088	1.48		ug/L
Be	9	15	935	7.87	0.390	ug/L
Al	27	30236	305445984	0.21	8515.395	ug/L
Sc	45	700355	778804	3.22		ug/L
V	51	16349	1733589	2.20	25.783	ug/L
V-1	51	7600	2100055	0.38	30.805	ug/L
Cr	52	46918	630930	1.94	9.855	ug/L
Cr	53	2548	185097	6.44	25.607	ug/L
Mn	55	4069	15251491	0.17	183.051	ug/L
Co	59	728	550103	0.23	7.631	ug/L
Ni	60	2164	332928	1.35	19.809	ug/L
Ni	62	547	69845	2.34	27.273	ug/L
Cu	63	3953	311436	2.96	7.730	ug/L
Cu	65	1949	161960	1.12	8.523	ug/L
Zn	66	5390	676453	0.16	65.498	ug/L
Zn	67	1013	114909	0.31	64.461	ug/L
Zn	68	4021	477501	0.44	63.044	ug/L
Ge	72	1798281	1695260	2.09		ug/L
As	75	-902	55035	0.85	4.977	ug/L
As-1	75	259	87204	0.31	7.898	ug/L
Se	77	806	10521	3.96	10.437	ug/L
Se	82	487	858	10.05	0.316	ug/L
Y	89	1627756	2407202	0.20		ug/L
Mo	95	755	13695	3.12	0.563	ug/L
Mo	97	489	8886	8.16	0.584	ug/L
Mo	98	1246	22681	7.71	0.584	ug/L
Ag	107	229	8050	18.90	0.120	ug/L

	Ag	109	178	8006	19.95	0.127	ug/L
	Cd	106	2442	13253	1.07	7.713	ug/L
	Cd	108	11	3222	2.64	2.996	ug/L
	Cd	111	1914	8674	0.76	0.452	ug/L
	Cd	114	199	4653	0.14	0.130	ug/L
>	In	115	1708474	1658476	0.14		ug/L
	Sb	121	376	15237	17.02	0.358	ug/L
	Sb	123	240	11493	18.43	0.364	ug/L
	Ba	135	629	321101	2.64	26.194	ug/L
	Ba	137	1074	546296	0.22	26.080	ug/L
	Tb	159	1781693	1763560	1.35		ug/L
>	Ho	165	1759123	1728672	2.16		ug/L
	Hg	201	45	124	9.73	-3413.491	ug/L
	Hg	202	83	259	5.74	1907.192	ug/L
	Tl	203	114	4125	45.76	0.090	ug/L
	Tl	205	208	10456	50.37	0.103	ug/L
	Pb	208	4961	3097604	0.00	22.761	ug/L
	Bi	209	1048210	952641	0.04		ug/L
	Th	232	279	162075	11.35	1.251	ug/L
	U	238	625	40671	8.97	0.321	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	34	16.64		ug/L
	ArCl	77	768	10987	1.49		ug/L
	Kr	84	2212	-4543	80.85		ug/L
	Sn	118	1708	20743	2.72		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		94.271			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

│	114	Cd	
│>	115	In	97.074
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│>	165	Ho	98.269
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-09

Sample Date/Time: Wednesday, August 16, 2006 16:56:19
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-09.045
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 67
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	52864	0.51		ug/L
Be	9	15	917	3.47	0.378	ug/L
Al	27	30236	312421306	2.91	8623.746	ug/L
Sc	45	700355	780445	1.81		ug/L
V	51	16349	1799161	0.01	26.493	ug/L
V-1	51	7600	2182027	0.60	31.691	ug/L
Cr	52	46918	642667	0.97	9.943	ug/L
Cr	53	2548	193866	4.81	26.582	ug/L
Mn	55	4069	15053929	0.56	178.885	ug/L
Co	59	728	545063	0.35	7.486	ug/L
Ni	60	2164	334179	1.53	19.682	ug/L
Ni	62	547	69957	4.09	27.049	ug/L
Cu	63	3953	333514	1.58	8.199	ug/L
Cu	65	1949	169139	1.41	8.814	ug/L
Zn	66	5390	793987	0.31	76.198	ug/L
Zn	67	1013	131847	1.88	73.302	ug/L
Zn	68	4021	555385	1.02	72.678	ug/L
Ge	72	1798281	1711889	0.40		ug/L
As	75	-902	57726	0.64	5.275	ug/L
As-1	75	259	89821	1.00	8.229	ug/L
Se	77	806	11068	2.68	11.157	ug/L
Se	82	487	812	0.09	0.286	ug/L
Y	89	1627756	2412745	0.31		ug/L
Mo	95	755	12621	1.08	0.523	ug/L
Mo	97	489	8090	3.54	0.536	ug/L
Mo	98	1246	20458	0.85	0.530	ug/L
Ag	107	229	5705	1.90	0.085	ug/L

	Ag	109	178	5552	3.53	0.088	ug/L
	Cd	106	2442	14135	6.39	8.452	ug/L
	Cd	108	11	3555	3.45	3.344	ug/L
	Cd	111	1914	9275	8.99	0.499	ug/L
	Cd	114	199	5094	3.06	0.145	ug/L
>	In	115	1708474	1639776	0.11		ug/L
	Sb	121	376	9398	5.08	0.220	ug/L
	Sb	123	240	7135	2.42	0.226	ug/L
	Ba	135	629	327808	0.41	27.048	ug/L
	Ba	137	1074	560050	0.10	27.043	ug/L
	Tb	159	1781693	1763308	0.04		ug/L
>	Ho	165	1759123	1718685	1.14		ug/L
	Hg	201	45	103	4.83	-2537.240	ug/L
	Hg	202	83	261	1.36	1946.567	ug/L
	Tl	203	114	2480	3.94	0.054	ug/L
	Tl	205	208	5753	1.62	0.056	ug/L
	Pb	208	4961	3294111	0.25	24.344	ug/L
	Bi	209	1048210	939026	1.76		ug/L
	Th	232	279	136222	0.86	1.058	ug/L
	U	238	625	38280	0.32	0.304	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	39	7.25		ug/L
	ArCl	77	768	10925	3.71		ug/L
	Kr	84	2212	-5855	60.82		ug/L
	Sn	118	1708	21151	2.66		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		95.196			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	95.979
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	97.701
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-18

Sample Date/Time: Wednesday, August 16, 2006 17:00:03
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-18.046
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 68
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	55457	1.79		ug/L
Be	9	15	767	1.48	0.320	ug/L
Al	27	30236	294987568	0.37	8279.855	ug/L
Sc	45	700355	793566	0.80		ug/L
V	51	16349	1624930	0.78	24.311	ug/L
V-1	51	7600	2050541	0.39	30.279	ug/L
Cr	52	46918	990556	0.51	16.005	ug/L
Cr	53	2548	249375	0.60	34.877	ug/L
Mn	55	4069	14544430	1.93	175.777	ug/L
Co	59	728	510358	1.04	7.127	ug/L
Ni	60	2164	316151	1.25	18.933	ug/L
Ni	62	547	66338	2.81	26.071	ug/L
Cu	63	3953	454149	0.01	11.389	ug/L
Cu	65	1949	231044	0.28	12.282	ug/L
Zn	66	5390	1519471	1.95	148.727	ug/L
Zn	67	1013	246877	0.78	140.065	ug/L
Zn	68	4021	1081633	0.19	144.429	ug/L
Ge	72	1798281	1683693	1.75		ug/L
As	75	-902	46525	2.98	4.335	ug/L
As-1	75	259	78964	1.61	7.352	ug/L
Se	77	806	11002	0.50	11.284	ug/L
Se	82	487	828	2.31	0.311	ug/L
Y	89	1627756	2252115	0.40		ug/L
Mo	95	755	11805	0.70	0.495	ug/L
Mo	97	489	7639	0.20	0.513	ug/L
Mo	98	1246	18897	3.80	0.495	ug/L
Ag	107	229	5749	1.11	0.087	ug/L

│	Ag	109	178	6020	0.62	0.097	ug/L
│	Cd	106	2442	8532	1.79	4.537	ug/L
│	Cd	108	11	1002	14.57	0.952	ug/L
│	Cd	111	1914	9475	1.93	0.523	ug/L
│	Cd	114	199	10209	1.11	0.301	ug/L
│>	In	115	1708474	1613075	0.87		ug/L
│	Sb	121	376	27131	0.80	0.663	ug/L
│	Sb	123	240	20511	2.22	0.675	ug/L
│	Ba	135	629	473732	0.07	39.761	ug/L
└	Ba	137	1074	811229	1.30	39.843	ug/L
┌	Tb	159	1781693	1730891	0.75		ug/L
│>	Ho	165	1759123	1688239	0.52		ug/L
│	Hg	201	45	376	1.32	-14670.597	ug/L
│	Hg	202	83	811	0.70	8076.946	ug/L
│	Tl	203	114	2003	3.07	0.044	ug/L
│	Tl	205	208	4896	0.82	0.048	ug/L
│	Pb	208	4961	114263838	0.46	860.849	ug/L
│	Bi	209	1048210	968195	0.91		ug/L
│	Th	232	279	101344	0.32	0.801	ug/L
└	U	238	625	41952	0.40	0.339	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	28	0.00		ug/L
	ArCl	77	768	11048	0.20		ug/L
	Kr	84	2212	-2333	59.60		ug/L
	Sn	118	1708	65578	2.91		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		93.628			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

|	114	Cd	
|>	115	In	94.416
|	121	Sb	
|	123	Sb	
|	135	Ba	
L	137	Ba	
Γ	159	Tb	
|>	165	Ho	95.971
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
L	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-19

Sample Date/Time: Wednesday, August 16, 2006 17:03:47
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-19.047
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 69
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
[	Li	6	62627	55648	2.04		ug/L
|	Be	9	15	870	9.68	0.353	ug/L
|	Al	27	30236	399844438	0.69	10869.526	ug/L
|	Sc	45	700355	823948	1.68		ug/L
|	V	51	16349	2095959	0.11	30.431	ug/L
|	V-1	51	7600	2555728	1.48	36.572	ug/L
|	Cr	52	46918	1666522	0.12	26.547	ug/L
|	Cr	53	2548	325536	1.64	44.183	ug/L
|	Mn	55	4069	19691548	0.63	230.482	ug/L
|	Co	59	728	753819	2.08	10.199	ug/L
|	Ni	60	2164	427615	1.90	24.841	ug/L
|	Ni	62	547	88946	0.26	33.925	ug/L
|	Cu	63	3953	1489192	0.40	36.375	ug/L
|	Cu	65	1949	746852	2.08	38.667	ug/L
|	Zn	66	5390	13577321	0.09	1291.185	ug/L
|	Zn	67	1013	2093459	0.88	1154.124	ug/L
|	Zn	68	4021	9584143	0.46	1243.391	ug/L
L>	Ge	72	1798281	1738211	1.15		ug/L
[	As	75	-902	68715	4.14	6.132	ug/L
|	As-1	75	259	99390	0.49	8.916	ug/L
|	Se	77	806	10882	0.04	10.708	ug/L
|	Se	82	487	1318	3.38	0.683	ug/L
|	Y	89	1627756	2223057	1.09		ug/L
|	Mo	95	755	14576	1.66	0.595	ug/L
|	Mo	97	489	9500	1.11	0.621	ug/L
|	Mo	98	1246	24089	1.42	0.616	ug/L
|	Ag	107	229	10835	1.48	0.161	ug/L

|	Ag	109	178	12724	0.75	0.201	ug/L
|	Cd	106	2442	13969	1.77	8.122	ug/L
|	Cd	108	11	2153	3.72	1.979	ug/L
|	Cd	111	1914	34032	1.09	2.113	ug/L
|	Cd	114	199	60907	0.18	1.759	ug/L
|>	In	115	1708474	1675114	1.21		ug/L
|	Sb	121	376	73947	1.30	1.755	ug/L
|	Sb	123	240	55573	1.28	1.772	ug/L
|	Ba	135	629	2212067	1.92	178.943	ug/L
L	Ba	137	1074	3839247	2.40	181.746	ug/L
[	Tb	159	1781693	1765657	0.47		ug/L
|>	Ho	165	1759123	1710332	0.14		ug/L
|	Hg	201	45	787	1.35	-32364.980	ug/L
|	Hg	202	83	1766	4.13	18366.075	ug/L
|	Tl	203	114	1472	0.53	0.031	ug/L
|	Tl	205	208	3565	2.54	0.034	ug/L
|	Pb	208	4961	258094001	1.65	1919.351	ug/L
|	Bi	209	1048210	1028334	1.37		ug/L
|	Th	232	279	93131	5.40	0.726	ug/L
L	U	238	625	45881	1.77	0.367	ug/L
	Fe	56	16567515	S	S		ug/L
	Ru	101	12	58	14.63		ug/L
	ArCl	77	768	10883	6.60		ug/L
	Kr	84	2212	356	276.49		ug/L
	Sn	118	1708	159252	0.33		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
[	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
L>	72	Ge		96.660			
[	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

│	114	Cd	
│ >	115	In	98.047
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│ >	165	Ho	97.226
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-10 10x

Sample Date/Time: Wednesday, August 16, 2006 17:07:31
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-10 10x.048
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 70
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	52457	2.05		ug/L
Be	9	15	17	55.71	0.001	ug/L
Al	27	30236	435171	7.12	11.517	ug/L
Sc	45	700355	704484	0.32		ug/L
V	51	16349	18398	2.68	0.049	ug/L
V-1	51	7600	131625	9.49	1.863	ug/L
Cr	52	46918	69777	1.23	0.447	ug/L
Cr	53	2548	44036	8.99	5.938	ug/L
Mn	55	4069	27032	5.74	0.283	ug/L
Co	59	728	3760	1.88	0.043	ug/L
Ni	60	2164	1767	15.69	-0.015	ug/L
Ni	62	547	484	12.43	-0.010	ug/L
Cu	63	3953	9435	2.75	0.147	ug/L
Cu	65	1949	4842	4.46	0.164	ug/L
Zn	66	5390	749215	0.03	73.711	ug/L
Zn	67	1013	116082	1.34	66.115	ug/L
Zn	68	4021	524685	1.51	70.398	ug/L
Ge	72	1798281	1669645	1.45		ug/L
As	75	-902	612	39.53	0.133	ug/L
As-1	75	259	4567	0.14	0.393	ug/L
Se	77	806	1684	10.21	0.973	ug/L
Se	82	487	469	5.13	-0.002	ug/L
Y	89	1627756	1491917	0.99		ug/L
Mo	95	755	575	9.87	-0.007	ug/L
Mo	97	489	359	0.63	-0.008	ug/L
Mo	98	1246	925	0.09	-0.008	ug/L
Ag	107	229	395	9.14	0.003	ug/L

	Ag	109	178	348	0.20	0.003	ug/L
	Cd	106	2442	2248	3.90	-0.082	ug/L
	Cd	108	11	34	56.07	0.022	ug/L
	Cd	111	1914	1918	2.86	0.004	ug/L
	Cd	114	199	579	8.10	0.011	ug/L
>	In	115	1708474	1653088	0.73		ug/L
	Sb	121	376	81135	0.45	1.952	ug/L
	Sb	123	240	61717	1.34	1.995	ug/L
	Ba	135	629	17344	5.15	1.372	ug/L
	Ba	137	1074	29768	2.69	1.379	ug/L
	Tb	159	1781693	1723524	0.28		ug/L
>	Ho	165	1759123	1696363	1.24		ug/L
	Hg	201	45	93	16.05	-2161.690	ug/L
	Hg	202	83	191	5.92	1220.443	ug/L
	Tl	203	114	6456	4.58	0.146	ug/L
	Tl	205	208	15576	5.55	0.158	ug/L
	Pb	208	4961	29327024	0.31	219.874	ug/L
	Bi	209	1048210	1000452	2.19		ug/L
	Th	232	279	2783	17.46	0.020	ug/L
	U	238	625	344	11.10	-0.002	ug/L
	Fe	56	16567515	18776470	4.91		ug/L
	Ru	101	12	16	31.93		ug/L
	ArCl	77	768	1647	6.01		ug/L
	Kr	84	2212	2009	0.53		ug/L
	Sn	118	1708	3677	6.21		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		92.847			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|       114  Cd
|>      115  In                                   96.758
|       121  Sb
|       123  Sb
|       135  Ba
└       137  Ba
┌       159  Tb
|>      165  Ho                                   96.432
|       201  Hg
|       202  Hg
|       203  Tl
|       205  Tl
|       208  Pb
|       209  Bi
|       232  Th
└       238  U
         56  Fe
        101  Ru
         77  ArCl
         84  Kr
        118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608150-11 10x

Sample Date/Time: Wednesday, August 16, 2006 17:11:15
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-11 10x.049
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 71
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	53084	0.43		ug/L
│	Be	9	15	21	37.94	0.003	ug/L
│	Al	27	30236	1732838	2.12	48.135	ug/L
│	Sc	45	700355	673280	3.09		ug/L
│	V	51	16349	21093	6.19	0.089	ug/L
│	V-1	51	7600	98153	5.33	1.358	ug/L
│	Cr	52	46918	66507	1.32	0.388	ug/L
│	Cr	53	2548	31847	5.54	4.189	ug/L
│	Mn	55	4069	37512	8.52	0.410	ug/L
│	Co	59	728	3222	0.61	0.036	ug/L
│	Ni	60	2164	2153	5.39	0.009	ug/L
│	Ni	62	547	512	6.22	0.001	ug/L
│	Cu	63	3953	10399	1.59	0.171	ug/L
│	Cu	65	1949	5011	2.39	0.172	ug/L
│	Zn	66	5390	556823	1.24	54.502	ug/L
│	Zn	67	1013	88685	0.86	50.259	ug/L
│	Zn	68	4021	396760	0.10	52.964	ug/L
└>	Ge	72	1798281	1674302	2.19		ug/L
┌	As	75	-902	-160	15.11	0.063	ug/L
│	As-1	75	259	2952	4.53	0.249	ug/L
│	Se	77	806	1440	1.42	0.728	ug/L
│	Se	82	487	480	1.92	0.011	ug/L
│	Y	89	1627756	1502623	1.34		ug/L
│	Mo	95	755	569	0.18	-0.007	ug/L
│	Mo	97	489	385	12.23	-0.006	ug/L
│	Mo	98	1246	858	0.70	-0.009	ug/L
│	Ag	107	229	355	2.79	0.002	ug/L

│	Ag	109	178	285	0.75	0.002	ug/L
│	Cd	106	2442	2305	2.75	-0.022	ug/L
│	Cd	108	11	-26	9.36	-0.034	ug/L
│	Cd	111	1914	1957	3.28	0.009	ug/L
│	Cd	114	199	540	1.63	0.010	ug/L
│>	In	115	1708474	1633974	1.09		ug/L
│	Sb	121	376	48715	1.11	1.182	ug/L
│	Sb	123	240	35877	1.92	1.170	ug/L
│	Ba	135	629	11274	2.57	0.885	ug/L
└	Ba	137	1074	19426	1.91	0.893	ug/L
┌	Tb	159	1781693	1698203	0.03		ug/L
│>	Ho	165	1759123	1675269	1.29		ug/L
│	Hg	201	45	107	12.62	-2827.848	ug/L
│	Hg	202	83	191	1.86	1240.301	ug/L
│	Tl	203	114	6245	0.49	0.143	ug/L
│	Tl	205	208	14625	2.58	0.150	ug/L
│	Pb	208	4961	16510946	1.59	125.347	ug/L
│	Bi	209	1048210	992520	1.12		ug/L
│	Th	232	279	3185	0.36	0.023	ug/L
└	U	238	625	9947	0.53	0.077	ug/L
	Fe	56	16567515	19065708	0.37		ug/L
	Ru	101	12	21	17.25		ug/L
	ArCl	77	768	1386	4.18		ug/L
	Kr	84	2212	1943	1.83		ug/L
	Sn	118	1708	5974	3.73		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		93.106			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

	114	Cd	
>	115	In	95.639
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	95.233
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-12 10x

Sample Date/Time: Wednesday, August 16, 2006 17:15:00
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-12 10x.050
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 72
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	54130	3.11		ug/L
│	Be	9	15	11	33.67	-0.002	ug/L
│	Al	27	30236	329606	1.46	8.362	ug/L
│	Sc	45	700355	691584	2.12		ug/L
│	V	51	16349	16550	2.53	0.016	ug/L
│	V-1	51	7600	74084	3.83	0.981	ug/L
│	Cr	52	46918	51499	0.63	0.119	ug/L
│	Cr	53	2548	23895	3.88	3.002	ug/L
│	Mn	55	4069	18809	3.76	0.179	ug/L
│	Co	59	728	4686	2.49	0.055	ug/L
│	Ni	60	2164	635	3.90	-0.084	ug/L
│	Ni	62	547	308	2.07	-0.082	ug/L
│	Cu	63	3953	3143	0.23	-0.015	ug/L
│	Cu	65	1949	1570	5.40	-0.014	ug/L
│	Zn	66	5390	8085	6.82	0.290	ug/L
│	Zn	67	1013	4663	5.07	2.088	ug/L
│	Zn	68	4021	10152	5.28	0.841	ug/L
└>	Ge	72	1798281	1701159	0.94		ug/L
┌	As	75	-902	-1121	2.28	-0.020	ug/L
│	As-1	75	259	1681	0.25	0.127	ug/L
│	Se	77	806	1294	1.64	0.524	ug/L
│	Se	82	487	481	8.39	-0.001	ug/L
│	Y	89	1627756	1531673	2.20		ug/L
│	Mo	95	755	451	0.19	-0.013	ug/L
│	Mo	97	489	308	2.25	-0.012	ug/L
│	Mo	98	1246	763	1.13	-0.013	ug/L
│	Ag	107	229	234	4.23	0.000	ug/L

	Ag	109	178	197	0.36	0.000	ug/L
	Cd	106	2442	2214	2.04	-0.139	ug/L
	Cd	108	11	24	8.93	0.012	ug/L
	Cd	111	1914	1742	2.36	-0.010	ug/L
	Cd	114	199	197	4.31	0.000	ug/L
>	In	115	1708474	1688292	0.23		ug/L
	Sb	121	376	2692	5.04	0.055	ug/L
	Sb	123	240	1967	0.04	0.055	ug/L
	Ba	135	629	161303	1.74	12.901	ug/L
	Ba	137	1074	277429	0.03	12.985	ug/L
	Tb	159	1781693	1722235	0.22		ug/L
>	Ho	165	1759123	1677876	1.00		ug/L
	Hg	201	45	117	18.82	-3263.502	ug/L
	Hg	202	83	258	7.96	1980.565	ug/L
	Tl	203	114	5146	7.00	0.117	ug/L
	Tl	205	208	12244	3.80	0.125	ug/L
	Pb	208	4961	43630	3.66	0.295	ug/L
	Bi	209	1048210	991847	1.21		ug/L
	Th	232	279	2192	10.94	0.015	ug/L
	U	238	625	1924	0.51	0.011	ug/L
	Fe	56	16567515	17416969	2.44		ug/L
	Ru	101	12	13	10.88		ug/L
	ArCl	77	768	1288	1.81		ug/L
	Kr	84	2212	1941	1.60		ug/L
	Sn	118	1708	2014	2.60		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		94.599			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

	114	Cd	
>	115	In	98.819
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	95.381
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-13 10x

Sample Date/Time: Wednesday, August 16, 2006 17:18:45
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-13 10x.051
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 73
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	54074	1.11		ug/L
|	Be	9	15	16	13.69	0.001	ug/L
|	Al	27	30236	68724	3.88	1.110	ug/L
|	Sc	45	700355	686133	1.06		ug/L
|	V	51	16349	15740	2.75	0.003	ug/L
|	V-1	51	7600	62055	3.86	0.802	ug/L
|	Cr	52	46918	50421	0.43	0.099	ug/L
|	Cr	53	2548	20301	3.58	2.491	ug/L
|	Mn	55	4069	14789	0.98	0.130	ug/L
|	Co	59	728	7354	0.20	0.092	ug/L
|	Ni	60	2164	632	2.46	-0.084	ug/L
|	Ni	62	547	294	3.37	-0.088	ug/L
|	Cu	63	3953	3239	0.07	-0.013	ug/L
|	Cu	65	1949	1648	1.93	-0.011	ug/L
|	Zn	66	5390	9747	1.67	0.449	ug/L
|	Zn	67	1013	4732	2.20	2.119	ug/L
|	Zn	68	4021	12468	1.67	1.144	ug/L
└>	Ge	72	1798281	1706259	1.57		ug/L
┌	As	75	-902	-1249	14.41	-0.033	ug/L
|	As-1	75	259	1474	5.71	0.111	ug/L
|	Se	77	806	1289	0.27	0.542	ug/L
|	Se	82	487	462	2.14	-0.009	ug/L
|	Y	89	1627756	1552794	0.99		ug/L
|	Mo	95	755	471	2.25	-0.011	ug/L
|	Mo	97	489	302	0.24	-0.012	ug/L
|	Mo	98	1246	731	4.74	-0.013	ug/L
|	Ag	107	229	219	3.87	-0.000	ug/L

	Ag	109	178	159	12.94	-0.000	ug/L
	Cd	106	2442	2092	5.28	-0.199	ug/L
	Cd	108	11	-15	153.85	-0.023	ug/L
	Cd	111	1914	1673	6.35	-0.012	ug/L
	Cd	114	199	224	12.82	0.001	ug/L
>	In	115	1708474	1659715	1.26		ug/L
	Sb	121	376	2109	2.15	0.042	ug/L
	Sb	123	240	1613	0.52	0.045	ug/L
	Ba	135	629	201397	1.04	16.399	ug/L
	Ba	137	1074	350161	0.78	16.686	ug/L
	Tb	159	1781693	1727554	0.89		ug/L
>	Ho	165	1759123	1712438	1.63		ug/L
	Hg	201	45	160	11.97	-5042.771	ug/L
	Hg	202	83	339	4.59	2810.245	ug/L
	Tl	203	114	4228	0.27	0.094	ug/L
	Tl	205	208	10191	1.19	0.102	ug/L
	Pb	208	4961	31855	14.98	0.200	ug/L
	Bi	209	1048210	1001651	0.96		ug/L
	Th	232	279	1917	2.07	0.013	ug/L
	U	238	625	279	2.53	-0.003	ug/L
	Fe	56	16567515	17566286	3.06		ug/L
	Ru	101	12	13	50.91		ug/L
	ArCl	77	768	1247	6.12		ug/L
	Kr	84	2212	2044	0.52		ug/L
	Sn	118	1708	2702	13.27		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		94.883			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	97.146
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	97.346
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-14 10x

Sample Date/Time: Wednesday, August 16, 2006 17:22:30
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-14 10x.052
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 74
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	54845	0.37		ug/L
Be	9	15	13	28.28	-0.001	ug/L
Al	27	30236	226415	1.15	5.405	ug/L
Sc	45	700355	682976	2.32		ug/L
V	51	16349	16679	5.57	0.015	ug/L
V-1	51	7600	55668	3.02	0.699	ug/L
Cr	52	46918	66723	3.32	0.358	ug/L
Cr	53	2548	20280	3.03	2.456	ug/L
Mn	55	4069	26435	1.62	0.266	ug/L
Co	59	728	4651	4.05	0.054	ug/L
Ni	60	2164	96070	2.85	5.525	ug/L
Ni	62	547	15137	0.37	5.647	ug/L
Cu	63	3953	360959	2.02	8.808	ug/L
Cu	65	1949	176097	2.01	9.106	ug/L
Zn	66	5390	1170714	0.17	111.673	ug/L
Zn	67	1013	179707	0.70	99.288	ug/L
Zn	68	4021	835221	3.60	108.679	ug/L
Ge	72	1798281	1725834	0.66		ug/L
As	75	-902	2600	3.85	0.305	ug/L
As-1	75	259	4960	3.34	0.419	ug/L
Se	77	806	1225	0.52	0.449	ug/L
Se	82	487	506	2.94	0.019	ug/L
Y	89	1627756	1522555	1.24		ug/L
Mo	95	755	476	9.91	-0.012	ug/L
Mo	97	489	320	8.76	-0.011	ug/L
Mo	98	1246	845	2.62	-0.010	ug/L
Ag	107	229	411	1.21	0.003	ug/L

|	Ag	109	178	316	4.48	0.002	ug/L
|	Cd	106	2442	1227	0.59	-0.827	ug/L
|	Cd	108	11	-937	0.16	-0.868	ug/L
|	Cd	111	1914	2060	0.37	0.011	ug/L
|	Cd	114	199	1052	3.42	0.025	ug/L
|>	In	115	1708474	1690943	0.79		ug/L
|	Sb	121	376	37391	1.12	0.875	ug/L
|	Sb	123	240	27989	0.92	0.881	ug/L
|	Ba	135	629	16789	1.89	1.296	ug/L
└	Ba	137	1074	28804	1.63	1.302	ug/L
┌	Tb	159	1781693	1742668	0.55		ug/L
|>	Ho	165	1759123	1694814	0.23		ug/L
|	Hg	201	45	1211	21.72	-51333.893	ug/L
|	Hg	202	83	2675	18.66	28543.300	ug/L
|	Tl	203	114	3688	1.42	0.083	ug/L
|	Tl	205	208	8819	4.24	0.089	ug/L
|	Pb	208	4961	19149156	1.84	143.675	ug/L
|	Bi	209	1048210	1016528	1.79		ug/L
|	Th	232	279	1776	0.08	0.012	ug/L
└	U	238	625	300	3.54	-0.002	ug/L
	Fe	56	16567515	18446615	1.20		ug/L
	Ru	101	12	11	38.57		ug/L
	ArCl	77	768	1167	6.24		ug/L
	Kr	84	2212	2040	1.41		ug/L
	Sn	118	1708	39211	0.14		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		95.971			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

│	114	Cd	
│>	115	In	98.974
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│>	165	Ho	96.344
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-15 10x

Sample Date/Time: Wednesday, August 16, 2006 17:26:14
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-15 10x.053
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 75
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	55421	1.35		ug/L
|	Be	9	15	22	32.14	0.003	ug/L
|	Al	27	30236	2327743	2.57	62.334	ug/L
|	Sc	45	700355	679967	0.10		ug/L
|	V	51	16349	25433	2.02	0.140	ug/L
|	V-1	51	7600	59621	1.00	0.748	ug/L
|	Cr	52	46918	74754	0.26	0.479	ug/L
|	Cr	53	2548	19397	1.72	2.310	ug/L
|	Mn	55	4069	51450	2.14	0.555	ug/L
|	Co	59	728	3990	3.30	0.044	ug/L
|	Ni	60	2164	2459	4.14	0.021	ug/L
|	Ni	62	547	576	8.35	0.018	ug/L
|	Cu	63	3953	8465	0.28	0.113	ug/L
|	Cu	65	1949	4183	1.94	0.119	ug/L
|	Zn	66	5390	716962	1.07	67.547	ug/L
|	Zn	67	1013	110477	2.00	60.256	ug/L
|	Zn	68	4021	499675	0.84	64.188	ug/L
└>	Ge	72	1798281	1742305	0.70		ug/L
┌	As	75	-902	6	3712.59	0.078	ug/L
|	As-1	75	259	2576	5.57	0.203	ug/L
|	Se	77	806	1191	4.75	0.395	ug/L
|	Se	82	487	462	6.59	-0.022	ug/L
|	Y	89	1627756	1568751	0.97		ug/L
|	Mo	95	755	573	0.44	-0.008	ug/L
|	Mo	97	489	370	2.76	-0.008	ug/L
|	Mo	98	1246	953	2.49	-0.008	ug/L
|	Ag	107	229	314	11.05	0.001	ug/L

	Ag	109	178	232	3.36	0.001	ug/L
	Cd	106	2442	2363	1.36	-0.061	ug/L
	Cd	108	11	59	9.15	0.043	ug/L
	Cd	111	1914	2043	0.47	0.008	ug/L
	Cd	114	199	821	8.13	0.018	ug/L
>	In	115	1708474	1716050	1.41		ug/L
	Sb	121	376	26755	0.22	0.614	ug/L
	Sb	123	240	19817	1.83	0.612	ug/L
	Ba	135	629	10333	2.68	0.766	ug/L
	Ba	137	1074	17872	2.34	0.776	ug/L
	Tb	159	1781693	1774911	2.36		ug/L
>	Ho	165	1759123	1734229	0.37		ug/L
	Hg	201	45	420	9.09	-16145.754	ug/L
	Hg	202	83	941	13.61	9234.037	ug/L
	Tl	203	114	3196	1.11	0.070	ug/L
	Tl	205	208	7651	3.18	0.075	ug/L
	Pb	208	4961	5229555	0.85	38.319	ug/L
	Bi	209	1048210	1025244	0.92		ug/L
	Th	232	279	2651	7.71	0.018	ug/L
	U	238	625	13451	2.39	0.103	ug/L
	Fe	56	16567515	19040784	2.14		ug/L
	Ru	101	12	14	26.19		ug/L
	ArCl	77	768	1198	0.35		ug/L
	Kr	84	2212	1988	2.90		ug/L
	Sn	118	1708	3184	0.49		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		96.887			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
| >	115	In	100.443
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	98.585
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-16 10x

Sample Date/Time: Wednesday, August 16, 2006 17:34:54
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-16 10x.055
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 76
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	53500	0.76		ug/L
|	Be	9	15	34	10.55	0.008	ug/L
|	Al	27	30236	340498	0.97	8.847	ug/L
|	Sc	45	700355	662480	0.64		ug/L
|	V	51	16349	17698	5.03	0.039	ug/L
|	V-1	51	7600	42177	2.96	0.525	ug/L
|	Cr	52	46918	51234	0.08	0.131	ug/L
|	Cr	53	2548	13450	1.99	1.579	ug/L
|	Mn	55	4069	20350	3.58	0.202	ug/L
|	Co	59	728	7755	15.88	0.100	ug/L
|	Ni	60	2164	18108	1.95	0.979	ug/L
|	Ni	62	547	2986	3.55	0.991	ug/L
|	Cu	63	3953	19950	4.46	0.415	ug/L
|	Cu	65	1949	9471	1.04	0.414	ug/L
|	Zn	66	5390	18627	1.37	1.350	ug/L
|	Zn	67	1013	5470	0.47	2.603	ug/L
|	Zn	68	4021	18481	0.73	1.994	ug/L
└>	Ge	72	1798281	1668887	0.75		ug/L
┌	As	75	-902	-1109	10.34	-0.022	ug/L
|	As-1	75	259	1310	7.02	0.098	ug/L
|	Se	77	806	1114	1.14	0.373	ug/L
|	Se	82	487	487	4.36	0.017	ug/L
|	Y	89	1627756	1499519	0.50		ug/L
|	Mo	95	755	2052	29.81	0.059	ug/L
|	Mo	97	489	1251	25.54	0.055	ug/L
|	Mo	98	1246	3361	25.23	0.060	ug/L
|	Ag	107	229	1857	18.96	0.026	ug/L

|	Ag	109	178	1640	12.47	0.024	ug/L
|	Cd	106	2442	2093	0.67	-0.176	ug/L
|	Cd	108	11	-26	24.95	-0.034	ug/L
|	Cd	111	1914	1749	1.57	-0.006	ug/L
|	Cd	114	199	323	21.93	0.004	ug/L
|>	In	115	1708474	1636035	2.10		ug/L
|	Sb	121	376	7886	11.66	0.184	ug/L
|	Sb	123	240	5967	15.60	0.188	ug/L
|	Ba	135	629	206402	1.04	17.053	ug/L
└	Ba	137	1074	354889	0.20	17.162	ug/L
┌	Tb	159	1781693	1675810	0.64		ug/L
|>	Ho	165	1759123	1650547	0.20		ug/L
|	Hg	201	45	148	0.00	-4776.098	ug/L
|	Hg	202	83	367	0.58	3260.194	ug/L
|	Tl	203	114	3144	1.71	0.072	ug/L
|	Tl	205	208	7305	2.50	0.075	ug/L
|	Pb	208	4961	45816	0.06	0.317	ug/L
|	Bi	209	1048210	964862	1.55		ug/L
|	Th	232	279	44184	31.82	0.356	ug/L
└	U	238	625	3524	17.95	0.025	ug/L
	Fe	56	16567515	18178301	3.37		ug/L
	Ru	101	12	15	0.00		ug/L
	ArCl	77	768	1171	4.17		ug/L
	Kr	84	2212	2013	3.61		ug/L
	Sn	118	1708	3504	0.12		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		92.805			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

	114	Cd	
>	115	In	95.760
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	93.828
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-17 10x

Sample Date/Time: Wednesday, August 16, 2006 17:38:38
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-17 10x.056
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 77
Sample Type: Sample
Initial Sample Quantity (mg): 1000
Sample Prep Volume (mL): 1
Aliquot Volume (mL): 1
Diluted To Volume (mL): 1
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	55520	2.89		ug/L
Be	9	15	14	5.24	-0.000	ug/L
Al	27	30236	59768	0.11	0.848	ug/L
Sc	45	700355	669685	1.19		ug/L
V	51	16349	16098	2.11	0.007	ug/L
V-1	51	7600	37155	1.81	0.433	ug/L
Cr	52	46918	50550	1.11	0.094	ug/L
Cr	53	2548	12392	2.34	1.376	ug/L
Mn	55	4069	14406	1.56	0.124	ug/L
Co	59	728	6660	2.24	0.082	ug/L
Ni	60	2164	3263	0.74	0.070	ug/L
Ni	62	547	704	3.12	0.070	ug/L
Cu	63	3953	3716	3.83	-0.002	ug/L
Cu	65	1949	1912	1.89	0.003	ug/L
Zn	66	5390	12656	1.68	0.721	ug/L
Zn	67	1013	4513	0.22	1.976	ug/L
Zn	68	4021	14366	1.48	1.380	ug/L
Ge	72	1798281	1720026	2.12		ug/L
As	75	-902	-1287	5.48	-0.037	ug/L
As-1	75	259	1123	2.96	0.080	ug/L
Se	77	806	1130	0.19	0.379	ug/L
Se	82	487	444	7.01	-0.021	ug/L
Y	89	1627756	1542100	2.80		ug/L
Mo	95	755	1118	2.31	0.017	ug/L
Mo	97	489	718	6.36	0.017	ug/L
Mo	98	1246	1891	5.93	0.019	ug/L
Ag	107	229	994	7.90	0.012	ug/L

	Ag	109	178	824	1.72	0.011	ug/L
	Cd	106	2442	2183	1.61	-0.124	ug/L
	Cd	108	11	-13	26.69	-0.022	ug/L
	Cd	111	1914	1766	1.41	-0.005	ug/L
	Cd	114	199	272	2.13	0.002	ug/L
>	In	115	1708474	1649307	0.78		ug/L
	Sb	121	376	3535	2.58	0.077	ug/L
	Sb	123	240	2630	2.49	0.078	ug/L
	Ba	135	629	192058	0.36	15.735	ug/L
	Ba	137	1074	333176	0.98	15.975	ug/L
	Tb	159	1781693	1714235	1.40		ug/L
>	Ho	165	1759123	1690255	0.82		ug/L
	Hg	201	45	143	14.39	-4373.086	ug/L
	Hg	202	83	330	2.79	2754.491	ug/L
	Tl	203	114	2456	3.48	0.054	ug/L
	Tl	205	208	6099	2.73	0.061	ug/L
	Pb	208	4961	13011	10.35	0.062	ug/L
	Bi	209	1048210	991817	1.21		ug/L
	Th	232	279	16031	19.28	0.125	ug/L
	U	238	625	670	29.34	0.001	ug/L
	Fe	56	16567515	17805676	0.33		ug/L
	Ru	101	12	12	23.57		ug/L
	ArCl	77	768	1133	1.19		ug/L
	Kr	84	2212	2046	1.92		ug/L
	Sn	118	1708	2246	2.55		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		95.648			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
| >    115  In                                  96.537
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
| >    165  Ho                                  96.085
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608150-10

Sample Date/Time: Wednesday, August 16, 2006 18:58:49
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-10.076
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 106
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	50542	2.60		ug/L
|	Be	9	15	16	13.69	0.001	ug/L
|	Al	27	30236	44532	0.39	0.491	ug/L
|	Sc	45	700355	671105	0.53		ug/L
|	V	51	16349	21771	0.90	0.107	ug/L
|	V-1	51	7600	32141	1.52	0.385	ug/L
|	Cr	52	46918	67134	0.54	0.425	ug/L
|	Cr	53	2548	10927	1.65	1.250	ug/L
|	Mn	55	4069	254651	0.85	3.120	ug/L
|	Co	59	728	35477	0.10	0.501	ug/L
|	Ni	60	2164	16544	1.21	0.904	ug/L
|	Ni	62	547	3034	1.70	1.034	ug/L
|	Cu	63	3953	22194	0.42	0.484	ug/L
|	Cu	65	1949	2449	1.62	0.037	ug/L
|	Zn	66	5390	8336305	0.47	841.826	ug/L
|	Zn	67	1013	1266606	1.32	741.510	ug/L
|	Zn	68	4021	5887094	2.26	811.028	ug/L
└>	Ge	72	1798281	1636468	0.34		ug/L
┌	As	75	-902	-71	114.78	0.071	ug/L
|	As-1	75	259	1724	2.58	0.136	ug/L
|	Se	77	806	1085	1.76	0.343	ug/L
|	Se	82	487	618	0.23	0.127	ug/L
|	Y	89	1627756	1473000	0.69		ug/L
|	Mo	95	755	521	2.14	-0.009	ug/L
|	Mo	97	489	354	15.95	-0.008	ug/L
|	Mo	98	1246	866	9.70	-0.009	ug/L
|	Ag	107	229	741	11.83	0.008	ug/L

	Ag	109	178	584	11.03	0.007	ug/L
	Cd	106	2442	2985	3.65	0.469	ug/L
	Cd	108	11	601	3.18	0.559	ug/L
	Cd	111	1914	4329	0.97	0.169	ug/L
	Cd	114	199	6344	1.19	0.183	ug/L
>	In	115	1708474	1632740	0.86		ug/L
	Sb	121	376	66433	0.82	1.617	ug/L
	Sb	123	240	49877	1.05	1.631	ug/L
	Ba	135	629	9432	0.17	0.733	ug/L
	Ba	137	1074	16488	2.77	0.751	ug/L
	Tb	159	1781693	1713824	1.41		ug/L
>	Ho	165	1759123	1693937	0.10		ug/L
	Hg	201	45	63	8.98	-865.153	ug/L
	Hg	202	83	124	19.39	484.965	ug/L
	Tl	203	114	1900	1.38	0.041	ug/L
	Tl	205	208	4674	1.60	0.046	ug/L
	Pb	208	4961	41515649	0.01	311.698	ug/L
	Bi	209	1048210	945467	0.19		ug/L
	Th	232	279	3068	11.53	0.022	ug/L
	U	238	625	278	13.00	-0.003	ug/L
	Fe	56	16567515	17211200	0.52		ug/L
	Ru	101	12	11	12.86		ug/L
	ArCl	77	768	1078	0.98		ug/L
	Kr	84	2212	1469	18.83		ug/L
	Sn	118	1708	3264	6.35		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		91.002			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	95.567
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	96.294
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-11

Sample Date/Time: Wednesday, August 16, 2006 19:03:10
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-11.077
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 107
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	52488	0.31		ug/L
|	Be	9	15	11	33.67	-0.002	ug/L
|	Al	27	30236	326778	1.80	8.327	ug/L
|	Sc	45	700355	678801	4.28		ug/L
|	V	51	16349	37005	2.68	0.325	ug/L
|	V-1	51	7600	45379	1.02	0.563	ug/L
|	Cr	52	46918	68193	2.30	0.404	ug/L
|	Cr	53	2548	10434	0.12	1.128	ug/L
|	Mn	55	4069	473888	0.87	5.649	ug/L
|	Co	59	728	49388	0.15	0.677	ug/L
|	Ni	60	2164	13372	0.29	0.679	ug/L
|	Ni	62	547	2442	1.27	0.759	ug/L
|	Cu	63	3953	28977	0.43	0.635	ug/L
|	Cu	65	1949	4837	0.70	0.160	ug/L
|	Zn	66	5390	7011471	1.82	684.201	ug/L
|	Zn	67	1013	1060855	0.87	600.208	ug/L
|	Zn	68	4021	4900334	1.59	652.328	ug/L
└>	Ge	72	1798281	1693200	1.24		ug/L
┌	As	75	-902	1115	6.37	0.179	ug/L
|	As-1	75	259	3007	1.06	0.255	ug/L
|	Se	77	806	1053	2.75	0.308	ug/L
|	Se	82	487	576	2.33	0.092	ug/L
|	Y	89	1627756	1533690	0.15		ug/L
|	Mo	95	755	1084	2.51	0.016	ug/L
|	Mo	97	489	688	5.30	0.016	ug/L
|	Mo	98	1246	1812	2.01	0.017	ug/L
|	Ag	107	229	741	14.99	0.008	ug/L

│	Ag	109	178	520	7.49	0.006	ug/L
│	Cd	106	2442	2873	4.01	0.388	ug/L
│	Cd	108	11	601	1.79	0.559	ug/L
│	Cd	111	1914	3553	2.56	0.116	ug/L
│	Cd	114	199	4883	1.89	0.139	ug/L
│>	In	115	1708474	1633188	0.38		ug/L
│	Sb	121	376	124134	0.70	3.028	ug/L
│	Sb	123	240	92867	0.95	3.043	ug/L
│	Ba	135	629	806	1.67	0.017	ug/L
└	Ba	137	1074	1518	2.56	0.024	ug/L
┌	Tb	159	1781693	1781546	1.98		ug/L
│>	Ho	165	1759123	1722957	1.83		ug/L
│	Hg	201	45	60	3.57	-668.476	ug/L
│	Hg	202	83	106	20.01	265.435	ug/L
│	Tl	203	114	1405	0.50	0.029	ug/L
│	Tl	205	208	3340	1.86	0.032	ug/L
│	Pb	208	4961	3324666	0.72	24.510	ug/L
│	Bi	209	1048210	957518	0.04		ug/L
│	Th	232	279	2999	12.00	0.021	ug/L
└	U	238	625	1424	6.36	0.007	ug/L
	Fe	56	16567515	17772137	1.30		ug/L
	Ru	101	12	16	22.81		ug/L
	ArCl	77	768	1074	4.08		ug/L
	Kr	84	2212	1648	7.81		ug/L
	Sn	118	1708	3455	5.12		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
│	9	Be					
│	27	Al					
│	45	Sc					
│	51	V					
│	51	V-1					
│	52	Cr					
│	53	Cr					
│	55	Mn					
│	59	Co					
│	60	Ni					
│	62	Ni					
│	63	Cu					
│	65	Cu					
│	66	Zn					
│	67	Zn					
│	68	Zn					
└>	72	Ge		94.157			
┌	75	As					
│	75	As-1					
│	77	Se					
│	82	Se					
│	89	Y					
│	95	Mo					
│	97	Mo					
│	98	Mo					
│	107	Ag					
│	109	Ag					
│	106	Cd					
│	108	Cd					
│	111	Cd					

|	114	Cd	
|>	115	In	95.593
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	97.944
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-12

Sample Date/Time: Wednesday, August 16, 2006 19:07:30
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-12.078
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 108
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	52828	1.51		ug/L
│	Be	9	15	13	21.76	-0.000	ug/L
│	Al	27	30236	130187	2.52	2.888	ug/L
│	Sc	45	700355	687361	1.88		ug/L
│	V	51	16349	25153	1.23	0.152	ug/L
│	V-1	51	7600	31403	1.21	0.363	ug/L
│	Cr	52	46918	63867	1.98	0.345	ug/L
│	Cr	53	2548	9304	2.91	0.986	ug/L
│	Mn	55	4069	382257	2.67	4.609	ug/L
│	Co	59	728	82649	0.24	1.155	ug/L
│	Ni	60	2164	2204	0.51	0.012	ug/L
│	Ni	62	547	606	6.89	0.039	ug/L
│	Cu	63	3953	20288	1.23	0.423	ug/L
│	Cu	65	1949	2796	0.40	0.053	ug/L
│	Zn	66	5390	26465	2.42	2.124	ug/L
│	Zn	67	1013	36337	0.93	20.308	ug/L
│	Zn	68	4021	124285	1.45	16.271	ug/L
└>	Ge	72	1798281	1671182	1.24		ug/L
┌	As	75	-902	-646	23.41	0.020	ug/L
│	As-1	75	259	1353	0.84	0.100	ug/L
│	Se	77	806	1053	2.75	0.290	ug/L
│	Se	82	487	440	2.89	-0.027	ug/L
│	Y	89	1627756	1521431	0.03		ug/L
│	Mo	95	755	682	4.25	-0.002	ug/L
│	Mo	97	489	428	6.28	-0.003	ug/L
│	Mo	98	1246	1074	2.44	-0.004	ug/L
│	Ag	107	229	431	7.88	0.003	ug/L

	Ag	109	178	358	1.98	0.003	ug/L
	Cd	106	2442	2162	2.54	-0.148	ug/L
	Cd	108	11	277	10.91	0.248	ug/L
	Cd	111	1914	1660	1.94	-0.013	ug/L
	Cd	114	199	842	1.03	0.019	ug/L
>	In	115	1708474	1658791	0.65		ug/L
	Sb	121	376	3295	1.95	0.071	ug/L
	Sb	123	240	2411	1.45	0.070	ug/L
	Ba	135	629	3914121	0.10	319.803	ug/L
	Ba	137	1074	6856804	0.96	327.848	ug/L
	Tb	159	1781693	1777314	0.68		ug/L
>	Ho	165	1759123	1740066	1.33		ug/L
	Hg	201	45	62	12.65	-725.572	ug/L
	Hg	202	83	118	7.82	380.049	ug/L
	Tl	203	114	999	2.62	0.020	ug/L
	Tl	205	208	2210	5.99	0.020	ug/L
	Pb	208	4961	22927	24.72	0.131	ug/L
	Bi	209	1048210	971869	0.93		ug/L
	Th	232	279	2584	0.27	0.018	ug/L
	U	238	625	1671	1.99	0.008	ug/L
	Fe	56	16567515	17879216	0.62		ug/L
	Ru	101	12	13	0.00		ug/L
	ArCl	77	768	998	5.53		ug/L
	Kr	84	2212	1402	16.59		ug/L
	Sn	118	1708	2197	0.35		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		92.932			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
| >	115	In	97.092
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	98.917
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-13

Sample Date/Time: Wednesday, August 16, 2006 19:11:50
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-13.079
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 109
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	52313	0.38		ug/L
|	Be	9	15	13	0.00	-0.000	ug/L
|	Al	27	30236	102773	0.51	2.161	ug/L
|	Sc	45	700355	680115	2.57		ug/L
|	V	51	16349	21638	2.06	0.104	ug/L
|	V-1	51	7600	26459	2.42	0.296	ug/L
|	Cr	52	46918	63328	0.17	0.354	ug/L
|	Cr	53	2548	8790	0.82	0.935	ug/L
|	Mn	55	4069	358257	1.49	4.389	ug/L
|	Co	59	728	101388	1.62	1.443	ug/L
|	Ni	60	2164	1136	2.93	-0.052	ug/L
|	Ni	62	547	479	4.43	-0.008	ug/L
|	Cu	63	3953	21688	0.70	0.468	ug/L
|	Cu	65	1949	5436	0.07	0.201	ug/L
|	Zn	66	5390	48521	1.61	4.387	ug/L
|	Zn	67	1013	96551	1.90	55.774	ug/L
|	Zn	68	4021	322874	2.97	43.826	ug/L
L>	Ge	72	1798281	1643715	1.88		ug/L
┌	As	75	-902	-949	25.79	-0.007	ug/L
|	As-1	75	259	1205	0.59	0.088	ug/L
|	Se	77	806	1091	9.85	0.345	ug/L
|	Se	82	487	467	2.88	-0.001	ug/L
|	Y	89	1627756	1515974	1.39		ug/L
|	Mo	95	755	476	4.62	-0.011	ug/L
|	Mo	97	489	308	3.93	-0.011	ug/L
|	Mo	98	1246	768	2.59	-0.012	ug/L
|	Ag	107	229	405	14.51	0.003	ug/L

	Ag	109	178	312	12.69	0.002	ug/L
	Cd	106	2442	2209	6.06	-0.098	ug/L
	Cd	108	11	271	13.71	0.246	ug/L
	Cd	111	1914	1701	6.40	-0.009	ug/L
	Cd	114	199	710	1.16	0.015	ug/L
>	In	115	1708474	1640561	1.13		ug/L
	Sb	121	376	2943	0.79	0.063	ug/L
	Sb	123	240	2236	3.61	0.066	ug/L
	Ba	135	629	11007381	1.47	909.409	ug/L
	Ba	137	1074	19270608	0.52	931.823	ug/L
	Tb	159	1781693	1764311	0.60		ug/L
>	Ho	165	1759123	1706254	1.25		ug/L
	Hg	201	45	62	9.12	-800.265	ug/L
	Hg	202	83	109	5.19	311.057	ug/L
	Tl	203	114	724	2.25	0.014	ug/L
	Tl	205	208	1722	0.41	0.016	ug/L
	Pb	208	4961	60018	0.60	0.412	ug/L
	Bi	209	1048210	952980	0.04		ug/L
	Th	232	279	2313	10.92	0.016	ug/L
	U	238	625	480	9.59	-0.001	ug/L
	Fe	56	16567515	17911217	1.40		ug/L
	Ru	101	12	16	4.56		ug/L
	ArCl	77	768	1069	6.09		ug/L
	Kr	84	2212	1320	25.80		ug/L
	Sn	118	1708	2753	2.24		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		91.405			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

│	114	Cd	
│>	115	In	96.025
│	121	Sb	
│	123	Sb	
│	135	Ba	
└	137	Ba	
┌	159	Tb	
│>	165	Ho	96.995
│	201	Hg	
│	202	Hg	
│	203	Tl	
│	205	Tl	
│	208	Pb	
│	209	Bi	
│	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-14

Sample Date/Time: Wednesday, August 16, 2006 19:16:11
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-14.080
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 110
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	62627	53992	0.34		ug/L
Be	9	15	13	0.00	-0.000	ug/L
Al	27	30236	70986	0.39	1.201	ug/L
Sc	45	700355	700027	3.48		ug/L
V	51	16349	21684	3.18	0.097	ug/L
V-1	51	7600	24671	1.85	0.261	ug/L
Cr	52	46918	68996	2.38	0.426	ug/L
Cr	53	2548	8707	2.99	0.894	ug/L
Mn	55	4069	470628	0.51	5.650	ug/L
Co	59	728	60684	1.24	0.840	ug/L
Ni	60	2164	10098	1.33	0.487	ug/L
Ni	62	547	1896	1.19	0.550	ug/L
Cu	63	3953	25878	1.57	0.562	ug/L
Cu	65	1949	5440	3.65	0.194	ug/L
Zn	66	5390	17165501	0.21	1687.885	ug/L
Zn	67	1013	2540109	1.24	1448.025	ug/L
Zn	68	4021	12268250	1.64	1645.660	ug/L
Ge	72	1798281	1681120	0.11		ug/L
As	75	-902	2287	7.20	0.283	ug/L
As-1	75	259	3782	1.85	0.323	ug/L
Se	77	806	1024	1.59	0.266	ug/L
Se	82	487	682	2.18	0.175	ug/L
Y	89	1627756	1510727	0.18		ug/L
Mo	95	755	500	8.47	-0.010	ug/L
Mo	97	489	328	1.10	-0.010	ug/L
Mo	98	1246	787	3.24	-0.011	ug/L
Ag	107	229	457	5.88	0.004	ug/L

```
|   Ag      109       178        269    13.14     0.002  ug/L
|   Cd      106      2442       3650     1.11     0.924  ug/L
|   Cd      108        11       1177     0.77     1.095  ug/L
|   Cd      111      1914       8635     1.21     0.454  ug/L
|   Cd      114       199      16460     0.16     0.479  ug/L
|>  In      115   1708474    1647910     1.48            ug/L
|   Sb      121       376      44648     0.60     1.074  ug/L
|   Sb      123       240      33798     1.20     1.093  ug/L
|   Ba      135       629      49287    15.84     4.009  ug/L
└   Ba      137      1074      82407     8.58     3.920  ug/L
┌   Tb      159   1781693    1781396     0.75            ug/L
|>  Ho      165   1759123    1718509     0.76            ug/L
|   Hg      201        45         72     2.97 -1194.006  ug/L
|   Hg      202        83        127     8.91   498.639  ug/L
|   Tl      203       114        674     2.73     0.013  ug/L
|   Tl      205       208       1719     0.58     0.015  ug/L
|   Pb      208      4961   50655244     0.22   374.895  ug/L
|   Bi      209   1048210     967988     0.89            ug/L
|   Th      232       279       1937     2.19     0.013  ug/L
└   U       238       625        300    12.73    -0.003  ug/L
    Fe       56  16567515   18041990     0.45            ug/L
    Ru      101        12         10     7.44            ug/L
    ArCl     77       768       1034     6.09            ug/L
    Kr       84      2212       1825     2.01            ug/L
    Sn      118      1708       3492     2.11            ug/L
```

QC Calculated Values

```
     Mass Analyte  QC Std % Recovery  Int Std % Recovery  Spike % Recovery  Dilution % Difference  Duplicate Rel. % Difference
┌      6  Li
|      9  Be
|     27  Al
|     45  Sc
|     51  V
|     51  V-1
|     52  Cr
|     53  Cr
|     55  Mn
|     59  Co
|     60  Ni
|     62  Ni
|     63  Cu
|     65  Cu
|     66  Zn
|     67  Zn
|     68  Zn
└>    72  Ge                                   93.485
┌     75  As
|     75  As-1
|     77  Se
|     82  Se
|     89  Y
|     95  Mo
|     97  Mo
|     98  Mo
|    107  Ag
|    109  Ag
|    106  Cd
|    108  Cd
|    111  Cd
```

```
|      114  Cd
| >    115  In                                   96.455
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
| >    165  Ho                                   97.691
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

	Ag	109	178	254	4.18	0.001	ug/L
	Cd	106	2442	2723	2.10	0.194	ug/L
	Cd	108	11	488	19.70	0.432	ug/L
	Cd	111	1914	3954	3.74	0.132	ug/L
	Cd	114	199	5432	0.43	0.149	ug/L
>	In	115	1708474	1707665	0.15		ug/L
	Sb	121	376	30312	1.45	0.700	ug/L
	Sb	123	240	22471	0.34	0.698	ug/L
	Ba	135	629	1474	12.81	0.067	ug/L
	Ba	137	1074	2743	9.67	0.078	ug/L
	Tb	159	1781693	1811804	1.10		ug/L
>	Ho	165	1759123	1752891	0.60		ug/L
	Hg	201	45	52	4.12	-282.900	ug/L
	Hg	202	83	97	9.53	147.023	ug/L
	Tl	203	114	727	7.49	0.014	ug/L
	Tl	205	208	1796	2.83	0.016	ug/L
	Pb	208	4961	566822	1.53	4.077	ug/L
	Bi	209	1048210	986513	0.43		ug/L
	Th	232	279	2217	6.63	0.015	ug/L
	U	238	625	2677	1.06	0.016	ug/L
	Fe	56	16567515	18076452	0.07		ug/L
	Ru	101	12	10	22.33		ug/L
	ArCl	77	768	1045	3.45		ug/L
	Kr	84	2212	1629	6.46		ug/L
	Sn	118	1708	4621	11.25		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		95.170			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	99.953
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	99.646
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-16

Sample Date/Time: Wednesday, August 16, 2006 19:24:52
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-16.082
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 112
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	53219	0.81		ug/L
|	Be	9	15	13	16.97	-0.001	ug/L
|	Al	27	30236	130010	1.57	2.931	ug/L
|	Sc	45	700355	675508	2.03		ug/L
|	V	51	16349	23939	0.08	0.138	ug/L
|	V-1	51	7600	25158	1.12	0.275	ug/L
|	Cr	52	46918	63727	1.29	0.357	ug/L
|	Cr	53	2548	7614	2.51	0.761	ug/L
|	Mn	55	4069	401816	2.02	4.913	ug/L
|	Co	59	728	100449	0.60	1.424	ug/L
|	Ni	60	2164	4471	1.58	0.153	ug/L
|	Ni	62	547	951	1.12	0.182	ug/L
|	Cu	63	3953	22681	3.10	0.492	ug/L
|	Cu	65	1949	4278	2.48	0.136	ug/L
|	Zn	66	5390	119759	0.02	11.514	ug/L
|	Zn	67	1013	62620	1.86	35.873	ug/L
|	Zn	68	4021	224618	0.87	30.225	ug/L
└>	Ge	72	1798281	1649137	1.51		ug/L
┌	As	75	-902	-953	10.94	-0.008	ug/L
|	As-1	75	259	1092	1.42	0.078	ug/L
|	Se	77	806	951	1.93	0.200	ug/L
|	Se	82	487	440	5.95	-0.021	ug/L
|	Y	89	1627756	1458958	1.00		ug/L
|	Mo	95	755	560	3.09	-0.007	ug/L
|	Mo	97	489	365	9.01	-0.007	ug/L
|	Mo	98	1246	874	7.64	-0.009	ug/L
|	Ag	107	229	277	4.08	0.001	ug/L

	Ag	109	178	229	5.56	0.001	ug/L
	Cd	106	2442	2095	3.89	-0.168	ug/L
	Cd	108	11	200	13.41	0.179	ug/L
	Cd	111	1914	1747	4.07	-0.005	ug/L
	Cd	114	199	967	7.18	0.023	ug/L
>	In	115	1708474	1630277	2.87		ug/L
	Sb	121	376	2074	1.02	0.042	ug/L
	Sb	123	240	1547	1.51	0.043	ug/L
	Ba	135	629	5361599	0.97	445.865	ug/L
	Ba	137	1074	9410109	0.27	458.032	ug/L
	Tb	159	1781693	1743799	1.94		ug/L
>	Ho	165	1759123	1698406	0.48		ug/L
	Hg	201	45	58	28.28	-614.958	ug/L
	Hg	202	83	92	12.30	130.553	ug/L
	Tl	203	114	676	0.84	0.013	ug/L
	Tl	205	208	1550	5.38	0.014	ug/L
	Pb	208	4961	59369	2.18	0.409	ug/L
	Bi	209	1048210	944538	0.82		ug/L
	Th	232	279	1735	4.24	0.012	ug/L
	U	238	625	1671	4.66	0.009	ug/L
	Fe	56	16567515	17940756	1.52		ug/L
	Ru	101	12	10	28.28		ug/L
	ArCl	77	768	1012	1.68		ug/L
	Kr	84	2212	1238	0.81		ug/L
	Sn	118	1708	6321	0.04		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		91.706			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
| >	115	In	95.423
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	96.548
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608150-17

Sample Date/Time: Wednesday, August 16, 2006 19:29:13
Sample Description:
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-16-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-16-06.sam
Method File: D:\ICPMS Data\Method\08-16-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-16-06\608150-17.083
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-16-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 113
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	62627	52808	2.71		ug/L
|	Be	9	15	12	0.00	-0.001	ug/L
|	Al	27	30236	80140	0.38	1.490	ug/L
|	Sc	45	700355	678324	0.55		ug/L
|	V	51	16349	21844	1.33	0.104	ug/L
|	V-1	51	7600	21476	2.48	0.218	ug/L
|	Cr	52	46918	63945	1.19	0.355	ug/L
|	Cr	53	2548	7175	0.70	0.692	ug/L
|	Mn	55	4069	295253	1.62	3.580	ug/L
|	Co	59	728	86265	2.17	1.216	ug/L
|	Ni	60	2164	1129	2.51	-0.053	ug/L
|	Ni	62	547	536	8.32	0.013	ug/L
|	Cu	63	3953	22667	3.62	0.488	ug/L
|	Cu	65	1949	4954	0.57	0.172	ug/L
|	Zn	66	5390	71942	1.12	6.682	ug/L
|	Zn	67	1013	78211	1.75	44.713	ug/L
|	Zn	68	4021	265267	0.64	35.605	ug/L
└>	Ge	72	1798281	1657613	2.10		ug/L
┌	As	75	-902	-1105	5.88	-0.021	ug/L
|	As-1	75	259	950	1.71	0.064	ug/L
|	Se	77	806	1001	4.10	0.246	ug/L
|	Se	82	487	422	0.67	-0.038	ug/L
|	Y	89	1627756	1495308	1.95		ug/L
|	Mo	95	755	433	4.66	-0.013	ug/L
|	Mo	97	489	276	2.17	-0.014	ug/L
|	Mo	98	1246	673	0.16	-0.014	ug/L
|	Ag	107	229	262	7.30	0.001	ug/L

	Ag	109	178	236	11.11	0.001	ug/L
	Cd	106	2442	2146	1.24	-0.144	ug/L
	Cd	108	11	288	19.95	0.261	ug/L
	Cd	111	1914	1794	3.63	-0.003	ug/L
	Cd	114	199	1149	3.57	0.028	ug/L
>	In	115	1708474	1642183	1.00		ug/L
	Sb	121	376	1645	2.97	0.031	ug/L
	Sb	123	240	1237	1.74	0.033	ug/L
	Ba	135	629	8229767	2.48	679.376	ug/L
	Ba	137	1074	14406628	1.38	695.849	ug/L
	Tb	159	1781693	1752924	1.06		ug/L
>	Ho	165	1759123	1708859	0.28		ug/L
	Hg	201	45	48	5.89	-186.747	ug/L
	Hg	202	83	97	10.99	173.003	ug/L
	Tl	203	114	490	4.91	0.009	ug/L
	Tl	205	208	1183	8.43	0.010	ug/L
	Pb	208	4961	28118	4.08	0.173	ug/L
	Bi	209	1048210	950408	1.46		ug/L
	Th	232	279	1918	2.14	0.013	ug/L
	U	238	625	482	4.55	-0.001	ug/L
	Fe	56	16567515	17777060	0.64		ug/L
	Ru	101	12	12	23.57		ug/L
	ArCl	77	768	1001	2.83		ug/L
	Kr	84	2212	1528	15.11		ug/L
	Sn	118	1708	2638	18.98		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		92.178			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	96.120
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	97.143
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

```
|     114  Cd
|>    115  In                                    98.974
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
Γ     159  Tb
|>    165  Ho                                    96.344
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Treatability Study Fixed Laboratory Data
(August 2006)
Friedman & Bruya SDG's 608150 and 608301

Note: 608150 can be found in the proceeding subsection.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
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3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
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e-mail: fbi@isomedia.com

September 6, 2006

James P. Wright, Project Manager
USDOC NOAA NOS OR&R PPO
7600 Sand Point Way NE
Seattle, WA 98115-6349

Dear Mr. Wright

Included are the results from the testing of material submitted on August 29, 2006 from the Lead Test, F&BI 608301 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
NAA0906R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 29, 2006 by Friedman & Bruya, Inc. (ADEC laboratory approval number UST-007) from the USDOC NOAA NOS OR&R PPO Lead Test, F&BI 608301 project. The samples were received at 24°C and were refrigerated upon receipt. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	USDOC NOAA NOS OR&R PPO	Date Sampled
608301-01	SP60-TR-001-MT2	8/29/06
608301-02	SP60-TR-002/003-MT2-0	8/29/06
608301-03	SP60-TR-002/003-MT2-1	8/29/06
608301-04	SP60-TR-002/003-MT2-2	8/29/06

The samples were analyzed as follows.

Total Lead (soil) - Analysis Method 200.8, Extraction Method 3050
All quality control requirements were acceptable.

TCLP Lead (soil) - Analysis Method 200.8, Extraction Method 1311
All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TR-001-MT2	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/29/06	Lab ID:	608301-01
Date Analyzed:	08/29/06	Data File:	608301-01.020
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	83	60	125

Analyte:	Concentration ug/g (ppm)
Lead	1,440

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TR-002/003-MT2-0	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/29/06	Lab ID:	608301-02
Date Analyzed:	08/29/06	Data File:	608301-02.021
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	83	60	125

Analyte:	Concentration ug/g (ppm)
Lead	2,960

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TR-002/003-MT2-1	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/29/06	Lab ID:	608301-03
Date Analyzed:	08/29/06	Data File:	608301-03.022
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	80	60	125

Analyte:	Concentration ug/g (ppm)
Lead	2,630

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	SP60-TR-002/003-MT2-2	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/29/06	Lab ID:	608301-04
Date Analyzed:	08/29/06	Data File:	608301-04.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	83	60	125

Analyte:	Concentration ug/g (ppm)
Lead	2,500

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	Lead Test, F&BI 608301
Date Extracted:	08/29/06	Lab ID:	I6-365 mb
Date Analyzed:	08/29/06	Data File:	I6-365 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	83	60	125

Analyte:	Concentration ug/g (ppm)
Lead	<1

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TR-001-MT2	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/31/06	Lab ID:	608301-01
Date Analyzed:	08/31/06	Data File:	608301-01.014
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	90	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TR-002/003-MT2-0	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/31/06	Lab ID:	608301-02
Date Analyzed:	08/31/06	Data File:	608301-02.015
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	92	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	3.94	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TR-002/003-MT2-1	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/31/06	Lab ID:	608301-03
Date Analyzed:	08/31/06	Data File:	608301-03.016
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	92	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	SP60-TR-002/003-MT2-2	Client:	USDOC NOAA
Date Received:	08/29/06	Project:	Lead Test, F&BI 608301
Date Extracted:	08/31/06	Lab ID:	608301-04
Date Analyzed:	08/31/06	Data File:	608301-04.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	92	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	Method Blank	Client:	USDOC NOAA
Date Received:	Not Applicable	Project:	Lead Test, F&BI 608301
Date Extracted:	08/31/06	Lab ID:	I6-366 mb
Date Analyzed:	08/31/06	Data File:	I6-366 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	btb

Internal Standards:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	89	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Date of Report: 09/06/06
Date Received: 08/29/06
Project: Lead Test, F&BI 608301

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR METALS BY EPA METHOD 200.8

Laboratory Code: 608300-07 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	13.4	13.6	1	0-20

Laboratory Code: 608300-07 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	ug/g (ppm)	20	13.4	117 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/g (ppm)	20	107	70-130

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

Date of Report: 09/06/06
Date Received: 08/29/06
Project: Lead Test, F&BI 608301

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF THE TCLP EXTRACT FOR METALS BY EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 608300-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	mg/L (ppm)	<1	<1	nm	0-20

Laboratory Code: 608300-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	<1	99	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	104	70-130

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

608301

ME 08/29/06

8I4

7600 Sand Point Way NE
Seattle WA 98115

tel 206-526-6317
fax 206-526-6329

CHAIN of CUSTODY

report to James P. Wright

phone (206) 526-4583

fax 206/526-4819

company NOAA PPO

project

project #

address 7600 Sand Point Way NE
Bldg 3, rm 1003
Seattle WA 98115

sampler Jim Wright

Turnaround Time

ASAP ☐ 48 hr ☒
12 hr ☐ 72 hr ☐
24 hr ☐ std ☐

ANALYSIS REQUESTED

Lab ID	SAMPLE DESCRIPTION	Date Sampled	Time	Matrix	Preserve	Total lead	TCLP lead	# of containers	Remarks
01	• SP60-TR-001-MT2	8/29/06		Soil	–	X	X		
02	• SP60-TR-002/003-MT2-0	8/29/06		Soil	–	X	X		
03	• SP60-TR-002/003-MT2-1	8/29/06		Soil	–	X	X		
04	• SP60-TR-002/003-MT2-2	8/29/06		Soil	–	X	X		

Comments

LUFT EDD ☐

Relinquished by:
Signature James P. Wright
Print James P. Wright
Company NOAA PPO
Date 8/29/06 Time

Received by:
Signature
Print Michael Erdahl
Company PEBirc
Date 8/29/06 Time 10:40 AM.

Sample integrity upon receipt:
Samples received intact ☐
Samples received cold ☐
Custody seals ☐
Correct container types ☐

Bill 3rd Party:

PO#

Quote yes no

Relinquished by:
Signature
Print
Company
Date Time

Received b:
Signature
Print
Company
Date Time

Samples received at 24 °C

Page of

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 608301 **CLIENT** NOAA **INITIALS/DATE:** NP 8/29/06

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 24 °C

Were samples received on ice/cold packs? ☐ YES ☑ NO

Number of days samples have been sitting prior to receipt at laboratory 0 days

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

Is the COC* complete and in agreement with the samples received? ☐ YES ☑ NO
(explain "no" answers below)

Sample ID's	☑ Yes	☐ No	# of Containers	☑ Yes	☐ No
Date Sampled	☑ Yes	☐ No	Relinquished	☑ Yes	☐ No
Time Sampled	☐ Yes	☑ No	Requested analysis	☑ Yes	☐ No

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? (explain "no" answer below) ☐ YES ☑ NO

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Explain "no" items from above (use the back if needed)

* sample received in ziploc bags.

* no time sampled'

Are samples for PCB testing (if yes, put a red sticker on each sample) ☐ YES ☑ NO

Did samples originate out of the country? (if yes, put in APHIS refrigerator) ☐ YES ☑ NO

Was client notified of sample receipt? ☑ Over the Counter ☐ Picked up by F&BI
☐ YES ☐ NO (explain)

If Yes, name of person contacted__________ ☐ Left Message

Special Instructions from Client__________

WORKSHEETS, 608301

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 608301 CLIENT NOAA INITIALS/DATE: NP 8/29/06

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 24 °C

Were samples received on ice/cold packs? ☐ YES ☑ NO

Number of days samples have been sitting prior to receipt at laboratory 0 days

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

Is the COC* complete and in agreement with the samples received? ☐ YES ☑ NO
(explain "no" answers below)

Sample ID's ☑ Yes ☐ No
Date Sampled ☑ Yes ☐ No
Time Sampled ☐ Yes ☑ No
# of Containers ☑ Yes ☐ No
Relinquished ☑ Yes ☐ No
Requested analysis ☑ Yes ☐ No

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? (explain "no" answer below) ☐ YES ☑ NO

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Explain "no" items from above (use the back if needed)

* sample received in ziploc bags.
* no time sampled!

Are samples for PCB testing (if yes, put a red sticker on each sample) ☐ YES ☑ NO

Did samples originate out of the country? (if yes, put in APHIS refrigerator) ☐ YES ☑ NO

Was client notified of sample receipt? ☑ Over the Counter ☐ Picked up by F&BI
☐ YES ☐ NO (explain)

If Yes, name of person contacted ☐ Left Message

Special Instructions from Client

TOTAL METALS BY ICP/MS EXTRACTION WORKSHEET (SOIL/PRODUCT)

Project #: 608301
Client: NOAA
QC Batch ID: I6-365
Samples checked against COC

Date Received: 8/29/06
Date Extracted: 8-29-06
Date Analyzed:
Sequence Date:

Analysis Method:
- ☑ 200.8
- ☐ Other

Matrix:
- ☑ Soil
- ☐ Product
- ☐ Other

Requested Analytes:
- ☐ RCRA (7)
- ☐ MTCA (4)
- ☐ Priority Pollutant
- ☐ CAM 17 (16)
- ☐ Other as Marked Below

Reporting Units:
- ☐ μg/g (ppm)
- ☐ Other

Analyte List: Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sb Ba Tl [✓ Pb]

Sample ID	Sample Weight	Final Volume	Dilutions		Dilution Factor	Pan ID	Wet Sample Weight (grams)	~~Pan &~~ Dry Sample Weight	Percent Solids	Observations
			Amt. Extract	Amt. Solvent						
01	2.0 g	50 mL	250μl	10	1000x	L10	9.8	8.5	1.15	
02						K26	9.8	7.1	1.38	
03						K19	9.5	7.0	1.36	
04						11	10.0	7.5	1.33	
Initials										

PRIORITY
DUE: Date/Time 8/31/06 (Draft ok)
PM notified if unable to meet
at least 48hr. prior to due d
Extract./Calcula. (circle one) ________
initials

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent(s)		2 mL	approx. 70%	HNO_3	II-63A		8-29-06
		7 mL	approx. 37%	HCl	II-37A		
Other							
Internal Standard(s)		~~20~~ 10 μL per 10 mL sample	10 mg/L	^{6}Li, ^{45}Sc, ^{72}Ge, ^{89}Y, ^{115}In, ^{159}Tb, ^{165}Ho, ^{209}Bi	II-38		
Other							

Project Leader Initials: ML

NOTES: Need Data Pack

Calculated by 8/30/06 Reviewed by 8/31/06

TCLP METALS EXTRACTION WORKSHEET

Project #: 608301
Client: NOAA
QC Batch ID: I6-366
Samples checked against COC ✓

Date Received: 8/29/06
Date Extracted: 8.29.06
Date Analyzed: 8-31
Sequence Date:

Analysis Method: ☐ 6010B ☒ Other 200.8	**Matrix:** ☒ Soil ☐ Product ☐ Other	**Requested Analytes** ☒ TCLP Metals ☐ TCLP Metals + Cu, Ni, Zn ☐ Other as Marked	**Extraction Method:** ☒ 1311/3005A ☐ Other	**Reporting Units:** ☒ mg/L (ppm) ☐ Other
Date/Time on Tumbler 8/30/06 12:30	**Initials**	**Date/ Time off Tumbler** 8/31/06 6:30	**Initials**	**TCLP Solution** ☒ Type I, 500 mL ☐ Type II, 500 mL

Sample ID	Sample Weight/ Volume	pH	As	Ba	Cd	Cr	Pb	Se	Ag	Cu	Ni	Zn
										(Not TCLP Analytes)		
01	25 g	4.9										
02		5.0										
03		4.6										
04		4.9										
		TCLP Limit	5.0	100	1.0	5.0	5.0	1.0	5.0			
Initials												

PRIORITY
DUE: Date/Time 8/31/06 (Data ok)
PM notified if unable to meet
at least 48hr prior to due date
Extract./Calculate (circle one)
Initials

	✓	Volume	Conc.	Compound(s)	Lot #	Initials	Date
Solvent		0.5 mL	approx 70%	HNO_3	229		8/31/06
		0.5 mL	approx 37%	HCl			
Other							

Project Leader Initials:

NOTES: Need Data Pack

Calculated by 8/31/06 Reviewed by EY 9/6/06

FORMS\LAB\EXTRACT\METALS_ICP

Rev. 09/06/05

METALS DATA, 608301

Dataset Report

User Name: btb
Computer Name: ICPMS
Dataset File Path: D:\ICPMS Data\DataSet\08-29-06\
Report Date/Time: Wednesday, September 20, 2006 15:35:45

The Dataset

Batch ID	Sample ID	Date and Time	Read Type	Samp. File Name	Description
	blank	14:58:09 Tue 29-Aug-06	Blank	blank.001	
	1 ppb i1-56a	15:01:42 Tue 29-Aug-06	Standard #1	1 ppb i1-56a.002	
	5 ppb i1-56b	15:05:15 Tue 29-Aug-06	Standard #2	5 ppb i1-56b.003	
	10 ppb i1-56c	15:08:50 Tue 29-Aug-06	Standard #3	10 ppb i1-56c.004	
	25 ppb i1-56d	15:12:25 Tue 29-Aug-06	Standard #4	25 ppb i1-56d.005	
	50 ppb i1-56e	15:15:59 Tue 29-Aug-06	Standard #5	50 ppb i1-56e.006	
	25 ppb i1-57a	15:19:32 Tue 29-Aug-06	Sample	25 ppb i1-57a.007	
	i6-365 mb	15:24:21 Tue 29-Aug-06	Sample	i6-365 mb.008	soil
	i6-365 lcs	15:28:05 Tue 29-Aug-06	Sample	i6-365 lcs.009	soil
	608300-01	15:31:49 Tue 29-Aug-06	Sample	608300-01.010	soil
	608300-02	15:35:33 Tue 29-Aug-06	Sample	608300-02.011	soil
	608300-03	15:39:52 Tue 29-Aug-06	Sample	608300-03.012	soil
	608300-04	15:43:36 Tue 29-Aug-06	Sample	608300-04.013	soil
	608300-05	15:47:20 Tue 29-Aug-06	Sample	608300-05.014	soil
	608300-06	15:51:04 Tue 29-Aug-06	Sample	608300-06.015	soil
	25 ppb i1-57-a	15:54:49 Tue 29-Aug-06	Sample	25 ppb i1-57-a.016	soil
	608300-07	15:58:34 Tue 29-Aug-06	Sample	608300-07.017	soil
	i6-365 ms 60830	16:02:19 Tue 29-Aug-06	Sample	i6-365 ms 608300-07.018	soil
	i6-365 dup 6083	16:06:04 Tue 29-Aug-06	Sample	i6-365 dup 608300-07.019	soil
	608301-01	16:09:49 Tue 29-Aug-06	Sample	608301-01.020	soil
	608301-02	16:13:34 Tue 29-Aug-06	Sample	608301-02.021	soil
	608301-03	16:17:19 Tue 29-Aug-06	Sample	608301-03.022	soil
	608301-04	16:21:03 Tue 29-Aug-06	Sample	608301-04.023	soil
	608288-05	16:24:47 Tue 29-Aug-06	Sample	608288-05.024	soil
	608288-06	16:28:32 Tue 29-Aug-06	Sample	608288-06.025	soil
	608288-07	16:32:16 Tue 29-Aug-06	Sample	608288-07.026	soil
	25 ppb i1-57-a	16:36:01 Tue 29-Aug-06	Sample	25 ppb i1-57-a.027	soil
	608288-01 40x	16:39:46 Tue 29-Aug-06	Sample	608288-01 40x.028	soil
	608288-02 40x	16:43:31 Tue 29-Aug-06	Sample	608288-02 40x.029	soil
	608288-03 40x	16:47:15 Tue 29-Aug-06	Sample	608288-03 40x.030	soil
	608288-04 40x	16:51:00 Tue 29-Aug-06	Sample	608288-04 40x.031	soil
	rinse	16:54:45 Tue 29-Aug-06	Sample	rinse.032	soil
	25 ppb i1-57-a	16:58:31 Tue 29-Aug-06	Sample	25 ppb i1-57-a.033	soil
	i6-367 mb	17:02:16 Tue 29-Aug-06	Sample	i6-367 mb.034	soil
	i6-367 lcs	17:06:02 Tue 29-Aug-06	Sample	i6-367 lcs.035	soil
	608279-17 d	17:09:46 Tue 29-Aug-06	Sample	608279-17 d.036	soil
	i6-367 ms 60827	17:13:31 Tue 29-Aug-06	Sample	i6-367 ms 608279-17.037	soil
	i6-367 dup 6082	17:17:16 Tue 29-Aug-06	Sample	i6-367 dup 608279-17.038	soil
	6028279-23 d	17:21:00 Tue 29-Aug-06	Sample	6028279-23 d.039	water
	608279-26 d	17:24:45 Tue 29-Aug-06	Sample	608279-26 d.040	water
	608295-01 d	17:28:30 Tue 29-Aug-06	Sample	608295-01 d.041	water
	608285-05 d	17:32:15 Tue 29-Aug-06	Sample	608285-05 d.042	water
	608285-06 d	17:35:59 Tue 29-Aug-06	Sample	608285-06 d.043	water
	25 ppb i1-57-a	17:39:44 Tue 29-Aug-06	Sample	25 ppb i1-57-a.044	water

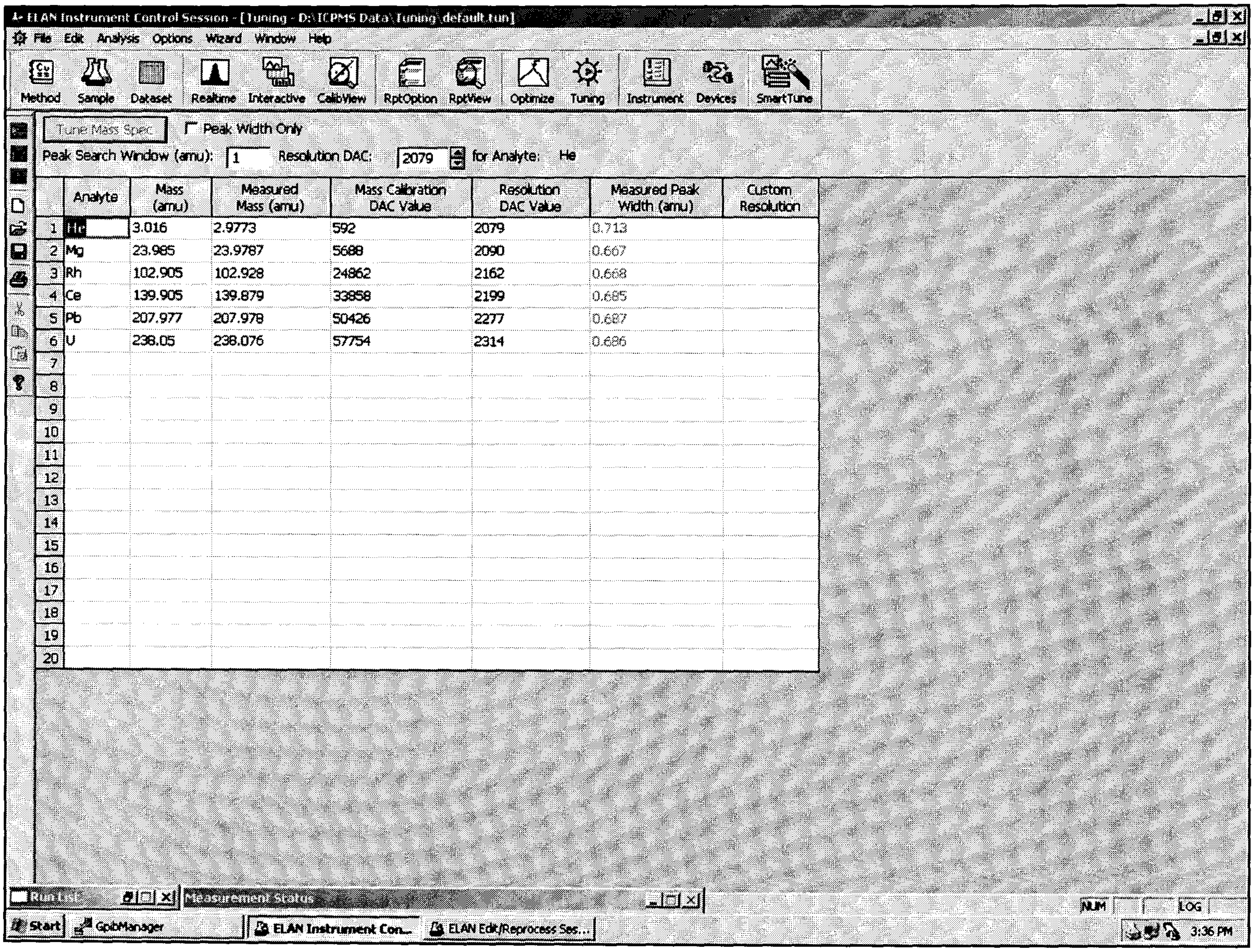
i6-368 mb	17:43:30 Tue 29-Aug-06	Sample	i6-368 mb.045	water
i6-368 lcs	17:47:15 Tue 29-Aug-06	Sample	i6-368 lcs.046	water
608295-01	17:51:01 Tue 29-Aug-06	Sample	608295-01.047	water
i6-368 ms 60829	17:54:46 Tue 29-Aug-06	Sample	i6-368 ms 608295-01.048	water
i6-368 dup 6082	17:58:31 Tue 29-Aug-06	Sample	i6-368 dup 608295-01.049	water
608279-17	18:02:16 Tue 29-Aug-06	Sample	608279-17.050	water
608279-23	18:06:01 Tue 29-Aug-06	Sample	608279-23.051	water
608279-26	18:09:46 Tue 29-Aug-06	Sample	608279-26.052	water
608272-01 10x	18:13:31 Tue 29-Aug-06	Sample	608272-01 10x.053	water
608290-01 10x	18:17:16 Tue 29-Aug-06	Sample	608290-01 10x.054	water
25 ppb i1-57-a	18:21:02 Tue 29-Aug-06	Sample	25 ppb i1-57-a.055	water
608188-03	18:24:47 Tue 29-Aug-06	Sample	608188-03.056	water
608188-04	18:28:32 Tue 29-Aug-06	Sample	608188-04.057	water
608188-05	18:32:17 Tue 29-Aug-06	Sample	608188-05.058	water
608188-06	18:36:03 Tue 29-Aug-06	Sample	608188-06.059	water
608188-07	18:39:48 Tue 29-Aug-06	Sample	608188-07.060	water
608188-08	18:43:33 Tue 29-Aug-06	Sample	608188-08.061	water
908188-09	18:47:18 Tue 29-Aug-06	Sample	908188-09.062	water
25 ppb i1-57-a	18:51:04 Tue 29-Aug-06	Sample	25 ppb i1-57-a.063	water
25 ppb i1-57-a	10:20:59 Wed 30-Aug-06	Sample	25 ppb i1-57-a.064	water
608285-06 d	10:24:44 Wed 30-Aug-06	Sample	608285-06 d.065	water
608188-05	10:28:28 Wed 30-Aug-06	Sample	608188-05.066	water
608188-06	10:32:13 Wed 30-Aug-06	Sample	608188-06.067	water
25 ppb i1-57-a	10:35:57 Wed 30-Aug-06	Sample	25 ppb i1-57-a.068	water
25 ppb i1-57-a	10:45:21 Wed 30-Aug-06	Sample	25 ppb i1-57-a.069	water

Quantitative Analysis Calibration Report

File Name:	08-29-06.cal
File Path:	D:\ICPMS Data\System
Calibration Type:	External Calibration

Analyte	Mass	Curve Type	Slope	Intercept	Corr. Coeff.
Li	6.015	Linear Thru Zero	0.00	0.00	0.000000
Be	9.012	Linear Thru Zero	0.00	0.00	0.999962
Al	26.982	Linear Thru Zero	0.02	0.00	0.995786
Sc	44.956	Linear Thru Zero	0.00	0.00	0.000000
V	50.944	Linear Thru Zero	0.04	0.00	0.999833
V-1	50.944	Linear Thru Zero	0.04	0.00	0.999789
Cr	51.941	Linear Thru Zero	0.03	0.00	0.999975
Cr	52.941	Linear Thru Zero	0.00	0.00	0.999982
Mn	54.938	Linear Thru Zero	0.05	0.00	0.999985
Co	58.933	Linear Thru Zero	0.04	0.00	0.999966
Ni	59.933	Linear Thru Zero	0.01	0.00	0.999920
Ni	61.928	Linear Thru Zero	0.00	0.00	0.999963
Cu	62.930	Linear Thru Zero	0.02	0.00	0.999825
Cu	64.928	Linear Thru Zero	0.01	0.00	0.999943
Zn	65.926	Linear Thru Zero	0.01	0.00	0.999890
Zn	66.927	Linear Thru Zero	0.00	0.00	0.999931
Zn	67.925	Linear Thru Zero	0.00	0.00	0.999972
Ge	71.922	Linear Thru Zero	0.00	0.00	0.000000
As	74.922	Linear Thru Zero	0.01	0.00	0.999988
As-1	74.922	Linear Thru Zero	0.01	0.00	0.999985
Se	76.920	Linear Thru Zero	0.00	0.00	0.999991
Se	81.917	Linear Thru Zero	0.00	0.00	0.999991
Y	88.905	Linear Thru Zero	0.00	0.00	0.000000
Mo	94.906	Linear Thru Zero	0.01	0.00	0.999948
Mo	96.906	Linear Thru Zero	0.01	0.00	0.999963
Mo	97.906	Linear Thru Zero	0.02	0.00	0.999798
Ag	106.905	Linear Thru Zero	0.04	0.00	0.999991
Ag	108.905	Linear Thru Zero	0.04	0.00	0.999989
Cd	105.907	Linear Thru Zero	0.00	0.00	0.999855
Cd	107.904	Linear Thru Zero	0.00	0.00	0.999966
Cd	110.904	Linear Thru Zero	0.01	0.00	0.999944
Cd	113.904	Linear Thru Zero	0.02	0.00	0.999862
In	114.904	Linear Thru Zero	0.00	0.00	0.000000
Sb	120.904	Linear Thru Zero	0.03	0.00	0.999901
Sb	122.904	Linear Thru Zero	0.02	0.00	0.999962
Ba	134.906	Linear Thru Zero	0.01	0.00	0.999945
Ba	136.905	Linear Thru Zero	0.01	0.00	0.999887
Tb	158.925	Linear Thru Zero	0.00	0.00	0.000000
Ho	164.930	Linear Thru Zero	0.00	0.00	0.000000
Hg	200.970	Linear Thru Zero	0.00	0.00	0.464810

Hg	201.971	Linear Thru Zero	0.00	0.00	0.430988
Tl	202.972	Linear Thru Zero	0.02	0.00	0.999891
Tl	204.975	Linear Thru Zero	0.06	0.00	0.999986
Pb	207.977	Linear Thru Zero	0.07	0.00	0.999988
Bi	208.980	Linear Thru Zero	0.00	0.00	0.000000
Th	232.038	Linear Thru Zero	0.07	0.00	0.999931
U	238.050	Linear Thru Zero	0.07	0.00	0.999974
Fe	55.935	Linear Thru Zero	0.00	0.00	0.000000
Ru	100.906	Linear Thru Zero	0.00	0.00	0.000000
ArCl	76.928	Linear Thru Zero	0.00	0.00	0.000000
Kr	83.912	Linear Thru Zero	0.00	0.00	0.000000
Sn	117.902	Linear Thru Zero	0.00	0.00	0.000000



☐ Peak Width Only

Peak Search Window (amu): 1 Resolution DAC: 2079 for Analyte: He

	Analyte	Mass (amu)	Measured Mass (amu)	Mass Calibration DAC Value	Resolution DAC Value	Measured Peak Width (amu)	Custom Resolution
1	He	3.016	2.9773	592	2079	0.713	
2	Mg	23.985	23.9787	5688	2090	0.667	
3	Rh	102.905	102.928	24862	2162	0.668	
4	Ce	139.905	139.879	33858	2199	0.685	
5	Pb	207.977	207.978	50426	2277	0.687	
6	U	238.05	238.076	57754	2314	0.686	
7							
8							
9							
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11							
12							
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15							
16							
17							
18							
19							
20							

Wednesday, Sep 20, 2006 03:36 PM

Quantitative Analysis - Summary Report

Sample ID: 608301-01

Sample Date/Time: Tuesday, August 29, 2006 16:09:49
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-29-06\608301-01.020
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 49
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
⌈	Li	6	68954	64813	2.23		ug/L
|	Be	9	14	832	0.51	0.375	ug/L
|	Al	27	66140	260150391	1.01	8294.709	ug/L
|	Sc	45	696267	718484	1.09		ug/L
|	V	51	13085	1490488	2.44	26.685	ug/L
|	V-1	51	11736	1775256	2.57	31.295	ug/L
|	Cr	52	39154	718499	2.27	13.586	ug/L
|	Cr	53	4018	172313	0.47	28.314	ug/L
|	Mn	55	6785	14987555	1.94	191.339	ug/L
|	Co	59	1024	473816	1.58	6.969	ug/L
|	Ni	60	2246	283509	1.44	18.700	ug/L
|	Ni	62	502	51586	3.39	22.650	ug/L
|	Cu	63	3750	397214	1.08	11.656	ug/L
|	Cu	65	1814	195063	2.14	11.651	ug/L
|	Zn	66	9607	1485653	2.06	162.163	ug/L
|	Zn	67	1790	237518	0.10	151.224	ug/L
|	Zn	68	6874	1064785	0.64	158.162	ug/L
L>	Ge	72	1784483	1536456	0.88		ug/L
⌈	As	75	-751	37880	1.45	4.371	ug/L
|	As-1	75	382	64275	0.44	7.430	ug/L
|	Se	77	673	8933	4.04	12.081	ug/L
|	Se	82	397	709	0.20	0.427	ug/L
|	Y	89	1549054	2265606	0.52		ug/L
|	Mo	95	663	12157	5.72	0.685	ug/L
|	Mo	97	395	7547	1.96	0.672	ug/L
|	Mo	98	1033	18992	0.48	0.679	ug/L
|	Ag	107	142	3525	0.38	0.074	ug/L

	Ag	109	103	3834	0.85	0.086	ug/L
	Cd	106	1550	2835	4.93	1.570	ug/L
	Cd	108	-99	-769	13.09	-0.904	ug/L
	Cd	111	1302	6575	1.07	0.514	ug/L
	Cd	114	128	9560	1.66	0.383	ug/L
>	In	115	1557125	1232431	0.24		ug/L
	Sb	121	965	21063	3.41	0.654	ug/L
	Sb	123	751	15945	4.10	0.642	ug/L
	Ba	135	795	385381	0.97	39.403	ug/L
	Ba	137	1295	660836	0.19	39.565	ug/L
	Tb	159	1810000	1496199	0.99		ug/L
>	Ho	165	1764594	1460440	0.05		ug/L
	Hg	201	32	197	7.90	2093.332	ug/L
	Hg	202	71	486	0.87	6596.795	ug/L
	Tl	203	131	2151	0.23	0.060	ug/L
	Tl	205	269	4973	0.87	0.057	ug/L
	Pb	208	4387	133161831	0.04	1219.423	ug/L
	Bi	209	1013815	852434	0.50		ug/L
	Th	232	1565	94640	1.46	0.855	ug/L
	U	238	260	190080	0.08	1.794	ug/L
	Fe	56	14822954	S	S		ug/L
	Ru	101	8	19	7.44		ug/L
	ArCl	77	686	9019	2.97		ug/L
	Kr	84	1794	-11739	3.48		ug/L
	Sn	118	5385	74913	0.92		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		86.101			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|     114  Cd
|>    115  In                              79.148
|     121  Sb
|     123  Sb
|     135  Ba
L     137  Ba
Γ     159  Tb
|>    165  Ho                              82.764
|     201  Hg
|     202  Hg
|     203  Tl
|     205  Tl
|     208  Pb
|     209  Bi
|     232  Th
L     238  U
       56  Fe
      101  Ru
       77  ArCl
       84  Kr
      118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608301-02

Sample Date/Time: Tuesday, August 29, 2006 16:13:34
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-29-06\608301-02.021
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 50
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	68954	64515	2.76		ug/L
|	Be	9	14	853	0.17	0.387	ug/L
|	Al	27	66140	326431029	1.59	10471.849	ug/L
|	Sc	45	696267	738042	1.08		ug/L
|	V	51	13085	2121833	1.58	38.309	ug/L
|	V-1	51	11736	2428758	1.81	43.146	ug/L
|	Cr	52	39154	1155498	1.07	22.392	ug/L
|	Cr	53	4018	231913	0.20	38.545	ug/L
|	Mn	55	6785	18587582	0.51	238.736	ug/L
|	Co	59	1024	643041	2.26	9.521	ug/L
|	Ni	60	2246	326577	1.09	21.690	ug/L
|	Ni	62	502	66492	1.16	29.433	ug/L
|	Cu	63	3750	1288452	1.62	38.254	ug/L
|	Cu	65	1814	633327	1.40	38.268	ug/L
|	Zn	66	9607	11091196	0.64	1223.980	ug/L
|	Zn	67	1790	1621470	0.38	1044.414	ug/L
|	Zn	68	6874	7799964	1.67	1171.233	ug/L
└>	Ge	72	1784483	1527149	0.19		ug/L
┌	As	75	-751	34254	2.35	3.895	ug/L
|	As-1	75	382	60615	0.58	6.889	ug/L
|	Se	77	673	9187	0.75	12.227	ug/L
|	Se	82	397	1038	1.02	0.763	ug/L
|	Y	89	1549054	1895163	0.63		ug/L
|	Mo	95	663	9946	1.51	0.545	ug/L
|	Mo	97	395	6197	1.96	0.537	ug/L
|	Mo	98	1033	15555	1.20	0.541	ug/L
|	Ag	107	142	6706	0.47	0.140	ug/L

	Ag	109	103	7846	3.65	0.174	ug/L
	Cd	106	1550	7698	3.34	6.194	ug/L
	Cd	108	-99	968	9.00	1.350	ug/L
	Cd	111	1302	19859	1.86	1.713	ug/L
	Cd	114	128	35824	0.14	1.422	ug/L
>	In	115	1557125	1253105	0.10		ug/L
	Sb	121	965	52253	1.89	1.631	ug/L
	Sb	123	751	39828	0.86	1.614	ug/L
	Ba	135	795	2029224	2.47	204.322	ug/L
	Ba	137	1295	3561466	2.08	209.980	ug/L
	Tb	159	1810000	1489774	0.96		ug/L
>	Ho	165	1764594	1463444	0.02		ug/L
	Hg	201	32	1153	2.15	13795.308	ug/L
	Hg	202	71	2554	1.30	38442.379	ug/L
	Tl	203	131	1188	6.31	0.032	ug/L
	Tl	205	269	2740	2.92	0.030	ug/L
	Pb	208	4387	228430541	1.70	2087.566	ug/L
	Bi	209	1013815	891879	0.21		ug/L
	Th	232	1565	80213	1.55	0.721	ug/L
	U	238	260	41780	1.17	0.392	ug/L
	Fe	56	14822954	S	S		ug/L
	Ru	101	8	33	21.43		ug/L
	ArCl	77	686	9276	1.48		ug/L
	Kr	84	1794	-5570	10.98		ug/L
	Sn	118	5385	100559	0.45		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		85.579			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                    80.476
|      121  Sb
|      123  Sb
|      135  Ba
L      137  Ba
Γ      159  Tb
|>     165  Ho                                    82.934
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
L      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608301-03

Sample Date/Time: Tuesday, August 29, 2006 16:17:19
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-29-06\608301-03.022
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 51
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	68954	62530	0.81		ug/L
Be	9	14	811	3.58	0.377	ug/L
Al	27	66140	297955463	0.44	9805.941	ug/L
Sc	45	696267	706875	3.38		ug/L
V	51	13085	2065576	1.25	38.266	ug/L
V-1	51	11736	2352999	0.51	42.887	ug/L
Cr	52	39154	1030279	0.50	20.427	ug/L
Cr	53	4018	210849	2.14	35.922	ug/L
Mn	55	6785	17364609	2.46	228.867	ug/L
Co	59	1024	600602	2.97	9.120	ug/L
Ni	60	2246	329003	0.85	22.425	ug/L
Ni	62	502	62773	1.11	28.505	ug/L
Cu	63	3750	1144817	0.69	34.861	ug/L
Cu	65	1814	566513	0.74	35.114	ug/L
Zn	66	9607	10536990	2.06	1192.726	ug/L
Zn	67	1790	1548181	0.24	1023.039	ug/L
Zn	68	6874	7460321	0.20	1149.286	ug/L
Ge	72	1784483	1488831	2.02		ug/L
As	75	-751	36958	3.39	4.319	ug/L
As-1	75	382	60932	0.72	7.129	ug/L
Se	77	673	8518	0.22	11.634	ug/L
Se	82	397	1059	3.21	0.819	ug/L
Y	89	1549054	1897937	0.15		ug/L
Mo	95	663	11696	5.73	0.666	ug/L
Mo	97	395	7079	1.04	0.637	ug/L
Mo	98	1033	18313	0.43	0.662	ug/L
Ag	107	142	6119	3.15	0.131	ug/L

	Ag	109	103	7120	0.63	0.163	ug/L
	Cd	106	1550	4474	0.02	3.224	ug/L
	Cd	108	-99	-516	4.50	-0.582	ug/L
	Cd	111	1302	19351	0.14	1.719	ug/L
	Cd	114	128	37832	1.37	1.546	ug/L
>	In	115	1557125	1217501	0.88		ug/L
	Sb	121	965	49232	0.03	1.581	ug/L
	Sb	123	751	37379	1.41	1.559	ug/L
	Ba	135	795	1819298	0.74	188.552	ug/L
	Ba	137	1295	3243304	0.62	196.820	ug/L
	Tb	159	1810000	1444616	0.66		ug/L
>	Ho	165	1764594	1409214	0.48		ug/L
	Hg	201	32	927	4.58	11468.248	ug/L
	Hg	202	71	2113	0.64	32899.531	ug/L
	Tl	203	131	1345	1.47	0.038	ug/L
	Tl	205	269	3155	1.34	0.037	ug/L
	Pb	208	4387	198167371	1.16	1880.765	ug/L
	Bi	209	1013815	858231	1.78		ug/L
	Th	232	1565	84924	1.24	0.794	ug/L
	U	238	260	160771	1.77	1.573	ug/L
	Fe	56	14822954	S	S		ug/L
	Ru	101	8	40	3.54		ug/L
	ArCl	77	686	8530	3.37		ug/L
	Kr	84	1794	-4565	7.58		ug/L
	Sn	118	5385	135828	0.80		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		83.432			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
|>	115	In	78.189
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
|>	165	Ho	79.861
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608301-04

Sample Date/Time: Tuesday, August 29, 2006 16:21:03
Sample Description: soil
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-29-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-29-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-29-06\608301-04.023
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-29-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 52
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	68954	66515	0.56		ug/L
Be	9	14	974	3.05	0.432	ug/L
Al	27	66140	320315007	0.47	10025.440	ug/L
Sc	45	696267	727383	4.82		ug/L
V	51	13085	2257471	0.75	39.775	ug/L
V-1	51	11736	2564257	0.10	44.448	ug/L
Cr	52	39154	1086849	0.38	20.493	ug/L
Cr	53	4018	220875	1.13	35.778	ug/L
Mn	55	6785	18694068	0.62	234.228	ug/L
Co	59	1024	652986	1.97	9.430	ug/L
Ni	60	2246	344743	0.02	22.342	ug/L
Ni	62	502	65728	0.04	28.377	ug/L
Cu	63	3750	1250362	3.35	36.201	ug/L
Cu	65	1814	621758	0.56	36.650	ug/L
Zn	66	9607	11026978	1.94	1186.952	ug/L
Zn	67	1790	1610344	0.88	1011.823	ug/L
Zn	68	6874	7809710	1.65	1144.228	ug/L
Ge	72	1784483	1565647	1.97		ug/L
As	75	-751	37927	1.51	4.228	ug/L
As-1	75	382	62916	1.05	7.021	ug/L
Se	77	673	8852	2.97	11.528	ug/L
Se	82	397	1121	0.57	0.830	ug/L
Y	89	1549054	2306473	0.80		ug/L
Mo	95	663	13188	0.76	0.719	ug/L
Mo	97	395	8356	1.64	0.721	ug/L
Mo	98	1033	21100	2.95	0.731	ug/L
Ag	107	142	6576	0.98	0.135	ug/L

	Ag	109	103	7614	3.35	0.166	ug/L
	Cd	106	1550	220	93.84	-0.990	ug/L
	Cd	108	-99	-5340	0.50	-6.652	ug/L
	Cd	111	1302	19027	0.26	1.606	ug/L
	Cd	114	128	36026	1.86	1.404	ug/L
>	In	115	1557125	1276271	0.74		ug/L
	Sb	121	965	54735	1.34	1.679	ug/L
	Sb	123	751	41928	0.91	1.670	ug/L
	Ba	135	795	1970230	1.45	194.775	ug/L
	Ba	137	1295	3449584	0.32	199.694	ug/L
	Tb	159	1810000	1529660	1.18		ug/L
>	Ho	165	1764594	1471963	1.92		ug/L
	Hg	201	32	896	3.08	10581.685	ug/L
	Hg	202	71	1970	2.62	29264.446	ug/L
	Tl	203	131	1512	3.42	0.041	ug/L
	Tl	205	269	3523	4.62	0.039	ug/L
	Pb	208	4387	201016362	0.01	1826.737	ug/L
	Bi	209	1013815	895415	1.09		ug/L
	Th	232	1565	92903	1.19	0.832	ug/L
	U	238	260	254415	0.39	2.384	ug/L
	Fe	56	14822954	S	S		ug/L
	Ru	101	8	36	37.85		ug/L
	ArCl	77	686	8905	0.26		ug/L
	Kr	84	1794	-4352	28.43		ug/L
	Sn	118	5385	313804	0.62		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		87.737			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|        114  Cd
| >      115  In                                        81.963
|        121  Sb
|        123  Sb
|        135  Ba
L        137  Ba
┌        159  Tb
| >      165  Ho                                        83.417
|        201  Hg
|        202  Hg
|        203  Tl
|        205  Tl
|        208  Pb
|        209  Bi
|        232  Th
L        238  U
          56  Fe
         101  Ru
          77  ArCl
          84  Kr
         118  Sn
```

Dataset Report

User Name: btb
Computer Name: ICPMS
Dataset File Path: D:\ICPMS Data\DataSet\08-31-06\
Report Date/Time: Wednesday, September 20, 2006 15:30:43

The Dataset

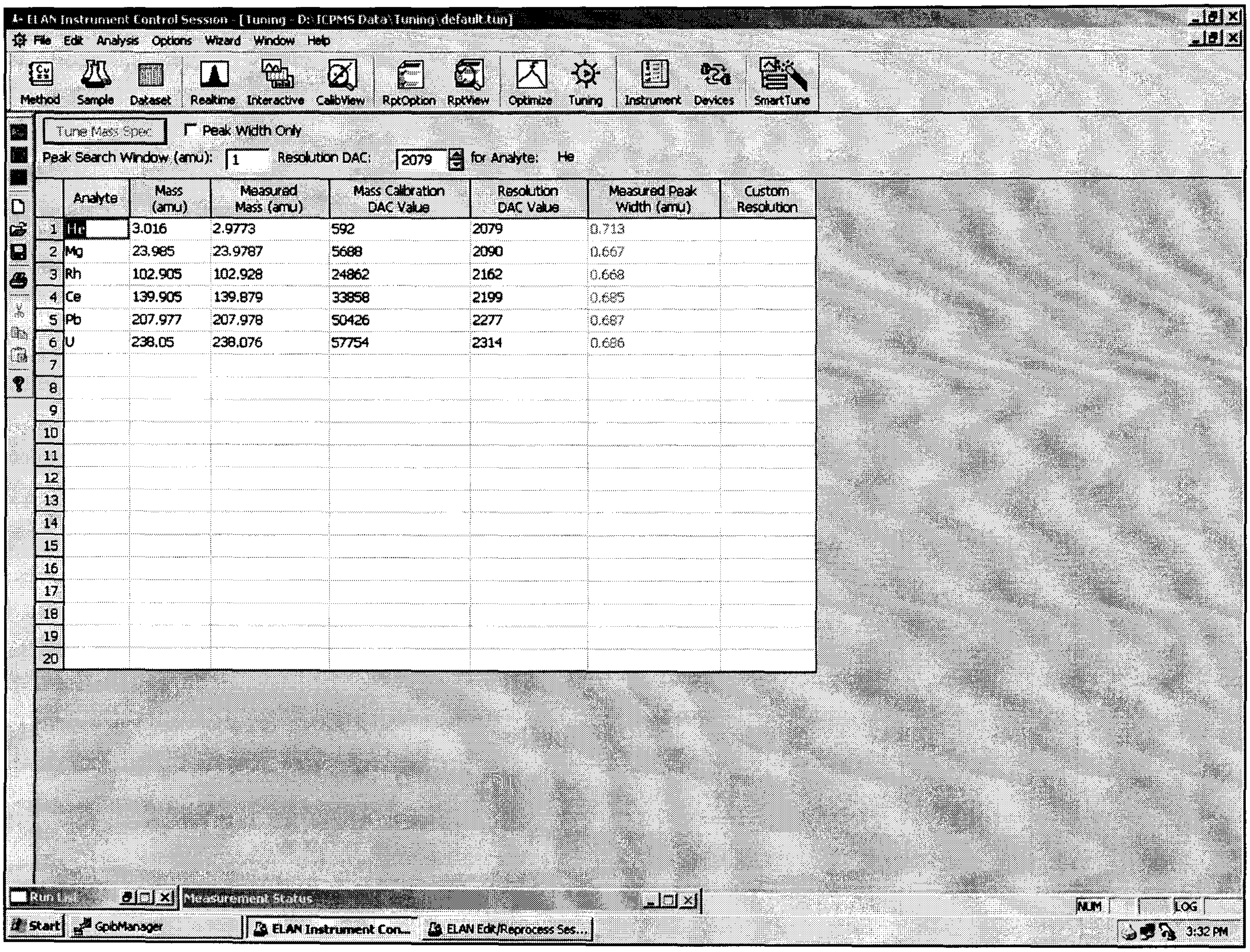
Batch ID	Sample ID	Date and Time	Read Type	Samp. File Name	Description
	blank	07:58:42 Thu 31-Aug-06	Blank	blank.001	
	1 ppb i1-56a	08:02:14 Thu 31-Aug-06	Standard #1	1 ppb i1-56a.002	
	5 ppb i1-56b	08:05:47 Thu 31-Aug-06	Standard #2	5 ppb i1-56b.003	
	10 ppb i1-56c	08:09:20 Thu 31-Aug-06	Standard #3	10 ppb i1-56c.004	
	25 ppb i1-56d	08:12:55 Thu 31-Aug-06	Standard #4	25 ppb i1-56d.005	
	50 ppb i1-56e	08:16:28 Thu 31-Aug-06	Standard #5	50 ppb i1-56e.006	
	25 ppb i1-57a	08:20:00 Thu 31-Aug-06	Sample	25 ppb i1-57a.007	
	i6-366 mb	08:23:48 Thu 31-Aug-06	Sample	i6-366 mb.008	tclp
	i6-366 lcs	08:27:31 Thu 31-Aug-06	Sample	i6-366 lcs.009	tclp
	608300-03	08:31:15 Thu 31-Aug-06	Sample	608300-03.010	tclp
	i6-366 ms 60830	08:34:58 Thu 31-Aug-06	Sample	i6-366 ms 608300-03.011	tclp
	i6-366 dup 6083	08:39:16 Thu 31-Aug-06	Sample	i6-366 dup 608300-03.012	tclp
	608300-06	08:43:00 Thu 31-Aug-06	Sample	608300-06.013	tclp
	608301-01	08:46:43 Thu 31-Aug-06	Sample	608301-01.014	tclp
	608301-02	08:50:26 Thu 31-Aug-06	Sample	608301-02.015	tclp
	608301-03	08:54:10 Thu 31-Aug-06	Sample	608301-03.016	tclp
	608301-04	08:57:54 Thu 31-Aug-06	Sample	608301-04.017	tclp
	25 ppb i1-57-a	09:01:38 Thu 31-Aug-06	Sample	25 ppb i1-57-a.018	soil
	i6-371 mb	09:05:23 Thu 31-Aug-06	Sample	i6-371 mb.019	soil
	i6-371 lcs	09:09:08 Thu 31-Aug-06	Sample	i6-371 lcs.020	soil
	608328-01	09:12:53 Thu 31-Aug-06	Sample	608328-01.021	soil
	608329-01	09:16:36 Thu 31-Aug-06	Sample	608329-01.022	soil
	608329-02	09:20:20 Thu 31-Aug-06	Sample	608329-02.023	soil
	608329-03	09:24:04 Thu 31-Aug-06	Sample	608329-03.024	soil
	608329-04	09:27:47 Thu 31-Aug-06	Sample	608329-04.025	soil
	i6-371 ms 60832	09:31:31 Thu 31-Aug-06	Sample	i6-371 ms 608329-04.026	soil
	i6-371 dup 6083	09:35:15 Thu 31-Aug-06	Sample	i6-371 dup 608329-04.027	soil
	608329-05	09:38:58 Thu 31-Aug-06	Sample	608329-05.028	soil
	25 ppb i1-57-a	09:42:43 Thu 31-Aug-06	Sample	25 ppb i1-57-a.029	soil
	608329-04 rex	11:10:48 Thu 31-Aug-06	Sample	608329-04 rex.030	soil
	608329-04 rex	11:14:32 Thu 31-Aug-06	Sample	608329-04 rex.031	soil
	25 ppb i1-57-a	11:18:17 Thu 31-Aug-06	Sample	25 ppb i1-57-a.032	soil

Quantitative Analysis Calibration Report

File Name: 08-31-06.cal
File Path: D:\ICPMS Data\System
Calibration Type: External Calibration

Analyte	Mass	Curve Type	Slope	Intercept	Corr. Coeff.
Li	6.015	Linear Thru Zero	0.00	0.00	0.000000
Be	9.012	Linear Thru Zero	0.00	0.00	0.999982
Al	26.982	Linear Thru Zero	0.02	0.00	0.999933
Sc	44.956	Linear Thru Zero	0.00	0.00	0.000000
V	50.944	Linear Thru Zero	0.04	0.00	0.999931
V-1	50.944	Linear Thru Zero	0.04	0.00	0.999962
Cr	51.941	Linear Thru Zero	0.03	0.00	0.999785
Cr	52.941	Linear Thru Zero	0.00	0.00	0.999989
Mn	54.938	Linear Thru Zero	0.05	0.00	0.999961
Co	58.933	Linear Thru Zero	0.04	0.00	0.999871
Ni	59.933	Linear Thru Zero	0.01	0.00	0.999955
Ni	61.928	Linear Thru Zero	0.00	0.00	0.999996
Cu	62.930	Linear Thru Zero	0.02	0.00	0.999931
Cu	64.928	Linear Thru Zero	0.01	0.00	0.999982
Zn	65.926	Linear Thru Zero	0.01	0.00	0.999987
Zn	66.927	Linear Thru Zero	0.00	0.00	0.999981
Zn	67.925	Linear Thru Zero	0.00	0.00	0.999957
Ge	71.922	Linear Thru Zero	0.00	0.00	0.000000
As	74.922	Linear Thru Zero	0.01	0.00	0.999977
As-1	74.922	Linear Thru Zero	0.01	0.00	0.999975
Se	76.920	Linear Thru Zero	0.00	0.00	0.999997
Se	81.917	Linear Thru Zero	0.00	0.00	0.999987
Y	88.905	Linear Thru Zero	0.00	0.00	0.000000
Mo	94.906	Linear Thru Zero	0.01	0.00	0.999991
Mo	96.906	Linear Thru Zero	0.01	0.00	0.999991
Mo	97.906	Linear Thru Zero	0.02	0.00	0.999995
Ag	106.905	Linear Thru Zero	0.04	0.00	0.999839
Ag	108.905	Linear Thru Zero	0.04	0.00	0.999803
Cd	105.907	Linear Thru Zero	0.00	0.00	0.999992
Cd	107.904	Linear Thru Zero	0.00	0.00	0.999987
Cd	110.904	Linear Thru Zero	0.01	0.00	0.999969
Cd	113.904	Linear Thru Zero	0.02	0.00	0.999954
In	114.904	Linear Thru Zero	0.00	0.00	0.000000
Sb	120.904	Linear Thru Zero	0.02	0.00	0.999996
Sb	122.904	Linear Thru Zero	0.02	0.00	0.999998
Ba	134.906	Linear Thru Zero	0.01	0.00	0.999992
Ba	136.905	Linear Thru Zero	0.01	0.00	0.999983
Tb	158.925	Linear Thru Zero	0.00	0.00	0.000000
Ho	164.930	Linear Thru Zero	0.00	0.00	0.000000
Hg	200.970	Linear Thru Zero	0.00	0.00	0.861183

Hg	201.971	Linear Thru Zero	0.00	0.00	0.529588
Tl	202.972	Linear Thru Zero	0.02	0.00	0.999992
Tl	204.975	Linear Thru Zero	0.06	0.00	0.999952
Pb	207.977	Linear Thru Zero	0.08	0.00	0.999954
Bi	208.980	Linear Thru Zero	0.00	0.00	0.000000
Th	232.038	Linear Thru Zero	0.07	0.00	0.999621
U	238.050	Linear Thru Zero	0.07	0.00	0.999997
Fe	55.935	Linear Thru Zero	0.00	0.00	0.000000
Ru	100.906	Linear Thru Zero	0.00	0.00	0.000000
ArCl	76.928	Linear Thru Zero	0.00	0.00	0.000000
Kr	83.912	Linear Thru Zero	0.00	0.00	0.000000
Sn	117.902	Linear Thru Zero	0.00	0.00	0.000000



☐ Peak Width Only

Peak Search Window (amu): 1 Resolution DAC: 2079 for Analyte: He

	Analyte	Mass (amu)	Measured Mass (amu)	Mass Calibration DAC Value	Resolution DAC Value	Measured Peak Width (amu)	Custom Resolution
1	He	3.016	2.9773	592	2079	0.713	
2	Mg	23.985	23.9787	5688	2090	0.667	
3	Rh	102.905	102.928	24862	2162	0.668	
4	Ce	139.905	139.879	33858	2199	0.685	
5	Pb	207.977	207.978	50426	2277	0.687	
6	U	238.05	238.076	57754	2314	0.686	
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Wednesday, Sep 20, 2006 03:32 PM

Quantitative Analysis - Summary Report

Sample ID: 608301-01

Sample Date/Time: Thursday, August 31, 2006 08:46:43
Sample Description: tclp
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-31-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-31-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-31-06\608301-01.014
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-31-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 44
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

	Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
┌	Li	6	63311	58298	1.74		ug/L
|	Be	9	30	18	12.12	-0.004	ug/L
|	Al	27	38788	120553	5.23	2.561	ug/L
|	Sc	45	645298	579745	2.51		ug/L
|	V	51	12742	20147	0.66	0.151	ug/L
|	V-1	51	21817	18662	1.76	-0.019	ug/L
|	Cr	52	38990	49152	0.15	0.283	ug/L
|	Cr	53	7185	5139	0.56	-0.228	ug/L
|	Mn	55	5114	365264	4.05	4.601	ug/L
|	Co	59	1149	6095	1.61	0.080	ug/L
|	Ni	60	732	6332	1.16	0.395	ug/L
|	Ni	62	263	1120	0.19	0.396	ug/L
|	Cu	63	2256	15701	1.08	0.412	ug/L
|	Cu	65	1146	1440	7.46	0.024	ug/L
|	Zn	66	6138	86554	1.83	8.938	ug/L
|	Zn	67	1493	13631	1.09	7.942	ug/L
|	Zn	68	4539	60897	0.97	8.498	ug/L
└>	Ge	72	1698923	1538881	0.42		ug/L
┌	As	75	-551	825	32.50	0.139	ug/L
|	As-1	75	524	1810	0.43	0.145	ug/L
|	Se	77	661	669	1.38	0.115	ug/L
|	Se	82	434	416	8.50	0.034	ug/L
|	Y	89	1441202	1276014	1.69		ug/L
|	Mo	95	2115	1264	3.07	-0.032	ug/L
|	Mo	97	1269	756	1.77	-0.031	ug/L
|	Mo	98	3332	2019	7.68	-0.031	ug/L
|	Ag	107	128	561	8.45	0.009	ug/L

	Ag	109	106	461	12.88	0.008	ug/L
	Cd	106	1280	1330	1.18	0.178	ug/L
	Cd	108	-175	181	9.47	0.400	ug/L
	Cd	111	1254	1291	1.88	0.016	ug/L
	Cd	114	373	1106	2.55	0.029	ug/L
>	In	115	1479055	1306592	1.04		ug/L
	Sb	121	821	3608	8.78	0.092	ug/L
	Sb	123	637	2760	2.83	0.092	ug/L
	Ba	135	534	1083	1.89	0.060	ug/L
	Ba	137	844	1942	2.26	0.069	ug/L
	Tb	159	1663658	1465336	0.93		ug/L
>	Ho	165	1610865	1446457	1.41		ug/L
	Hg	201	30	27	20.95	2.743	ug/L
	Hg	202	45	44	8.13	36.904	ug/L
	Tl	203	256	365	5.63	0.004	ug/L
	Tl	205	598	860	0.49	0.004	ug/L
	Pb	208	4756	157789	0.76	1.409	ug/L
	Bi	209	899421	779070	0.62		ug/L
	Th	232	684	1610	14.54	0.009	ug/L
	U	238	769	957	3.62	0.003	ug/L
	Fe	56	14517287	14348523	2.99		ug/L
	Ru	101	12	10	7.44		ug/L
	ArCl	77	697	654	9.08		ug/L
	Kr	84	1937	-320	116.23		ug/L
	Sn	118	7890	2683	5.11		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		90.580			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

|	114	Cd	
| >	115	In	88.340
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	89.794
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608301-02

Sample Date/Time: Thursday, August 31, 2006 08:50:26
Sample Description: tclp
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-31-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-31-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-31-06\608301-02.015
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-31-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 45
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	63311	61852	1.49		ug/L
Be	9	30	16	8.84	-0.005	ug/L
Al	27	38788	152001	0.95	3.328	ug/L
Sc	45	645298	620787	4.90		ug/L
V	51	12742	15996	0.54	0.067	ug/L
V-1	51	21817	15001	0.65	-0.092	ug/L
Cr	52	38990	48331	1.10	0.229	ug/L
Cr	53	7185	5160	1.12	-0.257	ug/L
Mn	55	5114	53191	2.34	0.593	ug/L
Co	59	1149	6389	1.02	0.081	ug/L
Ni	60	732	5079	0.43	0.295	ug/L
Ni	62	263	1047	4.26	0.345	ug/L
Cu	63	2256	23658	6.46	0.624	ug/L
Cu	65	1146	5351	3.21	0.246	ug/L
Zn	66	6138	1470705	0.08	155.466	ug/L
Zn	67	1493	226942	1.29	140.311	ug/L
Zn	68	4539	1066280	1.68	152.876	ug/L
Ge	72	1698923	1600385	1.85		ug/L
As	75	-551	-457	44.90	0.005	ug/L
As-1	75	524	459	3.55	-0.002	ug/L
Se	77	661	627	2.71	0.030	ug/L
Se	82	434	445	6.52	0.048	ug/L
Y	89	1441202	1343275	1.26		ug/L
Mo	95	2115	834	12.36	-0.057	ug/L
Mo	97	1269	539	0.82	-0.052	ug/L
Mo	98	3332	1351	3.92	-0.055	ug/L
Ag	107	128	432	8.18	0.006	ug/L

	Ag	109	106	324	4.59	0.005	ug/L
	Cd	106	1280	1574	1.55	0.347	ug/L
	Cd	108	-175	306	14.02	0.536	ug/L
	Cd	111	1254	3100	2.25	0.162	ug/L
	Cd	114	373	5077	1.30	0.173	ug/L
>	In	115	1479055	1352113	0.27		ug/L
	Sb	121	821	3133	0.52	0.073	ug/L
	Sb	123	637	2414	6.00	0.074	ug/L
	Ba	135	534	236954	2.89	22.357	ug/L
	Ba	137	844	409177	0.99	22.651	ug/L
	Tb	159	1663658	1540923	3.20		ug/L
>	Ho	165	1610865	1486303	2.29		ug/L
	Hg	201	30	35	8.08	37.739	ug/L
	Hg	202	45	43	32.89	21.562	ug/L
	Tl	203	256	306	4.16	0.002	ug/L
	Tl	205	598	660	6.64	0.001	ug/L
	Pb	208	4756	4347404	1.33	38.793	ug/L
	Bi	209	899421	820334	1.32		ug/L
	Th	232	684	1605	0.53	0.009	ug/L
	U	238	769	376	1.32	-0.003	ug/L
	Fe	56	14517287	14374049	1.50		ug/L
	Ru	101	12	9	15.71		ug/L
	ArCl	77	697	655	5.61		ug/L
	Kr	84	1937	1653	0.93		ug/L
	Sn	118	7890	2818	3.31		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
	6	Li					
	9	Be					
	27	Al					
	45	Sc					
	51	V					
	51	V-1					
	52	Cr					
	53	Cr					
	55	Mn					
	59	Co					
	60	Ni					
	62	Ni					
	63	Cu					
	65	Cu					
	66	Zn					
	67	Zn					
	68	Zn					
>	72	Ge		94.200			
	75	As					
	75	As-1					
	77	Se					
	82	Se					
	89	Y					
	95	Mo					
	97	Mo					
	98	Mo					
	107	Ag					
	109	Ag					
	106	Cd					
	108	Cd					
	111	Cd					

```
|      114  Cd
|>     115  In                                      91.417
|      121  Sb
|      123  Sb
|      135  Ba
└      137  Ba
┌      159  Tb
|>     165  Ho                                      92.267
|      201  Hg
|      202  Hg
|      203  Tl
|      205  Tl
|      208  Pb
|      209  Bi
|      232  Th
└      238  U
        56  Fe
       101  Ru
        77  ArCl
        84  Kr
       118  Sn
```

Quantitative Analysis - Summary Report

Sample ID: 608301-03

Sample Date/Time: Thursday, August 31, 2006 08:54:10
Sample Description: tclp
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-31-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-31-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-31-06\608301-03.016
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-31-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 46
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	63311	60809	3.11		ug/L
Be	9	30	19	29.77	-0.004	ug/L
Al	27	38788	212397	1.63	5.136	ug/L
Sc	45	645298	605949	2.81		ug/L
V	51	12742	21724	0.58	0.168	ug/L
V-1	51	21817	20343	0.95	0.000	ug/L
Cr	52	38990	48635	0.31	0.245	ug/L
Cr	53	7185	5107	0.78	-0.257	ug/L
Mn	55	5114	238598	1.37	2.901	ug/L
Co	59	1149	10286	0.72	0.142	ug/L
Ni	60	732	5463	4.47	0.324	ug/L
Ni	62	263	1054	5.17	0.353	ug/L
Cu	63	2256	23502	1.81	0.627	ug/L
Cu	65	1146	5280	1.61	0.246	ug/L
Zn	66	6138	1126671	0.88	120.268	ug/L
Zn	67	1493	173689	0.02	108.353	ug/L
Zn	68	4539	798643	1.83	115.592	ug/L
Ge	72	1698923	1582749	0.06		ug/L
As	75	-551	908	19.37	0.144	ug/L
As-1	75	524	1787	0.79	0.136	ug/L
Se	77	661	612	10.52	0.011	ug/L
Se	82	434	426	12.46	0.029	ug/L
Y	89	1441202	1323489	1.91		ug/L
Mo	95	2115	1027	9.59	-0.047	ug/L
Mo	97	1269	663	4.93	-0.041	ug/L
Mo	98	3332	1654	7.24	-0.045	ug/L
Ag	107	128	361	6.87	0.005	ug/L

|	Ag	109	106	300	11.10	0.004	ug/L
|	Cd	106	1280	1543	0.16	0.321	ug/L
|	Cd	108	-175	340	17.76	0.575	ug/L
|	Cd	111	1254	2375	1.38	0.102	ug/L
|	Cd	114	373	3676	2.30	0.122	ug/L
|>	In	115	1479055	1351420	1.88		ug/L
|	Sb	121	821	3778	3.45	0.093	ug/L
|	Sb	123	637	2825	5.80	0.090	ug/L
|	Ba	135	534	12269	2.10	1.114	ug/L
└	Ba	137	844	21584	3.39	1.155	ug/L
┌	Tb	159	1663658	1513939	0.57		ug/L
|>	Ho	165	1610865	1474668	1.34		ug/L
|	Hg	201	30	29	17.37	7.439	ug/L
|	Hg	202	45	45	9.43	44.151	ug/L
|	Tl	203	256	328	3.88	0.003	ug/L
|	Tl	205	598	803	5.64	0.003	ug/L
|	Pb	208	4756	294897	1.39	2.615	ug/L
|	Bi	209	899421	794659	0.20		ug/L
|	Th	232	684	1418	14.86	0.007	ug/L
└	U	238	769	959	2.73	0.002	ug/L
	Fe	56	14517287	13973293	1.49		ug/L
	Ru	101	12	6	23.57		ug/L
	ArCl	77	697	628	1.35		ug/L
	Kr	84	1937	1647	9.29		ug/L
	Sn	118	7890	2057	0.76		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		93.162			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

	114	Cd	
>	115	In	91.371
	121	Sb	
	123	Sb	
	135	Ba	
	137	Ba	
	159	Tb	
>	165	Ho	91.545
	201	Hg	
	202	Hg	
	203	Tl	
	205	Tl	
	208	Pb	
	209	Bi	
	232	Th	
	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Quantitative Analysis - Summary Report

Sample ID: 608301-04

Sample Date/Time: Thursday, August 31, 2006 08:57:54
Sample Description: tclp
User Name: btb
Computer Name: ICPMS
Blank File: D:\ICPMS Data\DataSet\08-31-06\blank.001
Number of Replicates: 2
Peak Processing Mode: Average
Signal Profile Processing Mode: Maximum

Sample File: D:\ICPMS Data\Sample\08-29-06.sam
Method File: D:\ICPMS Data\Method\08-31-06fbi200.8.mth
Dataset File: D:\ICPMS Data\DataSet\08-31-06\608301-04.017
Tuning File: D:\ICPMS Data\Tuning\default.tun
Optimization File: D:\ICPMS Data\Optimize\Default.dac
Calibration File: D:\ICPMS Data\System\08-31-06.cal
Batch ID:
Calibration Type: External Calibration
Autosampler Position: 47
Sample Type: Sample
Initial Sample Quantity (mg):
Sample Prep Volume (mL):
Aliquot Volume (mL):
Diluted To Volume (mL):
Solids Ratio:

Intensities

Analyte	Mass	Blank Intensity	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Report Unit
Li	6	63311	62564	0.66		ug/L
Be	9	30	10	56.57	-0.008	ug/L
Al	27	38788	211111	1.13	5.092	ug/L
Sc	45	645298	635889	2.28		ug/L
V	51	12742	21309	3.85	0.160	ug/L
V-1	51	21817	20153	1.63	-0.003	ug/L
Cr	52	38990	47862	4.13	0.229	ug/L
Cr	53	7185	4906	0.26	-0.290	ug/L
Mn	55	5114	246129	2.21	2.991	ug/L
Co	59	1149	9093	0.93	0.123	ug/L
Ni	60	732	5642	1.98	0.336	ug/L
Ni	62	263	1141	1.80	0.391	ug/L
Cu	63	2256	23706	2.48	0.632	ug/L
Cu	65	1146	5595	1.28	0.264	ug/L
Zn	66	6138	983761	0.47	104.810	ug/L
Zn	67	1493	154120	1.02	95.936	ug/L
Zn	68	4539	720854	2.57	104.144	ug/L
Ge	72	1698923	1584625	0.50		ug/L
As	75	-551	974	7.01	0.150	ug/L
As-1	75	524	1825	1.90	0.138	ug/L
Se	77	661	672	2.00	0.079	ug/L
Se	82	434	431	5.75	0.030	ug/L
Y	89	1441202	1343591	2.68		ug/L
Mo	95	2115	995	7.95	-0.049	ug/L
Mo	97	1269	627	4.07	-0.045	ug/L
Mo	98	3332	1638	3.23	-0.047	ug/L
Ag	107	128	328	9.28	0.004	ug/L

|	Ag	109	106	270	8.13	0.003	ug/L
|	Cd	106	1280	1541	4.77	0.304	ug/L
|	Cd	108	-175	371	1.72	0.607	ug/L
|	Cd	111	1254	2320	2.42	0.095	ug/L
|	Cd	114	373	3451	2.48	0.113	ug/L
|>	In	115	1479055	1367098	0.09		ug/L
|	Sb	121	821	3777	5.62	0.092	ug/L
|	Sb	123	637	2776	1.90	0.087	ug/L
|	Ba	135	534	12204	0.38	1.095	ug/L
└	Ba	137	844	20689	0.77	1.092	ug/L
┌	Tb	159	1663658	1536250	1.51		ug/L
|>	Ho	165	1610865	1487710	0.46		ug/L
|	Hg	201	30	27	2.67	-3.596	ug/L
|	Hg	202	45	47	3.01	60.180	ug/L
|	Tl	203	256	323	6.36	0.002	ug/L
|	Tl	205	598	774	5.39	0.003	ug/L
|	Pb	208	4756	347066	1.12	3.058	ug/L
|	Bi	209	899421	806973	1.51		ug/L
|	Th	232	684	1344	8.63	0.007	ug/L
└	U	238	769	1092	6.22	0.004	ug/L
	Fe	56	14517287	14160098	0.52		ug/L
	Ru	101	12	7	10.88		ug/L
	ArCl	77	697	623	2.04		ug/L
	Kr	84	1937	1699	16.72		ug/L
	Sn	118	7890	2146	2.44		ug/L

QC Calculated Values

	Mass	Analyte	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Difference	Duplicate Rel. % Difference
┌	6	Li					
|	9	Be					
|	27	Al					
|	45	Sc					
|	51	V					
|	51	V-1					
|	52	Cr					
|	53	Cr					
|	55	Mn					
|	59	Co					
|	60	Ni					
|	62	Ni					
|	63	Cu					
|	65	Cu					
|	66	Zn					
|	67	Zn					
|	68	Zn					
└>	72	Ge		93.272			
┌	75	As					
|	75	As-1					
|	77	Se					
|	82	Se					
|	89	Y					
|	95	Mo					
|	97	Mo					
|	98	Mo					
|	107	Ag					
|	109	Ag					
|	106	Cd					
|	108	Cd					
|	111	Cd					

|	114	Cd	
| >	115	In	92.430
|	121	Sb	
|	123	Sb	
|	135	Ba	
└	137	Ba	
┌	159	Tb	
| >	165	Ho	92.355
|	201	Hg	
|	202	Hg	
|	203	Tl	
|	205	Tl	
|	208	Pb	
|	209	Bi	
|	232	Th	
└	238	U	
	56	Fe	
	101	Ru	
	77	ArCl	
	84	Kr	
	118	Sn	

Post-Treatment Waste Designation
Fixed Laboratory Data (October 2006)
SGS Environmental Services Inc.
SDG 1066266

SGS Environmental Services
Alaska Division
Level II Laboratory Data Report

Project:	St. Paul Soil
Client:	PSI Environmental & Instrument.
SGS Work Order:	1066266

Released by:

Contents:

Note:
Unless otherwise noted, all quality assurance/quality control criteria is in compliance with the standards set forth by the proper regulatory authority, the SGS Quality Assurance Program Plan, and the National Environmental Accreditation Conference.

SGS Environmental Services Inc.

Case Narrative

Customer: PSIENV **PSI Environmental & Instrument.**
Project: 1066266 **St. Paul Soil**
NPDL WO: N/A

Refer to the sample receipt form for information on sample condition.

Laboratory Analytical Report

Client: **PSI Environmental & Instrument.**
1611 E First Ave
Anchorage, AK 99501

Attn: **Keith Guyer**
T: (907)272-8010 F:(907)272-9005

Project: **St. Paul Soil**

Workorder No.: **1066266**

Certification:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, other than the conditions noted on the sample data sheet(s) and/or the case narrative. This certification applies only to the tested parameters and the specific sample(s) received at the laboratory.

If you have any questions regarding this report, or if we can be of further assistance, please contact your SGS Project Manager.

Bryan Arnold

Bryan_Arnold@sgs.com

Project Manager

Print Date: 10/21/2006

Enclosed are the analytical results associated with this workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Assurance Plan (QAP), which outlines this program is available at your request.

The laboratory certification numbers are AK971-05 (DW), UST-005 (CS) and AK00971 (Micro) for ADEC and 001582 for NELAP (RCRA methods: 1010/1020, 1311, 6000/7000, 9040/9045, 9056, 9060, 9065, 8015B, 8021B, 8081A/8082, 8260B, 8270C).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP, the National Environmental Laboratory Accreditation Program and, when applicable, other regulatory authorities.

If you have any questions regarding this report or if we can be of any assistance, please contact your SGS Project Manager at 907-562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

MDL	Method Detection Limit
PQL	Practical Quantitation Limit (reporting limit).
CL	Control Limit
U	Indicates the analyte was analyzed for but not detected.
F	Indicates value that is greater than or equal to the MDL.
J	The quantitation is an estimation.
ND	Indicates the analyte is not detected
B	Indicates the analyte is found in a blank associated with the sample.
*	The analyte has exceeded allowable regulatory or control limits.
GT	Greater Than
LT	Less Than
Q	QC parameter out of acceptance range.
M	A matrix effect was present.
E	The analyte result is above the calibrated range.
DF	Analytical Dilution Factor
JL	The analyte was positively identified, but the quantitation is a low estimation.
<Surr>	Surrogate QC spiked standard

Note: Soil samples are reported on a dry weight basis unless otherwise specified

SAMPLE SUMMARY

Print Date: 10/21/2006

Client Name: PSI Environmental & Instrument.
Project Name: St. Paul Soil
Workorder No.: 1066266

Analytical Methods

Method Description	Analytical Method
Metals by ICP	SW6010B TCLP
Metals by ICP-MS (S)	SW6020
Percent Solids SM2540G	SM20 2540G
TCLP Full Characterization	TCLP

Sample ID Cross Reference

Lab Sample ID	Client Sample ID
1066266001	SP60-CH-01
1066266002	SP60-CH-02
1066266003	SP60-CH-03
1066266004	SP60-CH-04
1066266005	SP60-CH-05
1066266006	SP60-CH-06
1066266007	SP60-CH-07

Client Sample ID: **SP60-CH-01**
SGS Ref. #: 1066266001
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 77.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:45
Receipt Date/Time: 10/17/06 10:18

Characterization

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aqueous Phase, Total	0.0			%	1	TCLP4691		
Oil Phase, Total	0.0			%	1	TCLP4691		
Solid Phase, Total	100			%	1	TCLP4691		

Batch Information

Analytical Batch: TCLP4691
Analytical Method: TCLP
Analysis Date/Time: 10/17/06 11:00
Dilution Factor: 1

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266001-A
Analyst: BJS

Client Sample ID: **SP60-CH-01**
SGS Ref. #: 1066266001
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 77.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:45
Receipt Date/Time: 10/17/06 10:18

TCLP Metals

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	ND	0.500	0.250	mg/L	1	MIP5174	MXT3983	

Batch Information

Analytical Batch: MIP5174
Analytical Method: SW6010B TCLP
Analysis Date/Time: 10/18/06 18:23
Dilution Factor: 1

Prep Batch: MXT3983
Prep Method: SW3010A
Prep Date/Time: 10/18/06 09:30

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 50 mL
Container ID:1066266001-A
Analyst: DSH

Client Sample ID: **SP60-CH-01**
SGS Ref. #: 1066266001
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 77.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:45
Receipt Date/Time: 10/17/06 10:18

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	812	0.251	0.0779	mg/Kg	10	MMS4476	MXX18313	

Batch Information

Analytical Batch: MMS4476
Analytical Method: SW6020
Analysis Date/Time: 10/19/06 12:00
Dilution Factor: 10

Prep Batch: MXX18313
Prep Method: SW3050B
Prep Date/Time: 10/17/06 17:15

Initial Prep Wt./Vol.: 1.0243 g
Prep Extract Vol.: 50 mL
Container ID:1066266001-A
Analyst: TK

Client Sample ID: **SP60-CH-01**
SGS Ref. #: 1066266001
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 77.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:45
Receipt Date/Time: 10/17/06 10:18

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	77.7			%		SPT7045		

Batch Information

Analytical Batch: SPT7045
Analytical Method: SM20 2540G
Analysis Date/Time: 10/18/06 09:20

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266001-A
Analyst: BNE

PSI Environmental & Instrument. Print Date: 10/21/2006

Client Sample ID: **SP60-CH-02**
SGS Ref. #: 1066266002
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 80.0

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:52
Receipt Date/Time: 10/17/06 10:18

Characterization

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aqueous Phase, Total	0.0			%	1	TCLP4691		
Oil Phase, Total	0.0			%	1	TCLP4691		
Solid Phase, Total	100			%	1	TCLP4691		

Batch Information

Analytical Batch: TCLP4691
Analytical Method: TCLP
Analysis Date/Time: 10/17/06 11:00
Dilution Factor: 1

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266002-A
Analyst: BJS

Client Sample ID: **SP60-CH-02**
SGS Ref. #: 1066266002
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 80.0

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:52
Receipt Date/Time: 10/17/06 10:18

TCLP Metals

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	ND	0.500	0.250	mg/L	1	MIP5174	MXT3983	

Batch Information

Analytical Batch: MIP5174
Analytical Method: SW6010B TCLP
Analysis Date/Time: 10/18/06 18:26
Dilution Factor: 1

Prep Batch: MXT3983
Prep Method: SW3010A
Prep Date/Time: 10/18/06 09:30

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 50 mL
Container ID:1066266002-A
Analyst: DSH

PSI Environmental & Instrument.

Print Date: 10/21/2006

Client Sample ID: **SP60-CH-02**
SGS Ref. #: 1066266002
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 80.0

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:52
Receipt Date/Time: 10/17/06 10:18

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	376	0.239	0.0742	mg/Kg	10	MMS4476	MXX18313	

Batch Information

Analytical Batch: MMS4476
Analytical Method: SW6020
Analysis Date/Time: 10/19/06 12:18
Dilution Factor: 10

Prep Batch: MXX18313
Prep Method: SW3050B
Prep Date/Time: 10/17/06 17:15

Initial Prep Wt./Vol.: 1.0447 g
Prep Extract Vol.: 50 mL
Container ID:1066266002-A
Analyst: TK

Client Sample ID: **SP60-CH-02**
SGS Ref. #: 1066266002
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 80.0

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 16:52
Receipt Date/Time: 10/17/06 10:18

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	80.0			%		SPT7045		

Batch Information

Analytical Batch: SPT7045
Analytical Method: SM20 2540G
Analysis Date/Time: 10/18/06 09:20

Initial Prep Wt./Vol.: 1 mL

Container ID:1066266002-A
Analyst: BNE

Client Sample ID: **SP60-CH-03**
SGS Ref. #: 1066266003
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 84.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:11
Receipt Date/Time: 10/17/06 10:18

Characterization

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aqueous Phase, Total	0.0			%	1	TCLP4691		
Oil Phase, Total	0.0			%	1	TCLP4691		
Solid Phase, Total	100			%	1	TCLP4691		

Batch Information

Analytical Batch: TCLP4691
Analytical Method: TCLP
Analysis Date/Time: 10/17/06 11:00
Dilution Factor: 1

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266003-A
Analyst: BJS

Client Sample ID: **SP60-CH-03**
SGS Ref. #: 1066266003
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 84.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:11
Receipt Date/Time: 10/17/06 10:18

TCLP Metals

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	ND	0.500	0.250	mg/L	1	MIP5174	MXT3983	

Batch Information

Analytical Batch: MIP5174
Analytical Method: SW6010B TCLP
Analysis Date/Time: 10/18/06 18:29
Dilution Factor: 1

Prep Batch: MXT3983
Prep Method: SW3010A
Prep Date/Time: 10/18/06 09:30

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 50 mL
Container ID:1066266003-A
Analyst: DSH

PSI Environmental & Instrument. Print Date: 10/21/2006

Client Sample ID: **SP60-CH-03**
SGS Ref. #: 1066266003
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 84.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:11
Receipt Date/Time: 10/17/06 10:18

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	159	0.226	0.0701	mg/Kg	10	MMS4476	MXX18313	

Batch Information

Analytical Batch: MMS4476
Analytical Method: SW6020
Analysis Date/Time: 10/19/06 12:23
Dilution Factor: 10

Prep Batch: MXX18313
Prep Method: SW3050B
Prep Date/Time: 10/17/06 17:15

Initial Prep Wt./Vol.: 1.0482 g
Prep Extract Vol.: 50 mL
Container ID:1066266003-A
Analyst: TK

Client Sample ID: **SP60-CH-03**
SGS Ref. #: 1066266003
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 84.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:11
Receipt Date/Time: 10/17/06 10:18

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	84.4			%		SPT7045		

Batch Information

Analytical Batch: SPT7045
Analytical Method: SM20 2540G
Analysis Date/Time: 10/18/06 09:20

Initial Prep Wt./Vol.: 1 mL

Container ID:1066266003-A
Analyst: BNE

Client Sample ID: **SP60-CH-04**
SGS Ref. #: 1066266004
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 68.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:16
Receipt Date/Time: 10/17/06 10:18

Characterization

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aqueous Phase, Total	0.0			%	1	TCLP4691		
Oil Phase, Total	0.0			%	1	TCLP4691		
Solid Phase, Total	100			%	1	TCLP4691		

Batch Information

Analytical Batch: TCLP4691
Analytical Method: TCLP
Analysis Date/Time: 10/17/06 11:00
Dilution Factor: 1

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266004-A
Analyst: BJS

PSI Environmental & Instrument.

Print Date: 10/21/2006

Client Sample ID: **SP60-CH-04**
SGS Ref. #: 1066266004
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 68.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:16
Receipt Date/Time: 10/17/06 10:18

TCLP Metals

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	ND	0.500	0.250	mg/L	1	MIP5174	MXT3983	

Batch Information

Analytical Batch: MIP5174
Analytical Method: SW6010B TCLP
Analysis Date/Time: 10/18/06 18:32
Dilution Factor: 1

Prep Batch: MXT3983
Prep Method: SW3010A
Prep Date/Time: 10/18/06 09:30

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 50 mL
Container ID:1066266004-A
Analyst: DSH

Client Sample ID: **SP60-CH-04**
SGS Ref. #: 1066266004
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 68.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:16
Receipt Date/Time: 10/17/06 10:18

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	1490	0.288	0.0893	mg/Kg	10	MMS4476	MXX18313	

Batch Information

Analytical Batch: MMS4476
Analytical Method: SW6020
Analysis Date/Time: 10/19/06 12:29
Dilution Factor: 10

Prep Batch: MXX18313
Prep Method: SW3050B
Prep Date/Time: 10/17/06 17:15

Initial Prep Wt./Vol.: 1.0132 g
Prep Extract Vol.: 50 mL
Container ID:1066266004-A
Analyst: TK

Client Sample ID: **SP60-CH-04**
SGS Ref. #: 1066266004
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 68.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:16
Receipt Date/Time: 10/17/06 10:18

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	68.5			%		SPT7045		

Batch Information

Analytical Batch: SPT7045
Analytical Method: SM20 2540G
Analysis Date/Time: 10/18/06 09:20

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266004-A
Analyst: BNE

Client Sample ID: **SP60-CH-05**
SGS Ref. #: 1066266005
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 67.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:17
Receipt Date/Time: 10/17/06 10:18

Characterization

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aqueous Phase, Total	0.0			%	1	TCLP4691		
Oil Phase, Total	0.0			%	1	TCLP4691		
Solid Phase, Total	100			%	1	TCLP4691		

Batch Information

Analytical Batch: TCLP4691
Analytical Method: TCLP
Analysis Date/Time: 10/17/06 11:00
Dilution Factor: 1

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266005-A
Analyst: BJS

PSI Environmental & Instrument.

Print Date: 10/21/2006

Client Sample ID: **SP60-CH-05**
SGS Ref. #: 1066266005
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 67.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:17
Receipt Date/Time: 10/17/06 10:18

TCLP Metals

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	ND	0.500	0.250	mg/L	1	MIP5174	MXT3983	

Batch Information

Analytical Batch: MIP5174
Analytical Method: SW6010B TCLP
Analysis Date/Time: 10/18/06 18:35
Dilution Factor: 1

Prep Batch: MXT3983
Prep Method: SW3010A
Prep Date/Time: 10/18/06 09:30

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 50 mL
Container ID:1066266005-A
Analyst: DSH

PSI Environmental & Instrument. Print Date: 10/21/2006

Client Sample ID: **SP60-CH-05**
SGS Ref. #: 1066266005
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 67.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:17
Receipt Date/Time: 10/17/06 10:18

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	2400	0.286	0.0887	mg/Kg	10	MMS4476	MXX18313	

Batch Information

Analytical Batch: MMS4476
Analytical Method: SW6020
Analysis Date/Time: 10/19/06 12:34
Dilution Factor: 10

Prep Batch: MXX18313
Prep Method: SW3050B
Prep Date/Time: 10/17/06 17:15

Initial Prep Wt./Vol.: 1.0342 g
Prep Extract Vol.: 50 mL
Container ID:1066266005-A
Analyst: TK

Client Sample ID: **SP60-CH-05**
SGS Ref. #: 1066266005
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 67.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:17
Receipt Date/Time: 10/17/06 10:18

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	67.6			%		SPT7045		

Batch Information

Analytical Batch: SPT7045
Analytical Method: SM20 2540G
Analysis Date/Time: 10/18/06 09:20

Initial Prep Wt./Vol.: 1 mL

Container ID:1066266005-A
Analyst: BNE

Client Sample ID: **SP60-CH-06**
SGS Ref. #: 1066266006
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 88.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:34
Receipt Date/Time: 10/17/06 10:18

Characterization

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aqueous Phase, Total	0.0			%	1	TCLP4691		
Oil Phase, Total	0.0			%	1	TCLP4691		
Solid Phase, Total	100			%	1	TCLP4691		

Batch Information

Analytical Batch: TCLP4691
Analytical Method: TCLP
Analysis Date/Time: 10/17/06 11:00
Dilution Factor: 1

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266006-A
Analyst: BJS

Client Sample ID: **SP60-CH-06**
SGS Ref. #: 1066266006
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 88.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:34
Receipt Date/Time: 10/17/06 10:18

TCLP Metals

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	ND	0.500	0.250	mg/L	1	MIP5174	MXT3983	

Batch Information

Analytical Batch: MIP5174
Analytical Method: SW6010B TCLP
Analysis Date/Time: 10/18/06 18:14
Dilution Factor: 1

Prep Batch: MXT3983
Prep Method: SW3010A
Prep Date/Time: 10/18/06 09:30

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 50 mL
Container ID:1066266006-A
Analyst: DSH

Client Sample ID: **SP60-CH-06**
SGS Ref. #: 1066266006
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 88.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:34
Receipt Date/Time: 10/17/06 10:18

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	268	0.225	0.0697	mg/Kg	10	MMS4476	MXX18313	

Batch Information

Analytical Batch: MMS4476
Analytical Method: SW6020
Analysis Date/Time: 10/19/06 12:39
Dilution Factor: 10

Prep Batch: MXX18313
Prep Method: SW3050B
Prep Date/Time: 10/17/06 17:15

Initial Prep Wt./Vol.: 1.0005 g
Prep Extract Vol.: 50 mL
Container ID:1066266006-A
Analyst: TK

PSI Environmental & Instrument. Print Date: 10/21/2006

Client Sample ID: **SP60-CH-06**
SGS Ref. #: 1066266006
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 88.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:34
Receipt Date/Time: 10/17/06 10:18

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	88.9			%		SPT7045		

Batch Information

Analytical Batch: SPT7045
Analytical Method: SM20 2540G
Analysis Date/Time: 10/18/06 09:20

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266006-A
Analyst: BNE

Client Sample ID: **SP60-CH-07**
SGS Ref. #: 1066266007
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 79.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:46
Receipt Date/Time: 10/17/06 10:18

Characterization

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Aqueous Phase, Total	0.0			%	1	TCLP4691		
Oil Phase, Total	0.0			%	1	TCLP4691		
Solid Phase, Total	100			%	1	TCLP4691		

Batch Information

Analytical Batch: TCLP4691
Analytical Method: TCLP
Analysis Date/Time: 10/17/06 11:00
Dilution Factor: 1

Initial Prep Wt./Vol.: 1 mL
Container ID:1066266007-A
Analyst: BJS

PSI Environmental & Instrument. Print Date: 10/21/2006

Client Sample ID: **SP60-CH-07**
SGS Ref. #: 1066266007
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 79.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:46
Receipt Date/Time: 10/17/06 10:18

TCLP Metals

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	ND	0.500	0.250	mg/L	1	MIP5174	MXT3983	

Batch Information

Analytical Batch: MIP5174
Analytical Method: SW6010B TCLP
Analysis Date/Time: 10/18/06 18:38
Dilution Factor: 1

Prep Batch: MXT3983
Prep Method: SW3010A
Prep Date/Time: 10/18/06 09:30

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 50 mL
Container ID:1066266007-A
Analyst: DSH

Client Sample ID: **SP60-CH-07**
SGS Ref. #: 1066266007
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 79.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:46
Receipt Date/Time: 10/17/06 10:18

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	203	0.240	0.0743	mg/Kg	10	MMS4476	MXX18313	

Batch Information

Analytical Batch: MMS4476
Analytical Method: SW6020
Analysis Date/Time: 10/19/06 12:44
Dilution Factor: 10

Prep Batch: MXX18313
Prep Method: SW3050B
Prep Date/Time: 10/17/06 17:15

Initial Prep Wt./Vol.: 1.0435 g
Prep Extract Vol.: 50 mL
Container ID:1066266007-A
Analyst: TK

Client Sample ID: **SP60-CH-07**
SGS Ref. #: 1066266007
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 79.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/15/06 17:46
Receipt Date/Time: 10/17/06 10:18

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	79.9			%		SPT7045		

Batch Information

Analytical Batch: SPT7045
Analytical Method: SM20 2540G
Analysis Date/Time: 10/18/06 09:20

Initial Prep Wt./Vol.: 1 mL

Container ID:1066266007-A
Analyst: BNE

SGS Ref.#	735325	Method Blank	**Printed Date/Time**		10/21/2006 13:39
Client Name	PSI Environmental & Instrument.		**Prep**	**Batch**	
Project Name/#	St. Paul Soil			**Method**	
Matrix	Soil/Solid			**Date**	

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Solids					
Total Solids	100			%	10/18/06

Batch SPT7045

Method SM20 2540G

Instrument

SGS Ref.#	735541 Method Blank	**Printed Date/Time**		10/21/2006 13:39
Client Name	PSI Environmental & Instrument.	**Prep**	**Batch**	MXT3983
Project Name/#	St. Paul Soil		**Method**	SW3010A
Matrix	Water (Surface, Eff., Ground)		**Date**	10/18/2006

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
TCLP Metals					
Lead	ND	0.0500	0.0250	mg/L	10/18/06

Batch MIP5174
Method SW6010B TCLP
Instrument TJA Enviro II ICP P2

SGS Ref.#	735773	Method Blank	**Printed Date/Time**		10/21/2006 13:39
Client Name	PSI Environmental & Instrument.		**Prep**	**Batch**	MXX18313
Project Name/#	St. Paul Soil			**Method**	SW3050B
Matrix	Soil/Solid			**Date**	10/17/2006

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Metals by ICP/MS					
Lead	ND	0.200	0.0620	mg/Kg	10/19/06

Batch MMS4476

Method SW6020

Instrument Perkin Elmer Sciex ICP-MS P3

SGS

SGS Ref.#	735724 Duplicate	**Printed Date/Time**		10/21/2006 13:39
Client Name	PSI Environmental & Instrument.	**Prep**	**Batch**	
Project Name/#	St. Paul Soil		**Method**	
Original	1066266006		**Date**	
Matrix	Soil/Solid			

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Solids						
Total Solids	88.9	89.4	%	1	(< 5)	10/18/2006

Batch SPT7045
Method SM20 2540G
Instrument

SGS Ref.#	735542 Lab Control Sample	**Printed Date/Time**	10/21/2006 13:39
		Prep **Batch**	MXT3983
Client Name	PSI Environmental & Instrument.	**Method**	SW3010A
Project Name/#	St. Paul Soil	**Date**	10/18/2006
Matrix	Water (Surface, Eff., Ground)		

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
TCLP Metals								
Lead	LCS	0.873	87	(80-120)			1 mg/L	10/18/2006

Batch MIP5174
Method SW6010B TCLP
Instrument TJA Enviro II ICP P2

SGS Ref.#	735774 Lab Control Sample	**Printed Date/Time**	10/21/2006 13:39
		Prep **Batch**	MXX18313
Client Name	PSI Environmental & Instrument.	**Method**	SW3050B
Project Name/#	St. Paul Soil	**Date**	10/17/2006
Matrix	Soil/Solid		

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS								
Lead	LCS	50.8	102	(80-120)			50 mg/Kg	10/19/2006

Batch MMS4476
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	735543	Matrix Spike	**Printed Date/Time**		10/21/2006 13:39
	735544	Matrix Spike Duplicate	**Prep**	**Batch**	MXT3983
				Method	Waters Digest for Metals by IC
				Date	10/18/2006

Original 1066266006

Matrix Soil/Solid

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount		Analysis Date
TCLP Metals										
Lead	MS	ND	10.7	95	(50-125)			11.2	mg/L	10/18/2006
	MSD		10.5	94		1	(< 20)	11.2	mg/L	10/18/2006

Batch MIP5174

Method SW6010B TCLP

Instrument TJA Enviro II ICP P2

SGS Ref.# 735775 Matrix Spike
735776 Matrix Spike Duplicate

Printed Date/Time 10/21/2006 13:39
Prep **Batch** MXX18313
Method Soils/Solids Digest for Metals b
Date 10/17/2006

Original 1066240002
Matrix Soil/Solid

QC results affect the following production samples:

1066266001, 1066266002, 1066266003, 1066266004, 1066266005, 1066266006, 1066266007

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS									
Lead	MS	22.3	82.2	93	(80-120)			64.5 mg/Kg	10/19/2006
	MSD		83.2	94		1	(< 20)	64.6 mg/Kg	10/19/2006

Batch MMS4476
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3

SGS

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

1066266

awaii
aryland
orth Carolina

060601

①

CLIENT: PSI

CONTACT: Keith Guyer   PHONE NO: 907) 272-8010

PROJECT: St Paul Soil   SITE/PWSID# :

REPORTS TO: PSI   E-MAIL: Keith@PSIENV.COM

FAX NO.: 907) 272-9005

INVOICE TO: PSI   QUOTE # 7921

P.O. NUMBER 200-002.06

SGS Reference:

PAGE 1 OF 1

②

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Preservatives Used: No Analysis Required ③ Total 6020 Lead	No TCLP 6010 Lead								REMARKS
① A	SP60-CH-01	10/15	1645	Soil	1	G	X	X								
②	SP60-CH-02	10/15	1652	Soil	1	G	X	X								
③	SP60-CH-03	10/15	1711	Soil	1	G	X	X								
④	SP60-CH-04	10/15	1716	Soil	1	G	X	X								
⑤	SP60-CH-05	10/15	1717	Soil	1	G	X	X								
⑥	SP60-CH-06	10/15	1734	Soil	1	G	X	X								
⑦	SP60-CH-07	10/15	1746	Soil	1	G	X	X								

RUSH

⑤

Collected/Relinquished By:(1)	Date	Time	Received By:
Keith Guyer	10/15	2000	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:
	10/17/06	1014	Floyd Arnold

④

Shipping Carrier:

Shipping Ticket No:

Samples Received Cold? (Circle) [✓ YES] NO

Temperature ∫C: C=2.6°C ï TB=2.2°C

Special Deliverable Requirements:

Chain of Custody Seal: (Circle)

[✓ INTACT] BROKEN ABSENT

Requested Turnaround Time and Special Instructions:

RUSH 3 day or sooner

☐ 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557
☐ 1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

White - Retained by Lab
Yellow - Returned with Report
Pink - Retained by Sampler

1066266

SGS

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA	
✓			Are samples **RUSH**, priority, or *w/n 72 hrs.* of **hold time**?
✓			If yes have you done *e-mail notification*?
	✓		Are samples *within 24 hrs.* of **hold time** or **due date**?
		✓	If yes, have you *spoken with* Supervisor?
		✓	Archiving bottles – if req., are they properly marked?
			Are there any **problems**? PM Notified?
			Were samples preserved correctly and pH verified?
	✓		If this is for PWS, provide **PWSID.**
✓			Will courier charges apply?
			Method of payment?
✓			Data package required? (Level: 1 / 2 / [✓ 3] / 4)
			Notes:
			Is this a DoD project? (USACE, Navy, AFCEE)

Due Date: 10/20/06

Received Date: 10/17/06

Received Time:

Is **date/time conversion** necessary?

\# of hours to AK Local Time:

Thermometer ID:

Cooler ID	Temp Blank	Cooler Temp
1	2.2 °C	2.6 °C
	°C	°C
	°C	°C
	°C	°C
	°C	°C

*Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client / [✓ Alert Courier] / UPS / FedEx / USPS / AA Goldstreak / NAC / ERA / PenAir / Carlile Lynden / SGS / Other: ACE #1048151

Airbill #

Additional Sample Remarks: (√ *if applicable*)

- ____ Extra Sample Volume?
- ____ Limited Sample Volume?
- ____ Field preserved for volatiles?
- ____ Field-filtered for dissolved?
- ____ Lab-filtered for dissolved?
- ____ Ref Lab required?
- ____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Yes	No	
		Is received temperature 4 ± 2°C?
		Exceptions: Samples/Analyses Affected:
		Rad Screen performed? Result:
		Was there an airbill? *(Note # above in the right hand column)*
		Was cooler sealed with custody seals?
		# / where:
		Were seal(s) intact upon arrival?
		Was there a COC with cooler?
		Was COC sealed in plastic bag & taped inside lid of cooler?
		Was the COC filled out properly?
		Did the COC indicate COE / AFCEE / Navy project?
		Did the COC and samples correspond?
		Were all sample packed to prevent breakage?
		Packing material:
		Were all samples unbroken and clearly labeled?
		Were all samples sealed in separate plastic bags?
		Were all VOCs free of headspace and/or MeOH preserved?
		Were correct container / sample sizes submitted?
		Is sample condition good?
		Was copy of CoC, SRF, and custody seals given to PM to fax?

This section must be filled if problems are found.

Yes	No	
		Was client notified of problems?

Individual contacted:

Via: Phone / Fax / Email (*circle one*)

Date/Time:

Reason for contact:

Change Order Required?

SGS Contact:

Notes:

Completed by (sign): BJ Arnold **(print):** Bryan J. Arnold

Login proof (check one): waived _____ required _____ performed by:

1066266

SGS

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

						Container Volume									Container Type								Preservative							
#	Container ID	Matrix	Test	QC	TB	1 L	500 mL	250 mL	125 mL	60 mL	40 mL	8oz (250 mL)	4oz (125 mL)	Other	AG	CG	HDPE	Nalgene	Cubie	Coli	Septa	Other	None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	Other
1-7	4	2	Total Pb									7			✓								✓							
		2	TCLP Pb																											

Bottle Totals							7		

Completed by: Date: 10/17/06

SGS Environmental

CUSTODY SEAL

Signature: Kent O Geyer

Date/Time: 10/15/06 2000

SGS Environmental

CUSTODY SEAL

Signature: Kent O Geyer

Date/Time: 10/15/06 2000

1066266

GEN ☐ Standard Service

PRI ☐ Priority Service

ACEPAK ☑ Small Package Service

SNP

Airport of Departure **1048151**

AIR CARGO **1048151**

SHIPPER'S NAME AND ADDRESS
Bering Sea Ecco Tech
546-5042
St Paul Island, AK.

SHIPPER'S ACCOUNT NUMBER

NOT NEGOTIABLE
AIR WAYBILL
(AIR CONSIGNMENT NOTE)

ACE Air Cargo
5901 LOCKHEED AVE.
ANCHORAGE, ALASKA 99502

Copies 1, 2, 3 and 4 of this Air Waybill are originals and have the same validity.

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. THE SHIPPER'S ATTENTION IS DRAWN OF THE NOTICE CONCERNING CARRIERS' LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required. Shipper or his agent agrees to release carrier of any payment dispute between himself and the consignee by remitting unpaid freight charges within 48 hours of billing by carrier.

Received in Good Condition Terry Palagni
Place ANC DGF Date 10/13/06

TO EXPEDITE MOVEMENT, SHIPMENT MAY BE DIVERTED TO MOTOR OR OTHER CARRIER AS PER TARIFF RULE UNLESS SHIPPER GIVES OTHER INSTRUCTIONS HEREON.

CONSIGNEE'S NAME AND ADDRESS
SGS Enviro
200 W. Potter Drive
Anchorage, AK. 99518

CONSIGNEE'S ACCOUNT NUMBER

ISSUING CARRIER'S AGENT NAME AND CITY

ALSO NOTIFY NAME AND ADDRESS
562-2343/NOA

CHECK ONE
☑ DOMESTIC
☐ INTERNATIONAL

AGENT'S IATA CODE

ACCOUNT NO.

ACCOUNTING INFORMATION
PX

AIRPORT OF DEPARTURE (ADDR OF FIRST CARRIER) AND REQUESTED ROUTING
Saint Paul

ROUTING AND DESTINATION
TO
BY FIRST CARRIER 2O

CURRENCY	CHGS CODE	WT/VAL PPD	WT/VAL COLL	OTHER PPD	OTHER COLL	DECLARED VALUE FOR CARRIAGE	DECLARED VALUE FOR CUSTOMS
USD	PV	V		X		NDV	NDV

AIRPORT OF DESTINATION
Anchorage

AMOUNT OF INSURANCE
0

INSURANCE - If shipper requests insurance in accordance with conditions on reverse hereof, indicate amount to be insured in figures in box marked amount of insurance.

HANDLING INFORMATION These commodities licensed by US for ultimate destination. Diversion contrary to US law is prohibited.

NO. OF PIECES RCP	GROSS WEIGHT	kg lb	RATE CLASS COMMODITY ITEM NO.	CHARGEABLE WEIGHT	RATE / CHARGE	TOTAL	NATURE AND QUANTITY OF GOODS (INCL. DIMENSIONS OR VOLUME)
1	17		GENKO	17	MIN	35.00	Cooler Chill
1	17					35.00	

PREPAID	WEIGHT CHARGE	COLLECT
A. 35.00		

P-UP ZONE Y — PICKUP CHARGES B. XXX

ORIGIN ADVANCE CHARGES K.

DESCRIPTION OF ORIGIN ADVANCE

VALUATION CHARGE
D.

DEL ZONE Y — DELIVERY CHARGES C. XXX

DEST. ADVANCE CHARGES L.

DESCRIPTION OF DEST. ADVANCE

TAX
I. 2.63

OTHER CHARGES AND DESCRIPTION
F. FX $7.00

HAZMAT YES [✓ NO]

ITEMS PREPAID

ITEMS COLLECT

TOTAL OTHER CHARGES DUE AGENT

TOTAL OTHER CHARGES DUE CARRIER
7.00

Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains restricted articles, such part is properly described by name and is in proper condition for carriage by air according to applicable national government regulations, and for international shipments, the current International Air Transport Association's Dangerous Goods Regulations.

G. COD CURRENCY (AMOUNT TO BE ENTERED BY SHIPPER)

SIGNATURE OF SHIPPER OR HIS AGENT

TOTAL PREPAID
44.63

TOTAL COLLECT

10/16/06 7am SNP

(Date) (Time) at (Place) SIGNATURE OF ISSUING CARRIER OR ITS AGENT

Notified on– DE 10/17/06

Notified on–

Notified on–

FOR CARRIERS USE ONLY AT DESTINATION

CHARGES AT DESTINATION

1048151

COPY 5
AIRPORT OF DESTINATION

SIGNATURE

RELEASING AGENT

CHECK #

CASH CC

PAID BY (CIRCLE ONE)

RELEASE TIME

RELEASE DATE

TOTAL AMOUNT

SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 6266-1a **Date:** 10/17/06 **Analyst:** BJS

Sample Vol. (mL): 200 Container Volume (mL): 250

Top ______ % (xylene miscible) Description / Notes: ______

Middle ______ % (water miscible) Description / Notes: ______

Bottom 100 % (solids) Description / Notes: Dirt, rock, roots, grass

Percent Solids Determination:

Original Sample & Container weight (g): ______

Empty Original Container weight (g): ______

Clean Container weight (g): ______

Original Sample weight (g): ______

Filter weight (g): ______

Clean Container & Liquid weight (g): ______

Liquid weight (g): ______

Filter & Solid Sample weight (g): ______

Solid weight (g): ______

Solid % of sample: ______

Liquid % of sample: ______

Weight solids extracted (g): ______

Extraction Fluid: ______

Vol. Original Liquid Added Back (mL) ______

Liquid Volume (mL): ______

Notes: ______

HSN#: 6266-2a **Date:** 10/17/06 **Analyst:** BJS

Sample Volume (mL): 250 Container Volume (mL): 250

Top ______ % (xylene miscible) Description / Notes: ______

Middle ______ % (water miscible) Description / Notes: ______

Bottom 100 % (solids) Description / Notes: Dirt, roots, grass

Percent Solids Determination:

Original Sample & Container weight (g): ______

Empty Original Container weight (g): ______

Clean Container weight (g): ______

Original Sample weight (g): ______

Filter weight (g): ______

Clean Container & Liquid weight (g): ______

Liquid weight (g): ______

Filter & Solid Sample weight (g): ______

Solid weight (g): ______

Solid % of sample: ______

Liquid % of sample: ______

Weight solids extracted (g): ______

Extraction Fluid: ______

Vol. Original Liquid Added Back (mL) ______

Liquid Volume (mL): ______

Notes: ______

SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 6266-3a **Date:** 10/17 **Analyst:**

Sample Vol. (mL): 250 Container Volume (mL): 250

Top % (xylene miscible) Description / Notes:

Middle % (water miscible) Description / Notes:

Bottom 100 % (solids) Description / Notes: Dirt, roots, grass

Percent Solids Determination:

Original Sample & Container weight (g):

Empty Original Container weight (g):

Clean Container weight (g):

Original Sample weight (g):

Filter weight (g):

Clean Container & Liquid weight (g):

Liquid weight (g):

Filter & Solid Sample weight (g):

Solid weight (g):

Solid % of sample:

Liquid % of sample:

Weight solids extracted (g):

Extraction Fluid:

Vol. Original Liquid Added Back (mL)

Liquid Volume (mL):

Notes:

HSN#: 6266-4a **Date:** 10/17 **Analyst:**

Sample Volume (mL): 250 Container Volume (mL): 250

Top % (xylene miscible) Description / Notes:

Middle % (water miscible) Description / Notes:

Bottom 100 % (solids) Description / Notes: Dirt, roots, grass

Percent Solids Determination:

Original Sample & Container weight (g):

Empty Original Container weight (g):

Clean Container weight (g):

Original Sample weight (g):

Filter weight (g):

Clean Container & Liquid weight (g):

Liquid weight (g):

Filter & Solid Sample weight (g):

Solid weight (g):

Solid % of sample:

Liquid % of sample:

Weight solids extracted (g):

Extraction Fluid:

Vol. Original Liquid Added Back (mL)

Liquid Volume (mL):

Notes:

SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 6266-5a **Date:** 10/17 **Analyst:** BJ

Sample Vol. (mL): 250 Container Volume (mL): 250

Top ______ % (xylene miscible) Description / Notes: ______

Middle ______ % (water miscible) Description / Notes: ______

Bottom 100 % (solids) Description / Notes: Dirt, roots, grass

Percent Solids Determination:

Original Sample & Container weight (g): ______
Empty Original Container weight (g): ______
Clean Container weight (g): ______
Original Sample weight (g): ______
Filter weight (g): ______
Clean Container & Liquid weight (g): ______
Liquid weight (g): ______
Filter & Solid Sample weight (g): ______
Solid weight (g): ______

Solid % of sample: ______
Liquid % of sample: ______
Weight solids extracted (g): ______
Extraction Fluid: ______
Vol. Original Liquid Added Back (mL) ______
Liquid Volume (mL): ______

Notes: ______

HSN#: 6266-6a **Date:** 10/17/06 **Analyst:** BJ

Sample Volume (mL): 250 Container Volume (mL): 250

Top ______ % (xylene miscible) Description / Notes: ______

Middle ______ % (water miscible) Description / Notes: ______

Bottom 100 % (solids) Description / Notes: Dirt, roots, grass

Percent Solids Determination:

Original Sample & Container weight (g): ______
Empty Original Container weight (g): ______
Clean Container weight (g): ______
Original Sample weight (g): ______
Filter weight (g): ______
Clean Container & Liquid weight (g): ______
Liquid weight (g): ______
Filter & Solid Sample weight (g): ______
Solid weight (g): ______

Solid % of sample: ______
Liquid % of sample: ______
Weight solids extracted (g): ______
Extraction Fluid: ______
Vol. Original Liquid Added Back (mL) ______
Liquid Volume (mL): ______

Notes: ______

SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 62667a **Date:** 10/17/06 **Analyst:** BB

Sample Vol. (mL): 200 Container Volume (mL): 250

Top ____ % (xylene miscible) Description / Notes:

Middle ____ % (water miscible) Description / Notes:

Bottom 100 % (solids) Description / Notes: Dirt roots, grass

Percent Solids Determination:

Original Sample & Container weight (g):

Empty Original Container weight (g):

Clean Container weight (g):

Original Sample weight (g):

Filter weight (g):

Clean Container & Liquid weight (g):

Liquid weight (g):

Filter & Solid Sample weight (g):

Solid weight (g):

Solid % of sample:

Liquid % of sample:

Weight solids extracted (g):

Extraction Fluid:

Vol. Original Liquid Added Back (mL)

Liquid Volume (mL):

Notes:

HSN#: **Date:** **Analyst:**

Sample Volume (mL): Container Volume (mL):

Top ____ % (xylene miscible) Description / Notes:

Middle ____ % (water miscible) Description / Notes:

Bottom ____ % (solids) Description / Notes:

Percent Solids Determination:

Original Sample & Container weight (g):

Empty Original Container weight (g):

Clean Container weight (g):

Original Sample weight (g):

Filter weight (g):

Clean Container & Liquid weight (g):

Liquid weight (g):

Filter & Solid Sample weight (g):

Solid weight (g):

Solid % of sample:

Liquid % of sample:

Weight solids extracted (g):

Extraction Fluid:

Vol. Original Liquid Added Back (mL)

Liquid Volume (mL):

Notes:

Final Confirmation Samples and
Clean Backfill Characterization
Fixed Laboratory Data (October 2006)
SGS Environmental Services Inc.
SDG 1066471

SGS Environmental Services
Alaska Division
Level II Laboratory Data Report

Project:	St. Paul Soil
Client:	PSI Environmental & Instrument.
SGS Work Order:	1066471

Released by:

Contents:

Note:
Unless otherwise noted, all quality assurance/quality control criteria is in compliance with the standards set forth by the proper regulatory authority, the SGS Quality Assurance Program Plan, and the National Environmental Accreditation Conference.

SGS Environmental Services Inc.

Case Narrative

Customer:	**PSIENV**	**PSI Environmental & Instrument.**
Project:	**1066471**	**St. Paul Soil**
NPDL WO:	**N/A**	

Refer to the sample receipt form for information on sample condition.

Laboratory Analytical Report

Client: **PSI Environmental & Instrument.**
1611 E First Ave
Anchorage, AK 99501

Attn: **Keith Guyer**
T: (907)272-8010 F:(907)272-9005

Project: **St. Paul Soil**

Workorder No.: **1066471**

Certification:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, other than the conditions noted on the sample data sheet(s) and/or the case narrative. This certification applies only to the tested parameters and the specific sample(s) received at the laboratory.

If you have any questions regarding this report, or if we can be of further assistance, please contact your SGS Project Manager.

Bryan Arnold
Bryan_Arnold@sgs.com
Project Manager

Enclosed are the analytical results associated with this workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Assurance Plan (QAP), which outlines this program is available at your request.

The laboratory certification numbers are AK971-05 (DW), UST-005 (CS) and AK00971 (Micro) for ADEC and 001582 for NELAP (RCRA methods: 1010/1020, 1311, 6000/7000, 9040/9045, 9056, 9060, 9065, 8015B, 8021B, 8081A/8082, 8260B, 8270C).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP, the National Environmental Laboratory Accreditation Program and, when applicable, other regulatory authorities.

If you have any questions regarding this report or if we can be of any assistance, please contact your SGS Project Manager at 907-562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

MDL	Method Detection Limit
PQL	Practical Quantitation Limit (reporting limit).
CL	Control Limit
U	Indicates the analyte was analyzed for but not detected.
F	Indicates value that is greater than or equal to the MDL.
J	The quantitation is an estimation.
ND	Indicates the analyte is not detected
B	Indicates the analyte is found in a blank associated with the sample.
*	The analyte has exceeded allowable regulatory or control limits.
GT	Greater Than
LT	Less Than
Q	QC parameter out of acceptance range.
M	A matrix effect was present.
E	The analyte result is above the calibrated range.
DF	Analytical Dilution Factor
JL	The analyte was positively identified, but the quantitation is a low estimation.
<Surr>	Surrogate QC spiked standard

Note: Soil samples are reported on a dry weight basis unless otherwise specified

SAMPLE SUMMARY

Print Date: 11/10/2006

Client Name: PSI Environmental & Instrument.
Project Name: St. Paul Soil
Workorder No.: 1066471

Analytical Methods

Method Description	Analytical Method
Metals by ICP-MS (S)	SW6020
Percent Solids SM2540G	SM20 2540G

Sample ID Cross Reference

Lab Sample ID	Client Sample ID
1066471001	SP60-CS-001-020
1066471002	SP60-CS-002-015
1066471003	SP60-CS-003-020
1066471004	SP60-CS-004-005
1066471005	SP60-CS-005-025
1066471006	SP60-CS-006-025
1066471007	SP60-CS-007-020
1066471008	SP60-CS-008-020
1066471009	SP60-CS-009-015
1066471010	SP60-CS-010-025
1066471011	SP60-CS-011-005
1066471012	SP60-CS-012-030
1066471013	SP60-CS-013-020
1066471014	SP60-CS-014-020
1066471015	SP60-CS-015-020
1066471016	SP60-CH-601-005
1066471017	SP60-CH-602-005
1066471018	SP60-CH-603-005

Client Sample ID: **SP60-CS-001-020**
SGS Ref. #: 1066471001
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 83.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:26
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	20.1	0.232	0.0720	mg/Kg	10	MMS4517	MXX18362	

Batch Information

Analytical Batch: MMS4517
Analytical Method: SW6020
Analysis Date/Time: 11/05/06 14:50
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0325 g
Prep Extract Vol.: 50 mL
Container ID:1066471001-A
Analyst: TK

Client Sample ID: **SP60-CS-001-020**
SGS Ref. #: 1066471001
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 83.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:26
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	83.4			%		SPT7055		

Batch Information

Analytical Batch: SPT7055
Analytical Method: SM20 2540G
Analysis Date/Time: 10/26/06 12:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471001-A
Analyst: BNE

Client Sample ID: **SP60-CS-002-015**
SGS Ref. #: 1066471002
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 87.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:38
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	201	0.226	0.0700	mg/Kg	10	MMS4517	MXX18362	

Batch Information

Analytical Batch: MMS4517
Analytical Method: SW6020
Analysis Date/Time: 11/05/06 15:27
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0116 g
Prep Extract Vol.: 50 mL
Container ID:1066471002-A
Analyst: TK

Client Sample ID: **SP60-CS-002-015**
SGS Ref. #: 1066471002
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 87.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:38
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	87.5			%		SPT7055		

Batch Information

Analytical Batch: SPT7055
Analytical Method: SM20 2540G
Analysis Date/Time: 10/26/06 12:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471002-A
Analyst: BNE

Client Sample ID: **SP60-CS-003-020**
SGS Ref. #: 1066471003
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 81.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:43
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	1830	0.236	0.0733	mg/Kg	10	MMS4526	MXX18372	

Batch Information

Analytical Batch: MMS4526
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 18:39
Dilution Factor: 10

Prep Batch: MXX18372
Prep Method: SW3050B
Prep Date/Time: 11/01/06 15:00

Initial Prep Wt./Vol.: 1.0388 g
Prep Extract Vol.: 50 mL
Container ID:1066471003-A
Analyst: TK

Client Sample ID: **SP60-CS-003-020**
SGS Ref. #: 1066471003
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 81.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:43
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	81.4			%		SPT7055		

Batch Information

Analytical Batch: SPT7055
Analytical Method: SM20 2540G
Analysis Date/Time: 10/26/06 12:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471003-A
Analyst: BNE

SGS

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Client Sample ID: **SP60-CS-004-005**
SGS Ref. #: 1066471004
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 92.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:51
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	26.8	0.207	0.0643	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 10:18
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0383 g
Prep Extract Vol.: 50 mL
Container ID:1066471004-A
Analyst: TK

Client Sample ID: **SP60-CS-004-005**
SGS Ref. #: 1066471004
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 92.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:51
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	92.9			%		SPT7055		

Batch Information

Analytical Batch: SPT7055
Analytical Method: SM20 2540G
Analysis Date/Time: 10/26/06 12:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471004-A
Analyst: BNE

Client Sample ID: **SP60-CS-005-025**
SGS Ref. #: 1066471005
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 85.0

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:58
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	37.3	0.228	0.0707	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 10:23
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0315 g
Prep Extract Vol.: 50 mL
Container ID:1066471005-A
Analyst: TK

Client Sample ID: **SP60-CS-005-025**
SGS Ref. #: 1066471005
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 85.0

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/21/06 12:58
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	85.0			%		SPT7055		

Batch Information

Analytical Batch: SPT7055
Analytical Method: SM20 2540G
Analysis Date/Time: 10/26/06 12:30

Initial Prep Wt./Vol.: 1 mL
Container ID:1066471005-A
Analyst: BNE

Client Sample ID: **SP60-CS-006-025**
SGS Ref. #: 1066471006
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 78.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:27
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	85.4	0.250	0.0775	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 10:29
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0181 g
Prep Extract Vol.: 50 mL
Container ID:1066471006-A
Analyst: TK

Client Sample ID: **SP60-CS-006-025**
SGS Ref. #: 1066471006
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 78.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:27
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	78.6			%		SPT7055		

Batch Information

Analytical Batch: SPT7055
Analytical Method: SM20 2540G
Analysis Date/Time: 10/26/06 12:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471006-A
Analyst: BNE

Client Sample ID: **SP60-CS-007-020**
SGS Ref. #: 1066471007
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 84.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:33
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	5.81	0.227	0.0705	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 10:34
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0406 g
Prep Extract Vol.: 50 mL
Container ID:1066471007-A
Analyst: TK

Client Sample ID: **SP60-CS-007-020**
SGS Ref. #: 1066471007
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 84.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:33
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	84.5			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471007-A
Analyst: BNE

Client Sample ID: **SP60-CS-008-020**
SGS Ref. #: 1066471008
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 78.3

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:36
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	22.5	0.245	0.0758	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 10:39
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0448 g
Prep Extract Vol.: 50 mL
Container ID:1066471008-A
Analyst: TK

Client Sample ID: **SP60-CS-008-020**
SGS Ref. #: 1066471008
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 78.3

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:36
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	78.3			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471008-A
Analyst: BNE

Client Sample ID: **SP60-CS-009-015**
SGS Ref. #: 1066471009
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 80.3

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:39
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	32.9	0.249	0.0771	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 10:44
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.001 g
Prep Extract Vol.: 50 mL
Container ID:1066471009-A
Analyst: TK

Client Sample ID: **SP60-CS-009-015**
SGS Ref. #: 1066471009
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 80.3

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:39
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	80.3			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471009-A
Analyst: BNE

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Print Date: 11/10/2006

Client Sample ID: **SP60-CS-010-025**
SGS Ref. #: 1066471010
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 78.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:30
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	118	0.246	0.0762	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:12
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0343 g
Prep Extract Vol.: 50 mL
Container ID:1066471010-A
Analyst: TK

Client Sample ID: **SP60-CS-010-025**
SGS Ref. #: 1066471010
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 78.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 18:30
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	78.7			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL
Container ID:1066471010-A
Analyst: BNE

Client Sample ID: **SP60-CS-011-005**
SGS Ref. #: 1066471011
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 74.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 19:55
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	30.0	0.266	0.0826	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:17
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0094 g
Prep Extract Vol.: 50 mL
Container ID:1066471011-A
Analyst: TK

Client Sample ID: **SP60-CS-011-005**
SGS Ref. #: 1066471011
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 74.4

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 19:55
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	74.4			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471011-A
Analyst: BNE

Client Sample ID: **SP60-CS-012-030**
SGS Ref. #: 1066471012
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 75.1

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 19:58
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	15.3	0.259	0.0803	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:22
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0283 g
Prep Extract Vol.: 50 mL
Container ID:1066471012-A
Analyst: TK

Client Sample ID: **SP60-CS-012-030**
SGS Ref. #: 1066471012
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 75.1

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 19:58
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	75.1			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471012-A
Analyst: BNE

Client Sample ID: **SP60-CS-013-020**
SGS Ref. #: 1066471013
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 77.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 20:00
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	61.6	0.247	0.0766	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:27
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0433 g
Prep Extract Vol.: 50 mL
Container ID:1066471013-A
Analyst: TK

Client Sample ID: **SP60-CS-013-020**
SGS Ref. #: 1066471013
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 77.6

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 20:00
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	77.6			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL
Container ID:1066471013-A
Analyst: BNE

Client Sample ID: **SP60-CS-014-020**
SGS Ref. #: 1066471014
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 75.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 20:18
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	3.82	0.260	0.0805	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:32
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0146 g
Prep Extract Vol.: 50 mL
Container ID:1066471014-A
Analyst: TK

Client Sample ID: **SP60-CS-014-020**
SGS Ref. #: 1066471014
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 75.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 20:18
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	75.9			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471014-A
Analyst: BNE

Client Sample ID: **SP60-CS-015-020**
SGS Ref. #: 1066471015
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 76.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 20:19
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	2.38	0.256	0.0793	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:38
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0205 g
Prep Extract Vol.: 50 mL
Container ID:1066471015-A
Analyst: TK

Client Sample ID: **SP60-CS-015-020**
SGS Ref. #: 1066471015
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 76.7

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/22/06 20:19
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	76.7			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471015-A
Analyst: BNE

Client Sample ID: **SP60-CH-601-005**
SGS Ref. #: 1066471016
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 88.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/23/06 10:57
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	0.211 J	0.217	0.0673	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:43
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0402 g
Prep Extract Vol.: 50 mL
Container ID:1066471016-A
Analyst: TK

Client Sample ID: **SP60-CH-601-005**
SGS Ref. #: 1066471016
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 88.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/23/06 10:57
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	88.5			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471016-A
Analyst: BNE

Client Sample ID: **SP60-CH-602-005**
SGS Ref. #: 1066471017
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 87.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/23/06 10:58
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	0.200 J	0.229	0.0709	mg/Kg	10	MMS4525	MXX18362	

Batch Information

Analytical Batch: MMS4525
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 11:48
Dilution Factor: 10

Prep Batch: MXX18362
Prep Method: SW3050B
Prep Date/Time: 10/31/06 10:30

Initial Prep Wt./Vol.: 1.0002 g
Prep Extract Vol.: 50 mL
Container ID:1066471017-A
Analyst: TK

Client Sample ID: **SP60-CH-602-005**
SGS Ref. #: 1066471017
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 87.5

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/23/06 10:58
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	87.5			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL

Container ID:1066471017-A
Analyst: BNE

Client Sample ID: **SP60-CH-603-005**
SGS Ref. #: 1066471018
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 87.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/23/06 11:00
Receipt Date/Time: 10/24/06 13:02

Metals by ICP/MS

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Lead	0.227	0.225	0.0697	mg/Kg	10	MMS4526	MXX18372	

Batch Information

Analytical Batch: MMS4526
Analytical Method: SW6020
Analysis Date/Time: 11/08/06 18:59
Dilution Factor: 10

Prep Batch: MXX18372
Prep Method: SW3050B
Prep Date/Time: 11/01/06 15:00

Initial Prep Wt./Vol.: 1.0124 g
Prep Extract Vol.: 50 mL
Container ID:1066471018-A
Analyst: TK

Client Sample ID: **SP60-CH-603-005**
SGS Ref. #: 1066471018
Project ID: St. Paul Soil
Matrix: Soil/Solid
Percent Solids: 87.9

All Dates/Times are Alaska Local Time
Collection Date/Time: 10/23/06 11:00
Receipt Date/Time: 10/24/06 13:02

Solids

Parameter	Result	PQL/CL	MDL	Units	DF	Analytical Batch	Prep Batch	Qualifiers
Total Solids	87.9			%		SPT7059		

Batch Information

Analytical Batch: SPT7059
Analytical Method: SM20 2540G
Analysis Date/Time: 10/30/06 14:30

Initial Prep Wt./Vol.: 1 mL
Container ID:1066471018-A
Analyst: BNE

SGS Ref.#	737314	Method Blank	**Printed Date/Time**		11/10/2006 14:46
Client Name	PSI Environmental & Instrument.		**Prep**	**Batch**	
Project Name/#	St. Paul Soil			**Method**	
Matrix	Soil/Solid			**Date**	

QC results affect the following production samples:

1066471001, 1066471002, 1066471003, 1066471004, 1066471005, 1066471006

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Solids					
Total Solids	100			%	10/26/06

Batch SPT7055

Method SM20 2540G

Instrument

SGS

SGS Ref.#	737866 Method Blank	**Printed Date/Time**		11/10/2006 14:46
Client Name	PSI Environmental & Instrument.	**Prep**	**Batch**	
Project Name/#	St. Paul Soil		**Method**	
Matrix	Soil/Solid		**Date**	

QC results affect the following production samples:

1066471007, 1066471008, 1066471009, 1066471010, 1066471011, 1066471012, 1066471013, 1066471014, 1066471015, 1066471016, 1066471017, 1066471018

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Solids					
Total Solids	99.9			%	10/30/06

Batch SPT7059
Method SM20 2540G
Instrument

SGS

SGS Ref.#	738483	Method Blank	**Printed Date/Time**		11/10/2006 14:46
Client Name	PSI Environmental & Instrument.		**Prep**	**Batch**	MXX18362
Project Name/#	St. Paul Soil			**Method**	SW3050B
Matrix	Soil/Solid			**Date**	10/31/2006

QC results affect the following production samples:

1066471001, 1066471002, 1066471004, 1066471005, 1066471006, 1066471007, 1066471008, 1066471009, 1066471010, 1066471011, 1066471012, 1066471013, 1066471014, 1066471015, 1066471016, 1066471017

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Metals by ICP/MS					
Lead	ND	0.200	0.0620	mg/Kg	11/05/06

Batch MMS4517

Method SW6020

Instrument Perkin Elmer Sciex ICP-MS P3

SGS Ref.# 739045 Method Blank

Client Name PSI Environmental & Instrument.

Project Name/# St. Paul Soil

Matrix Soil/Solid

Printed Date/Time 11/10/2006 14:46

Prep **Batch** MXX18372

Method SW3050B

Date 11/01/2006

QC results affect the following production samples:

1066471003, 1066471018

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Metals by ICP/MS					
Lead	ND	0.200	0.0620	mg/Kg	11/08/06

Batch MMS4526

Method SW6020

Instrument Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	737870	Duplicate	**Printed Date/Time**		11/10/2006 14:46
Client Name	PSI Environmental & Instrument.		**Prep**	**Batch**	
Project Name/#	St. Paul Soil			**Method**	
Original	1066093001			**Date**	
Matrix	Soil/Solid				

QC results affect the following production samples:

1066471001, 1066471002, 1066471003, 1066471004, 1066471005, 1066471006

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Solids						
Total Solids	94.4	94.2	%	0	(< 5)	10/26/2006

Batch SPT7055

Method SM20 2540G

Instrument

SGS Ref.#	738263	Duplicate	**Printed Date/Time**	11/10/2006 14:46
Client Name	PSI Environmental & Instrument.		**Prep** **Batch**	
Project Name/#	St. Paul Soil		**Method**	
Original	1066525003		**Date**	
Matrix	Soil/Solid			

QC results affect the following production samples:

1066471007, 1066471008, 1066471009, 1066471010, 1066471011, 1066471012, 1066471013, 1066471014, 1066471015, 1066471016, 1066471017, 1066471018

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Solids						
Total Solids	82.6	83.0	%	0	(< 5)	10/30/2006

Batch SPT7059

Method SM20 2540G

Instrument

SGS Ref.# 738484 Lab Control Sample

Printed Date/Time 11/10/2006 14:46

Prep **Batch** MXX18362
Method SW3050B
Date 10/31/2006

Client Name PSI Environmental & Instrument.
Project Name/# St. Paul Soil
Matrix Soil/Solid

QC results affect the following production samples:

1066471001, 1066471002, 1066471004, 1066471005, 1066471006, 1066471007, 1066471008, 1066471009, 1066471010, 1066471011, 1066471012, 1066471013, 1066471014, 1066471015, 1066471016, 1066471017

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS								
Lead	LCS	55.2	110	(80-120)			50 mg/Kg	11/05/2006

Batch MMS4517
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3

SGS Ref.#	739046 Lab Control Sample	**Printed Date/Time**	11/10/2006 14:46
		Prep **Batch**	MXX18372
Client Name	PSI Environmental & Instrument.	**Method**	SW3050B
Project Name/#	St. Paul Soil	**Date**	11/01/2006
Matrix	Soil/Solid		

QC results affect the following production samples:

1066471003, 1066471018

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS								
Lead	LCS	50.2	100	(80-120)			50 mg/Kg	11/08/2006

Batch MMS4526
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3

SGS

SGS Ref.# 738485 Matrix Spike
738486 Matrix Spike Duplicate

Printed Date/Time 11/10/2006 14:46
Prep **Batch** MXX18362
Method Soils/Solids Digest for Metals b
Date 10/31/2006

Original 1066471001
Matrix Soil/Solid

QC results affect the following production samples:

1066471001, 1066471002, 1066471004, 1066471005, 1066471006, 1066471007, 1066471008, 1066471009, 1066471010, 1066471011, 1066471012, 1066471013, 1066471014, 1066471015, 1066471016, 1066471017

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS									
Lead	MS	20.1	83.1	109	(80-120)			58 mg/Kg	11/05/2006
	MSD		84.3	109		1	(< 20)	58.6 mg/Kg	11/05/2006

Batch MMS4517
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3

SGS Ref.# 739047 Matrix Spike
739048 Matrix Spike Duplicate

Printed Date/Time 11/10/2006 14:46
Prep **Batch** MXX18372
Method Soils/Solids Digest for Metals b
Date 11/01/2006

Original 1066407014
Matrix Soil/Solid

QC results affect the following production samples:

1066471003, 1066471018

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Metals by ICP/MS									
Lead	MS	14.8	73.5	96	(80-120)			61.4 mg/Kg	11/08/2006
	MSD		76	99		3	(< 20)	62.2 mg/Kg	11/08/2006

Batch MMS4526
Method SW6020
Instrument Perkin Elmer Sciex ICP-MS P3

SGS

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

1066471

vide
• Hawaii
• Maryland
• North Carolina

n 062815

① CLIENT: PSI
CONTACT: Keith Guyer PHONE NO: (907) 272-8010
PROJECT: ST Paul Soil SITE/PWSID#:
REPORTS TO: PSI E-MAIL:
FAX NO.: (907) 272-9005
INVOICE TO: PSI QUOTE #
P.O. NUMBER

SGS Reference:

PAGE 1 OF 2

Preservatives Used: NO

Analysis Required ③

②

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Total Lead	REMARKS
① A	SP60-CS-001-020	10/21	1226	Soil	1	G	X	
②	SP60-CS-002-015	10/21	1238	Soil	1	G	X	
③	SP60-CS-003-020	10/21	1243	Soil	1	G	X	
④	SP60-CS-004-005	10/21	1251	Soil	1	G	X	
⑤	SP60-CS-005-025	10/21	1258	Soil	1	G	X	
⑥	SP60-CS-006-025	10/22	1827	Soil	1	G	X	
⑦	SP60-CS-007-020	10/22	1833	Soil	1	G	X	
⑧	SP60-CS-008-020	10/22	1836	Soil	1	G	X	
⑨	SP60-CS-009-015	10/22	1839	Soil	1	G	X	
⑩	SP60-CS-010-025	10/22	1830	Soil	1	G	X	

⑤

	Date	Time	Received By:
Collected/Relinquished By:(1)	10/23	1130	
Relinquished By: (2)			
Relinquished By: (3)			
Relinquished By: (4)	10/24/6	1302	

④ Shipping Carrier:
Shipping Ticket No:
Samples Received Cold? (Circle) [✓ YES] NO
Temperature °C: TB=3.4 ; C=-0.3
Special Deliverable Requirements:
Chain of Custody Seal: (Circle)
[✓ INTACT] BROKEN ABSENT
Requested Turnaround Time and Special Instructions:

☐ 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557
☐ 1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

White - Retained by Lab
Yellow - Returned with Report
Pink - Retained by Sampler

SGS

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

1066471

le
lawaii
laryland
North Carolina

062814

① CLIENT: PSI

CONTACT: Keith Guye PHONE NO: (907) 272-8010

PROJECT: St Paul Soil SITE/PWSID#:

REPORTS TO: E-MAIL:

FAX NO.: ( )

INVOICE TO: QUOTE #

P.O. NUMBER

SGS Reference:

PAGE 2 OF 2

Preservatives Used: NO

Analysis Required ③: Total Lead

②

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Total Lead									REMARKS
⑪ A	SP60-CS-011-005	10/22	1955	Soil	1	G	X									
⑫	SP60-CS-012-030	10/22	1958	Soil	1	G	X									
⑬	SP60-CS-013-020	10/22	2000	Soil	1	G	X									
⑭	SP60-CS-014-020	10/22	2018	Soil	1	G	X									
⑮	SP60-CS-015-020	10/22	2019	Soil	1	G	X									
⑯	SP60-CH-601-005	10/23	1057	Soil	1	G	X									
⑰	SP60-CH-602-005	10/23	1058	Soil	1	G	X									
⑱ ↓	SP60-CH-603-005	10/23	1100	Soil	1	G	X									

⑤

Collected/Relinquished By:(1)	Date	Time	Received By:
	10/23	1130	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 10/246	Time 1302	Received By:

④

Shipping Carrier:

Shipping Ticket No:

Special Deliverable Requirements:

Samples Received Cold? (Circle) [✓ YES] NO

Temperature °C: TB=3.4 ; C=-0.3

Chain of Custody Seal: (Circle)

[✓ INTACT] BROKEN ABSENT

Requested Turnaround Time and Special Instructions:

Standard

☐ 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557
☐ 1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

White - Retained by Lab
Yellow - Returned with Report
Pink - Retained by Sampler

10664/1

SGS

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA	
	✓		Are samples **RUSH**, priority, or *w/n 72 hrs.* of **hold time**?
		✓	If yes have you done *e-mail notification*?
	✓		Are samples *within 24 hrs.* of **hold time** or **due date**?
		✓	If yes, have you *spoken with* Supervisor?
		✓	Archiving bottles – if req., are they properly marked?
✓			Are there any **problems**? PM Notified? Yes
		✓	Were samples preserved correctly and pH verified?
		✓	If this is for PWS, provide **PWSID.**
	✓		Will courier charges apply?
			Method of payment?
✓			Data package required? (Level: 1 / 2 / 3 / 4)
			Notes:
✓			Is this a DoD project? (USACE, Navy, AFCEE)

Due Date: 11-7-06
Received Date: 10-24-06
Received Time: 1302
Is **date/time conversion** necessary? NO
\# of hours to AK Local Time:
Thermometer ID:

Cooler ID	Temp Blank	Cooler Temp
1	3.4 °C	-0.3 °C
	°C	°C
	°C	°C
	°C	°C
	°C	°C

*Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client / Alert Courier / UPS / FedEx / USPS / AA Goldstreak / NAC / ERA / PenAir / Carlile Lynden / SGS / [✓ Other:] ACE

Airbill # 1048159

Additional Sample Remarks: (√ *if applicable)*

- ________Extra Sample Volume?
- ________Limited Sample Volume?
- ________Field preserved for volatiles?
- ________Field-filtered for dissolved? ________
- ________Lab-filtered for dissolved? ________
- ________Ref Lab required? ________
- ________Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Yes	No	
	✓	Is received temperature 4 ± 2°C?
		Exceptions: Cooler temp -0.3 — Samples/Analyses Affected: None
	✓	Rad Screen performed? Result:
✓		Was there an airbill? *(Note # above in the right hand column)*
✓		Was cooler sealed with custody seals?
		# / where: 1 in front, 1 in back
✓		Were seal(s) intact upon arrival?
✓		Was there a COC with cooler?
✓		Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly?
	✓	Did the COC indicate COE / AFCEE / Navy project?
✓		Did the COC and samples correspond?
✓		Were all sample packed to prevent breakage?
		Packing material: bubble wrap in cooler, samples in box w/ cardboard dividers
✓		Were all samples unbroken and clearly labeled?
	✓	Were all samples sealed in separate plastic bags?
n/a		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Is sample condition good?
✓		Was copy of CoC, SRF, and custody seals given to PM to fax?

This section must be filled if problems are found.

Yes	No	
		Was client notified of problems?

Individual contacted:
Via: Phone / Fax / Email (*circle one*)
Date/Time:
Reason for contact:

Change Order Required?
SGS Contact:

Notes: temp of cooler lower than limit, no ice in samples

Completed by (sign): Reena Mistry **(print):** RMistry
Login proof (check one): waived _____ required _____ performed by:

1066471

SGS

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

						Container Volume									Container Type								Preservative							
#	Container ID	Matrix	Test	QC	TB	1 L	500 mL	250 mL	125 mL	60 mL	40 mL	8oz (250 mL)	4oz (125 mL)	Other	AG	CG	HDPE	Nalgene	Cubie	Coli	Septa	Other	None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	Other
1-18	A	2	Tot. Pb										18		X								X							

Bottle Totals								18	

Completed by:

Date: 10/24/6

1066471

SGS Environmental **CUSTODY SEAL**

Signature: **Date/Time:** 10/23/06 1130

SGS Environmental **CUSTODY SEAL**

Signature: **Date/Time:** 10/23/06 1130

GEN ☑
Standard Service

ACE
AIR CARGO

PRI ☐
Priority Service

ACEPAK ☐
Small Package Service

Airport of Departure
1048159

#1

1048159

SHIPPER'S NAME AND ADDRESS
Bering Sea Ecotech
~~546~~-5842
Saint Paul Island, AK.

SHIPPER'S ACCOUNT NUMBER

NOT NEGOTIABLE
AIR WAYBILL
(AIR CONSIGNMENT NOTE)

ACE Air Cargo
5901 LOCKHEED AVE.
ANCHORAGE, ALASKA 99502

Copies 1, 2, 3 and 4 of this Air Waybill are originals and have the same validity.

CONSIGNEE'S NAME AND ADDRESS
SGS Envi
200 W. Potter Ar.
Anchorage, AK.

CONSIGNEE'S ACCOUNT NUMBER

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. THE SHIPPER'S ATTENTION IS DRAWN OF THE NOTICE CONCERNING CARRIERS' LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required. Shipper or his agent agrees to release carrier of any payment dispute between himself and the consignee by remitting unpaid freight charges within 48 hours of billing by carrier.

Received in Good Condition X Terry [illegible]
Place ANC - DS Date 10-24-06

TO EXPEDITE MOVEMENT, SHIPMENT MAY BE DIVERTED TO MOTOR OR OTHER CARRIER AS PER TARIFF RULE UNLESS SHIPPER GIVES OTHER INSTRUCTIONS HEREON.

ISSUING CARRIER'S AGENT NAME AND CITY

ALSO NOTIFY NAME AND ADDRESS
562-2343

CHECK ONE
☑ DOMESTIC
☐ INTERNATIONAL

AGENT'S IATA CODE

ACCOUNT NO.

ACCOUNTING INFORMATION

AIRPORT OF DEPARTURE (ADDR OF FIRST CARRIER) AND REQUESTED ROUTING
Saint Paul

ROUTING AND DESTINATION
BY FIRST CARRIER KD
TO | BY | TO | BY

CURRENCY	CHGS. CODE	WT/VAL PPD	WT/VAL COLL	OTHER PPD	OTHER COLL	DECLARED VALUE FOR CARRIAGE	DECLARED VALUE FOR CUSTOMS
USD	KP	X		X			

AIRPORT OF DESTINATION
Anchorage

FOR CARRIER USE ONLY
FLIGHT/DATE FLIGHT/DATE

AMOUNT OF INSURANCE

INSURANCE - If shipper requests insurance in accordance with conditions on reverse hereof, indicate amount to be insured in figures in box marked amount of insurance.

HANDLING INFORMATION These commodities licensed by US for ultimate destination. Diversion contrary to US law is prohibited.

NO. OF PIECES RCP	GROSS WEIGHT	kg / lb	RATE CLASS COMMODITY ITEM NO.	CHARGEABLE WEIGHT	RATE / CHARGE	TOTAL	NATURE AND QUANTITY OF GOODS (INCL. DIMENSIONS OR VOLUME)
2	69		GENVO	69	.55	37.95	Water Samples 1066471
2	69					37.95	

PREPAID	WEIGHT CHARGE	COLLECT	P-UP ZONE	PICKUP CHARGES	ORIGIN ADVANCE CHARGES
A. 37.95			X	B. XXX	K.
VALUATION CHARGE			DEL ZONE	DELIVERY CHARGES	DEST. ADVANCE CHARGES
D.			X	C. XXX	L.
TAX					
I. 2.85					

DESCRIPTION OF DEST. ADVANCE

OTHER CHARGES AND DESCRIPTION
F. FCON 7.59

HAZMAT YES [✓ NO]
ITEMS PREPAID
ITEMS COLLECT

TOTAL OTHER CHARGES DUE AGENT

TOTAL OTHER CHARGES DUE CARRIER
7.59

Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains restricted articles, such part is properly described by name and is in proper condition for carriage by air according to applicable national government regulations, and for international shipments, the current International Air Transport Association's Dangerous Goods Regulations.

G. COD
CURRENCY
(AMOUNT TO BE ENTERED BY SHIPPER)

SIGNATURE OF SHIPPER OR HIS AGENT

TOTAL PREPAID
48.39

TOTAL COLLECT

CURRENCY CONVERSION RATES

10/23/06 930AM SNP [illegible]
(Date) (Time) at (Place) SIGNATURE OF ISSUING CARRIER OR ITS AGENT

FOR CARRIERS USE ONLY AT DESTINATION

CHARGES AT DESTINATION

Notified on– Brian, DG - 10-2[illegible]
Notified on–
Notified on–

1048159

COPY 5
AIRPORT OF DESTINATION

SIGNATURE
RELEASING AGENT
CHECK #
CC
CASH
PAID BY (CIRCLE ONE)
RELEASE TIME
RELEASE DATE
TOTAL AMOUNT

Alert Expeditors Inc.
DBA/Petroleum Courier Service

Citywide Delivery
272-0349 • 440-3351
8421 Flamingo Drive • Anchorage, Alaska 99502

175921

Date 10/24/06

From Bering Sea Ecotech

To SGS

Collect ☐	Prepay ☐ Account ☐	Advance Charges ☐
Job #	PO#	

2 coolers

ACE # 10418159

1066471

Shipped Signature

Received By

Total Charge

1322

APPENDIX F

ADEC APPROVAL FOR CORRECTIVE ACTION REPORT AND CONDITIONAL CLOSURE REQUEST

Request for Conditional Closure
Lead Contaminated Soils Site, NOAA Site 60/Non-Two Party Agreement
St. Paul Island, Alaska

Approvals: In accordance with Paragraph 59 of the Two Party Agreement, this is to confirm that all corrective action has been completed to the maximum extent practicable at the Lead Contaminated Soils Site on St. Paul Island in accordance with the Agreement.

For the National Oceanic and Atmospheric Administration

2/7/2007

John Lindsay
NOAA, Pribilof Project Office

Date

For the Alaska Department of Environmental Conservation

Louis Howard

2-16-07

Louis Howard
Alaska Department of Environmental Conservation
Remedial Project Manager

Date